# U.S. PATENT AND TRADEMARK OFFICE

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## ROUNDTABLE ON PATENT SUBJECT MATTER ELIGIBILITY

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## ROUNDTABLE 2: EXPLORING THE LEGAL CONTOURS OF PATENT SUBJECT MATTER ELIGIBILITY

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**MONDAY**
**DECEMBER 5, 2016**

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The Roundtable convened in Paul Brest Hall, Stanford University, 555 Salvatierra Walk, Stanford, California, at 8:30 a.m., Shira Perlmutter, Chief Policy Officer and Director for International Affairs, presiding.

**PRESENT**

**SHIRA PERLMUTTER**, Chief Policy Officer and Director for International Affairs, Office of Policy and International Affairs, U.S. Patent and Trademark Office

**MICHELLE K. LEE**, Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office*

**ROBERT BAHR**, USPTO Panel

**JOHN CABECA**, USPTO Panel

**CHRISTIAN HANNON**, USPTO Panel

**NATHAN KELLEY**, USPTO Panel

**THOMAS KRAUSE**, USPTO Panel

**AMY NELSON**, USPTO Panel

**PANEL 1**
**FRANK BERNSTEIN, Singularity LLP**
**ROBIN FELDMAN, University of California Hastings**
**MARK LEMLEY, Stanford Law School**
**PETER SU, Dentons US LLP**
**NEIL THOMAS, RelaxExpress.net***
**LEE VAN PELT, University of California Berkeley**

**PANEL 2**
**DOROTHY AUTH, NYIPLA**
**STEVE CHIANG, RPX Corporation**
**KEVIN NOONAN, MBHB**
**CHIRAG PATEL, Holzer Patel Drennan***
**JAMES REED, Squire Patton Boggs**

**PANEL 3**
**STEVE BACHMAN, Bachman Law Group**
**JEFFREY H. DEAN, Amazon.com**
**SHARON ISRAEL, AIPLA**
**DIANE LETTELLEIR, J.C. Penney Corporation***
**KIM SCHMITT, Intel**
**ERIC SUTTON, Oracle**

**PANEL 4**
**FRANK CULLEN, U.S. Chamber of Commerce**
**BENJAMIN JACKSON, Myriad Genetics, Inc.**
**KONSTANTIN M. LINNIK, Nutter McClennen & Fish LLP**
**HANS SAUER, Biotechnology Innovation Organization**

**PANEL 5**
**JASON GARDNER, Margeta**
**ALLEN LO, Google**
**DANIEL NAZER, Electronic Frontier Foundation**
**JULIE SAMUELS, Engine**

**PANEL 6**
**COLLEEN CHIEN, Santa Clara University Law School**
**MICHELLE FISHER, Blaze Mobile**
**PATRICK GIBLIN, 451 Degrees**
**JENNIFER KUHN, Mattersight Corporation***

**KIM RUBIN, Kim Rubin Patent Agent**

**PANEL 7**

**ROBERT ARMITAGE, IP Strategy & Policy***

**DAVID JONES, Microsoft**

**PETER MENELL, University of California Berkeley**

**WAYNE SOBON, Wayne Sobon Consulting**

**MARIAN UNDERWEISER, IBM**

*** present via webcast**

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8:33 a.m.

MS. PERLMUTTER: So, I'd like to welcome everyone, say good morning and thank you for joining us. We are pleased to have so many patent experts and stakeholders joining us here in person in Stanford as well as those joining in one of our regional offices or watching online through our web portal.

As you know, today's roundtable is a continuation of our previous forum held just this past month on patent subject matter eligibility.

Last month, we focused on ways that the USPTO could improve our subject matter eligibility guidance and training examples.

And, today, we are seeking a broader perspective on the overall issue of the legal contours of eligible subject matter in the U.S. patent system.

Your feedback will help us foster the discussion of this critical and challenging issue.

As a brief housekeeping note, because today's event is being transcribed and web cast, I would ask all participants to speak clearly so that we can accurately capture everything that's been said.

Each panel today will be followed by a Q&A period for our USPTO panel here to interact with the stakeholder panelists who will be seated over there.

And, in person audience members can submit written questions using the cards that are provided at your seats in the room. Please give them to Ken Takeda or Julie Mason who are here in the red shirts.

And, those of you who are viewing online can also submit questions using the chat function of the web cast and we will be reading questions from this panel as well.

So, before we begin with the first panel, it's my pleasure to introduce the Undersecretary of Commerce for Intellectual Property and Director of the USPTO, Michelle Lee

who will be speaking to us via web cast.

Michelle?

MS. LEE: Thank you very much, Shira. Can you hear me okay?

MS. PERLMUTTER: Yes.

MS. LEE: Great.

Good morning, everyone and thank you for coming to this roundtable discussion.

I'm sorry I couldn't be there in person with you today due to obligations that are keeping me in Washington. But, I am delighted to be able to participate remotely.

And, I wanted to thank all of you and all the other participants who are participating remotely including via the web and through our regional office, other regional offices, in Dallas, Denver and Detroit.

And, what you'll be seeing more often is, as we go forward as we continue to integrate our regional offices into the core work of the Alexandria office, you'll be seeing more opportunities like this to participate from

across the country.

So, we hope you like it. Give us feedback on how that's working but that's something that you should keep an eye out for going forward.

I appreciate all of your attendance at this very important conference, roundtable and topic.

As I have said many times during my tenure as Director, our patent system relies on the full and active involvement of the public to help us not only succeed, but to help us lead in today's global innovation economy.

Our agency remains committed to strengthening our patent system whereever possible.

Like you, we want our patent system to work efficiently and effectively for all of our users so we can continue to promote the innovation that drives our nation's economy and creates jobs.

Those are the guiding principles

behind our efforts including a pair of roundtable discussions on patent-eligible subject matter that I announced in October. The first, as Shira had mentioned, which occurred earlier this month or last month in Alexandria.

Today's roundtable focuses on the current Section 101 jurisprudence and how it is evolving and what is the optimal legal contours of patent-eligible subject matter.

And, before we begin, and hear your input, I want to set the stage by briefly describing a bit of background on Section 101 and how we've arrived where we are today with an emphasis on some recent subject matter eligibility cases and their impacts.

As far back as 1897, the statutory language defining patent-eligible subject matter has remained largely the same, aside from the 1952 Patent Acts arguably linguist change of art to process, the four statutory categories of patent-eligible subject matter, process, machine, manufacturer and composition of matter have

largely remained unchanged.

For over a hundred years, eligibility has been considered a threshold requirement for patentability, supplemented by the other patentability requirements of novelty, non-obviousness, written description and enablement.

While the statutory limits of patent eligibility have largely remained unaltered, innovative advancements across a broad range of endeavors has developed, though, unimagined, more than a hundred years ago.

At times, the judiciary has struggled to reach -- with the reach of eligible subject matter to ensure that patent protection extends only to the application of ideas and not to the ideas per se.

The adoption of judicially created exceptions precludes the patentability of abstract ideas, laws of nature and natural phenomenon.

Drawing the line between patent-eligible subject matter and the non-eligible

exemptions has proven, at times, to be challenging for courts, for the patent community, for the Agency, and for innovators, particularly in recent years.

That is why we are here today, to receive your viewpoints on this challenging aspect of patent law.

Within just the past six years, the Court has left us with a handful of decisions that have significantly impacted patent eligibility law and continues to generate substantial public debate.

Starting in 2010 with Bilski, the Court reduced the Federal Circuit's machine or transformation test from an exclusive test to a merely useful test in the eligibility analysis.

In that case, the Court held Bilski's claims were invalid because they were directed to a judicial exception, the abstract idea of hedging risk, and added only well-known random analysis techniques which the Court regarded as token post-solution activities or components.

Following Bilski, the Supreme Court caught the life science's community's attention in Mayo v. Prometheus when it considered the patent eligibility of a method for optimizing drug dosages for treatment of autoimmune diseases.

The Court held that Prometheus's claimed method of determining a given dosage level and whether it's too low or too high based upon the metabolite level was ineligible for a patent as it was drawn to a judicial exception.

In making that determination, the Court introduced its two-step test for distinguishing patent-ineligible concepts from patent-eligible applications of these concepts.

The first step of the so-called Mayo test considers whether the claims are directed to one of the judicial exceptions to patentability.

If a judicial exception is identified, then the second question is whether the claims do so -- whether the claims do significantly more than simply describe the judicial exception.

The Mayo test has become the linchpin of the Supreme Court's patent eligibility analysis as made evident in many recent cases.

In a second case to impact the life sciences community Association for Molecular Pathology v. Myriad, the Court held that Myriad's claimed isolated gene products useful in assessing hereditary predisposition for developing breast cancer fell squarely within law of nature exception. While acknowledging that claims to a product with markedly different characteristics found in nature may be patent-eligible the Court determined Myriad's genes did not undergo any chemical changes during isolation.

The Court did, however, hold that Myriad's synthetically created cDNAs, which differed from the naturally occurring DNA were patent-eligible.

Most recently, in Alice v. CLS Bank, the Court applied the Mayo two-step test to analyze eligibility of a computer-based method

for mitigating settlement risk in financial transactions.

The Court concluded that the claims were directed to the abstract idea of intermediated settlement. And, that mere generic computer implementation did not transform the abstract idea into a patent-eligible invention.

During the past two and a half years since Alice, the Federal Circuit has been applying the Mayo test to a variety of technologies invalidating many claimed inventions.

The precedent set by the Supreme Court cases has unquestionably impacted the innovation community.

I'd like to thank each of today's panelists in advance for discussing the extent of that impact and whether and/or what steps should be taken to further support inventions that we all desire.

We're calling on you to help create a public record on Section 101 jurisprudence by

providing information on how the Supreme Court and Federal Circuit Section 101 jurisprudence is affecting different areas of technology and whether and to what extent there is any impact on investment in research and development or innovation generally.

Additionally, we're calling upon you for comments on whether legislative, administrative or judicial changes are needed or desirable and, if so, what those changes might look like.

In sum, today, we continue to assess whether the current state of patent-eligible subject matter law and the accompanying judicial exceptions are best serving innovation.

So, I want to thank you all again for attending today and for your contributions to the larger discussion on patent-eligible subject matter.

We welcome your input on this complex and important topic.

And, with that, allow me to turn it

over to our moderator of today's program, Nate Kelley, and thank you all. I look forward to a productive discussion, which I will be watching via the web here in Alexandria, Virginia.

Thanks so much.

MR. KELLEY: Thanks, Michelle, and thanks for setting us up here today with really a brief and great overview of where we are, at least where I think we are in the 101 space.

Before I get started this morning, I just want to introduce those of us from the PTO you see up here today.

To my left is Shira Perlmutter. She's the USPTO's Chief Policy Officer and Director for International Affairs.

And, to her left is Bob Bahr, the USPTO's Deputy Commissioner for Patent Examination Policy.

To my right is Amy Nelson, an Associate Solicitor in the Solicitor's Office with a very deep background in the life sciences area.

And, to her right is John Cabeca, USPTO's Director of its Silicon Valley Regional Office.

Now, later this afternoon, you're going to see a different of people from the USPTO up here. Some people are going to change out and I'll let them introduce themselves.

And, what's happening now on my left with the panel being ushered is, is what's going to happen throughout the day.

So, the way we've decided to handle so many people, and we are very happy with the interest that we got, is we're going to have about seven panels of six or seven speakers for each panel.

We'll have four panels in the morning with a ten minute break between the first two panels and the second two. Then we'll have lunch.

And, in the afternoon, we'll have three more panels.

On each panel, each speaker has about

seven and a half minutes to speak. If we deviate from that, whoever's moderating will tell you.

We do ask the speakers to stay on time as much as possible in order to get through 40 or so speakers in a day, we really can't have each person running over even 30 seconds or a minute.

And, to that end, for those of you who ever argued in the Federal Circuit, we have the exact clock that you will see in that courtroom.

When the light turns from green to yellow, it means you have a minute left. And, when it turns from yellow to red, it means you have no time left. And, we'd appreciate it if you'd wrap it up at that point and please start wrapping up when you see the yellow light.

We'll go through each speaker one at a time, seven and a half minutes each for this panel.

For each panel, we've built in about 10 or 15 minutes for us to ask questions. If people in the audience would like to suggest a question, there's cards that you can write your

question on. And, I think there's people in the regional offices at our home office in Alexandria to also assist in that.

We will ask the questions if the card is brought to us and it's not our intent to have a full session question and answer period for each panel. But, if a question comes up, we've built in a little bit of time to ask it.

That time is also the time we need to trade out from panel to panel.

I think that -- oh, yes, let me say one more thing before we begin.

We are very excited with the interest that we got when we put our announcement. But, of course, in addition to the comments that we'll hear today and those that we heard a couple of weeks ago in Alexandria, we also would really like to hear from people in written comments.

And, the period for written comments is open and will remain open until January 18th. So, if you'd like to comment, if you hear something today you'd like to reflect on, if

you're speaking today and haven't filed written comments, please do so because that's really where we're going to get a lot of very good information.

And, so, with that, let me turn it over to the first panel and our first panelist this morning (inaudible due to audio issues), Frank Bernstein.

Good morning. Yes? No? Oh.

MR. BERNSTEIN: We have a committee on the web.

MR. KELLEY: Oh, I'm sorry, you're right. It's right here in front of me. Our first speaker this morning is actually not seated before you here at Stanford but is in Alexandria, Virginia and it's Neil Thomas. And, forgive me, I apologize, Mr. Thomas, please go ahead.

We can see him.

MR. THOMAS: . . . as our system of commerce has no physical or concrete existence that -- hello?

MR. KELLEY: Mr. Thomas? Yes, Mr.

Thomas, can you -- can I ask you to begin again? I'm sorry, can I ask you to start over because we had a little technical difficulty here in the room.

MR. THOMAS: Okay.

MR. KELLEY: We couldn't hear you. I don't know if people online could hear you, but we couldn't hear and I'd like us to get everything you have to say.

MR. THOMAS: All right.

MR. KELLEY: So, please just go ahead and start over.

MR. THOMAS: Okay.

Slide two, please?

MR. KELLEY: Thank you.

MR. THOMAS: Slide two.

Alice changed the very definition of abstract. Abstract meaning existing in thought or as an idea, but not having a physical or concrete existence.

All of a sudden, our economic system, fundamental economic practices, our system of

commerce has no physical or concrete existence. This is absolutely laughable.

Next slide, please?

Alice did not follow Bilski. Bilski, Flook, Diehr all dealt with mathematical formulas as abstract ideas.

Bilski, the opinion, the concept quote, the concept of hedging, quote, reduced to a mathematical formula is an unpatentable abstract idea, just like the algorithms at issue in Benson and Flook.

Next slide, please?

Alice did not follow Bilski. The opinion in Bilski, like the risk hedging in Bilski, intermediated settlements, quote, a fundamental economic practice all the claims at issue in Bilski were abstract ideas in the understanding that risk hedging was a fundamental economic practice.

This is a crucial distinction. The -- it extrapolated in a tectonic manner the concept of abstract to our system of commerce. This is

not Bilski decided.

Next slide, please?

Ergo, in light of Alice, advertising, negotiating, selling inventory, ordering, banking, paying, pledging, communicating, keeping records, et cetera are all fundamental economic practices. Ergo, they are all abstract.

Examiners indicate that displaying information, collecting and comparing known, and for processing, storing data, electronic record keeping, again, transmitting data over networks are all ineligible abstract ideas.

This extrapolation is absurdly ludicrous.

Next slide, please?

Alice following Mayo introduced an awkward two-step test and totally undefined inventive concept significantly more and nothing of substance. There's no indication whether these are the same or different tests.

All of these, are they the same or different or simply a new and useful unobvious

process machine or improvement thereof?

Next slide, please?

Alice is bad law. It is unnecessarily simply adding confusion. Alice could and should have simply been decided using Section 101 and 103, performing a well-known fundamental economic practice using a generic computer is likely obvious.

Next slide, please?

On top of Alice's illogical decision, for over two years, two and a half years, examiners are issuing copy, paste, boilerplate rejections particularly in 705 36 -- on TC 3600 art unit.

And, managers and supervisors apparently are requiring these rejections even after a complete reversal by the PTAB.

Next slide, please?

This aberration can be seen where 90 percent of rejections and electronic art units have occurred.

Next slide?

As well as a nearly half of all applications within Alice rejection are assigned to Class 705.

Next slide, please?

This is e-commerce. This is the Internet. Section 101 is still law. Congress has given no directive to exclude a whole field of processes and machines and inhibiting innovation in e-commerce, improving consumer protection and increased competition.

Next slide, please?

Digital trade is, in fact, America's third largest category of experts. Intellectual property is a critical element to this trade and software and information services is increasingly important.

Yet, Alice and the Patent Office are inhibiting our economic position in global and international trade.

Next slide, please?

I don't see any red things, so, the Trump Administration is looking for improved

protection of America's intellectual property which would produce more than two million more jobs right here in the United States.

Next slide, please?

After two and a half years inventors particularly in 3600 are unjustly deprived of their intellectual property, unjustly forced to make lengthy and costly appeals, investment capital has been severely impacted and contingency fee patent enforcement litigators have all but disappeared from the marketplace. By the way, they're the ones that help small inventors.

Next slide, please?

Congress enacted 101 and 103 and are still a law. Circuit Court Judge Newman entered a concurring separate opinion proposed returning to the letter of Section 101, a new and useful process or machine is not an abstract idea.

And a trend is clearly appearing in Bascom and Enfish to simply look for unobvious improvements or unobvious improvements.

Next slide, please?

The Patent Office must require examiners to consider the elements as an ordered combination in light of the specification and look for an inventive concept and, at the same, a new and useful machine or improvement under 101 and 103.

Examiners must follow MPEP and specifically rebut applicants' arguments, not simply dismiss, quote, applicants' arguments are not persuasive, close quote.

Require examiners to consider both the Alice eligibility and, at the same time, 101 and 103 tests for patentability in tandem and arrive at the same conclusion.

Next slide, please?

Automatically audit every Alice rejection with an independent Alice expert including a one-hour mandatory interview, one half of which is to the examiner, one half is to the applicant by the same independent Alice expert.

Incentivize and provide consequences for poor, improper rejections.

Next slide, please?

MR. KELLEY: Thank you very much, Mr. Thomas. I'm afraid we're going to have to move on, but I know that your materials have been provided and on our website and I urge people to refer to them.

MR. THOMAS: Okay, thank you.

MR. KELLEY: Thank you very much.

Our next speaker this morning is now Mr. Frank Bernstein.

MR. BERNSTEIN: Good morning. I'm Frank Bernstein. I'm a patent attorney and prosecutor and litigator in the computer implemented inventions area for about 30 years. A patent attorney here and a practitioner here in Silicon Valley.

I want to unpack this notion of abstract idea just a little bit.

If you'd go to the second slide, please?

This is one of the things we're wrestling with in the computer implemented invention area.

And, the Federal Circuit in a case which I'm going to go into a little bit more detail, the Enfish case, acknowledged that there's no specific definition, that we're doing this by example, by comparison with other software cases to determine whether or not an idea is abstract.

And, one of the issues we have is that, at some level, almost any software-based claim can be said to be directed to an abstract idea, even if something that's overtly physical like controlling a robot or a robot's movement.

Next slide, please?

So, the Federal Circuit stated out in the Enfish case, and I've got the cites in my slides, quoting the Alice decision saying, we must first determine whether the claims at issue are directed to a patent-ineligible concept.

The court went on to say, and this is

important, that formulation of the Supreme Court plainly contemplates that the first step of the inquiry is a meaningful one that is, that a substantial class of claims are not directed to a patent-ineligible concept. So that it shouldn't be a reflex action to simply decide that a computer implemented invention is directed to an abstract idea.

Next slide, please?

The Federal Circuit contrasted this notion of claims being directed to a patent-ineligible concept which is what the language of the Supreme Court with whether the claims involve patent-ineligible concepts.

And, the Federal Circuit said, you can't look at whether it involves a patent-ineligible concept because, essentially, every routinely patent-eligible claim involving physical products and actions involves a law of nature and/or natural phenomenon because these things take place in the physical world and that's something that's important to remember.

Next slide, please?

One of the things I always go back to and I've got a little enough hair on my head and enough gray in my beard to remember when there was a big ever play between software and hardwired processors.

And, you know, software is supposed to run on generic hardware. It does what hardware did. We have lots better generic processors now, general purpose processors.

I honestly think the Federal Circuit got it right in Alappat 20 years ago when it said every time you program a general purpose processor, you've got a new machine and I think that -- I really think that should be the inquiry.

Software is a multi-trillion dollar business in this country and it's supposed to reduce or eliminate the need for special purpose hardware. It's supposed to accomplish what circuits and circuit elements accomplished.

Next slide, please?

Back to the Federal Circuit decision, I'm bouncing back and forth here just a little bit, but just to give some context for some of the discussion, the Federal Circuit said, software can make non-abstract improvements to computer technology just as hardware improvements can.

And that's important. That's this byplay between what software does on a general processor and what special purpose processors, which were much more prevalent back in the day did.

The court also said, sometimes these improvements can be accomplished through either route, through software or through hardware. So, it's relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the Alice analysis.

In other words, you're not supposed to just gloss over this notion of abstract idea and

get to the significantly more thing at the second step of the test. You're supposed to look in the first instance at whether there's an abstract idea and whether there's an improvement to computer functionality, because that can inform the analysis and the conclusions.

Next slide, please?

We know beyond, you know, beyond discussion that a circuit arrangement is patent-eligible. The patentability analysis, if you're looking at a circuit, proceeds immediately in those kinds of cases, provided that the circuit arrangement is claimed sufficiently clearly and in a manner which defines over the prior art, the claim will be patentable.

You don't worry about eligibility or ineligibility.

Next slide, please?

So, again, looking back at the Enfish case, the Federal Circuit goes on and says, the first step in the Alice inquiry asks whether the focus of the claims is on the specific asserted

improvement in computer capabilities. And, that's in -- or instead on a process that qualifies as an abstract idea for which computers are invoked merely as a tool.

It's a helpful comment. It's important to remember that general purpose processors are tools. You program them, you have essentially a new machine and that's -- and, you're looking at that as a measure of what the improvement or we should look at that as the measure of what the improvement over the art is.

Next slide, please?

The whole notion is, it's a software (inaudible due to sound system issues) hardware and the point of having software.

I remember from prosecuting Circuits cases, I got transistors, diodes, capacitors, what have you, in various combinations to accomplish certain things and you've got to define those and recite them with sufficient specificity to the define over the prior art.

Maybe all we're talking about here is

a matter of, instead of just functionally claiming what's going on, have the software recite a little more specifically what it's doing to turn the computer into a new machine. Maybe that's how the software can be shown to be more than merely a tool.

And, also, again, a way, maybe that's how the software can be shown to improve computer capabilities.

Next slide, please?

The question is, does that go far enough? What does it really mean to improve computer capabilities? Does the computer really have to run better?

That was the discussion in the Enfish case when they talked about the spreadsheet and how it ran better from the way it was programmed.

But, shouldn't it or should it be enough that the programmed computer just simply does its intended job better? If you wind up program a processor that's running -- that's controlling the movement of a robot and you

improve the control with better programming, why not look at that in comparison with the prior art instead of deciding that it's abstract idea?

In that context, what is it that I have to be able to show and do I have to be able to show that the software improves the functioning of the computer? I don't think so.

And, that's really all I have. Thanks very much.

MR. KELLEY: Thank you very much, Mr. Bernstein.

And, our next speaker this morning is Robin Feldman.

Professor?

MS. FELDMAN: Thank you.

I'm Robin Feldman, Professor of Law at the University of California Hastings.

One of the great joys of being an academic is the ability to speak with candor. And, so, I offer my remarks this morning in the spirit of that hallowed tradition.

In law, as in so much of life, there

is an arc of history. We may move forward with a slow and fitful gait, but the trajectory is often clear. The question for this agency, it seems to me, is whether to follow at arc or to push against it?

With patentable subject matter, the modern arc began with the first of the quartet Alice cases, Supreme Court cases, and with each step, some in the bench and bar had tried to wipe it away, explaining why the trajectory was no more than an optical illusion, couldn't be, it mustn't be, and I confess, there are times when I have joined that chorus as well.

This has had no more effect than whistling into the wind. And, there is little reason to believe that pressing against the arc of history will be any more successful going forward than it has been in the past.

Now, for example, after Bilski, we said, the court didn't eliminate machine or transformation, so everything is pretty much business as usual.

With Mayo and Myriad, the refrain was, that's only for life science cases.

And, since Alice, the refrain has been, they didn't ban software patenting, so we'll find a way.

Many Circuit decisions during this quartet period have come perilously close to what I would call reversal from below. And, through the entire time, the fervently whispered prayer has been that the Supreme Court will get tired of patent law or tired of being criticized and will leave us to do what we do best.

But, the Justices have not tired of patent law and, in fact, patent law continues to occupy a remarkable amount, an unusual amount of their docket.

And, reversal from below is a treacherous path, one that is usually unsuccessful in the long run.

The latest wave of Federal Circuit decisions, software decisions, again, pushes back on the Supreme Court's trajectory.

Yes, many, many software patents have been invalidated under Alice. And, its two-step process in which a court must first determine whether the claim is directed to a forbidden category such as abstract ideas.

And, then, second, whether the claim adds significantly more.

But, after taking some time, the Federal Circuit has found ways to ease the two-step tango.

The Amdocs case opined that there is no workable definition of an abstract idea.

The Enfish case held that courts must be careful not to apply too high a level of abstraction.

And, the McRO holding is best summed up by the patently old headline, step one, don't assume an abstract idea.

Now, as much as one might hope, it is hard to imagine that this wave of Federal Circuit decisions will be greeted any more warmly by the Supreme Court than the last.

Though, some on both sides of the question of how broadly patents should reach have hoped that Congress will intervene either by overturning the Supreme Court subject matter decisions or accelerating and enhancing the court's decisions or even cutting back on aspects of post-grant review from the American Invents Act.

None of the tea leaves, however, suggest that Congress is likely to weigh in at this point.

So, what's an Agency to do as it is buffeted by the winds of this less than cordial interchange between two levels of the judiciary?

And, of course, the Agency itself may have internal cheering sections for particular viewpoints, not to mention pressure from those who use its services.

The Patent Office, however, has an unusual level of responsibility as an agency given the 20-year lag time once a patent has been granted and the nature of modern patent markets.

For example, there was a time we could say with confidence that 90 percent of patents would never garner a return. Those shadow patents hovered on the periphery of the innovation system doing little damage.

But, the world has changed. With modern secondary markets, patents are easily traded, grouped, launched as a bundle against product producing companies.

In particular, this fall's Federal Trade Commission Report on Patent Assertion Entities concluded that, for an entire category of players in the patent market, the business model is a nuisance one.

And, while the number of patent lawsuits has gone up and down in the last few years, the down years are still vastly above the number eight years ago, even accounting for changes brought about by the American Invents Act.

The burden on innovation industries is not small. As we sit here in Silicon Valley, I

note that the work of many scholars has carefully documented the damage modern patent assertion is causing for startups and small enterprises, not to mention more mature companies.

And, the Patent Office has come into more than its fair share of blame.

The 2013 GAO report pointed at poor patent quality as a cause of pain in the patent system.

And, the problems are not just in the tech industry, weak life science patents contribute to schemes that are fueling popular outrage about rising drug prices.

In short, the burden on the Patent Office to get it right is great. And, when the Agency follows the ebb and flow of the battle between different levels of the judiciary, that strategy can leave long term damage in its wake.

The rules may change when the Supreme -- when the issues reach the Supreme Court, but for patents granted in the interim, there is a 20-year tail.

Thus, I urge a large dose of caution. The temptation to jump forward as the Federal Circuit pushes back on Supreme Court doctrine, misses the arc of history.

And, while we may not like it, the arc of history is clearly there for us.

Thank you very much.

MR. KELLEY: Thank you, professor.

And, now, we'll hear from Mark Lemley.

Professor Lemley?

MR. LEMLEY: Thank you.

My name's Mark Lemley. Welcome to Stanford. I teach law here at Stanford. I'm also a partner at the law firm of Durie Tangri where I do patent litigation.

So, I want to agree, at least, conceptually with Robin, although I think we might disagree about some specific applications.

I want to agree with Robin in saying that I hear and understand the frustration with the Alice test, the claims that it is a historical, the claims that it doesn't draw great

lines.

I think as a practical matter, complaining about it is not actually going to do very much.

And, I also think as a practical matter, something very interesting has happened in the two years since Alice, which is, even though I find Section 101 jurisprudence intellectually offensive because there doesn't seem to be a there there.

The courts, I think, are actually engaging in a common law process that, with some exceptions, mostly in the software world, at least, gets them to the right result in particular cases.

So, there was a lot of panic and concern after Alice. I think, that, well, nothing's going to be patentable in the software in the business method world, but I think we're starting to see the development of a common law jurisprudence that actually does draw some distinctions that we can look to in trying to

understand what's going to be patentable and what's not.

And, so, I part ways, I think, with Robin in -- on the question of whether or not a case like Enfish, for instance, is flying in the face of the Supreme Court jurisprudence.

I actually think the Supreme Court is not -- did not intend, right, and would not hold, if it were presented with the question, that software is not patentable or that software's not patentable unless there's new hardware attached to it. As Frank points out, that's a kind of distinction that doesn't make a lot of sense as a scientific matter.

I do think the court was reacting to a very real problem, which is that we have a whole bunch of patents, particularly issued in the 1990s and the early 2000s that are written in extremely broad functional terms that don't claim a particular way of improving the operation of a computer or a particular way of using a computer to improve the operation of something else, a

particular algorithm.

They claim any computer programmed in any way to achieve a result. And, the problem with those claims is precisely that they are not directed to a technological improvement, even if they encompass, even if they started from a technological improvement, we have all as lawyers for many years, told people write your claims as broadly as possible, reach as broadly as possible.

And, those claims made it into the courts where, it turned out, that the courts were not terribly well equipped to deal with them using standard tools.

And, it's right, I think, intellectually, to say, obviousness can take care of this problem. Maybe Section 112 can take care of this problem.

But, we've designed the legal system in litigation in such a way that you're not going to get to that conclusion until the very end of the process. You're going to hand it to a jury,

you're going to spend several million dollars in the process of getting there.

And, for the business model that Robin talked about, where the goal of filing the lawsuit is to impose costs on the defendant in order to get a cost of value nuisance settlement, these patents were gold. Right? Everyone infringes them because they cover any possible way of achieving this result.

And, while they are probably invalid for obviousness or enablement at the end of the day, it's going to be a long, expensive and uncertain process to get there.

So, the patentable subject matter case law, while I find it intellectually unsatisfying, has had in software a mostly desirable practical effect, which is, it's allowed us to weed out at an early stage a number of claims that should die on some ground.

And, if you look at the cases, the patents that have died since Alice in the Federal Circuit, honestly, most of them deserve to die.

Those claims were too broad. Those claims were not, in fact, written to be designed to a specific technology.

The worry that we had, which was, is this just going to sweep too broadly, are we going to reach all software? Are we going to reach claims regardless of how they're written and how they're narrowed?

I think that worry is now looking less and less problematic as we see a bunch of Federal Circuit cases from within the last year that actually draw a distinction between inventions that are directed to -- patent claims that are directed to an algorithm to a specific approach to an actual improvement in computer technology.

Those claims are surviving 101 in the patentable -- in the Federal Circuit. And, I think deservedly so.

Now, that's a common law process. Right? Courts are good at, lawyers are good at looking at 30, 40, 50, a 100 examples, seeing which ones get held unpatentable, seeing which

ones get held patentable and get a coming up with a kind of rough set of standards that's going to give us an instinct as to which bucket each claim is going to fall into in the future.

That instinct should get better over time. That analogic reasoning is what lawyers do. It's what litigators do.

It doesn't provide us with particularly useful rules and I think that's a problem for the Patent Office. Right? Because if the goal is to write guidelines that examiners who are not lawyers versed in analogic reasoning can use to decide, hey, this claim is more like Enfish than it like TLI Communications.

That guidance, I think, is never going to be simple and easy to write. I mean, you can use examples, you can use analogies, but it's hard to say, okay, here's how you apply the two-step test and here's what falls in each bucket.

Because I think we're doing it not by applying a simple legal rule, I don't think there is a simple legal rule. We're doing it by

looking at a kind of estimate of how technological the invention is. And, I think technological includes not just hardware, but software, properly so.

Is this patent actually directed at a new software approach? Is it directed at a new algorithm? Is it directed at a new implementation of a computer technology that allows you to do something different?

I do think that we can learn some practical lessons.

First, the broader the scope of the patent is, the more problematic it's likely to be. The abstract idea concept, I think, is directed not so much at is it removed from the physical world but is it claimed at a level that cuts across physical world boundaries that does -- where it doesn't matter how I implemented in the software.

And, second, I think we can pay a lot more attention than we have in the past to functional claiming.

A lot of the patents that are most problematic are problematic because they are written in functional terms. Anything that achieves this function, but have not been subject to the traditional rules of Section 112(f).

But applicants and examiners can use Section 112(f) to narrow down claims to specific technology, assuming the patent application actually describes specific technology.

And, in the course of doing that, I think we can at least make the software world a better place.

MR. KELLEY: Thank you, professor.

So, next, we'll hear -- sorry, thanks professor.

So, next, we'll hear from Peter Su.

Mr. Su?

MR. SU: Okay, thank you.

Good morning. My name is Peter Su. I'm a partner at Dentons Silicon Valley office.

And, before, you know, going to law, I worked as a design engineer in Silicon Valley.

The view I express here are my personal views, not my firm's position on this topic and my perspective, mostly based on my personal observations working with the inventors in engineering rather than in life sciences.

So, picking up on the point that Professor Lemley talked about useful rules, I have three points to share.

So, first, the Alice framework of abstract idea is difficult to comprehend and apply by the inventors in the high tech industry.

In determining patent eligibility under the Alice framework as to whether the claims are directed to an abstract idea.

This is a framework that's hard for an engineer to understand and provide comment. So, the concept of whether an idea is abstract as the framework to determine 101.

So, when we analyze whether an invention is compared to, if we analyze an invention is new or obvious, engineers frequently are able to provide helpful comment on the

technical differences between an invention and the prior art.

However, if you were to ask an engineer whether the concept is abstract or not, the engineer will likely be somewhat perplexed and not be able to provide his or her opinion.

So, whether if something that's abstract or not is typically not a concept as taught or understood in engineering schools or in the high tech industry.

So, a patent, it's a legal/technical document that's directed to and to be understood by one of ordinary skill in the art.

If an average engineer is not able to discern whether an invention is an abstract idea, then the Alice framework in determining patent eligibility would be difficult to apply in the real world.

The second point, the Alice framework is phrased in the negative, which, again, makes it difficult to apply in practice.

So, for example, if you look at 102

and 103, under 102, you can obtain a patent if the claims are novel.

In section 103, a patent is patentable if it's not obvious.

So, under these two statutory sections, we are seeking for characteristics that are new and are not obvious.

By and large, most engineers are able to analyze and operate in that framework.

But, in the Alice 101, the patent is patent-eligible if it is not an abstract idea.

So, stating -- rather than stating what it is, the Alice framework is stating what is not.

So, as an analogy, if I was to say that the fruit that Jill likes is not apple, then that fruit could be orange, pears, grapes, strawberries or other forms of fruit.

Because, the Alice framework is articulated in the negative, we have the courts that have different ways of interpreting the 101 and gravitating toward the claims that are

abstract.

Okay, which is reflected in the statistics in, you know, many of patents been invalidated or to patent applications that's been rejected.

My third point, actually, is more coming from an international perspective.

So, I thought the Alice decision is really domestic U.S. issue. I think it is interesting to note from an international perspective.

So, as Professor Lemley talked about the, you know, the large number of software process method panel will 2000 and, in part, I think, after the State Street Bank, you could say that the, you know, at the opening of the flicker, you put business method, Pan has somewhat contributed the venture investment in e-commerce, social networking and the sharing economies.

I have several panel attorneys coming to me back then that they really like the US

patent assistant because it helps these companies to protect their investments that's made into the company.

So, while we're having an active discussion as to the patentability into our -- the Alice decision, China has proposed a revision to the patent exhumation guideline to allow patenting of business models under Article 25.

So, the proposal is that the requirement would be patented business models now need to include business methods and rules but also technical features. So, you know, this proposed legislation would, if it gets passed, then would, I guess, somewhat motivate the -- sort of the landscape on how to, you know, companies filing software patents.

MR. KELLEY: Okay, thank you very much, Mr. Su.

And, our last speaker on the panel this morning is Lee Van Pelt.

Mr. Van Pelt?

MR. VAN PELT: Thank you very much.

I'm a patent prosecutor and I also am an adjunct professor at Berkeley.

The two-part test presents the Patent Office with a daunting task. And, I think Mark has stated that very well.

You look at these 101 cases and very smart law clerks help smart Judges write opinions. They may go on for 20 pages.

And, at the end of the day, I'd say probably half the people in this room would complain about the opinion and perhaps say it's very hard to understand or it's inconsistent.

The Patent Office has to make that determination literally thousands of times a month with a staff of hundreds of examiners.

I guess my first input primarily is that, whatever time and resources the Patent Office is spending on the guidelines is absolutely worth it.

And, in my view, I don't know who's writing them, but I think they're doing, in general, a very good job of synthesizing the case

law into guidelines that someone who has to make this decision several times a day, potentially, with applications can follow.

The task is hard. There sort of is an arc in the cases, but the arc is, I think, as Mark has pointed out, actually a pendulum. It's not as simple as looking at the lower courts versus the Supreme Court.

I mean, you look at, you know, cases that are pro-eligibility like Diehr and Chakrabarty and you have to score those with cases that are the other side like Benson and Flook. That is hard.

The approach the Patent Office seems to be taking in the guidelines with respect to the first question is, what is abstract, is to look at examples and try to sort of compare whether the claim under consideration is similar to claims that have been dealt with by the courts.

I think that's really all you can do. And, I think, in the guidelines, to the extent

that examples are included and the examples are synthesized from what's in the court case, that is very, very helpful to examiners and it's very helpful in the process of prosecuting a patent to be able to have those.

The recent -- and the life science examples put out in May, I think do a very good job of pulling facts from the cases, particularly the Mayo case. And, you know, writing them as different claims, example claims that you can look at and try to understand the sort of things to put in a claim that's going to work and the sort of thing that's not going to work.

And, I guess my main input or request is more of that. It's very helpful.

I'd also add, there are a lot of academics in the room. Probably the best class I had this year, I've had in prosecution class was going through those examples and asking the students to debate because every one is sort of like a question presented, eligible or ineligible and the answer is given.

And, as a teacher, you know, my greatest fear is being boring. And, at least that class, it wasn't boring.

And, I'd urge, if you get anything from my remarks, I'd say it's really worth spending a significant amount of time with the PTO materials and guidelines and examples because they are a good way to try to practically deal with this issue.

I'm sorry that I can't really enlighten you more on what abstract means because I struggle with it also.

Now, on the second part of the test, what is something more? That question's actually almost as hard, I think.

But, my understanding of it has been improved by looking at the guidelines. And, they've pulled some language from the cases that it's something that's not well understood, routine or conventional.

And, it's very interesting, I think the person who synthesized that noticed it in

whether it's Alice of Bilski or Mayo, there usually is a comment in saying why something's abstract and not patentable that it's also, it's just well understood, routine, conventional, something of that sort.

Now, as an engineer, that interests me because it's sort of sounding like something that can have some practical utility in that, when I think of those three things, well understood, routine or conventional versus obvious, it sounds a little bit like a course filter and fine filter.

And, I think examiners, some really effective examiners, I've seen them kind of use it that way. That, they don't have to spend the resources to do a specific search on certain things.

They, you know, they use the 101 and they talk about something being well understood, routine and conventional. It's up to you if you want to argue that something that really is routine is not routine.

But, usually, I think the practitioner will yield and it saves time. And, that's something I want to emphasize that's very important in the Patent Office making this 101 determination because very minute that the examiner spends having some sort of philosophical argument about what's abstract and what's not abstract, and there have been some great papers written on trying to answer that question.

But, every minute the examiner spends on that is a minute the examiner doesn't have to search the prior art, analyze the claim and improve patent quality which is ultimately, you know, to my clients that have to deal with patents, you know, that are served against them, clarity and patent quality is, I think, of utmost importance.

So, as, again, my main comment is, the time spent on the guidelines is absolutely worth it. The time spent on the examples is absolutely worth it.

And, to the extent that that can help

the examiner to save time is two ways.

One, to have sort of good examples so that the first part of the test can be efficiently dealt with.

And, then, secondly, so the examiner can use it as a tool to sort of sweep out the kind of really routine conventional part and move on to the part that really requires a prior art search for the obviousness part. I think that is a way that it can be a useful tool for examination.

Thank you.

MR. KELLEY: All right, thank you very much, Mr. Van Pelt.

So, we have some time for some questions and I'm going to start it off myself with a question for Mr. Bernstein.

In your robotics example, and this is something that has bothered me for a while when I look at cases like Diamond v. Diehr and moving forward, how the Supreme Court continues to shape the law.

What is the nature of the invention in your example? And, is that a valid question? In other words, is the invention new software? Is the invention a new program computer? Or is the invention a new robot? And, is that a valid question to be asking? And, if so, how does one answer that question and in what context should be answered, if at all?

MR. BERNSTEIN: It's a valid question and it's a good question. I think you can look at it as potentially a new robot or as a new computer.

And, it's interesting. One of the things about the robot example, I mentioned the Alappat case that was decided 20 years ago. And, in that case, the Federal Circuit found patentable subject matter.

A case decided the same day was In re Warmerdam. And, that had to do with controlling a robot. And, that was found to be patent-ineligible. And, when you looked at the claim, you saw that it was a bunch of equations, nothing

was done with the equations.

And, so, in that case, I think it was, you know, like the Flook case, for example, I think appropriate to say that's not patentable or patent-eligible subject matter.

But, in the case of, you know, controlling a robot, if you integrate, if you say how you're improving the control of the robots appropriately and you mention what you're doing with the calculations, whether, you know, you've got a bunch of algorithms and stuff in it, kind of like Diehr, that ought to be patent-eligible.

So, to come back to your question, I think it's either -- it's a new robot or it's a new computer. I think either of those questions is appropriate to ask.

MR. SU: Yes, can I add to that?

MR. KELLEY: Yes, please.

MR. SU: Yes, because I also do work in robotics and I find robotics to be one of the more complicated technology I've worked.

And, I think unlike electronics and

software, robotics, you actually involved high level software with low level software interacting with rods to control the different articulation in the mechanical.

So, I think all that together, I think probably presents a stronger case for eligibility.

MR. KELLEY: Does anybody -- I'm just curious, does anybody on the panel think that the Diamond v. Diehr case would be vulnerable under today's case law with the way, as Professor Lemley put it, the common law has evolved? Is that case just as strongly favorable to eligibility today as it was when it was decided?

MR. LEMLEY: I think it is less strongly favorable to eligibility. So, I'll note two things. Right?

One is that, from any practical perspective, Diamond v. Diehr overruled Parker v. Flook. They were two different 5/4 majorities where one Justice switched. They said inconsistent things.

And, a lot of the confusion that's come out of the Supreme Court's case law has been the Supreme Court's insistence on trying to reconcile both of those cases as having good law when they say the opposite thing.

In Alice, the way they reconciled the two was really quite interesting which is they introduced into the history of Diamond v. Diehr a specific new piece of hardware and said, well, Diamond v. Diehr was patentable because it had this specific new piece of hardware that was not actually present in the claims of Diamond v. Diehr.

So, the result of that, I think, is that the way the Supreme Court is thinking about Diamond v. Diehr and the Alice case I think is actually a much narrower proposition than what we all would have thought Diamond v. Diehr stood for when it seemed like it was overruling Parker v. Flook.

MS. NELSON: So, I have a question from the floor for Ms. Feldman.

And, that is, if you're -- as you seem to be advocating that the recent case law is actually sort of hitting the right balance in the software world, how are small startups supposed to sort of get themselves going and have adequate funding?

And, I will follow, I think, a second question is in part to that is, Mr. Su talked about international norms and other countries sort of taking different approaches. And what are, I guess, the international concerns with us being out of step with the rest of the world? Is that something that should be driving this?

MS. FELDMAN: Sure.

So, I suspect the question is worry that if you can't -- if you're cutting back on software patents and you're a little guy, isn't that bad for us? How can we get started?

And, the patent is a difficult world for the small guy. You get buffeted in both directions. It's difficult to get started and, on the other hand, there is a lot of data showing

that a target of patent assertion is the startups and that hurts them and their ability to raise money.

So, there's a wonderful wealth of data that's come out in this last two years. The bottom line is that patent is a difficult world for the small person.

I do believe, and what I hear increasingly from people in Silicon Valley is that patents are less important for the funding than they have been historically.

In part because things change so quickly in terms of how new software comes out and in part because of this buffeting back and forth that's happening the court.

So, I think that, I see, as a silver lining for the folks in software.

I know it is tempting. I work in a program with software -- with startup companies. We provide free legal work for 60 companies a year. I understand their pain intensely.

We also have to step back and ask

what's happening in the patent system as a whole and not let one piece of it, and our concerns about that piece of it, blind us to what's happening in the full system.

MR. LEMLEY: Could I add briefly to that?

MR. KELLEY: Sure.

MR. LEMLEY: So, I think in the software world, there are, I think there are concerns about will people fund the software companies, although it's an empirical question.

I don't think we've seen a drop off, Alice related drop off or a move of out of software in the venture capital world. But, that's something obviously that academics should be testing.

From the engineer's perspective, I think it might actually push in the opposite direction. The people who hate software patents the most are software programmers. And, while that's not universally true, it is overwhelmingly true in Silicon Valley.

So, I don't think people are choosing not to start companies because they don't think they will get a patent in the software world.

Now, I do want to say, this panel has been focused very heavily on software. I think in the biotechnology world, we have a very different situation.

I think the law is less clearly moving towards a resolution that's kind of -- distinguishes good from bad patents. And, I think it's also much more important that you have patent protection in the biotech industry because the expense is higher, because the lead time is longer.

And, so, there, I much more worried about the possibility of losing startup investment.

MR. SU: Can I also add to that?

So, I think from China international perspective, I think the, you know, commentators including the AIPLA view that, I think if this revision to the Chinese patent law passes, then

essentially, China would permit a business or business method patents with the technical feature.

Essentially, I think the way they drafted it is to take it up of what's the equivalent of 101 and then they're just going through the -- to the anticipation and now obviousness analysis.

The other kind of situation says that you are kind of asked in terms of the international framework is in terms of how many other countries have sort of examined under 101, whether it is in China, Japan and Germany?

I think, as most of you know, they still operate in a different framework with the technical problem, solution and effect.

So, I don't know if that's on point that the U.S. would actually look at just like with the patent filing with some sort of harmonization that we would actually take into account what other countries applies to 101.

MR. KELLEY: Sure.

**MS. FELDMAN: So, I appreciate Mark reminding us that it's not just tech, that it's also life sciences that we have to worry about.**

**And, it's much more fun when Mark and I can agree. But, this one, I'm going to disagree a little bit on because I've testified twice in Congress in recent months about the schemes that are driving prices up in the drug industry.**

**And, not all of those, but some of those, are based in weak patents, what I call life cycle management games. What I call -- lots of people call that.**

**That is happening within the patent world as well. And, it is as important there to make sure that we have appropriate and clear boundaries on the patents granted as it is in tech.**

**MR. VAN PELT: I believe the best way to handle those patents when you say a weak patent, I think that's a 103 question. And, 103 is the best way to deal with that problem, it's**

the best filter.

MR. KELLEY: Does anybody else on the panel up here have a question? I have one final one.

So, this came from the audience and paraphrasing a little bit. But, the question is, do you think that the courts have turned abstractness into a binary concept? And, is that driving some of the difficulty in analysis?

Something's either abstract or it's not abstract. That's a hard thing to get your head around, at least for me.

MR. LEMLEY: It is a hard thing to get your head around. I mean, I see -- I guess I see it slightly differently, maybe not, I mean, I don't know that I disagree with that statement.

I think the way we've structured the Alice test causes us to go look for the abstract concept in every patent claim. And, that seems to presuppose that there is an abstract idea.

And, you know, at some level, that might be right. But, I think the kind of search

for the abstract idea may cause us to find it even when it's not really present in the claim or the claim is at least not limited to it.

And, so, there have been a couple -- I think Enfish, in particular, pushes back against that in a useful way and says, hey, we can't assume there is an abstract idea that we're then looking to jump immediately to step two.

So, I, you know, yes, I mean, I guess it is a binary choice in a sense, but we might be better off with the binary choice than the alternative which is kind of let's assume that there is an abstract idea and pull that out in every case because not every patent claim sort of ought to -- is directed to something abstract.

MR. BERNSTEIN: I'd take that a step further and maybe, you know, flip it and say maybe assume that there is not an abstract idea.

I think a lot of this stuff, when you pull out what's been, you know, what's been done by hand or what's been done and just do it on a computer, that's a matter of novelty or

obviousness.

And, I think that that's an appropriate space in which to deal with this. Put the thing in front of the Patent Office, you've got, you know, however it's claimed, functionally or otherwise, and see whether there's prior art.

You know, I kind of agree with Lee that you should spend the time looking for prior art to see whether an invention is patentable and not spend as much time on this abstract idea and notion.

MS. FELDMAN: Yes, I think the court, the Supreme Court did think that abstract was a fairly binary notion. And, I certainly think that they felt they had a definition.

So, I don't think that they will warmly greet the notion that the tests that they've given has no workable definition. I think there will be some fireworks when that issue goes up and that we should anticipate that.

But, this is not the first time that

an appellate court and the Supreme Court have faced off on which one is the greater expert. We saw this in the '70s with the D.C. Circuit and the Supreme Court over which one understood administrative procedure better.

The Supreme Court generally wins. And, we might want to keep this in mind along the way.

MS. PERLMUTTER: Let me ask one international question.

So, Mr. Su and some others have talked about the different approaches to this issue internationally and, whether in Europe or in other countries.

And, we had a question from our web cast audience that talked about the value of a comparative analysis of the same cases by the USPTO and by the EPO.

So, my question is, do you agree that that kind of analysis and that kind of comparison would be useful and/or relevant?

MR. VAN PELT: Well, I think that

comparison is very useful and it's -- one of the ways to sort of try to get your head around what's abstract and what's not is this notion and in Europe of the technical effect.

And, so, I think there is a union between things that have a technical effect and things that are not abstract. And, so, that is not so much taken up by our courts, but I think that's why a lot of times you are getting the same answer out as Mark sort of alluded to, that we're getting the cases that should be allowed, probably allowed, then the cases not allowed that probably shouldn't be.

And, I think the technical effect is a kind of another way to get at abstractness.

MR. BERNSTEIN: Those are actually words that a number of my European clients have seized on right out of the Alice case where there's a reference to technical effect. And, the first reaction I got was, oh, you all are more like us now because they've been looking at it that way for a really long time and I think

it's a helpful construct.

MR. KELLEY: Thank you.

And, I don't want to forget about Mr. Thomas back in our headquarters office. And, I want to give you, sir, the opportunity to respond to any of the questions if you'd like to.

MR. THOMAS: Yes, thank you.

I think it's imperative to understand that the difference between Bilski and Alice, it was a quantum leap of illogic. It supplied the definition of an abstract idea with no physical or concrete existence to a whole arena, unfortunately, of electronic commerce, computer networking, et cetera, et cetera, business methods.

It's, I mean, as shown in one of the slides that our Unit 3600 is a huge aberration. Congress has not dictated. There is no precedent for this. I think the Patent Office needs to look extremely closely at what's going on in TC 3600 and 705 patents because of the impact, the Internet and international digital trade, the

importance of those areas to our economy.

MR. KELLEY: Okay, thank you very much, Mr. Thomas.

And, I want to thank the whole panel for their time here this morning.

MR. THOMAS: Thank you.

MR. KELLEY: And, also urge anybody who hasn't yet submitted written comments to do so by January 18th.

Thank you and we'll trade out now for the second panel.

Okay. So, we'll begin our second panel and the first speaker on our second panel is from the United States Patent Trademark Offices Denver Regional Office, Mr. Chirag Patel.

Mr. Patel?

MR. PATEL: Can you hear me all right?

MR. KELLEY: Yes, sir.

MR. PATEL: Great, okay, well, thank you very much for including me in the panel.

I'm a patent prosecutor based in Denver and here participating on this beautiful

Rocky Mountain office here right now.

So, you know, we talked a lot about how the case law and common law is advancing in this issue of software patent eligibility and 101 issues and purpose.

We've already mentioned about how, you know, the resolution will come from the course and the legal analysis.

And, so, I wanted to kind discuss about this recent case that came out in October of this year actually from the Court of Appeals.

And, it does shed some light on clarifying the issues about the eligibility of the software, patent claims.

This is a case that came from the Eastern District of Virginia and it's Amdocs is the patenting, they have four patents. They're all rooted generally towards accounting and billing systems for network providers.

So, they talk about how to account for network traffic that in a distributed network. You know, you have transactions going all over

the network and how they are manage this large amount of data that somehow needs to be processed.

So, the case was made that this is a technical problem and the solution that the claims have is a technical solution.

So, Openet is the defendant that pleaded invalidity for all of the four patents, all the claims and then the majority opinion by Judges --

I'm sorry, I'm on the first slide, if you don't mind, second slide, I'm sorry, if you don't mind moving to it. There we go, okay. It lists more detail about what I'm talking about.

So, Judges Plager and Newman upheld the claim, says, eligible and they used all of the recent cases. They talked about -- some of this came out for eligibility, some not. They kind of drew a lot of commonalities between the DDR and the Bascom claims and analysis.

Next slide, please?

So, there are four patents that are at

issue here and I'm just going to talk about a couple of claims and a couple of this patents. They all are generally similar to each other and in terms of the -- what they cover.

So, as I said earlier, this is software technology for accounting and billing for network traffic. And, the claim was made that, you know, we're receiving accounting records from very widespread locations, so they said, first, network accounting records from a first source and the second from the second source and then the computer code is of how managing to enhance the first network accounting record using all the data that is collected from all the different locations.

And, so, if you read it at the high level, it's a, you know, pretty short claim. It's a pretty, I would think, I would consider broad claim. And, a lot of the petitions in here, you would think that, well, probably an examiner is going to come up and say, well, all you're doing is receiving a record, you're

collating it and then you are using some accounting information to change one accounting records.

So, you know, you have all seen a lot of rejections that would be in 101 that would say, no, this is not eligible.

But, the court found this case to be one eligible. They cannot focus on the limitations, the third limitation about enhancing the first network accounting record.

They went back, actually, for the 101 analysis to the specification and construed the claim. And, say that, the enhancement as applied to a number of a field enhancements in a distributed fashion.

Well, is it, does it help really? I don't know. But, that's where the analysis went. And, then, they said the distribution processing is a critical advancement over the prior. So, they considered this as unconventional technological solution to a technological problem.

They did talk about in the analysis how, you know, this massive amount of data that needs to be processed and this claim or this solution allows you to do that.

So, next slide, please?

And, I have some observations about like, so, if this is the case that the case the court considers to be patent-eligible, well, you know, massive data processing is pretty common. Any time there's massive data processing can we come up with some language that could help us to couch that as a technological solution? Maybe.

You know, as I said before, the law of the court is that of commonalities of the claimed terms that the DDR holding in Bascom.

So, you know, as to a practitioner, I would say, you know, look at the claims in those two cases that were held eligible and cannot be -- if you can come up with some commonalities in what you're doing in your claims, that might help you in furthering your arguments.

Next slide, please?

So, let's talk briefly about the other -- one other claim. This is a pretty detailed claim for the -- one of the other patents.

And, then, if you look at the -- all the limitations, it's collecting, it's filtering, it's storing, it's up in queries, it's outputting. And, you know, all these terms are normally would be considered nothing significantly more, not adding anything more significantly by a lot of the examiners under the current guidelines.

And, I'm getting, you know, the court went back, in this case also, the court went back and did a specification and construed the terms.

Next slide, please?

So, the court kind of focused on the third limitation which talked about computer code for completing plurality of data records. And, they went back and said completing is directed towards enhancing a record until all of required fields that we populated.

And, then, went back to the arguments

about the -- why enhancing was something that was not going to amount to a technological solution.

Though, there was not a claim construction that was done in this case, even at the 101 analysis, which is usually, you know, about one would think that it's not usually done that often.

But, a couple of things here that I would point out is that, you know, distributor architecture, the court said there's an issue with architecture and official to minimize impact on network system resources is something that is technological solution here.

So, you know, a lot of claims that we draft for a lot of clients deal with, in some ways, minimizing some impact on some part of the system resource. So, can you use that in arguments to say this is patent-eligible subject matter because of those arguments by the case? That could be useful in the future.

Next slide, please?

So, I wanted to kind of close this out

with a few high level observations and takeaways.

You know, there was a lot of discussion about how is the 101 analysis binary or not. And, it looks like the court here kind of tried to use a flexible approach by emphasizing that, sorry, about the track over there, but the abstract guide, it has no set meanings.

So, there's no set meaning anywhere, so the definition of abstract idea and they relied on the claim construction beyond what's the claim leveled in the claims and on improvements over the prior art which is discussed a lot in the specifications.

And, the last slide, please?

So, one final observation here is also that, you know, again, the analysis was not binary. If you are a practitioner, emphasize an improvement provided by the solutions.

You know, if you can discuss more of those improvements in the specification, you can use that later on in making your argument that

your claims were patent-eligible because of their technological solution or nonconventional service in technological problems.

There was a dissent by Judge Reyna that is pretty interesting and long, if somebody is interested in reading it.

But, I think with that, I'm going to close. Thank you very much.

MR. KELLEY: Thank you, Mr. Patel.

And, our next speaker is here at Stanford, Dorothy Auth.

Dr. Auth?

MS. AUTH: Good morning.

My name is Dorothy Auth. I'm here representing the New York Intellectual Property Law Association. I'm the Immediate Past President.

We assembled an ad hoc committee in order to prepare for this presentation and think about what the best guidance would be for the USPTO on the question of the larger question of 101 and what might need to be done to correct the

place we are right now.

The NYIPLA's view is that the Section 101 bar should really be a low bar. It should be a sieve with very large holes.

It should hold back ineligible subject matter if that it contains patent claims that are directed to a law of nature, abstract idea or natural phenomena, but it should allow claims to proceed through the further analysis of 101, 103 -- 102, 103 and 112 if there are particular applications of the abstract idea, law of nature, natural phenomena.

The question really is, how can we distinguish between ineligible subject matter and eligible subject matter?

And, the Supreme Court's opinions in this two-part test articulated by Mayo, Myriad and Alice have proven to be very problematic and they don't provide a simple framework to know what the right level of abstraction is for Section 101 analysis.

Recently, the Federal Circuit is

helping to answer question number two of the two-parts test through its analysis of patent-eligible subject matter in, for example, the two recent decisions in McRO and Rapid Litigation Management.

In these cases, the Federal Circuit has identified patent-eligible subject matter in both, well, one of each in computer related sciences as well as life science, both of which are profoundly affected by the Supreme Court's decisions recently.

And, they focused on the very simple concept of technological improvements in the claim language.

And, secondly, they also required that the language of the claim, by virtue of this technological improvement, be described in the specification.

And, that it not preempt the law of nature because the claims are narrowly tailored applications of the natural law or abstract idea.

And, they're supported in the

specification.

The common theme is that the specification must explain the technological features, the particular application that specifically recites the claims. And, thus, ensures that the claims don't preempt the law of nature, abstract idea or natural phenomenon.

In the NYIPLA's view, the Section 101 analysis should be considered whether or not the claims include specific steps or elements which render the claimed invention.

It should be based upon the definition of what an invention is. And that really goes back to the definition in our statute, it needs to be a useful process, a machine, manufacturer, a composition of matter or an improvement thereof.

In particular, the process definition in Section 100(b) even points out that it can be a process, art, method and includes a new use of a known process, machine, manufacturer, composition of matter or material.

The NYIPLA believes that, although, the Federal Circuit is moving in the correct direction by focusing on specific recited features in the claims and support in the specification as well as its requirement that the claimed invention not preempt the law of nature, ultimately statutory amendment will likely be needed to finally resolve the matter because we have sort of this push-pull that we've already mentioned between the Federal Circuit and the Supreme Court.

And, as between the two, as Professor mentioned before, the Supreme Court usually wins.

So, the NYIPLA would proposed that, at the end of Section 101, a sentence be added that would say, a claim complying with this section may recite a practical application of a law of nature, abstract idea or a natural phenomena, but may not claim or preempt a law of nature, abstract idea or natural phenomenon.

Such an amendment would clarify the applicable standard for review.

Such an amendment would lessen the burden both on the courts as well as in the USPTO which currently are expending tremendous resources in trying to understand what standards should be applied in the fact of a test it and see and compare it to the other cases that have been decided previously standard.

You know, our goal is to create a Section 101 that focuses on patentable inventions that clearly defines what falls within the patent-eligible subject matter and what is outside that.

And, also, as we feel is happening already with the Federal Circuit, to a certain extent, and shift the true analysis back to 102, 103 and 112.

Thank you.

MR. KELLEY: Thank you very much.

And, our next speaker this morning will be Steve Chiang.

MR. CHIANG: Hello and thank you for the opportunity to add to the public discourse on

subject matter eligibility.

May name is Steve Chiang and I currently serve as a Director and In-House IP Counsel at RPX Corporation.

However, I am here today speaking not on behalf of RPX but as an individual spectator of and participant in the patent ecosystem.

I'll spend the next few minutes focusing on the question of whether developments in patent eligibility law should be left primarily to the courts or whether additional administrative initiatives are desirable.

Any participant in the patent ecosystem is likely familiar with the individual roles played by the USPTO and the courts as well as the impact that the Supreme Court's Alice decision has had on their businesses.

Indeed, particularly for those dealing with software and business method patents, the decision and it's progeny have shifted litigation outcomes and strategies wholesale, devalued entire patent portfolios while arguably

increasing the values of those less susceptible to invalidation under post-Alice Section 101, drastically lowered allowance rates in some tech centers and art units and impacted an unknowable number of key business decisions for many a small business such as should I seek a patent protection for my idea?

However, these are not isolated effects because the participants, whether litigants, licensors, licensees, applicants and would-be applicants are often one in the same.

And, these respective businesses could stand to benefit greatly from consistency in the patent ecosystem as a whole.

Although both the Article III core system and the USPTO played critical roles in evolving the practical ramifications of developments and patent eligibility law, these roles have traditionally been separate.

Thus, is we accept the assumption that consistency in the patent ecosystem is more desirable, perhaps developments in patent

eligibility law should be a joint effort.

One potential way to increase consistency is by enlarging the boundaries of the deference attributed to the examination process by district courts and their determinations of eligibility.

For example, if district courts were to consistently apply the Section 282 presumption of validity to determinations under Section 101, that could potentially prevent many situations in which applicants invest a significant amount of money into prosecuting an application to issuance by overcoming Section 101 rejections only to have the patent invalidated, for example, in the pleading stage.

Since Alice and through end of Q3 this year, in only 20 percent of distinct cases rendering a judgment under Section 101 did district court Judges even mention the presumption of validity under Section 282.

Those cases were largely split with anti-presumption Judges generally following

Mayer's concurrence in Ultramercial III and the lack of a specific application of Section 282 to Section 101 determinations in recent Supreme Court patent eligibility jurisprudence including Alice.

And pro-presumption Judges generally tracking to Supreme Court's broader endorsement of the presumption of validity in Microsoft v. i4i and its progeny.

However, in the other 80 percent of cases one can only assume that the lack of discussion of Section 282 intimates a lack of application of Section 282.

This is difficult to reconcile with the fact that the examining court, with its technical expertise is well equipped to explore the second step of the Alice-Mayo framework since whether abstract ideas are integrated into something significantly more should really be relative to one of ordinary skill in the art.

However, of the 20-plus litigated patents that issued after Alice and, to be fair,

after the 2014 preliminary examination instructions and IEG published, only three of those received Alice-based rejections on the merits during examination.

Consistently ensuring a more fully developed examination record, especially with respect to Section 101 is a good step toward working with the judiciary to explore the possibility of consistently applying Section 282 across all determinations of validity including eligibility.

Another potential avenue for increasing consistency in patent eligibility determinations is by revisiting amendment practice at the PTAB which is both the most popular alternative form to district courts for litigating patents and the single largest source of appeals to the Federal Circuit in 2016.

It is difficult to reconcile why an underpinning rationale militating against the application of Section 282 at the PTAB that is, the patent owner having the ability to amend

claims has not been more liberally applied in the context of Section 101.

In particular, movants filing motions to amend in CBM reviews and post-grant reviews face long odds in having to meet shifted burdens to distinguish not only prior art of record -- to distinguish prior art of record, but it's as yet unclear whether one, for example, a petition for CMBR or PGR is instituted only on Section 101 grounds, motions to amend might become easier.

For example, by allowing movants to add more details from the disclosure regarding the implementation of claim elements that, upon institution of trial, were deemed by the Board to be preemptive, functionally claimed and flat out abstract.

Allowing such amendments are largely within the discretion of the PTAB subject, of course, to the Federal Circuit's holdings in Microsoft v. Proxyconn and Nike v. Adidas and squares with not applying a resumption of validity and post-grant proceedings under the

AIA.

Further, an increase in the number of motions to amend under Section 101 together with their oppositions to amend could similarly help to ensure a more fully developed record.

I would like to thank the USPTO for inviting public input on a piece of patent ecosystem that has likely affected every person in here in some way.

And, I'd also like to thank the RPX research team, including Jake Wexler for support in this.

Thank you.

MR. KELLEY: Thank you, Mr. Chiang and thank you for being able to work in motions to amend even to a 101 roundtable. I've got them on my mind.

So, next, we'll move to Kevin Noonan.

Dr. Noonan?

MR. NOONAN: Thanks very much.

Thanks to the Patent Office for inviting me and for all of you for being here.

Good morning, I'm Kevin Noonan. I'm a partner at McDonnell, Boehnen, Hulbert and Berghoff which is a mouth full, so we usually say MBHB. And, also one of the authors in the patent docs blog, if you're kind enough to read that every day. I hope you are.

So, I'd like to talk today about my views on the role of the office and interpreting and implementing the recent Supreme Court decisions, as we all do, concerning subject matter eligibility.

But, I want to do this in the context of separation of powers between what the Executive Branch is supposed to do and what the Judicial Branch is supposed to do.

And, I think it would be a mistake to believe, as, unfortunately, the Federal Circuit seems to, that the Court has spoken definitively about subject matter eligibility.

I think that the Court would agree, and if you remember during the oral argument in Alice, Justice Breyer said the Court didn't

intend for the Mayo decision to be the end of the development of subject matter eligibility law.

He said that, rather the Court and the principles in Mayo were just meant to sketch the outer shell of the content of what the law should be, suggesting that even the Mayo decision's author didn't think that he was or intend to speak definitively or exclusively or finally on the issue.

So, I think that we think about it, that's the proper role for the Court. If you remember, Chief Justice Roberts said in the Obamacare decision, National Federation of Independent Business v. Sibelius, the following, I'm going to quote him.

He says, our permissive reading of these powers is explained, in part, by a general reticence to invalidate the acts of the nation's elected leaders.

Members of this Court are vested with the authority to interpret the law. We possess neither the expertise or the prerogative to make

policy judgments. Those decisions are entrusted to our nation's elected leaders who can be thrown out of office if the people disagree with them.

I also think that if you look at the cases, the other cases in patent eligibility, the Courts try to be parsimonious in its decisions.

Myriad, for example, Justice Thomas said, and I'll quote him again, we merely hold that genes and the information that they encode are not patent-eligible under Section 101 simply because they've been isolated from the surrounding genetic material.

And, if you look carefully at the decisions in Bilski and in Bowman and several others, you will see that the Court has tried very hard not to make blanket and broad statements.

I think that the Court understands that it sees patent cases only sporadically, although I understand how, these days, it doesn't seem that way. And, usually, the cases are brought to test the limit of the statutory

section and to try to probe the law a little.

But, they're hardly representative cases and they're hardly representative claims.

The office, on the other hand, sees all the cases, good and the bad, the eligible and the not eligible, the patentable and the non-patentable. And Congress has given the office the authority to sort out what is patentable from what is not.

So, that experience, in addition to the expertise, both technical and legal that the office has, is why the Court can defer and maybe should under Chevron when the Agency applies that expertise and making decisions on patent eligibility.

The proper role of the Agency is to use its expertise and provide the Court with the concrete examples of how the law is applied to each new invention based on its interpretation for the Court then to determine whether it's doing the right thing.

I think that it's a mistake for the

office to act, and I think it did, and I don't understand why they did, but they did a news release that the Court has tied its hands or somehow mandated an outcome.

One of the blessings of the fact that the Court has a rather inconsistent focus on patent law and also its unwillingness to overrule its earlier case law is that it makes it possible to distinguish cases that should be patented from the consequences of some of these decisions.

I'll give you an example. One reaction to Myriad was to call generally the whole idea of natural products patenting into questions. The consequence of this, if carried through its extreme what I think, honestly, would be devastating.

A recent study by the National Institute of Health about 1,400 small molecules that were approved by the FDA between 1981 and 2010 show that about 75 percent of the antibacterial drugs and 80 percent of the anticancer drugs were natural products or

derivatives of natural products and they would have been unpatentable under a very stringent application of the Myriad test.

But, the Supreme Court giveth and the Supreme Court taketh away.

The Chakrabarty decision provides an easy basis to avoid the outcome. In Chakrabarty, the Court said the standard for patent eligibility was that an invention be a product of the human ingenuity, having a distinctive name character in use.

The office could rely on that decision to consider a chemical or other product found to be derived from nature to be patent-eligible provided that the composition was changed from its natural state, in structure, function, purity, use, consistent with Chakrabarty.

And, I'll mentioned that there's a section of the oral argument in Myriad in which Justice Alito probes Chris Hansen from the ACLU about whether somebody had actually found a new plant in a jungle that had a component that could

be made into a drug.

And, even Chris Hansen, even the ACLU said, oh, no, that would certainly be patent-eligible. That's not what we're talking about.

And, also, remember that in Myriad -- after Myriad, Chakrabarty was not only cited there, but was cited with approval. So, I think it's good law.

As for the diagnostic method claims, arguably, are the bigger problem in patent eligibility for life sciences.

Remember, that each and every step of the claim in Mayo was routine, conventional and well understood because it had actually been practiced in the prior art. There was nothing new about -- in that claim except a recognition of the boundaries as to what was and was not effective.

So, good law exists and people have talked about Diehr already, that mandates the office to look at the claim as a whole. And, if you avoid the piecemeal application of the Alice

test one after the other, I think you get to that.

Now, if you look at the guide, it says the office has come out with most recently, I think that this has shown a tendency to not slavishly follow what is believed that the Court said, but rather, to interpret and distinguish.

But, I think that, you know, if you are to understand Mayo the way it's being applied at least by the district courts, almost all diagnostic method claims are patent-ineligible. But, that doesn't have to be the case.

Sequenom is the example. And, I understand the Federal Circuit didn't support the patenting of Sequenom, but I'm not too worried about that because there were actually factual distinctions that could be made.

The office has experience in telling the Federal Circuit when they think they're wrong.

I'll remind you of In re Bell and In re Deuel in which the facts of the second case

reviews in the face of the first one to continue to say that gene patenting would be obvious.

And, the current spate of Superior Court reversals of the Federal Circuit shouldn't make the office shy for telling the Federal Circuit when it thinks that they're wrong.

The fact that the Supreme Court did not grant cert in the Sequenom decision, I think, shouldn't be taken as a belief that, in fact, the Patent Office got it right. I think that the Court seems to be very happy as in the poser case to think the Patent Office is actually getting it right.

I also think that, if we don't give the -- provide the grist for the mill, if we don't provide patents that can be challenged, even on eligibility grounds, the Court, if it really intends to be just doing the contours, is not going to get the opportunity that it needs to decide, in fact, where those contours should be.

And, so, I don't think that it's reversal from below to say that when the office

applies this expertise to these matters of which it has expertise, that they may come to a different decision that courts may have in other cases.

But, every case has its own facts. And, the application of the law as the Patent Office understands those facts give the office the opportunity to contribute in determining what should and shouldn't be patent-eligible.

And I'll end my comments there.

MR. KELLEY: All right, thank you very much.

And, our final speaker this morning on our first panel -- I'm sorry, second panel, is James Reed.

Mr. Reed?

MR. REED: Thank you very much.

I want to start by just thanking the Patent Office for this invitation to speak here and contribute to this very interesting discussion.

I'm a patent counsel at the law firm,

Squire, Patton, Boggs. I draft patent applications. I prosecute patent applications. That's primarily my area in this field.

Before I say anything, let me state that my views here are just my own. I don't speak for the law firm, Squire, Patton, Boggs. I'm just an interested participant and want to just share in this discussion of this subject matter.

In the last panel, I heard and I wanted to -- didn't plan on opening with this, but the idea was, I believe it was, is it a binary question, abstract or not?

It seems to me that, in the Alice opinion, the Court says quite clearly, every patent claim is directed to an abstract idea at some level.

So, and we also know from that case that the exclusionary principle, that is the abstract idea exception in the other areas that are considered excluded subject matter for patent eligibility, the concern came from a concern over

preemption.

Is the patent claim essentially claiming what the Supreme Court said were the basic tools of research and development or was there something more to it than that? Is there actually an improvement being claimed? And, is there a contribution to the art?

The whole patent system is based on the idea that you grant a patent to promote the sciences in exchange for disclosing your invention. That is an improvement in the technology.

We will grant you a limited monopoly on those rights.

Turning now to Federal Circuit cases, I want to focus on the triad of cases Enfish, McRO and Amdocs that came out this year.

It had been two years since Alice was decided that we really didn't have any idea what needs to be in a patent claim subject to the Alice-Mayo test that will make it patent-eligible as not directed to an abstract idea.

We first got a clue of what type of claim that could be in the Enfish decision. The Court looked at the claim, and as we know, and as prior speakers have mentioned, that step one is a meaningful part of the Alice-Mayo test.

The limitations in claims are meaningful and when you undertake part one of the Alice test, you have to take that into consideration before just deciding whether it's an abstract idea or not.

In the Enfish case, the non-abstract idea was an improvement in computer functionality. How did the Court arrive at that decision?

I think this was an interesting decision from the perspective that, as we all seek to understand when will we have a definitive test that won't be so dependent on the technology field implicated by the claim?

That's essentially what we're after here. Right? We don't want a test that is so dependent on the technology field, the

descriptive nature of a claim, to decide future cases, the common law approach.

The Court looked at the claims and it read a patent. And, as we know, the Federal Circuit, they look at claims and then they confirm their understanding of a claim through the specification, struck me as helpful and, I believe, insightful in light of the Supreme Court precedent that the Enfish court saw that the patent was really had a narrow focus.

The limiting aspect of the claims, as we know, was this self-referential table or database, I forget exact words, that was the patent he sought was the solution to the drawback in the prior art with was the relational database. They're inefficient storing and reading data and this was the patent he believed that is self-referential database would solve those problems in the prior art, the technology prior art.

It's talking about an improvement over technology. The specification makes that clear,

its differential table is one in the -- viewed as one in the same as the invention.

At the conclusion of the Enfish case, the Court says, this is clearly not ineligible. This is not an abstract idea, disparaging marks in the prior art, the improvement over the prior art that it makes very clear in the specification is enough for us. This is not an attempt to deceive one by the draftsman art.

McRO case came out four months later. I think along similar lines. The McRO case said, you cannot simplify claims in step one. They are meaningful claims, citing Enfish.

In the McRO case, the Court took it a step further towards this kind of goal of arriving at a test which would make the examination procedure much more tractable and implementable for examiners, not making it dependent on a technology field.

The McRO case looked at it and said, the specification seeks to solve a problem. The prior art has this problem, tedious, time

consuming step that requires a person, a human being, to decide, in the case it was allegedly admitted that it was a subjective process and it solves a big problem here.

You take a subjective process, you replace it by rules that allegedly obviate the need for a person to do this step and you arrive at a much more simpler process.

This is the solution. This is a technological solution. And, so, the Court then arrives at the same, essentially, the same conclusion, in my opinion, which is this is a problem and a solution. This is a technology problem, there is a technology obstacle that's keeping you from arriving at the right result and the claim is limited to that solution, to the technology problem.

And, that case also, we know that, there was arguments for how the claims were preempting the prior art. In other words, you have a human being that's performing these roles and the roles that the patent he arrived at,

well, that would have been the same types of rules that anyone would have arrived at.

That was not proven. There was insufficient proof to prove something like that. I think it would be extremely difficult to prove something like that in the ordinary course. And, setting aside the implications of what they may mean in the context of a motion to dismiss, I think it's more interesting to look at that case and say, look at how the Court tried to describe, well, the preemption, the preemption concern.

This is significant and what is the preemption about? Preemption is about claiming a method for solving a problem as opposed to just stating the result. And, claims that preempt only state the result.

And, I think that's the more workable way of approaching this.

Of course, in Amdocs, we found out that the Federal Circuit is not in total agreement on that. They're still looking at cases. But, I think if you look at the Amdocs

case, when they select their case that's most similar and reach a decision, they go back to the same test that McRO is suggesting.

Thank you very much.

MR. KELLEY: All right, thank you very much, Mr. Reed.

My first question is directed, first, to you, Dr. Auth, and I thought I heard you say something along the lines of a technological test or a technological requirement.

And, so, my question is related to Mayo, which I'm glad people raised this morning. Because, I think that Mayo struck people as odd when it came out because it was the first case that I think many of us had seen in a long time where the Court focused on what I'll call the marginal inventiveness of the claim.

And, I don't mean that pejoratively, but the difference between what was claimed and what existed in the prior art.

And, so, my question is, if we move to something like a technological requirement, is it

fair to follow a case like Mayo and look only to the marginal change in the claim? Is that where the technological advancement has to be? Or, is it, as on the claim as a whole?

MS. AUTH: Well, it should certainly be looking at the claim as a whole. But, the term I was using was technical improvements. And, that was based upon what we've seen in McRO and Rapid Litigation.

And, there, they're basically looking for some specific or cited language in the claims that is a particular application of the law of nature.

And, so, you use the technical improvements or -- yes, that's the language they use -- and, it's very similar to what others were saying about the language that Europeans use of technical effect.

And, so, it's a very low bar and it really is just saying that you're claiming something that's described in the specification and is particularly something that is an

application of a law of nature rather than trying to claim the result itself and the law altogether.

So, using the concept of an application of knowledge as a way to sort of bookend what it is you're allowed to claim and the concept of preventing preemption, you have -- we hope that you can find a middle ground for what should be patent-eligible in between.

MR. KELLEY: Okay. Yes, Shira?

MS. PERLMUTTER: This is also for Ms. Auth.

So, I'm interested in your suggestion about a sentence that would be added to Section 101. Could you describe a little bit more what the interplay would be, the intended interplay between that and judicial exceptions, the extent to which they would -- that would substitute for existing judicial exceptions or preclude future ones being developed?

MS. AUTH: You know, I think that our proposed language is really not to -- well, it

uses the current judicial exceptions, the law of nature, natural phenomenon, abstract idea and basically is trying to define in some more useful manner, rather than just saying it cannot be those things, and say something in a positive way.

One of the earlier presenters said, look, the problem with the current test is it's a negative test.

And, so, you know, what it can't be, but how do you figure out what it can be?

And, so, the language that NYIPLA is proposing actually comes from the Supreme Court's decision in Myriad and was actually relied upon in Rapid Litigation, this concept of the application of knowledge or a law of nature.

So, you're -- it's a low level way of saying this is a use of this law of nature rather than the actual law of nature itself.

MR. KELLEY: So, we had a question online that I'll sort of paraphrase which is, does anybody on the panel think that in making

these decisions and given that we're sort of dealing with the stately evolution of common law that the USPTO should forge a path based on what it should do in the gray areas?

And, what I mean is, should it lean towards patentability or not patentability if it can't figure it out?

And, I have no personal view on that at all, speaking from the Agency. It's just something I've heard brought up on the outside and there's two ways to look at it.

One way is if we grant a patent that perhaps we shouldn't have granted, it can't get tested until it goes into litigation.

The other way to look at it is if we reject a claim that arguable we should be issuing, that can get to the courts much quicker because it can get to the courts through a direct path from that rejection.

And, I'm just wondering if anybody on the panel has thoughts on that?

MR. NOONAN: You know, paradoxically,

the post-grant review and inter-parties review and all of that which people complain about all the time short circuits that problem.

I mean, I would say that, given the importance of patents, especially to small companies, that erring on the side of when you get to a gray area, granting a patent with, you know, sufficiently narrow claims, I mean, I think that the ideas in the gray area, the grayer the area, the less broad the claims can be because it's harder to get over 112 and 103 issues in that instance.

But, claims of the proper scope, if there is a gray area, then they can be challenged within nine months with PGR. And, that allows you to bring Section 101 issues. And, under IPR, under 103.

So, I realize Justice Kagan thinks you guys are patent happy. I think that's a good thing. But, I think you'd -- I would rather see the office err in those really close cases on the side of patentability than the other way around.

MS. AUTH: I would tend to agree that the Patent Office should really be focused more on the other substantive areas and that 101 should really be, as I said, a low bar.

And, so long as -- and a way that the Patent Office can move forward with this is to really be very particular about the technical applications of a law of nature that they can find within the claim.

And to be constantly focused on, is there something specific about this particular invention that's in the claim rather than just a general concept that's in the claim?

And, so, specificity, I think, is the answer. And, of course, focusing on the other substantive parts of the statute.

MR. REED: I think that moving towards the gray area being patentable is perhaps the way to go. But, I think really have to be cautious about things.

It's a common law situation, common law case decision situation we have right now.

Let's not forget that, over the past year, we really have made some strides in trying to understand this test.

A year ago, we had no clue about what step one was about and how you went about doing the test. If you look at how the district courts were deciding what the standing law was, it really was very little substance.

And, I think there's a lot more now. We have to give it time. You know, after a 100 cases are decided by the Federal Circuit, will they then come together?

It's clear right now there's a big division between the Justices and, of course, the big fear here is we don't want to arrive at a rule that can be evaded. We comply with the rule, but not with the spirit of the rule and that is avoiding patenting abstract ideas.

We have to keep that in mind and I think you need to give it more time before we can really arrive at some way of looking at it in a systematic format.

MR. CHIANG: I think just to echo some of those comments, I mean, maybe in that gray area, maybe a hybrid approach is perhaps the best approach.

Because, you know, if you have examiners who are issuing rejections under Section 101, at least what's happening is there is an abstract idea that's being articulated and the applicant is forced to say, you know, either why it's not an abstract idea or what the claim adds that's significantly more.

That additional clarity can only help later prosecution and later litigation as well.

So, you know, I think maybe the answer is to push a little bit, but not to put your foot down.

MR. BAHR: I was going to take us back to the earlier -- the suggestion for the proposal that, you know, there be a provision that says that it basically has to be a practical application of, for lack of a better word, the judicial exception.

The one concern with that would be that you still really don't define what an abstract idea is.

Is it preferable to have it defined in sort of the common law basis where you look at the cases and you see which ones fit better? Or, would you prefer, I'm going to say, another sentence, which specifically defines what is or is not an abstract idea? That's for anyone.

MS. AUTH: It's a really good question and we actually debated it for quite a while whether we should have something in there that specifically sets out particular classes of things that should be allowed that are applications of laws of nature.

And, then, we thought, gee, how presumptuous of us to think that we're going to know what those things are in 50 to 75 years, let a long a 100 years.

I mean, think about 50 years ago, could they have imagined the computer programs that we're now trying to claim or business

methods that we're trying to claim? I think not.

And, so, that's why we left it open to future developments and thinking. And, maybe the patent -- I think that's where the Patent Office guidelines kind of can continue to help because those are more immediate and those are something that are an ever-evolving piece of work.

Whereas, the statute really is intended to be something that you set up and you allow the bushes to grow around it.

MR. REED: My view on it, is like I had mentioned earlier is, I don't think we get anywhere by defining what abstract ideas. I think more the whole purpose of this law is to say, everything is an abstract idea. Now, what more is there to the claim? What is the improvement in the technology? That's the whole reason why patents are granted.

Look at it from that perspective. Is the patent really trying to solve the technology problems?

I don't think it's generally too

difficult for an examiner to look at a patent application and decide, is the real thrust, is it meeting a need like in the TLI case? Is it just satisfying a need in an asset industry? Or, is it clearly trying to solve a technology problem? And approach it that way.

Where is the technology problem? How much of the monopoly, if we grant the patent, is just that technology solution? Or, is it more than that?

MS. NELSON: I have a question for Mr. Noonan. And you talked about the great number of natural products that have, you know, issued between a certain time period.

Is this something that's published or are there studies that have actually talked about and listed patents that were issued early on that now would presumably not be patent-eligible under Myriad?

MR. NOONAN: Well, yes, where it comes from, there is actually -- there has actually -- the NIH study is published. And I think that a

fair reading of the initial way that the Office was looking at the -- remember the amazonic acid and things of that nature, would have made many, if not most, of those patent-ineligible.

Because they're just, literally, if you take the Myriad case to say that merely isolating something from nature isn't enough, then say, Taxol, which is isolated from the bark of the yew tree, it would not be patent-eligible.

The problem with that is a couple-fold.

One is, trees don't get cancer. So, the fact of the matter that somebody figured out you can get a molecule out of a yew tree that could treat human cancer, that's the human ingenuity part that I think deserves protection.

And, yet, I mean, I had a patent examiner say this to me that, well, it inherently cures cancer, that the problem is when you get to that level, it's like the level of extraction which, fortunately, I don't have to deal with in my practice that much.

But the idea that, if you get down to it, yes, everything inherently has this property. The dividing line is, did you need a human being to figure it out? Then, it seems to me that that's a good place to draw the line and say, that that should be patent-eligible.

MR. KELLEY: Does anybody on the panel have any other questions?

Okay, well, thank you very much. Oh, I'm sorry.

(Simultaneous speaking.)

MR. KELLEY: It's more of an observation, but I think it's a fair one and I'll phrase it as a question which is, isn't the judicial diversity of our common law system what's keeping things lingering?

That is, we sort of have these cases pop up in different courts at different times and we have to use them all at data points and the diversity of decision makers and of the facts of each case is what causes us to sort of stumble over having a very bright line that's easily

applicable.

That's a lot more than it says on this card.

MR. NOONAN: Yes.

MR. KELLEY: Okay.

MS. AUTH: Yes, well, that's what common law is all about, right, the ability to build synthesis of law and that's what this is. Patent law presents many different possible scenarios and then the court has to find a test that works for them.

MR. KELLEY: Okay. Well, I thank the panel.

And, we are going to take a ten minute break and then start up again with the third panel.

Thank you.

(Whereupon, the above-entitled matter went off the record at 10:38 a.m. and resumed at 10:52 p.m.)

MR. KELLY: Thank you. Our first speaker on the third panel will be joining us

from the Regional Office in Denver, Ms. Diane Lettelleir, if I have that correctly.

I think we are having a sound problem.

MS. LETTELLEIR: No, you just have a problem with not following instructions. I was still on the mute button. So, now I think I am on.

MR. KELLY: Yes, thank you. We can hear you now.

MS. LETTELLEIR: We are actually coming to you from Dallas, the Dallas Regional Office, which is the new office that just recently opened. So, we are happy to be here joining you from this location.

I am a Senior Managing Counsel for J.C. Penney Corporation, headquartered in Plano, Texas. I want to thank Director Lee in the Patent Office for the opportunity to present my company's perspective on the legal contours of the patent subject matter eligibility issues.

The Supreme Court's 2012 Mayo and 2014 Alice decisions have undeniably changed the

landscape of patent practice, thrusting subject matter eligibility under Section 101 into the forefront. However, these decisions do not present a problem in need of an immediate legislative solution. In 2012, Mayo specifically addressed whether a patent claim was eligible under Section 101 in the context of laws of nature and natural phenomenon. In 2014, Alice made it clear that the two-part Mayo test applied to all patent eligibility questions under Section 101 and, specifically, to abstract ideas.

While the clarification made in Alice as to the proper framework for analysis of claims directed to abstract ideas may represent the end of the cycle in patent law related to software and business method patents, it is important to consider the impact of Alice in the historical context, as well as the geopolitical context.

In 1981, the landmark Supreme Court case in Diamond v. Diehr changed established patent law by holding that at least some software could be patented. Then, in 1998, the Federal

Circuit ruled in State Street Bank that business methods could also be patented.

These decisions set the stage for expansive patentability and acted as a catalyst for a rapid increase in patent issuance related to software during the internet boom. The lack of a clear test for patent eligibility during this period failed to keep this expansion (audio interruption) patents from this period later became the subject of lawsuits brought by non-practicing entities as patent litigation dramatically increased.

The decisions in Diamond and State Street and the patent enforcement programs those decisions spawned were significantly disruptive to operating entities. Technical innovations developed and implemented by Main Street businesses pre-State Street suddenly rendered those businesses the target of patent enforcement efforts decades later.

J.C. Penney has been the target of more than 35 such lawsuits in the past seven

years. With 101 eligibility threshold challenges largely ignored by the District Courts, defendants such as J.C. Penney were required to spend millions of dollars to prove invalidity under other theories.

The decision in Alice was a much-needed course correction. The exclusion of abstract ideas from patentable subject matter was not new. The exclusion had been in place for decades. As more data points become available, applying the proper framework for analysis, the landscape has become more defined and more predictable. The rate at which 101 challenges are brought is already beginning to decline, as more judicial decisions provide clarity on the delineation on eligible and ineligible subject matter. Eventually, the cycle of culling of patents directed to ineligible subject matter were wound down and the challenge rate were normalized. A primary driver of this normalizing over time will be the Patent Office's gate-keeping function on subject matter

eligibility.

Geopolitical considerations also weigh heavily in favor of the Supreme Court's reasoning in Mayo and Alice. Many of the arguments the detractors raised seemed only to assume that the benefits to more expansive patentability will inure only to American inventors, American companies, American investors, and the American public. The reality of overly expansive patentability is that equal or greater benefit will inure to foreign inventors, foreign companies, and, in some cases, foreign governments.

Allowing the unchecked patenting of abstract ideas, laws of nature or natural phenomenon by foreign companies possibly funded by and even controlled by foreign governments presents a real and significant threat to American innovation, American companies, and American interests. Foreign interests hold an increasing stake in the U.S. Patent system and we must be mindful of the potentially far-reaching

consequences of overly expansive patentability.

J.C. Penney does not support amending the patent statute to further address these issues or to attempt to further codify the judicial exceptions held to be implicit in the current language of the statute. Further development of the contours of eligibility should be left to the common law and the courts and allowed to evolve as new technologies emerge and then converge.

The notion that the Supreme Court has no legitimate role in the development of patent law is not a notion J.C. Penney supports. The fact that the Mayo test is not a simple answer does not mean that it is not the right answer. The language of the NYIPLA has proposed as an amendment is equally problematic, if not more so. For example, what is a practical application of an abstract idea, law of nature or natural phenomenon?

During the previous Q and A session, the consensus was that trying to define an

abstract idea is not the right path but, yet, the failure of the Supreme Court to provide a simple answer to that very question has drawn some of the harshest criticism.

J.C. Penney does not support adoption by statute of the machine-or-transformation test rejected by the Supreme Court in Bilski. This was one of the other questions that was posed for today's consideration.

The machine-or-transformation test, in practice, largely failed to appropriately preclude the issuance of patents claiming abstract ideas. While we may take comfort in bright line tests, adoption of an exclusive bright line test, such as the machine-or-transformation test will likely have unforeseen consequences in the future. We are already seeing innovations that push the boundaries of what may have previously been thought to constitute a machine. The door is left open for patents to issue for software or business method innovations that are not just

abstract ideas implemented on general purpose computers and that meet the other such statutory requirements.

J.C. Penney agrees that innovation and a healthy U.S. Patent system are important to the U.S. economy. Patent protection and the right of enforcement are two important components of an innovation ecosystem. However, commercial adoption of innovation is equally important. Innovation cannot flourish in an ecosystem without adoption of that innovation. Ultimately, over expansive patentability operates to stifle innovation and economic growth.

Thank you once again, Director Lee and the PTO for hosting this roundtable event and promoting a robust dialogue on these important issues.

MR. BAHR: Thank you for your comments. And I am a little remiss. Before we get to our next speaker, we are now joined by Chris Hannon from the Office of Policy and International Affairs.

With that, I am going to turn to our next speaker, Mr. Steve Bachman.

MR. BACHMAN: Thank you.

So, a bit about me. I am a patent prosecutor. I have done patent prosecution for about 17 years. I have done a little bit of patent litigation. But most of my experience is in software and hardware. So, I see a lot of the Alice-based 101 rejections. So that is what I am going to be talking about today is kind of a little bit of a point of view on the prosecution side, in particular with respect to the USPTO.

I had some slides but I will just kind of keep talking and maybe they will come up but, otherwise, you will just have to be entertained by my voice. Oh, they are up. Okay.

So, I think there are several things that have increased, that have kind of gotten better about patent subject matter eligibility analysis since Alice. I mean it is certainly not a clear-cut process and there are a lot of criticisms, many of them well-deserved. But some

things have gotten better.

One thing that I would like to talk about is one that hasn't necessarily been clarified through Alice and things that have happened since then and that is regarding the two-part Alice test, in particular, the second prong. The idea I would like to get across is that I believe the USPTO should ensure that patent eligibility subject matter analysis focus more on the innovative technology itself, as opposed to any considerations about obviousness. So, today I am just going to briefly talk about getting to Alice, what has happened, and the response to Alice by the USPTO in the courts and how I proposed or some suggestions, for what it is worth, to move forward.

So, starting with the basics. So, the patent subject matter statute is 101 and it basically states that patentable subject matter is anything that is new and useful as a process, machine, or manufacture, or composition. It does not mention anything about obviousness. If

anything, maybe it hints a little bit towards being novel, anything that is new. So, if anything, in the statute it perhaps overlies a little bit with 102. But there is nothing in the statute, itself, that gives any hint to obviousness.

So moving forward, obviously, we are overall very familiar with Alice and the two-pronged test is the claims at issue directed towards a judicial exception, as an abstract idea. And if so, is there any additional claim elements that transform the nature into a patent-eligible application and, in particular, do the claims recite an element or a combination of elements that amount to significantly more.

This two-prong test set forth by the USPTO kind of produced a little bit of a shade of obviousness. It is not pure obviousness and that is why I think there has been a couple of different paths that the courts and the USPTO have expanded upon since the Alice case came down. In particular, the phrase significantly

more has been interpreted in a couple of different ways. In one way, it is related to the prior art, such as is there an improvement to another technology. Is there a limitation that is not routine in the industry, ranging in elements and unconventional manner?

So, in this line of consideration and analysis, the significantly more term or test part of the analysis considers other technology. Things have already existed.

In the other path, it relates to just the technology itself. Is there an improvement that improves or makes a computer functionality better, faster? Has it improved the memory capability, the power savings, something like that? It focuses on the technology itself without any consideration as to what was done before in other technologies.

Also, there are unconventional steps that can find a claim to a particular useful application. This also kind of relates just to the kind of technology itself as opposed to other

types of prior art.

So, and the USPTO is here to help, as we all know. And they provided several -- a couple of different guidelines in response to Alice. Some of their examples of ideas which they said were not determined to be subject matter eligible include human activities done by computer, mathematical formula, and well-known economic and financial practices. I think these are all -- I think a lot of us would agree with these that, at first glance, and even after analysis, many of these should not be patentable.

They also did give some other example of things that were subject matter eligible because they provide significantly more. And those include improvements to another technology, improvements to the functioning of a computer, things that are tied to computer technology or adding specific limitations or conventional steps. These are examples mostly taken from case law that provide significantly more in the determination made under Alice.

So, the courts have also responded to Alice and though the USPTO has kind of given a couple of different -- has focused some on the technology parts, some on the evidence parts, the courts, in general, tend to follow down the obviousness parts. For example, let's take a look at the Bascom case, Bascom Global Internet Services v. AT&T Mobile. The technology at issue in this case was internet filtering for a filtering content -- or filtering content forwarded to a controlled access network account. The District Court analysis was very similar to an obviousness one and the Federal Circuit culled that out and they also pointed out without any limitations or protections, if you are going to do an obviousness type analysis, it can lead to the conclusion of obviousness. And when the obviousness is conflated with patent eligibility, the test becomes even more subjective and is wholly without boundaries.

So, if an obviousness analysis is brought into the Section 101 analysis, at least

from a patent prosecution point of view, there is no clear method and kind of the boundaries of the game are much different than under 103. There is no limit to the number of prior art references they can bring up. And it clearly not as laid out. And so it allows -- it makes an examiner's job, one word would be, easier.

So, bumping up to the last slide, I guess I just wanted to sum it all up saying that hopefully new patent law framework will clarify that 101 is an analysis based on technical innovation but, at a minimum, hopefully the USPTO will emphasize and train examiners to focus the 101 subject matter eligibility analysis on the technology itself, rather than obviousness considerations.

Thank you.

MR. BAHR: Thank you for your comments. Now, we are going to have Mr. Jeffrey Dean.

MR. DEAN: Thank you. And I want to thank the panel, especially for this opportunity

to speak on this important topic and for hosting this symposium on a question of great national import.

I manage Amazon's patent litigation docket. I also influence our amicus position, policy positions with our government affairs people in Washington. And as you probably know, we are still, despite our best efforts, on the top ten list of patent defendants in United States courts and growingly, around the world.

I actually think that there is a recent strand of jurisprudence coming out of the Federal Circuit that has the question answered almost perfectly. And it commends itself by being able to explain a lot of the questions that we are asking here as somehow being disparate or even disconnected.

This strand of jurisprudence answers the question what is an abstract idea. It tells us exactly what preemption is. It tells us also what is an inventive concept. It allows room for software patents. It explains why 102, 103, and

112 are not simply duplicative and cannot do the lifting of 101. And I have two-year-old twins at home, so I have been watching a lot of cartoons. So, I have been calling the 101 cases where eligibility has been found, the Furious Five. If you ever watched the Kung Fu Panda movie, that will ring a bell for you. But it explains those cases as well and it also harmonizes our law with 150 years of Supreme Court precedent.

Now, what is that rule? That rule is the distinction between a result and a way of achieving it, or an idea and the application of that idea. As we know, no one gets to own a result. That goes back 150 years. It is a great rule. It goes back to the Samuel Morse case, no slouch inventor in American history. A rubber-tipped pencil, another good case, ideas are not patentable.

So what, then, becomes an abstract idea? There is a little bit of redundancy in that term. An idea, itself, really is abstract. You don't need to call it an abstract idea if all

you are trying to do is patent the idea.

For example, a yellow rubber duck -- again, I am a new parent -- is a think yellowness to all philosophers we would know as an abstraction. It is a thing that exists as an idea or an ethos, as the Greeks would have called it.

It is one thing to say that it would be a great, neat, cool, and an economically valuable thing to deliver packages with model airplanes. It is an entirely different thing to tell the world how you do it. We defend countless litigations attacking our magical, at least in my untutored view, a product recommendation system by people who have been awarded patents on the neat, cool, and economically valuable idea that you recommend to customers things that they might be interested in purchasing without any regard for how you might do it.

An abstraction is a result that has been untethered from, disassociated from. In

other words, in English usage, abstracted from a particular way of achieving the result. If your patent says that this is a result for which there is great demand in America, the economy would love it. I don't care how you do it. My patent is agnostic about it. You have an abstraction. It is that simple.

You also have something that is preemptive. What is preemption, after all? It is preventing other people from achieving exactly the same result in a different, cheaper, better, and more efficient way. That is what the Supreme Court said in the Morse case and it is exactly what the Federal Circuit is saying in recent cases like the Electric Power Group, like Affinity Labs v. Amazon, like OIP vs. Amazon. You can tell we have been pushing this idea before the Federal Circuit a lot.

There are two engines of innovation in this country, not just the protection of investment in a particular contribution to the public store of knowledge for which we give a

patent, but the other engine of innovation, which is the public's right to achieve the exact same utility and result in a different way. That engine gets sometimes short shrift in professional circles but let's not ignore the fact that it is of equal dignity in a system that advances science and useful arts.

So, this explains also what preemption is. Are you claiming all ways of achieving a result without contributing a single one? The very anathema of a healthy patent system. After all, Justice Breyer, in Mayo, told us that the problem with preemption is a relative one. You are removing more from the public's domain than you are contributing to the public store of knowledge. That is exactly what happens when you claim a result independent of a particular way of achieving it.

This distinction also tells us what an inventive concept is. Inventions are not aspirations. Wouldn't it be neat if? Wouldn't it be valuable if? Wouldn't it be cool if? That

is important. Don't get me wrong. That is an important part of the inventive spark but an invention is ultimately how you do it -- your way of how you do it.

We were talking about the arc of history. There is an old expression in the Jewish tradition about -- from Rabbi Hillel: Don't do what is hateful to others. That is the whole of Torah. The rest is commentary.

In the patent system, you award people what they invented and no more. That is the whole of patent law. The rest is commentary. It protects both engines of innovation.

So, what is the invention? The invention is how you do it your way, your particular way. And if your particular way is valuable, people will pay you for it and they should. And if it turns out that there is another way of achieving exactly the same result with exactly the same economic utility in a different way, not only should you not be able to tax that, but the public should be liberated in

order to achieve that. So, the inventive concept, again, is explained as the way or the how.

It explains a lot about the contours of software eligibility. I have heard people complain at how can these software patents be consistently invalidated? Well, the software patents are software patents without software. It is a patent without an invention, those that have been invalidated. If you want to show your way, we have a vocabulary for that. It comes out of our 112 jurisprudence. It is called your algorithms. And if it turns out that someone wants to do it your way, well, boy, they should pay you for it. And if it turns out that people can do it a different way, well, gee whiz, the public should be able to do that. That is the second engine of innovation.

So, we have that vocabulary in order to create a line between what would be abstract and not in the software case. It also explains, frankly, why 101 is not simply duplicative.

Oh, I'm sorry. I will just leave it at that. I think that the Federal Circuit has really hit on something here and we need to focus on the distinction between a naked result and your particular way of achieving it.

MR. BAHR: Thank you for your comments. Next we have Sharon Israel.

MS. ISRAEL: Thank you. Good morning. I am Sharon Israel, representing the American Intellectual Property Law Association. AIPLA appreciates the opportunity to briefly present views on Section 101 jurisprudence and its impact on the U.S. Patent system.

As Barbara Fiacco stated, on behalf of AIPLA during the first roundtable on examiner guidelines, our experience is that there is confusion and inconsistency in examination decisions on patent eligibility within the office. At the same time, there has been a sharp uptick in litigating Section 101 issues before the courts and also before the Patent Trial and Appeal Board. The result is uncertainty and

inefficiency for patent applicants and litigants. This is not healthy for our patent system and puts the incentives to innovate at risk.

In December 2013, AIPLA's former executive director testified before the Senate Judiciary Committee and noted the following. Probably the most tumultuous issue in patent law right now is a question of patent eligibility under 35 USC Section 101. While that statutory language is fairly straightforward, identifying the various categories of inventions that are patentable subject matter, the Supreme Court, years ago, staked out exceptions to statutory subject matter, where the patents recite a law of nature, a natural phenomenon, or an abstract idea.

At that same time, the case of Alice Corporation v. CLS Bank International was pending before the Supreme Court. AIPLA believed that case could resolve numerous questions created by past decisions. However, rather than resolve those questions, the Supreme Court's decision in

Alice and the cases that have followed, have continued to create problems and confusion.

Section 101 jurisprudence and its application by the USPTO and the courts have become the issues of greatest concern among AIPLA's members. In the past ten years, AIPLA has filed over a dozen amicus briefs in Section 101 cases pending before the Federal Circuit and the Supreme Court. AIPLA's views have been consistent. The language of Section 101 sets forth subject matter categories of what is patent-eligible and any limits on eligibility should be few. However, we remain concerned that the court's expansive application of judicial exceptions to eligibility has had an adverse impact on innovation in the United States.

The Supreme Court has recognized that patent ineligibility determinations require a delicate balance. In Mayo v. Prometheus, the court cautioned that too broad an interpretation of this exclusionary principle could eviscerate patent law. As applied, Section 101 too often

has provided an easy blunt instrument to deny patent protection. In such cases, other possible grounds for finding patent claims invalid or claims in an application unpatentable, more prudently could be based on prior art and other conditions of patentability set forth in Sections 102, 103, and 112.

On purpose of the judicially excluded subject matter categories has to prevent patentees from overreaching in preemptively broad areas that suppress, rather than incentivize innovation. While Section 101 may be needed for that purpose, Section 101 jurisprudence has been applied in a manner that often overcorrects for overreaching patentees. Broad claiming, poor claim drafting, and poor patent quality in general are all important issues to address but not through the blunt instrument of Section 101 eligibility.

Section 101, as an enabling provision addressed to particular categories of inventive subject matter typically is not the proper

standard for deciding whether a particular technical advance should receive patent protection. Using Section 101 for that purpose has produced the same degree of uncertainty in the law that motivated Congress to establish the federal circuit more than 30 years ago. Patent eligibility decisions often turn on specific facts of each case, including the details of the claim language, the specification, the prosecution history for the patents involved. This has made it difficult for applicants, patentees, and the public to discern the limits on what is patent-ineligible. The application of the case law sometimes appears inconsistent from case to case.

As noted at the first roundtable on examiner guidelines, AIPLA has concerns that a Section 101 rejection has become an insurmountable barrier and that examiners do not feel empowered to recognize when an applicant has met his or her burden of proof. That same barrier exists in the courts where a Section 101

ineligibility analysis has become the first step in litigation. While this may be the result, in part, of overly broad patents being asserted, patent ineligibility should not be the threshold test in typical cases.

AIPLA also has concerns about how recent Section 101 jurisprudence puts the United States at risk of falling behind other developed patent systems. Subject to certain exceptions, Article 27 of TRIPS states that patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step, and are capable of industrial application. AIPLA has a long history of supporting patent eligibility for all inventions that can be shown to provide a useful concrete and tangible result.

When AIPLA first adopted this position in 2001, it noted that as technology has progressed into previously unchartered areas, the U.S. Patent system has been the incubator for groundbreaking means to provide incentives for

innovation ahead of other highly-developed patent systems in, for example, Europe or Japan. As the case law has developed in the United States, we risk no longer being compliant with TRIPS and falling behind other developed patent systems of the IP5.

In December of 2014, when I was President of AIPLA, I created a Patent-Eligible Subject Matter Task Force to explore the concerns of AIPLA members relating to Section 101 and to consider mechanisms to address those concerns. The Task Force has continued its work since that time. The issues involved are complex and, in our view, the courts have not been able to adequately address the problems in applying Section 101. While we are not prepared to offer specific solutions today, we continue to explore options, including legislative proposals that will help increase certainty and efficiencies in our patent system and promote innovation.

AIPLA is grateful for the opportunity to present its views on Section 101 jurisprudence

and its impact on the U.S. Patent system. We look forward to working closely with the office and others on these issues going forward. Thank you.

MR. BAHR: Thank you for your comments.

Our next speaker is Kim Schmitt.

MS. SCHMITT: Good morning, everyone. I'm Kim Schmitt. I am Managing Counsel at Intel Corporation, here at Silicon Valley. I have responsibility for overseeing some of our patent litigation. And what I am hoping to do today is share with you a case study on 101 that we have seen in our litigation docket that I think helps illustrate the practical implications of a lot of the policy that we have been discussing here today on 101.

Section 101 has proven, post-Alice, to be a very useful tool in getting rid of bad quality patents. And whatever changes we affect to make the current situation, I guess, more clear, I would caution against dialing back the

ability to use 101 as a tool to get rid of poor quality patents.

So, today I want to talk to you a little bit about a case that was handed to me when I came in-house, about four years ago, to Intel. It had been brought by a non-practicing entity. They were asserting two patents relating to graphics processing. The technique was basically taking a three dimensional scene and rendering it on the two dimensional screen. And the claims the patent described basically taking an object, deciding if it was obscured by another object when you were rendering it on the screen, and if, for example, this cup was obscured by this piece of paper, I wouldn't need to waste time processing the graphics that would be needed to render the cup.

What the patent suggested you do to decide whether you render the cup or not was to take a depth measurement. Is the cup deeper in the scene than the piece of paper? And is the piece of paper over the cup? So, it is basically

something you could take a look at and if I were just drawing a picture, instead of programming it on a screen, I could visually kind of eyeball it and say oh, yes, the cup is deeper. I am not going to bother drawing a cup that I am just going to draw another piece of paper over.

The claims didn't have any sort of particular computer hardware associated with it. It was just conventional memories and it could be any generic computer architecture. But these patents were being asserted against our CPUs and this is, obviously, a multi-billion dollar business for Intel. So, we take this kind of thing seriously.

This hasn't been the first time these patents were asserted. Actually, these patents had been asserted numerous times over the course of a decade against a number of companies. They had been asserted against Hewlett-Packard in 2001, Silicon Graphics in 2003, I-0 Data Device in 2004, ATI Technologies 2005. You can see there was a number of cases, I think seven in

total prior to ours coming along. And in every instance, it appeared that all of these companies had basically settled out early in the case before any of the cases had moved very far along. Of course, our assumption is that the settlements were done for basically cost of litigation values. And so given the choice between taking the case to trial and trying to get these patent claims invalidated in a pre-Alice, pre-Bilski world, these companies had decided that they would just simply pay the holdup cost and get rid of this thing and get it off their dockets because taking these cases to trial is expensive. And ultimately, if you are in front of a lay jury, your results aren't necessarily guaranteed, even though coming at it from the better part of a decade and a half of litigation experience, you would say that these claims should not be out there, they shouldn't have been in the patent ecosystem.

So, by the time it comes to us, we have a decision on Bilski. This is still prior

to Alice but Bilski is out there. And we have the opportunity now, a meaningful opportunity to try and get rid of this case at the pleading stage. So, we bring a motion to dismiss on the pleadings. It is still early days and our judge wants to make sure she is doing the right thing and so she actually converts the motion into a summary judgment motion and asks for some claim construction briefing.

Ultimately, after a very thorough analysis and Alice coming out in the interim, the judge decides that yes, in fact, these claims are not directed to patent-eligible subject matter and grants our summary judgment motion. The Federal Circuit ended up affirming with a summary affirmance.

And finally, after going after numerous companies, these patents are done. It is basically -- I don't know how much this cost these companies, many of which are not around anymore. But I don't know how much it cost them in their businesses. I don't know how much was

taken away from R&D efforts that could have gone to those efforts but here is a pretty clear example of how this plays out and how the tool that 101 gives us can play out very early on and give us, I guess, greater efficiency in the system to get rid of bad patents at an early stage prior to the expense of discovery, prior to the expense of taking this all the way through litigation.

So, I would encourage the folks here today who are considering policy efforts on this to consider this. I mean obviously, it is just one experience but it does, I think, help illustrate how the current case law and the current state of 101 policy is beneficial to operating companies and is helpful to make the system operate more efficiently.

Thank you very much for letting me speak here today.

MR. BAHR: I thank you for your comments.

Next, we have Mr. Eric Sutton.

MR. SUTTON: Thank you. Oh, wow. Firstly, both personally and on behalf of -- oh, and I do have slides, which don't currently appear.

Both personally and on behalf of Oracle, I would like to thank the Patent Office for hosting this event to gather feedback regarding patent eligibility post-Alice.

I kind of want to wait for the slides, if -- could I pause my time? I would be happy to start over with my one sentence.

All right, I want to start by noting that the public is the biggest stakeholder in the patent system and the public's well-being, through the promotion of technical innovation should be our primary goal. Our presentation attempts to identify both the good and the bad about the current state of patent eligibility to guide the discussion to the extent possible on keeping the good, while improving the bad. Next slide.

Many here, especially law firm

counsel, might wonder what we have included as good about the current state of patent eligibility. Firstly, patent eligibility now has a threshold analysis, as mentioned by Director Lee, for efficiently disposing of cases with nontechnical innovation, both in prosecution and in litigation. In a minute, I will explain the words technical and nontechnical to show you that we are not making this up as we go along.

Secondly, it is nearly impossible to protect nontechnical innovation in the current patent eligibility landscape.

Thirdly, highly technical innovation often efficiently goes to art units with high allowance rates where the focus for those cases is properly on 103, rather than 101. Next slide.

What do I mean when I say there is a threshold analysis for efficiently disposing of cases with nontechnical innovation? The current patent eligibility framework introduced an invalidity threshold analysis that does not require expert testimony or discovery. The

analysis is used for claim that were so broad that the only point of novelty itself lies in financial practices or activity practically performed in a human-like manner, such as in the mind, on paper, or verbally. Whether you call these claims nontechnical, as we have here, or use a different term, the reality is that these claims are not making it through the patent system. This invalidity threshold analysis is efficient when advising clients or making prosecution enforcement, licensing, or defensive decisions, as the analysis increases the confidence and early finding of ineligibility for claims that would have been found to be not patentable one way or another, as explained earlier by Professor Lemley. And also, on this point, it seems that we agree more with Intel than with AIPLA. Next slide.

In the past, even nontechnical innovations were protected by merely adding that the claim was performed by a computer. That strategy no longer works and that is intended.

Even if a nontechnical case slips through here and there, in the aggregate, the statistics show that protecting any given nontechnical innovation is practically impossible, as several art units have allowance rates that fluctuate below ten percent.

CBM and District Court statistics aren't any better for these types of cases. Next slide.

That said, technical innovation, where the point of novelty does not rest in financial practices or activity practically performed in a human-like manner, and where the spec describes the how, generally still enjoys high allowance rates, despite art unit variance. We think these good aspects of patent eligibility post-Alice should not be overlooked in meaningful discussions, such as the ones we are having today. Next slide.

There are also several areas that could use attention and improvement. Firstly, a significant amount of corporate and Patent Office

resources are being spent creatively defining abstract ideas. In a minute, I will explain why this indirect analysis is wasteful. Secondly, there is a low predictability and high variance for claims, depending on their key words, regardless of whether the point of novelty is technical.

Thirdly, there is a disproportionate emphasis being placed on 101, even for technical innovation where 101 should be satisfied. Next slide.

The Alice framework requires, in the first part, identifying an abstract idea and then, in the second part, searching for an inventive concept that is left over. As hinted by Peter Su, this analysis is unnecessarily complex when the elements are considered non-abstract in the first part -- where the elements considered non-abstract in the first part are also the elements that may qualify as significantly more in the second part, regardless of how the abstract idea may be creatively

re-identified in the first part.

In practice, claims pass muster under 101 if they have technical innovation focused outside of financial practices and also outside of activity practically performed in a human-like manner or, conversely, if they rooted in computer technology. This technical innovation satisfies the first part of the framework and cannot be ignored in the second part by creatively revisiting the first part. For these reasons, the patent eligibility framework should be efficiently resolved based on whether or not there is a technical point of novelty, without having to dive deeply into stretched examples. Next slide.

The problem of low predictability and high variance is most noticeable when claims have equal probabilities of landing in high allowance art units, such as Art Unit 3659, an 89 percent allowance rate, and low allowance art units, such as Art Unit 3689 with a 2 percent allowance rate.

Although art unit forum-shopping tools

can help the applicant steer the application toward high allowance art units, these tools encourage applicants to make keyword changes that are tangential to the point of novelty. Such changes should not affect the search for a technical inventive concept under Alice, even though they do effect art unit assignment. Next slide.

Perhaps a topic best covered at these roundtables so far, including by Steve Bachman, has been the disproportionate emphasis on 101 over 103. Section 103 provides an in-depth analysis from the perspective of a person having ordinary skill in the art. Although this in-depth and obviousness analysis might not be reached for claims without a technical point of novelty, the obviousness analysis should still be applied to ensure the proper consideration of claims that do have a technical point of novelty. Next slide.

We think there are ways to steer the post-Alice landscape to turn the bad into good

while still keeping the good: 1) Preserve a threshold analysis for subject matter where the only point of novelty lies in financial practices or activity practically performed in a human-like manner; 2) Preserve a robust filter for nontechnical innovation; 3) Efficiently advance technical innovation to reduce the cost of legitimately seeking patent protection; 4) Deemphasize indirect arguments in favor of arguments related to finding or not the technical point of novelty, as this also satisfies the indirect arguments; 5) Guard against art unit variance to the extent that the variance is not related to whether or not there is a technical point of novelty; 6) Investigate and correct art unit assignment mistakes; and 7) Reemphasize 103 for cases difficult to decide under 101.

Thanks.

MR. BAHR: Thank you very much for your comments. Now, we are going to have a question and answer session with the panel.

The first question I have for Mr.

Jeffrey Dean. The cases you discuss where you are going for a result versus a way, in this does it matter whether the claim covers the result if it discloses the way or does the claim need to be limited to a particular way, do you feel, in these situations?

MR. DEAN: So, I am not sure. I might have the question wrong.

MR. BAHR: I'm sorry. In many of the cases it seems that the courts looked to the specifications to see is there an improvement, if you will, in computer technology. They look to the spec to see this.

So, for this way of analyzing these cases, does it matter that the claim covers the specific way or can the claim also just cover the result but the specification disclose a way to accomplish the result?

MR. DEAN: Right, now I understand. So, going back to our first principle, which is that in any healthy patent system what you contributed to the public store of knowledge

should be protected but no more and the rest of commentary, of course a claim should be limited solely to the particular way of achieving the result that the applicant contribute to the public store of knowledge. The very reason that we anguish about our patent system today is because, too often, a claim is construed to capture ways of achieving a result that were never invented, much less contributed to the public store of knowledge by the applicant.

So, if we can realign ourselves to our first principles and recognize that in any rational world you get protection for what you contributed but no more, then, of course, the claim has to be limited to the particular way of achieving the result. Now, that doesn't mean that we offend the prohibition against construing claims to be limited to the preferred embodiments. We have a rich and mature vocabulary how to avoid that. But yes, I think we run smack dab into the preemption problem when we say you get ways of achieving that result that

you never conceived as evidenced by your patent application.

MR. BAHR: Thank you.

MR. KELLY: So, I have a question about the function versus way. And you brought it up but anybody can answer it. Right now, if somebody has a functional result and it is enabled so that somebody could do that, a claim that recites delivering packages with small airplanes -- attach the package to an airplane; dispatch the airplane; land it; release the package; return, that is probably not enabled as I just explained it but assume it is enabled. Then why shouldn't that patent issue?

I mean at some point, we will have to get into layers of deeper and deeper specificity until it is enabled. But if someone comes up with an invention that is enabled, albeit broad, what is wrong with that?

MR. DEAN: So, years ago we asked exactly that question in the context of 112, coming out of the biotech area. And the question

was is there a separate requirement for written description, other than just the enablement requirement. And that got answered by the Federal Circuit in a number of cases and the point was that they achieve different purposes.

Obviously, you need to enable the full scope of the claim because that has its own protections against a certain kind of preemption. But the written description requirement protected us from awarding patents for things people had not in fact invented or conceived. And that meant over-rewarding the applicant and overburdening the public, that second engine of innovation.

So, we made sure that we invigorated a separate written description requirement to assure us that there was evidence that you actually contributed this to the public. Forget that 15 years later a professional expert witness can take the stand and say yes, reading only this application that was filed in 1981, I could have invented amazon.com website, which is a case

argued this morning in the Federal Circuit.

So, they serve different purposes. And 101, of course, serves the third purpose, which is to ask the question is there a candidate for examination in the first place. That is, is there a way at all in the patent? Once we have satisfied that, then we can interrogate that way according to the other requirements for patentability. But let's first remember that it is extremely important not to burden our public resources of this office, much less the public in expensive litigation, to subject a patent claim to the interrogations of patentability when there isn't a candidate invention in the first place.

MR. HANNON: I have a question for Ms. Israel. You mentioned TRIPS Article 27. And my question is is the AIPLA's position that under Article 27, the Mayo two-step framework is somehow an additional patentability criteria? Is that your comment?

MS. ISRAEL: I don't want to go that far at this point but we are concerned about how

the case law has developed that we are getting into an area where we may no longer be TRIPS compliant.

MR. BAHR: Some follow-ups. There were several comments about, I am going to call it, the comingling of Section 103, obviousness standard, and 101 and then another comment that perhaps the 103 tool should be used, I am going to say, before 101 to sort of resolve difficult questions there.

Does anybody -- I am just curious do other members of the panel have any comments on that, either of those?

MR. DEAN: Briefly, I do think they are doing different things. So, we know that there are new things. Let's go back to the delivering the packages. No doubt that ways of doing that will be new. And yet, if you don't disclose a way, query whether you have an invention, at the same time, there are arguably ways of doing very old things but those ways are new.

And so if we just looked at the result and said well that is an old result; we can't possible issue a patent for that. But maybe you can if, in fact, the way is innovative. So that question of is there a way in the first place really is a critical threshold question because we could avoid a lot of the examination if it is not.

MR. SUTTON: For efficiency, I think it is often more efficient to look at 101 first because, like in the case that was on my slide, if the invention is just trying to send a communication until it is successful, then you probably don't have to look at the prior art. And 103 requires a very detailed analysis that considers a person of ordinary skill. And that analysis requires a rational underpinning, as stated in KSR, first in re Kahn. And I think that full analysis can be avoided in some cases, where there is no technical point of novelty.

MR. BACHMAN: And I would just like to add that oftentimes, practically speaking, when

there is a 101 rejection, there is also, very often, a 103 rejection in the same office action. So, they often are kind of approached in parallel.

But I think, like Eric mentioned, I think it would be much more efficient to keep the 101 on a technical level, a technical analysis, without considering the prior art just for a more efficient either does it pass or not pass 101 and, therefore, you don't even need to get to the 103.

MR. BAHR: If no one else -- I have a -- sorry to put you on the spot again, Sharon. My question is I know your organization, AIPLA, doesn't have a specific proposal but many of the concerns you raised are inconsistencies or confusion in applying the various tests or the frameworks.

Now, just from an administration point of view, or someone who writes guidelines, I will tell you that rigid tests are easy to apply consistently. Flexible tests are more difficult

to apply consistently. Is there any thought of any, you know the tradeoffs that are inherent there? Is there a preference for a flexible approach, or a more rigid test, or is this just something that is not discussed?

MS. ISRAEL: I think I could say it is something I am not prepared to address right now.

MR. BAHR: Well, that tells us something.

MS. ISRAEL: It is a complex issue. We have had a Task Force that has spent two years looking at the problems, at potential solutions, and we have identified a lot of pros and cons on potential solutions. And it is just not easy to come up with the silver bullet.

MR. BAHR: Sorry, I guess my other question was for Mr. Sutton about you had made a group of suggestions. Now, were those suggestions things you have for changes to examination practices or were you thinking things that needed to be done, I am going to say, legislatively or something; something we could

just do or something that you thought maybe the law needs to be changed so that it would operate in that manner?

MR. SUTTON: I actually don't think any of my suggestions required a change in the law. I think that they can be addressed on all fronts. It would be clearer, if there was a change in the law in some cases. But for the first three things on that list, those were from the positive slides about the current state of the law. So, that is kind of the way it already is.

The first three bullet points there were just don't mess that up when we start to think about what needs to be done.

And so the latter slides, especially the forum-shopping issue, is something that I do think the Patent Office can address and really legislation can't address. And it is the balancing of technologies among the art units in a way that these tools, these art unit forum-shopping tools become less important. But

right now, when you have two art units that relate to e-commerce, one with a two percent allowance rate and the other one with ninety-ish percent allowance rate and you are filing a patent for an invention in the e-commerce field, I think it would be dumb to not try to write your patent so that it has key words that match one of those two art units and not the other.

MR. BAHR: Thank you.

MS. NELSON: I have one more question for Mr. Dean. When you talked about looking for or expecting there to be some sort of a description of a way and not just a result, you are talking in terms of an algorithm. And I think that is something that the court has sort of struggled with in how to define that because, obviously, at its narrowest meaning, it would be almost like a computer software but at a broader definition it is almost just a series of steps which doesn't seem to get you much further to get where you want to be.

So, I am just curious if you have a

definition for algorithm.

MR. DEAN: So, I am going to disappoint you and say no. But I do think, though, that we are in a better world if we say this should be the focus of our intellectual energy, how to define that, the sufficiency of algorithmic instructions in a patent application. That would be a terribly profitable way for us to spend our time, knowing that if there isn't one, then we don't have a candidate for further examination and that is why it is more than a course eligibility filter. It is an essential aspect of whether we should devote public resources to the question.

And then as far as what satisfies, what level of rigor should we have for 101, I don't have an answer to that. But I think it is a very important question. And I think we can benefit from some of the thinking that is going on both from the Office with respect to the 112 area, and 112(f), especially, and also the Federal Circuit.

Obviously, in 112 area, we don't allow structureless patents. And so if you don't claim under 112(f), that is okay. You can still have your structure in the claim. For example, you can still have your algorithm in a claim so that you wouldn't have to resort to 112(f).

At the same point, you could construe like, for example, the court did, I think in Amdocs, a claim limitation to have some of the structure that comes from the specification, just as a matter of pure claim construction.

But if you don't have structure in the claim or the specification, then it really shouldn't matter what magic words you use, for example. You don't have a candidate for examination. But I do think if you really put your finger on the question, I think that is where the energy should be in the software area, how to define that.

MR. BAHR: I would like to thank our third panel for being with us and invite the next panel to come up. But thank you all very much.

MS. NELSON: I would like to welcome Mr. Frank Cullen

MR. CULLEN: Thank you very much. My name is Frank Cullen. I am the Executive Director at the U.S. Chamber of Commerce Global Intellectual Property Center. I head up the Chamber's Intellectual Property Advocacy and Policy work.

The U.S. Chamber of Commerce is the world's largest business federation, representing the interests of more than three million businesses of all sizes, sectors, and regions, as well as state and local chambers and industry associations. We are dedicated to promoting, protecting, and defending American's free enterprise system, and long supported appropriate intellectual property policies to help support and drive innovation, economic growth, and job creation.

On behalf of the U.S. Chamber of Commerce, I am grateful for the U.S. Patent and Trademark Office, and specifically to Director

Lee, for holding today's important roundtable and providing this opportunity for the Chamber's Global IP Center to submit comments on behalf of our members on this important topic.

The issue of patent subject matter eligibility is of great interest and growing concern to the IP sector industries and those who invent and innovate. Numerous studies have established the link between a strong IP system and economic growth and job creation.

The Chamber's Global Intellectual Property Centers annual IP index report includes metrics related to individual countries' patent systems as part of the criteria and data and that data is number one indicator of the strength of a country's IP environment. Our nation's strong IP system has helped America become the world leader in bringing new technologies, life-saving drugs, creative works and innovative new products to consumers around the globe.

According to the U.S. Department of Commerce, IP-intensive industries account for

over 38 percent of our nation's GPD, generate over $6 trillion in revenue, over 45 million good-paying jobs in 81 different industries that pay higher than the national average and account for more than two-thirds of all our exports. Clearly, these numbers are significant and we must ensure that our strong IP system and policies that help drive our economic success are not weakened.

Recent court and administrative rulings have created serious concerns amongst the GIPC members. The jurisprudence related to patentable subject matter is undermining the U.S.'s global leadership, especially in technology and biopharma industry sectors. It is important that we acknowledge the negative impacts of patentable subject matter jurisprudence in the life sciences and information technology sectors and effectively respond to rulings that impact American competitiveness and threaten American jobs.

In addition to some of the specific

examples I will cite, the overall impact of recent rulings has been diminished clarity regarding patent subject matter eligibility, which results in confusion among patent-intensive industry sectors, individual inventors and innovators. While it is clear there are cases where reasonable limitations may be and should be placed on patent subject matter eligibility, such as the fundamental building blocks of science, abstract ideas and laws of nature, the scope of that concern should be limited.

In the Alice v. CLS Bank and Mayo v. Prometheus cases, as in subsequent cases since, it is our members' belief that none of the patent at issue involved the fundamental building blocks of science. However, the courts went far beyond this standard and, perhaps equally troubling, declined to adequately describe what terms such as abstract ideas and substantially more actually more.

In the life sciences field, Ariosa v. Sequenom, Judge Linn wrote that it is hard to

deny that Sequenom's invention is truly meritorious but that the Federal Circuit was bound by the sweeping language set out in Mayo, basically inviting the Supreme Court to grant cert, which they later declined to do, despite the fact that Judge Linn recognized that the invention was both meritorious and that the invention was literally saving lives of pregnant women. And under the Mayo standard, it was not patentable.

The patent incentive that fuels innovation in all of our economy works exactly the same in fueling innovation in the life sciences and information technologies. Denying patent protection by carving out life sciences and information technology is essentially throwing the baby out with the bath water. As Mark Andreessen famously observed, software is eating the world and present and future innovation in all field is enabled by information technology or software. Denying patent protection of software-related inventions does

not just impact the traditional software industry but in fact impacts all industries.

The Chamber is not insensitive to concerns regarding abuses of the patent system and has previously responded to these concerns by filing an amicus brief in Symbol v. Lemelson that expressed great concerns with the impact of patent abuse on our economy. But narrowing the scope of patent-eligible subject matter is not the way to address this problem. To remain competitive, America must maintain a strong IP system that does not discriminate against specific industries and we must have clarity in that system so that the life sciences and information technology are eligible. Overly narrowing the scope of patent-eligible subject matter to exclude two of the most important areas of American innovation is both counterproductive and intellectually unsupportable.

If our nation does not have a strong IP system, we run the risk of losing our position as the world leader in innovation, as our

industries and inventors look elsewhere to conduct their important research and production.

We applaud the U.S. Patent and Trademark Office for providing this forum to receive input from many stakeholders who are impacted by this issue and it is imperative that this process help provide guidance and clarity to all those who depend on our patent system and that the appropriate balance is achieved so that American can continue to lead the world as the most innovative and creative economic engine.

The U.S. Chamber of Commerce is committed to working with your office and all others interested in addressing this important issue and we, once again, appreciate the opportunity to provide comments today.

Thank you.

MS. NELSON: The next speaker is Mr. Benjamin Jackson.

MR. JACKSON: Thank you. On behalf of Myriad, I, again, thank the Patent Office for this opportunity to speak on the subject of

subject matter eligibility. Second slide, please.

These views are my own and not necessarily those of Myriad, especially once I get into the specifics of some of the language I will talk about today. Next slide.

The Federal Register posed several questions across the range of patent eligibility and I wanted to just quickly direct the Office to some written comments that were submitted by the Coalition for 21st Century Medicine during the past iterations of the guidance that addressed some of the specific questions, meaning questions 7 through 13. I was one of the principal authors on those written comments and I think if you go on to the next slide, those comments do a decent job of addressing preemption and very specific questions on life science inventions. So, again, I recommend those comments, those written comments back to the Office. Next slide.

What I mainly wanted to talk about today, though, are the questions addressing the

Federal Register questions 3 to 6. And this asks about legislative action. And I think the last roundtable and this one has shown that there are concerns and there is pretty strong evidence of a problem. I will note, in particular, that last bullet about companies responding to the changed landscape. I have got experience in talking to individuals across the industry about companies not pursuing certain technologies not because there is a clinical risk of the product failing or anything but now there is a new risk of not being able to get a patent or moving towards other types of protection, such as trade secret, which I don't think is really where we want to go in this area. Next slide.

And then the question is, what is the root of the problem? These exceptions to eligibility are entirely judicially created. It is an invention, to use that word, one that should have been rejected, frankly. There is no basis in the statute. There is no requirement or basis in the Constitution even. Next slide.

I really love this language from In re Bergy. This was a decision by Judge Rich, where he basically says that the only restraints were the means by which Congress would promote the arts and that Congress was given full freedom to do so. Next slide.

So, what are the potential fixes? One is a judicial solution. I think the Supreme Court has shown that it is unwilling to, at least for now, dive back into this area. The Sequenom denial of cert was a big deal from that perspective. Agency solution: What can the PTO do to help? I think the guidance has done a great job so far in helping in solving the problem. I think the PTO can play a very important role but, again, the PTO is, to some extent, bound by the Supreme Court and the Federal Circuit -- next slide -- which raises the question of a legislative solution, ultimately getting back to those Federal Register questions.

Here, I think the PTO does play an important role. This forum is a great start.

But I pose the question how do you fix a statute that is not broken. We talked about 101 being a tool to get rid of bad patents but when you look at the text of the statute, there is no suggestion of anything like that, that this section can be used to deny patentability. Next slide.

A lot of proposals have been floating around for legislative fixes. I will only address two, and really only one in detail. Next slide.

One thought has been just to eliminate the exclusions entirely. There is a little bit of superficial appeal here because it is pretty simple. You could just write into the statute and in the congressional history, note that we are overturning all judicial exceptions. I think this is not the best approach. I think, frankly, we have moved past where this a palatable or a practical solution. This is my opinion. I have a little bit of experience dealing with unpopular patents and the popular reaction to those. And I

just think that we have moved beyond that. Next slide.

I think the better approach is to enumerate specific exceptions to patent eligibility. It is a lot more complicated to draft. That is a problem you will have to deal with building coalitions, pet issues, maybe getting bogged down in certain areas. So, there is an uphill climb but I, ultimately, think that this is the better way to go. It brings clarity and predictability and it deals with what I think maybe is a problem of the judicial diversity that we talked about earlier and it codifies specific language that other judges will now have to interpret, rather than sort of this amorphous common law evolution with nothing tethered to any specific language that can set down the rules and then work with them. Next slide, please.

And I think we can learn from the European approach, as mentioned in the Federal Register. Next slide, please. In that approach, everything is eligible by default and then there

are exclusions, specific exclusions. Now, in the European approach, that list is expressly not exhaustive. So, if we go to the next slide, I would suggest that we Americanize that approach. Again, everything is eligible by default but we would make a list of ineligible things and make that list exhaustive.

Here, again, I have just sort of thrown out some language. This is just my brief attempt and others can work on this on how to change and make a Section 101(a) that sets forth the general rubric of default eligibility and then address ineligibility and other things elsewhere. Next slide, please.

For example, we can have a 101(b), which finally codifies the utility requirement. And as long as we are cleaning out the closet, let's get rid of these judicial ideas, judicially created things. Next slide.

And so Section 101(c) can set forth specific exceptions and those can be tailored to whatever is appropriate, whatever Congress

decides really needs to be excluded. Next slide, please.

Here, I have taken a swing at trying to codify the judicial exceptions, themselves. Romanette 1, a mental process. Romanettes 2 and 3, laws of nature, phenomenon of nature. You can see that I struggled a little bit with the language and I think we would have to work through it but you get the idea. Let's just list them out. Let's get it all on paper and give the judges something they can work with. Next slide, please.

Romanettes 4 and 5, products of nature. This is a way that these things can be treated. And again, there was a detailed discussion of this in the Coalition for 21st Century Medicine's written comments. Next slide.

We can even move on to things that we have already sort of accepted as accepted from patentability, such as human cloning and human organisms.

I am out of time but you can see that

the idea is to set forth a framework in which we can include or exclude certain types of subject matter that we want to be out of the patent system. Thank you.

MS. NELSON: Thank you, Mr. Jackson.

We will now move on to Konstantin Linnik, please.

MR. LINNIK: Thank you. Good afternoon. Thank you very much for this opportunity. My name is Konstantin Linnik. I am a partner with the law firm of Nutter McClennen and Fish. I practice in the area of biotechnology and pharmaceuticals law and represent clients that are of various stages in the development, individual entrepreneurs, as well as large companies. If you could, advance the slide to the next slide.

More recently, my firm, myself and a couple of colleagues of mine represented a number of industry associations, several of them listed on this slide, in the amicus brief filings at the Supreme Court asking for a petition for cert and,

before that, in asking the Federal Circuit to hear the case en banc. This particular case, if you look at the spectrum of industry support that have gathered collectively, we represent that U.K. Industry Association, which has hundreds of various enterprises and European by Technology Industry Associations, several national industry associations, industry associations in Canada, Australia, and Japan. And there is a pretty broad consensus among thousands of companies that the current state of the law is unacceptable. Meritorious inventions are too often denied protection and the outcomes across various jurisdictions are inconsistent and unpredictable. And the law, as it currently exists, is really unworkable. Next slide.

So, the consensus position within the industry, broadly, is that harmonized, clear, and predictable intellectual property laws are essential for the smooth functioning of the economy in general and, particularly, biomedical innovation and healthcare inventions, where

patent incentives are very important and billions of dollars in investment are required to bring to life health-saving, life-saving medicines. That is where particular attention needs to be paid. Next slide.

When Sequenom petitioned the Supreme Court for cert, it was our hope that the Supreme Court would take up the case and refine its tests, particularly in view that Justice Breyer, who seemed to be the mastermind behind the jurisprudence of the Supreme Court has recently published a book where he promoted the idea that U.S. Supreme Court should be mindful of laws of other jurisdictions and make sure that they work in harmony with laws in other countries and across the world.

So, when the petition was denied, it was somewhat of a surprise to us, however, the fact that Justice Breyer holds a view of this and his position is actually somewhat promising for what the intent of the court might be. Next slide, please.

So, in our view, as has been mentioned by several speakers before and I am sure will be mentioned later, the Supreme Court has read into the statute something that is not literally in there. And if we were to rewrite Section 101 according to what Supreme Court tells us, we probably would add to 101 the words something like shown in the slide in red, where whoever invents or discovers any new and useful process or improvement thereof, is entitled to a patent, provided that any such invention is significantly more than an abstract idea, a law of nature, or a natural phenomenon.

So, the significantly more part is what has been the concern and the point of so much discussion. It is pretty clear that our understanding before the Supreme Court decisions has been that laws of nature and natural phenomenon or abstract ideas are not patent-eligible. We thought it was pretty clear how to distinguish these concepts from inventions that are patentable. However, the fuzzy line of

significantly more turned out to be a lot more difficult than we expected. Next slide.

So, what is interesting is that the underlying policy rationale in these laws actually is present in other jurisdictions as well. And if you look at the European Patent Convention, national laws of many industrialized countries, you will find that discoveries, scientific theories, mathematical methods, are specifically excluded from patentability. There is a reference to specific sections. You will find the same concepts in common law jurisdictions across the world. If you can, advance to the next slide.

For example, in Australia, they except from patent eligibility discoveries with no means of putting them into effect, mere ideas on scientific principles. Very similar concepts on Japan. Despite all of these similarities in what is meant to be not patent-eligible, the outcomes in the U.S. and other jurisdictions are now widely different.

If you go to the next slide, this is an example from the Sequenom case. It is a good example where you look at the U.S. claim and compare it to European claim. You will find that they are very similar and the same is true for the Canadian claims, the Australian claims, and somewhat Japanese claims. In the U.S., this invention was found not patent-eligible and the question has not even been ever brought up as an issue in any other jurisdiction. This is not unique to this particular case, even though this case is a good example of discrepancies. Next slide.

So, we are posing the question really does the problem lie with the legal framework, rather than the merits of specific inventions. I will end on that. Thank you.

MS. NELSON: Thank you, Mr. Linnik.

And last, we will hear from Hans Sauer.

MR. SAUER: Yes, and if the problem lies with the legal framework, do we need to

change it?

So, good afternoon. I am Deputy General Counsel for IP for the Biotechnology Innovation Organization, on whose behalf I speak today. But before I say anything, I do want to thank the Patent Office for its sustained outreach to the patent user community on the topic of patent-eligible subject matter and, in particular, I want to thank the Patent Office for convening this roundtable which, in our view, for the first time, focuses not on the implementation of case law in examination guidance but on what the right policy ought to be and on, perhaps, the need for change.

It won't surprise you, given what you have heard earlier, at least from the few life sciences participants so far, that there hasn't been an area of substantive patent law that has received more discussion within Bio's membership than the topic of patent-eligible subject matter. Bio's members do view, I can only reiterate this, the development of extra-statutory law in this

area as a significant departure from internationally accepted norms of patentability and that has negative implications for the commercialization of innovative, industrial, agricultural, and pharmaceutical products and processes.

For example, inventive preparations based on naturally-occurring substances have historically been of great importance in biotechnology. And innovation in this area has been spurred, at least in part, historically, by the availability of patent protection. This is true for every sector of biotechnology. Examples include vaccine antigens, crop protection products, plant biotechnology, plant breeding, industrial enzymes, immunosuppressive drugs, anti-cancer compounds, and antibiotic substances. Unfortunately, it is no longer news that such promising naturally-derived compounds are no longer patentable in the United States. As a direct result of the Supreme Court's Myriad decision, patent applications for antibiotics,

medicinal molecules, industrial enzymes and other preparations that were first discovered or derived from natural starting materials are being rejected in the Office. And thousands of existing patents have come under a cloud of unpatentability and invalidity after large investments have been made over decades, even if the patented substances have nothing to do with human genes or genetic diagnostic testing.

Other areas of continuing concern for our members involve diagnostic or prognostic methods. Biomarker-assisted methods of drug treatment and other applications of personalized medicine, as well as the commercial explanation of the microbiomes of humans, animals, or plants.

District Court litigants continue to make creative use of patent eligibility theories, at least in the life sciences. And meanwhile, courts, at least in the life sciences, have been struggling to find the outer boundaries of the Supreme Court's broad and sweeping pronouncements. So, I can only echo what you

heard from Professor Lemley earlier, that perhaps in some respects there may be a sense of stabilizing case law in the software and e-commerce area and there is not a similar sense like that in the life sciences.

So, we do need a more stable solution going forward. I think it is remarkable that policymakers have, so far, been quiet or completely absent from this debate. The law of patent eligibility has been driven by the courts alone. The USPTO has been concerned but primarily with implementation. The Department of Justice has opined formalistically on the correct legal interpretation of Supreme Court precedent but the U.S. Government's views, the U.S. Government's policy views on the matter are unknown. Throughout, Congress has focused on other areas of patent policy. So, we hope, Bio hopes, that today's roundtable is the opening of a more robust dialogue with elected government outside the forum of the courts.

So, to this end, Bio members have made

the following observations and recommendations. First, we believe congressional involvement is necessary. It is not just appropriate. It is necessary. The question of what can and cannot even be considered for patenting is a fundamental question of substantive patent law. This not filling in gaps in the law. It is not regulating around the margins. It is not the kind of thing better left for the courts or better left to agencies. Congress should own this question.

Second, we are having a huge debate that other industrialized countries simply don't have. To the extent that contours of patentable subject matter needed to be defined in other countries, it was done legislatively. Internationally accepted standards can guide us, too.

Third, we probably can't turn back the clock. The Supreme Court's underlying concerns deserve to be addressed. If assurance is needed that patents do not withdraw the building blocks of basic research from the public domain, that,

too, is appropriate for Congress to consider. I refer back to more than a decade ago. Many of you have followed legislative developments for a long time. So, you will recall that more than ten years ago, we already had a robust conversation about, for example, an experimental use exemption, under which there would be no liability for patent infringement. If somebody were to experiment on a patented invention to see if it can be made the way the patent owner says it does, to see if it works the way the patent owner says it does, to discover something new about it, maybe to improve it, maybe to design around it. That conversation was never concluded.

And fourth, the Supreme Court's two-part test should be abrogated. In its place, Congress should reaffirm patent laws' traditional boundaries between practical applications of scientific knowledge in all fields of technology, as contrasted with other manifestations of human creativity that are not themselves technological.

Other countries have been able to do this. They have developed not just case law but workable tests. So, why not be guided by experience in other countries who haven't run into the same problems we have?

Biotechnology is a field the United States have created and led. Yet, patent protection and our technology has become less certain and is today less available than in other countries with which the United States compete. There are biotechnologies -- I am waiting for the beep and then it is going to take five more seconds.

There are biotechnologies for which it is now easier to get patent protection in China and in Europe than it is in the United States. When U.S. companies want to compete in these foreign markets, they will face patents like they always have. But when foreign countries come here, companies come here to compete in the U.S. market, they will have a free for all and they will not face patents. We ought to have a

conversation about whether that is the right recipe for U.S. competitiveness and domestic job growth.

We look forward to a good dialogue on the matter. Thank you very much.

MS. NELSON: Thank you, Mr. Sauer.

I would like to start out -- I know you, all of the panelists, have been focused on the need for a legislative fix but I first want to start out with just sort of asking to what extent -- and we have noticed and there is evidence to sort of suggest filings have started to remain consistent in the life science area. And I am just wondering to what extent certain technologies are amenable to workarounds. And I give you as an example, isolated DNAs that are then put in a vector to make a transgenic animal or something, where a claimed drafting could get you to something that is essentially what you want to protect anyway and you could forego the claim to an isolated DNA.

And I am just wondering if there are

particular technologies where the workarounds are working. In particular, let's focus on natural products and then if there are particular areas where that just is not an option at all.

MR. JACKSON: I can speak a little bit to that. I think to some extent, at least in my personal experience in talking to other members of the Coalition for 21st Century Medicine, which is mainly diagnostic companies, is there has been an approach of adding limitations to the claims in order to get the patents issued, limitations that would not have been required five years' ago, and limitations that, frankly, should not be required. And so those applications are still being filed. The claims are being presented and, in some cases, the patents are increasingly being issued but in a far narrower state than they would have been before and I think in a far narrower state than they should be. That is my experience.

MS. NELSON: And when you say not required, can you sort of clarify what you mean

about putting limitations in that are not required, that you don't think should be required?

MR. JACKSON: In the case of a diagnostic, a molecular diagnostic, instead of simply setting forth all the ten biomarkers that are in your test, an examiner may require that you set forth the specific algorithm in which those biomarkers are combined and get the score and even beyond that, the performance of the score, what its positive and negative predictive value must be. The examiners start to layer on requirements of specificity such that you get down to a level that, ultimately, may be a patent that is not really worth having, frankly.

MR. CABECA: That is interesting. I have actually heard the opposite anecdotally as well where you are just removing the diagnostic aspects actually gives you a broader claim that gets through the eligibility test, which is kind of interesting itself.

MR. LINNIK: Which is in the examples

that the Patent Office provided most recently in May, where you have a method of detecting a molecule in a sample that is perfectly patentable. And as long as you add a step to this claim that the step of diagnosing a patient, it become patent-ineligible, which is very difficult to reconcile rationally. It certainly is a way to draft around Mayo v. Prometheus. I'm not sure what the ultimate value of those claims would be.

MS. NELSON: With diagnostics, is there ever the opportunity to put in something that is, I guess, sort of technological that would sort of get you past the correlation and into something that is more amenable to patent eligibility?

MR. SAUER: Let me first give it a crack and then Ben probably has some observations on that as well.

If there is no implementation step, if you will, of any kind in the claim, but I do think these claims have always been viewed with

some skepticism, so merely comparing information and then drawing a conclusion is a claim that probably, under the way we today understand Section 112 and so on might be vulnerable under other theories of invalidity as well.

What I hear much more often from Bio's members, though, is like your claim to a typical laundry detergent enzyme or another preparation, claims like that run into problems in the Patent Office and if patent protections can be had, if it all, it can be had only at great cost of claim scope.

So, I know one Bio member to whom I talked about this who said well, I couldn't get a claim to a laundry detergent enzyme but I could get a claim to a method of washing laundry in a washing machine using a washing liqueur that contains the enzyme. And those patents can be procured. I do think applicants take the patent. They report up to management that a patent was procured and the objection might even be reported as having been overcome. But at the end of the

day, everyone understands that claim scope is vastly different under these circumstances and has very different commercial applications.

MR. JACKSON: If I could just jump in there. Another point I think to your question is that at least within the molecular diagnostics industry, there are tool and kit and equipment manufacturers, and then there are those who work with the diagnostics themselves. I think of it is sort of platform makers and content makers. And so on the question of new chemistry that can be used to detect a molecule or new machines that can be used to implement that chemistry, those are done by a certain group of companies, the tool makers. And they probably have a rip-roaring time at the Patent Office. I don't know. I am sure they are getting their patents through just fine. It is the content makers that, in my experience, who are really struggling, those who take those platforms and implement them in a very specific way to detect a new cancer or prognose a cancer using specific

biomarkers. They don't necessarily invent a new chemistry but they implement that chemistry in now a new way that is very useful from a diagnostic perspective.

And I think it is very important that both of those camps within the molecular diagnostic industry receive ample protection and investment.

MR. KELLY: So, I have a quick question for Mr. Cullen. This was provided by someone from the audience. So, your perspective is different from a lot of people we have heard from today coming from the Chamber of Commerce. And the points that you raised were largely in support of patentability and that we need to clear up the confusion that we have. But the questioner asks how do you square that with the commentary from somebody like we heard from earlier from J.C. Penney, which is that, as a functioning company, they are basically being hindered by a lot of patents in the marketplace right now. How do you speak to that from sort of

your Chamber of Commerce point of view?

MR. CULLEN: So, I think that is a very important question. And as I mentioned in my comments, we are certainly sensitive to the issue of abuse. We recognize it occurs. We also recognize that there has to be some kind of a thoughtful discussion about how to curb that type of abuse.

Our fundamental concern, though, is that the confusion regarding eligibility is one that also provides ripeness for abuse. So, when you solve the problem and you provide more clarity, then we think some of these problems will, perhaps, go away, to some extent. But absolutely, the Chamber members, particularly, our retailers and, indeed, some of our tech members are friends from Amazon. A good example, there were victims of these types of abuses. That is a serious problem.

So, the Chamber does not look at this as just simply an either/or. We think you have to really address both. And from our

perspective, there is probably a reasonable legislative path forward, particularly when it comes to the issue of some patent reform.

When it comes to specific issues legislatively on the issue of eligibility, we have not yet taken a position on whether or not congressional involvement is the only way to go there. We would like to see what the language is. The Chamber is very careful before it takes a position on legislation. So, we think that there is probably good work to be done. More clarity from the Courts would be helpful but, again, it is also something that, at the PTO having the necessary resources and the expertise to do a better job of patent examination. Although a very good job is being done, we think that is an area that may also benefit from USPTO just simply having the resources they need.

So, from our perspective, we think that these are not issues you look at completely separately. They are all part of the problem.

MR. SAUER: If I could briefly add to

that because this often comes up in the legislative debate as well. And many of my members keep asking if there are abuses in the system or systemic problems with too many patents or if there is something wrong about the way we enforce and litigate patents, we query whether the right answer to that should be to crank up the exceptions. Because I do think the same problems would persist even if no patent would suffer from a Section 101 problem in the whole of the United States. We would still be having the same debate in Congress.

MR. KELLY: Well, and that sort of leads me to my follow-up question, which I did want to direct to you and the life sciences people, which is that when I hear or when we hear discussions on what I will call the abstract idea exception side of the debate, those commentators usually say something along the lines of there is a lot of patents out there that need to be dealt with but the way the Section 101 jurisprudence has evolved, you are not really dealing with them

correctly. You are maybe overcorrecting or under-correcting. The problem is how do you fix the test to get rid of the patents that those people think should not have issued.

But on the life sciences side, is the debate different? Is there a general agreement that there are a lot of patents that issued in the space that shouldn't have and so the test needs to be fixed? Or is it just how do we get rid of the tests that are out there and dial back the exceptions as they apply to our field? Maybe that is too blunt a question.

MR. SAUER: No, I am trying to compartmentalize it in ways that allows me to easily answer it.

So, what I certainly don't hear from Bio's membership are complaints that there are too many patents out there that cover a patent-ineligible subject matter. You know that is not a concern I hear.

There are, of course, there is an understanding of the needs of other industries

for whom the patent system might work differently and that affects the way we advocate, for example, to Congress in the context of patent litigation reform, which is where Congress has focused.

I do think there is a sense within Bio's membership that queries whether the exceptions, as they have been articulated, are even needed in the patent system as we have it. We are caught in a rut where we tried to define what an abstract idea is, what a natural phenomenon is. And there is the sense that maybe if we could define it well enough, then all our problems would go away.

What might be helpful would be to ask do we need these exceptions at all? If we refocus the patent system on what it traditionally always was understood to do, and that is it works for technology and it doesn't work for aesthetic creations or other manifestations of human creativity, maybe if Congress did that, the need for the exceptions

would go away because the constitutional mandate that we have to follow and the patent laws would be advanced much more affirmatively, rather than trying to define the scope of what is not patent-eligible.

Other countries have done it quite that way. And in TRIPS, in fact, the United States signed on to the notion that patents should be available in all fields of technology, not art, not social innovations, and other areas.

MR. HANNON: I have one question. So, one theme that emerged from this panel, I think, if not in earlier panels, was the importance of our domestic framework in relation to the international global marketplace. And I will direct this to you, Mr. Linnik, to what extent should these international examples serve as useful guideposts for our own eligibility discussions?

MR. LINNIK: I think they are highly informative. And as proposed by many, specifically the European framework seems to be

working just fine and, at least in the area of biotechnology and pharmaceuticals, have produced consistent results, and results that have been reliable and predictable.

I think one downside for having an inconsistent framework, particularly in the area of healthcare and life sciences, is if you have patents available outside of the U.S., you need to disclose your invention in order to obtain those patents, which essentially means there is no way of maintaining trade secret related to those inventions; which then means there is no practical protection across the world, if you are not able to get full patent protection or trade secret for your inventions; which we think would ultimately mean lower investment or no investment in where we need it most.

MS. NELSON: I have a question for Mr. Cullen or possibly for all the panelists. So, it seems that a lot of the problem, and you speak to the idea of wanting to have -- to not discriminate between industries and there seems

to be a lot of effort to try to come up with a one-size-fits-all approach. And yet at the same time, we hear that the needs of the life sciences are very different from software or other technologies.

Is there something we should be considering as maybe not a one-size-fits-all? I mean should we be bifurcating different technologies and making the patent system work the way it needs to work for each area of technology?

MR. CULLEN: You know, that is a tough question. I certainly think that trying to fine tune it too much may become a little bit dangerous. But I would have to defer to some of my more technically expert fellow panelists on that because I really just don't know the answer off the top of my head. But I would be concerned about trying to get too specific in this area just simply because you don't know what is going to come up in the future. There is so much innovation that occurs that if you are being too

prescriptive that there is the opportunity you may, at some point in time, exclude some future innovation simply because you have not had the opportunity to see it. So, I would be somewhat concerned about that. But, again, I have talked a lot about the need for specificity. And so there are some benefits. But I just really don't have a good answer for you.

MR. JACKSON: I have thought a lot about that and, at the outset, that has a certain level of appeal because I think there are pretty dramatic differences between industries in terms of investment required, lead times for development, and life cycle of products. In internet or like a smart phone app might have life cycle of a year or two, if it is really successful. A drug or a diagnostic could have a life cycle of 10 or 15 years. And along those same lines, it might take three months to develop that app, it will take five or ten years to develop that drug or diagnostic.

But then at the same time -- so, that

might say maybe software could be treated differently. At the same time, if you are moving out of a smart phone app toward something like enterprise software or things like that, I think you are talking about much larger degrees of investment and development time and, ultimately life cycle, such that they start to look a little bit more like a drug from those perspectives. But I don't know that you could broadly brush everything as software versus life sciences.

I don't know if that is very helpful but those are some thoughts.

MS. NELSON: So in terms of a legislative proposal, do you think it makes more sense to try -- or both options, to try to put the judicial exceptions and draft them the way it makes sense into the statute or to sort of leave everything in and carve out sort of exclusions or both? Like I guess I am envisioning maybe ethical exclusions or things like that, if that is the concern of the Supreme Court in the life science world. Does that seem like a better

approach or to try to actually come up with language that defines the reach of the judicial exceptions?

MR. SAUER: So, I have heard two basic approaches to this. And this is now not Bio talking. It is more what I have heard in talking to colleagues and practitioners. One way would be yes, just go the exclusion route and define them more carefully, write out a list of things that you just don't think ought to be within the scope of patent law. And maybe with a lot of effort, one can come up with an exhaustive list.

The other approach that I have also heard described is get rid of the exclusions and define for the first time in patent law the scope of the useful arts that Congress, you know back then actually the Constitution, wanted to protect. Like what does it even mean to like protect the useful arts?

The Patent Act doesn't describe what that is. It describes that the arts have to be useful, inventions have to be useful but not the

universe of patentable things. So, for example, a painting could be described as an article of manufacture but everybody understands it is an aesthetic creation and that is not within the purview of patent law. But in other respects, the Patent Act never said patents are only available for technological inventions, if you will, not aesthetic inventions or social innovations.

You know this is not Bio's view but it is a view I have heard expressed what if Congress came in and enacted a substitute statement in lieu of the exception staying patents are available for inventions in all fields of technology and underline that and say that is where we mean, a kin to what we do for covered business method patent review, where the Patent Office already has to make a decision whether a patent is for a technological invention, sort of, or not. Maybe there is even precedent already where the Patent Office has been trying to define whether it is a patent for a technology or for

some other manifestation of human creativity.

And then maybe that could be paired to address specific concerns that the Supreme Court might have had with the building blocks of human knowledge and like and we could revisit the national academy's recommendations for how to craft maybe a research use exemption that would give people more comfort that patents will never interfere with basic knowledge creation and follow-on innovation.

So, these are two approaches that I have heard. Now, Konstantin I think was very sophisticated in examining how other patent systems have done it and they do all have lists of exclusions. Even though they also say they only give patents to technology, they follow-up with things that they specifically exclude.

MR. LINNIK: Regardless of the approach, one thing I want to point out is that Myriad case, the question that the Supreme Court was answering was are human genes patentable. And the answer to that question is no. And I

think the majority agrees of course not. So, that was the wrong question. However, no matter what amendments we make to 101 or any other section, I don't think we need to revisit that issue. And in fact, we may want to codify that human genes are in fact not patentable, period.

MR. KELLY: You know we just had a question come up that I have thought of before. When I learned patent law a long time ago, I had a professor say that Title 35 was basically the Patent Law enabling act. It was a common law enabling act, in that the patent law in the United States would evolve through judicial decisions. And that is very much like how 101 has been interpreted. Section 101 is sort of like the Sherman Act form the antitrust world, in the sense that it is just very broad. It is very simple and it has sort of lived and breathed through judicial decisions. And that has led us to a bit of a problem.

And if we go the legislative route change, are we creating a different problem,

which is that now, if we are going to legislate in and hard wire in everything today that we want to do, how are we going to fix that two years from now? Because as I think everybody is aware, legislation is difficult to come by in this space. And so if we legislate a fix, are we creating a whole new problem that will be even more difficult to overcome?

MR. LINNIK: It is hard to imagine how much worse it can get for life sciences. So, from that perspective, I don't think there is a danger in doing that.

MR. JACKSON: Yes, and there is the classic saw of the devil you know and the devil that you don't is right now we have got judges just sort of making whatever decision seems to make sense to them. And again, these decisions are not tied to any specific statutory language. I think that a statutory framework or amendment could then be fleshed out by the courts, I think appropriately so. I think that was the intention of Title 35 was that there be some framework to

work within. But the exceptions are currently working without any framework. They are untethered to any specific language or provision of the statute. They were literally invented by the courts with no basis in the statute of the Constitution. And I think at least fixing that is a step forward.

Now, you are right, it is going to be difficult. I mean even within my slides if you saw, once I got to the question of like human cloning and germline editing of the human germline, that starts to get pretty sticky and those are ethical considerations. Maybe we say that we are not going to touch those yet. So, to some extent, Section 33(a) of the AIA already addressed human organisms not being patentable. So, we have already started down that road a little bit. Let's explore it a little bit more. That is my opinion.

MR. CULLEN: I would just simply point out from the Chamber perspective, you know we would have to see it first. You know we

certainly recognize that there is a serious problem that needs some clarity, it needs to be fixed, but we are just not there yet in terms of having either the prescription that we would like to recommend to Members of Congress in terms of what all the components would be and also the danger that whenever you go down a legislative path, you really never know what you are going to get until you finish that process.

And so it may create other unintended consequences or it may have limitations that don't adequately solve the problem. So, you might only get one bite out of that apple. So, I think we need to be careful.

MR. KELLY: So, I have one more follow-up and this is just me talking. But another solution to some of this is a regulatory solution. That is, a statute that provides that through regulation, through notice and comment rulemaking, the Agency will devise the contours of eligibility moving forward. I'm just wondering if anybody has ever thought of that

possible solution and whether it is the kind of thing that makes sense.

MR. LINNIK: So, there is parts protection, data protection, and exclusivity based on submission to the FDA, 5 years for small molecules and 12 years for biologics, which is supplementary to and independent of patent protection. So, it is a separate sui generis system for the pharmaceutical industry.

While it is a good system and a good backup, what it doesn't accomplish, it doesn't incentivize early stage innovation where multiple players can contribute to the innovation, which is what the patent system does. Multiple independent players can innovate and share and disclose information to each other while benefitting from their innovation. And that is why we would see so much cross-licensing down the line.

MS. NELSON: I just have one more quick question and then we will stop for lunch. And that is, I know, Mr. Cullen, you had talked

about trade secrets and I have heard that frequently, that life science community is moving towards trade secrets and I was just wondering whether that is really a viable option in the life science space. Or are most things, these days, can be reverse engineered, so that is not really going to serve any useful function?

MR. JACKSON: I have a thought on that. I think, to the extent possible, a lot of companies and innovators are moving toward trade secrets. There are important limitations, though, on the availability of trade secrets in our industry both for drugs and for diagnostics because of the requirement of publishing a lot of details of your test in order to get reimbursement in the case of diagnostics or to get regulatory approval in the case of drugs.

So, a trade secret doesn't provide a lot of protection. But what little there is, people are shifting that way.

MR. CULLEN: Yes, I would just point out from our members' perspective, trade secrets

become an increasingly important part of the portfolio. You know everything starts out as a trade secret and, ultimately, the question of patent eligibility becomes a very serious consideration for those folks in terms of what is going to work best in terms of their portfolios.

But we have seen a trend in commentary from our members that trade secrets are increasingly important to them. So, I just think that patents still play that traditional role. And so we want to make sure as much clarity can be achieved in the marketplace.

MS. NELSON: Thank you very much. And with that, we will close the session and have an hour for lunch.

(Whereupon, the above-entitled matter went off the record at 12:51 p.m. and resumed at 1:55 p.m.)

MR. KRAUSE: I think I'm the only person up here who has not been introduced. My name is Tom Krause. I'm the Deputy Solicitor at the PTO.

And I will be your moderator for this panel. And I think we can just get started right away with Jason Gardner.

MR. GARDNER: Great. So, thank you. First I just want to thank my distinguished panelists for joining me. This is actually a great opportunity for Marqeta.

This is something we've actually been talking about for some time. The company is close to six years old. And we're actually very grateful for the U.S. PTO to give companies like Marqeta the opportunity.

We're a small technology company based out of Oakland. About 80 people. We work within the financial services space.

So, the ecosystem is made up of four primary players. And one of them is what we built, which is issuing and processing.

So, I'm sure all of you have debit or credit cards in your wallet. They have 16 digits on them, if they're Visa and MasterCard. Those 16 digits, think of it as like an IP Address.

So when that card is swiped, tapped, entered online, whether you're buying something at Whole Foods or Amazon, that -- those 16 digits correspond with a company like us. It literally routes to us. And we make a decision of whether to authorize that transaction or not.

So, we're actually a very important and significant part of the payment card ecosystem.

We also are inventors. So we have a lot of firsts in what we do. And we have four patents in process and have been in process for some time.

You know, Alice, the Alice ruling has certainly affected us in a way where, you know, we're not -- I know there's a -- there's been some word of -- we haven't used the word patent troll. So I'm going to be the first company to use it.

We've never been on the receiving end of that. Ultimately, the Alice decision was to keep that from happening. To keep companies that

actually don't have a business plan and to actually implement technology.

But companies like Marqeta do. We actually -- we create the technology. We implement the technology and it's up and running today.

Several of the inventions that we made are first within our industry. We don't have, you know, the wherewithal actually, whenever we have considered, we have considered going after a company for infringing on our patents, it's really pretty much the last thing we want to do.

And but at the same time we have a competitive nature. We have investors. And really what we want to do is protect our IP. And obviously patents is one of the ways to do that.

And Alice has certainly affected us in a way that keeps us from protecting that IP.

MR. KRAUSE: Okay. Thank you, Mr. Gardner Allen Lo from Google?

MR. LO: Thank you. Let me first thank and commend the U.S. PTO for holding this

roundtable. And creating the forum for us to be able to discuss this important topic of subject matter eligibility of software patents under Section 101.

My name is Allen Lo. I'm Deputy General Counsel of Patents at Google.

My team is responsible for building the patent portfolio to protect many of the groundbreaking software innovations that Google engineers make each year, based on the literally billions of dollars of R&D investment that we make.

Over the past decade, Google has built a significant portfolio. Now over 50 thousand patent assets primarily concentrated in the software field.

And because of that, we have a significant stake in the outcome of Alice and other decisions applying a subjection matter eligibility standard.

And because of that, we've given significant thought to the impact that this

decision has had. And we also look forward to providing you written comments following the roundtable.

First thing I would say about Alice, and this really goes to sort of the general commentary that's been out there around it. Which is that contrary to what many have said and claimed, Alice was not the death nail of all software patents or the blow to innovation in the software industry that some have said.

As a company in the software space, Google continues to invest heavily in software innovation, as well as file patents on those innovations. The rejections that we've seen from the Patent Office and the decisions of the Court's invalidating claims under Section 101 have largely been concentrated in areas that we would describe as primarily business methods implementing conventional computer techniques.

Many important and vital areas of software R&D and patenting remain largely untouched. Because they've always been viewed

and described as technological advances in computer technology.

Such areas include computer security, video compression, and cloud computing. Just to name a few.

So, in our view, as far as our portfolio is concerned, Alice only touched a small, relatively small subset of our portfolio. Instead, Alice -- we view Alice as really -- and the development of the law that followed Alice, as a needed course correction.

The constitutionally mandated goal of the patent system is to promote the progress of the useful arts. We understand this to mean to encouraging investment and development in technology.

Before Alice, too many patents were issued on claims like those in Alice, to abstract concepts or functions performed on a computer on the internet. Such patents often claimed a desired result, but provided no explanation or limitation of how to achieve that result using

advances in computer technology.

These kinds of patents have become the source of many litigations targeting software companies. Whether it's large companies, small companies, resulting in resources being diverted from software innovation to having to defend spurious litigation.

We think it's important for the Supreme Court to clarify that these kinds of patents should not be allowed. Applicants were basically obtaining patents based on no technical contribution and little disclosure to the public that they could then use to tax real innovation and real innovators that did the hard work of finding the technical solutions necessary to bringing valuable products to market.

The Supreme Court's Alice decision reminds us that it is not sufficient, nor should it be, to elevate form over substance by finding patent eligibility based on the mere recitation of generic computer components.

The analysis must now consider whether

the claimed invention is directed to technological advance in computer technology. And to be sure, Alice was a difficult opinion in many ways.

It created initial uncertainty by focusing on a test for what is not -- what is ineligible subject matter. And leaving details to the lower courts to work out a test for what is eligible subject matter.

But over the past two and a half years since Alice was published, the emerging case law is now filling in those details. We now see the Federal Circuit in cases like Enfish, Bascom, and McRO, examining whether a claim recites a technical solution to a technical problem to overcome the assertion that a claim is otherwise directed to an abstract idea.

We believe this is the right question to be focusing on when considering whether a software claim recites patent-eligible subject matter. The technical problem solution test ensures that the patents protect advancements in

technology, not some other field, and thereby promotes progress of the useful arts.

The test promotes innovation in the software industry by rewarding concrete advancements in computer technology rather than a statement of vague results with little information about how the results should be achieved.

As the Federal Circuit issues more decision applying a technical problem/technical solution approach, the line between patent-eligible and patent-ineligible software claims will become more and predictable.

This is the nature of the common law process on which our legal system is built. And we would want to allow the courts more time to work this out.

In terms of how Alice and the standard applies to Google, we have found that when we draft applications and claims to clearly explain how the invention provides a technical solution to a technical problem, we draft higher quality

applications that have a better success, better chance of success at the U.S. PTO, and in other foreign Patent Offices as well.

These applications explain the technical advance of the invention in more detail. They provide more information to the public. And the scope of the resulting claims are more clear.

Like many companies, we are building a global portfolio. We file patents in the U.S. as well as outside. And we view it as a hugely positive development that the question of software eligible is now converging across multiple jurisdictions around this question of whether a claim recites a technical contribution.

In conclusion, we'd like to see the case law, whether at the Federal Circuit, or at the PTAB, applying Section 101 to software patents to continue to develop with a focus on whether the claims recite a technical solution to a technical problem.

With these developments underway --

oh, and we also encourage the U.S. PTO to instruct examiners to apply the same test to claims in an application, as also being fully supported by the current case law.

With these developments underway, we see no need for action by Congress at this time to address patent eligibility of software claims and potentially risk creating more uncertainty and disruption in this space.

MR. KRAUSE: Okay. Thank you, Mr. Lo. Next we have Daniel Nazer, Electronic Frontier Foundation.

MR. NAZER: Thank you. My name is Daniel Nazer. I'm from EFF. Thanks to the Patent Office for having us here.

I always appreciate that even though EFF is -- its membership and its views are not always aligned with the Patent Office, we always get a very respectful hearing. And I really appreciate that.

We have about 27 thousand paying members. Most -- at least a plurality would be

working in tech. A lot in this area. And a lot of our members write software for a living.

And we hear from our members pretty regularly about our patent work. And the feedback I get as the sort of chair on patents there is that -- is that we're too accommodationists. And that Alice doesn't go far enough. And that the rules should be no software patents.

I'm not so naive that I expect the Patent Office to make legislative recommendations to the Congress along those lines. But, I do think it is important that it's exposed to those views and those communities that are the people that write software for a living that are saying this.

And that particularly in the free software community, there's a very significant population of people who are the creators and inventors in this field. That feel that patents are an imposition on them and slow down their ability to create.

But, if you read my briefing matters, then it doesn't say that EFF members get to say what the law is. It says that the Supreme Court gets to say what the law is.

So, we live in Alice v. CLS Bank world. And we do think it is a significant improvement on the -- before the status quo. And that it was a significant change.

And I think it's also -- I agree with a lot of what other people are saying. That the question here, particularly for this event, is the big picture is Alice beneficial or harmful?

And the question of course is not just for -- it undoubtedly creates challenges for the Patent Office and prosecutors and the Federal Circuit in its application.

But, it's a natural experiment. We saw in the Federal Circuit's decision, we saw a prediction from Judge Moore. She said that if these claims were invalidated, it would decimate the software industry. That's a direct quote.

And did that happen? No. No, to the

contrary. If you had invested in an exchange-traded fund of software companies the day Alice was decided, you would have beat the market very handily.

You can check my work. Look at I-Shares ETF. It's a basket of large software companies. Many of which have very significant patent holdings, Microsoft, Adobe, and many of which don't like Red Hat that operate more in the free software world.

So it's a quite balanced representative of the software world. That fund outperformed the S&P 500 by almost 100 percent. You would have doubled your returns if you had invested in software the day Alice was decided.

So, I think we have to look back at the predictions of doom. And the conclusion is undoubtedly that they were inaccurate.

So I think when the Patent Office is considering how it's going to look at reforms and proposed reforms, that that's a very important big picture thing to look at.

So, and I also think in terms of the practicalities of Alice, we've seen it be extremely beneficial for smaller companies targeted by low quality patents. There was discussion from representatives from Amazon and Intel that I think gave good examples of that kind of experience.

And at EFF we tend to deal with smaller companies that are contacting us because they can't afford to call Fish & Richardson. And we -- after Alice we finally have some reasonably good news for them that it may be possible for them to defend a suit for less than the kinds of amounts that they were looking at previously. Where you have claims that are clearly quite vulnerable to an Alice challenge. And you can bring a Rule 12 Motion to Dismiss.

The costs are vastly lower then under the old rule. Where you really had to go through discovery and get to Summary Judgment and spend a million dollars to defend a suit.

And I think if you look at the kinds

of cases where people have won 12(b)(6) motions, many of them are just a rogue's gallery of really low quality patents that were being used by the worst of the worst of the -- of patent assertion and that had no business model other then leveraging the cost of defense.

So, we are big fans of Alice at EFF. And urge the Office to be cautious about seeking reform that would undo the good that it's done.

So turn, if I have time, to topics about guidance. I think the -- I understand that the Patent Office is looking at decisions that sometimes are hard to read together.

But, I think the most useful thing for it to do is to look at the language in Alice. And I think the provision, the updated Section, and it's 2106 in the MPEP could really use just some more direct quotes and some block quotes from Alice.

And in our written submissions, we'll suggest what we think would be most helpful there. And I we particularly think the Office

should -- it's guidance should include a clear statement and advise to examiners that In Re Alappat is no longer good law.

That if you look again to the Federal Circuit's decision in Alice, Judge Reyna -- then Chief Judge Reyna explained under Alappat, this was an easy case. This is especially programed, general purpose computers. It's patient eligible under Alappat.

And I think that was right. And the Supreme Court clearly did not agree. In RE Alappat is no longer good law. And it really was the rules of the road for a long time.

I think that guidance would be really much clearer if there was an explanation that this is what the change was. And so, -- yes. So that's it.

MR. KRAUSE: Okay. Thank you, Mr. Nazer. Julie Samuels at Engine.

MS. SAMUELS: Thank you so much. Oh, that was loud. And thank you to the Patent Office for coming out here and for hearing from

all of us.

And from everyone today, I think it's been a really illuminating series of conversations. And one of the things, I am here as a representative of an organization called Engine that works with very small startups primarily in the high-tech space.

And quite frankly, the vast majority of those startups are not dealing with the patent system necessarily because they want to. They tend to be very small.

They maybe don't even have enough funding to have engaged in the patent process yet, even though many do have plans to do so. But they often find themselves on the receiving end of, you know, a threat of litigation. Or actually a complaint filed against them.

And so what I really hoped to be able to represent today are these two kind of crucial overlapping constituencies. Which are these small and innovative startup companies.

But also this constituency of people

who -- or companies, or innovators, however you want to determine it, who find themselves working very closely with the patent system. But maybe not necessarily out of choice.

And some people have already said this earlier, but I would just like to point out again that that constituency is also a constituency of the Patent Office, right? It's not just the constituency of patent holders that the Patent Office has to care about.

But the constituency of innovators who are those who are pushing for the progress of the useful arts and science. And so that's kind of what I hope to speak to a little bit today.

And I think conceptually there are a lot of people, probably in this room, part of these conversations, who might even fault some of those companies for not doing more to interact with the system sooner. Not filing patents even earlier. Not engaging sooner.

But the system was in fact conceived in a way that would incentivize that engagement

through a robust notice function. And I think that many of us in the room know right now that particularly when it comes to software, the notice function is not working as I would argue it was intended.

In fact, it makes that kind of engagement that's based on notice impossible not just for small companies, but for quite large companies. I think even for Google it's impossible to know what exists in the world of patents on the books.

So there's some numbers out there on this. Though they're kind of hard to find. There's a 2012 paper that estimates that in the software space in order for patent lawyers to look at every software patent even briefly for ten minutes to determine if that patent might apply to the invention at hand, we would need approximately two million patent attorneys working full time to compare every software producing firm's products with every patent issued in a given year.

And allowance rates have gone up since 2012. So those numbers I'm sure are even larger.

Which basically leaves companies with very few options. And this is, I think, why we often find companies who aren't more proactively engaging with the system and with the Office.

And of course the second piece there is quality. We cannot have a conversation about the notice function, about proper incentives, without discussing the quality of the underlying patents.

And among the small companies that I work with every day, we have seen quality improve since the Alice decision. For a lot of reasons Daniel talked about, and I now get to as well.

Because now a lot of these small companies have a tool to push back against threats that they face. And we've seen that time and again.

So, I want to talk for just one more second about those small -- the small startup companies. And some of these numbers actually

come from Professor Colleen Chien, who you'll hear from later. So, I hope I'm not stealing your thunder.

But, 82 percent of troll activity targets small and medium sized businesses. Fifty-five percent of troll suits are filed against startups with revenues of less than ten million dollars.

These companies are generally lacking in resources to decipher vague and what are quite frankly often bogus demand letters. So, these startups find themselves vulnerable.

And these startups, new firms in particular, research that Engine did with the Kaufman Foundation, showed that these new firms, these startups, are responsible for all net new job growth in the United States. So this is a very real concern.

And what we're talking about is not kind of some abstract problem. It actually is a meaningful -- it's a meaningful piece of the puzzle when we think about job growth and

economic development in this country.

And so what we've seen is that stronger one on one protections that we have seen in light of the Alice decision and in the past two and a half years, have incentivized the kind of risk taking that we want small companies to make.

The majority of those new firms will fail. But the ones that don't will create net new job growth. And we want to incentivize risk taking.

We do not want to incentivize infringement. That is not my point at all. But we want to incentivize growth of companies.

And so when you have a situation where the majority of patents are invalidated under 101, are cases that involve a non-novel, or an abstract invention, that is actually in line with how technology, technologists and new firms work today. That is -- those are the kinds of risks that we want to incentivize.

So, I've got a couple of examples that

come to mind. And I can't really say the names of these companies because most of the times it doesn't even get to litigation.

But, in the past couple of months I've heard from at least three small companies on both coasts who have, because of Alice, been able to avoid incredibly expensive litigation.

In one instance, a group of companies came together. It was a joint defense agreement. They were able to draft an Alice 12(b)(6) Motion.

They sent it to the Plaintiff. And the Plaintiff had sent a draft complaint. So nothing was ever filed. And when the Plaintiff saw the motion, they dropped the suit.

Because I think that Plaintiff was rightly concerned about the quality of the underlying patent. In that instance, Alice is an incredibly powerful tool.

And any efforts to dial that back that come from the Office, that come from Congress, I think are incredibly dangerous -- incredibly dangerous for this country beyond just for the

Patent System, but for these job producing companies.

While I'm on the topic of small startups, one kind of piece of, one specific suggestion I have for the Patent Office is to -- I would love to come up with a world where we can better encourage interaction between examiners and the founders of these companies and the technologists at these companies. Literally just in a social setting.

Have them interacting more. Talking about the types of technological problems, technological solutions that these companies are working on. So that when they come in front of the examiners, you've got more familiarity with what's going on.

I literally think we should like put these people in a room with a couple bottles of wine more often. And just let them -- let them hang out.

I actually think that would go far toward dealing with the quality issue. Because I

think people would just have better aligned incentives in those instances.

Another question had to do with investors and investment. I work with a lot of investors, a lot of the VC community.

To be fair, there's some splits in the community. Most of the Venture Capitalists I know who invest in high tech and software companies don't have much love for the patent system.

They see it as a drag on the economy. They see the patent troll problem outweighing the benefits of patenting under small companies.

I'm happy to -- I'll be mindful of the time. But there's a lot of detail out there. I know you've heard from Professor Robin Feldman this morning. I unfortunately got here a little bit later. She's written on this some really interesting stuff, which I'm happy to share, and we'll put in our written comments.

And finally, there are just a couple of things that came up in the request for

comments that I did want to talk about. We talked a little bit about -- this has come up a bunch today.

More consistency is needed. But I would just like to echo other panelists who have said that this is how case law works. This is how common law works. And the process is working.

And we are getting more and more clarity as the year since Alice goes by. So, we're excited about that.

One thing I also -- I mean, this will be my last comment. Well, I have two quick comments.

I feel like the request for comments was really focused -- it started from a premise as if Alice were bad. And I think there are many people here today, I think there are many people particularly in the tech industry that I work in, but beyond that, who actually think Alice is great.

So with that, I would also say I don't

think we need legislative changes when it comes to 101. I support Alice doing its job. Thank you.

MR. KRAUSE: Okay. Thank you very much for those panel members. And we hope to receive written comments from all of you. It sounds like some of you have promised those already.

If you have questions for the panelists, put them on the cards. They'll be collected. I can certainly start with a question or two.

I was intrigued by the suggestion of a wine party with the PTO. I'm not sure if we'd all be invited to that.

But, as you're -- you're talking about situations where your client's, the people you work with, are seeking patent protection from the Patent Office? And you're hoping that they could interact with the examiners on that basis?

Or did I get that backwards?

MS. SAMUELS: I mean, I think the

benefit would come from examiners -- I think the benefit would come from both sides of the coin.

But on the one, you know, from the perspective of the Patent Office, I think if the examiners were to spend time kind of understanding the types of companies that these -- a lot of these founders are building, the types of challenges they were facing, and understanding what that looked like, I think that when a new technology came across that examiner's desk, even if it's in an art unit that that examiner is really comfortable with, these things are new.

Right? The idea of these inventions that come to the Patent Office is that they are new.

I think it would be helpful if people -- examiners had a better kind of idea of the context in which those technologies were being built.

And I think the flip side, I think that a lot of people from companies would benefit to understand how the system actually works.

Because when you are particularly at a small company, these companies they don't have general counsels.

Right? These companies are tiny. And a patent, you know, that sounds great, maybe. Or dealing with this that's a luxury for a lot of really small scrappy companies.

So I think if you create a space to better -- to basically increase the connective tissue between those two communities, I think everyone would benefit.

MR. KRAUSE: Okay. Everybody wants to talk about community that's not actually in -- is on the wrong side of the patent game in that they're more likely to be sued for patent infringement? And apply --

MS. SAMUELS: That's what we've seen.

MR. KRAUSE: That's what you --

MS. SAMUELS: That's what we've seen.

MR. KRAUSE: Okay. Let's see, and I sense a certain tension I guess between -- in the positions that both Mr. Nazer and Ms. Samuels

had, even compared to the other two panelists.

And I was curious, Allen, we heard from Daniel that a lot of software engineers just don't like software patents. We're hearing that kind of from Julie as well. And we heard that earlier today as well.

And yet you say there is a space for patenting in the Google Corporation. Do the Google engineers agree with that philosophy? That software, if it provides a technical solution, should be patented?

MR. LO: Tough question. They said you asked tough questions. I heard that from this morning.

(Laughter)

MR. KRAUSE: That's why I'm here.

MR. LO: You know, I think there's different views philosophically on whether software should be patented.

You have a lot of people who come from the open source community and have ideas and views and philosophies around what should be the

case. Whether it be various types of protection including patents.

I think what is very clear, and this is why you hear tension and you hear different points of view is that there's a balance that needs to be struck between providing not too little protection, but not too much protection.

And I think what Alice, from our perspective, did was, it helped shift things back to becoming more balanced. There was a point in time when too many patents were being issued on things that were abstract.

And companies then had to deal with this from an infringement accusation stand -- assertion standpoint. And by providing more balance to the system, we have not eliminated software patents, but we've just in some ways clarified and raised the bar in terms of what it takes to get a software patent.

And ensured that the point of getting patents and the standards that should be applied, need to help achieve the purpose of the patient

system. Which is to promote the useful arts.

And I think we're still working through that. I think that the big challenge that we saw in the first year or so post-Alice was examiners not knowing how to apply that.

And so we saw lots of rejections under 101 with no opportunity or ability to try to prosecute those claims into patentability.

What we are seeing now because of Federal Circuit cases is more of an evolution and more of an understanding of okay, now we not only know what is not patent-able, or what is ineligible subject matter, but now we're starting to understand what is eligible subject matter.

And what I would encourage the U.S. PTO to do with its examination corps is to continue to look at the cases and from our perspective, it really is focusing around technical solution to a technical problem. We think that is a positive resuscitation of the standard as opposed to a negative resuscitation of what's not patent-able.

And I think it gives something for all patent applicants something to shoot for in terms of how to get a patent allowed.

MS. SAMUELS: If I could just really quickly?

MR. KRAUSE: Go ahead.

MS. SAMUELS: I don't think that the majority of companies that Engine works on behalf of are -- would argue that there shouldn't be patents. I actually don't think that's the case.

I think that the system, engaging with the system can be so incredibly overwhelming at the outset that it is -- you know, it's this kind of proverbial put your head in the sand.

So I actually don't think that tension entirely exists. And I agree with everything Allen just said about Alice helping get back to a place of balance. Where we do want to incentivize the kind of small companies I work with to effectively and responsibly engage with the system to, where appropriate, get a -- apply for a patent.

And I think right now most of them just kind of feel like, oh, this is -- I can't handle this right now. This is too much.

MR. GARDNER: Yes. I mean it's -- if I could comment on the same. So, I don't think there's tension, I think there's sort of two sides to the coin.

So, you know, Alice would certainly help companies like us. In that it protects, you know, companies who -- whose business plan is -- there is no intention to actually invent.

It's just an intention to drive revenue by suing small companies. But on the other hand, I mean, the patent system was built to encourage innovation.

So, as an inventor, when we go out and build things, we're not required to get a patent. But if we want to take advantage of the patent system, we can go and do that.

The issue with Alice is it kind of threw the baby out with the bath water. And now we're finding out, you know, over a couple of

years now we're seeing that, like, companies like us are actually affected by the process.

Now if you want to invent and go out and have the right to pursue a patent, we should be able to do that in the spirit of why the U.S. PTO and the Patent Office was actually created. Was to allow inventors to go out and to invent.

So I mean, we, you know, there are some reforms that we thought about ourselves like venue selection, discovery procedure and costs, staying cases to allow the U.S. PTO to complete invalidating changes, enhance pleading standards, damage limitation. And most importantly, enhancing the ability for unfairly accused defendants to get back their attorney fees and costs.

So, there are definitely measures to strike the balance. And I think that's what you're seeing here.

You know, Daniel was talking about, you know, ETS and the S&P. These are public companies that can use market forces against

small companies.

Now, if we were going to throw out all software patents that really levels the playing field so that everybody can go out and build. I actually would be supportive of that.

But currently that's not going to happen. But if companies like Marqeta, it's actually spelled wrong here. It's a Q-, not a G- just in case you're looking for us.

If we want to go out and pursue a patent, we should be able to do that. Especially if we're inventing. And then obviously the U.S. PTO has a process to take us through to make sure whether that patent is going to be issued or not.

But in regards to Alice, it actually affects us positively. Because it protects us from trolls out there.

But it also affects us negatively, because it doesn't really allow us to invent and protect those inventions. Which is the whole essence of why the U.S. PTO was invented.

MR. KRAUSE: Would you describe your

inventions as meeting the test that Allen articulated? Are they technical solutions to technical problems?

Or are more of these conceptual inventions?

MR. GARDNER: They are very technical solutions. Because we're using software to affect the financial services. Which everything moves very, very quickly.

So, speed is all about algorithms and how we go build things. So we have mathematicians, physicists, who go out and build, literally write computer codes to solve that.

So, I believe we apply to that standard. But, you know, as Allen mentioned, what the difficult part is, is we get these responses back from the U.S. PTO and we really don't know how to respond to them.

Saying, well, we actually did that. You know, we actually put the right language in there. We feel like we wrote high quality patents.

But the rejections we're getting are -- some are based on, you know, prior art, which we're defending. But some of them just don't make real sense to us considering that, you know, we not only applied, you know, a certain standard to writing the patent, but we're actually having implemented it.

We're actually using it in our technology. We're affecting, you know, not only the startup ecosystem who's leveraging our platform, but also very large public companies, which are using our platform.

We feel like we should be held to a different set of standards because we actually implemented them.

MR. KRAUSE: Do you have some kind of legislative language in mind for us to take that into account? Or how would we actually take into account the difference between someone who's actually implemented the invention and somebody who simply hasn't?

MR. GARDNER: Well, I think that's one

of the standards. So, if we've actually implemented the invention using computer code, I think that's one lens to look at.

I think going to Congress is probably the last step. I frankly think that the ecosystem itself and the U.S. PTO could probably come up with a set of standards before doing that.

But I'm, you know, I'm on the side of I want to be able to get my inventions approved. But at the same point, Alice certainly protects the startup ecosystem.

It certainly protected us in the beginning when we were going out and building our technology. So, there's certainly a balance there.

MR. KRAUSE: Okay. Daniel, you didn't have a chance to respond directly to Allen. And so do you think -- I think you did say that you have a philosophy that software shouldn't be patent-able.

And Jason actually said he could

accept that. Feel free to answer with or without reference to the First Amendment.

MR. NAZER: Yes. Yes, I think there's -- there's some big philosophical questions.

That the free software community believes that if you're writing software and you're not copying someone else's software, obviously patent is very different from copy write in that you can collaterally attack someone. You haven't free rode on their work.

And I think within the free software community, even if you could prove to them that the patent system was actually better in that it incentivized more work, they still wouldn't be moved by that. Because it's a personal freedom question for them.

That and I think it was interesting for Allen, like within all these com -- you know, there are going to be people like that who have that view. At Google it's obviously not the company line.

I think from the panelists'

perspective, your -- the -- you're not going to necessarily be moved by that. But you will want to look at the big picture in terms of well, is the system in a particular area working to incentivize innovation we wouldn't otherwise have?

Or I think it was the gentleman from Amazon who said, or are we getting patents that are taking more out of the public domain then they're giving into the storehouse of knowledge

And I think Alice worked very well in terms of -- as to computer implemented inventions, as to improving that calculus. Where previously you could say, just do X with a computer, and you didn't -- you claimed all means.

You know, so you're raising kind of five -- 112 issues as well as 101 and 103 issues perhaps. But that definitely the patents that Alice is most clearly undermining are the patents that were giving the least value to society.

And so I think even leaving aside the

kind of philosophical free software perspective, I think Alice is independently and very important for that reason.

MR. KRAUSE: Okay. Yes.

MR. HANNON: I have a question regarding, Allen, you mentioned the technical problem with the technical solution. Which is, you know, reminiscent of the EPC approach to the eligibility issue.

And to me there is an easy question in relying that in that you sort of have to define consensus of what is technical, right? And so if we have the aim of a one size fits all solution in our patent eligibility statute, do you have any insight as to what we could do to better define what is technical?

MR. LO: I mean it's something that we've and many large companies that file abroad have to deal with now in Europe and in other places. And we're seeing this show up in China and India and other jurisdictions as well.

The whole reason for coming up with

that standard is to allow flexibility. I don't think there is a way to describe technical in a very broad sense. And have that be something that everyone understands how to apply.

But if we at least have that concept built in, what we're really talking about is, is that -- and you know, Jason said, you know, in his case, his -- the inventions from his company are very technical in nature.

We kind of have a sense of what that means. And we have a sense of what it isn't.

And when we see the kind of patents that we've seen that are very broad, that have, you know, very thin specification, and are very results oriented with no -- nothing fleshed out in terms of detail, we -- and we have heard many stories and cases of inventors, and I use that in the very loosest sense, just, you know, sitting around a dinner table brainstorming ideas and just filing patents on these things. And then going out and enforcing them.

There's really nothing technical about

a lot of what those patents contain. So, while I don't have a very specific answer to the question, I think it's something that would need to be developed. And I think could be developed.

Because we've seen it being -- we've seen it developed in other jurisdictions.

MR. CABECA: So just a quick question related to that. So obviously before Alice, you know, in the U.S. we could get a much broader claim then you could in Europe per se.

You know, because they've had their technical effect standard now for quite some time. We saw it in the earlier panels today that we have a lot to learn.

That we -- you know, there's a recommendation for the U.S. system to learn from what other countries have put into their -- into their laws. And then we saw the side by side comparison in at least the life sciences example.

But even though we can't get as broad of a claim in the software space as we could pre Alice, now with the two step test and the

evolving case law that we're seeing, you know, post the Alice decision from the Federal Circuit, what is your sense -- the -- generally, you know, what I'm hearing is you could still get a broader claim in the U.S. even with the current two step test then you can in Europe, compared to their technical effects standard.

I'm just curious what your thoughts are. Is where we are today, you know, more restrictive, less restrictive, or about the same as in comparison with the European standard? Or perhaps the standard from another office?

MR. LO: So, I put in my two cents. I'll --

MR. CABECA: Direct it two cents.

MR. LO: I'll just give my two cents. I'm sure these guys have their own thoughts as well.

I think it's still evolving. I think we -- it's early days to be able to say it's more restrictive, less restrictive, same, right at this point.

But I think what's clear is that the data points are in play now. And it appears that the Federal Circuit is starting to coalesce around this standard. Because it's showing up.

And we've seen this, you know, going back to, you know, decisions and concurrence dissents by Judge Newman from the very early days of the court around this subject matter, this topic of 101.

So, this isn't a new concept in U.S. jurisprudence as well. It's just now starting to take shape and form. Because of the Alice decision, it now has meaning. And I think we'll have to wait the next couple years to see how it plays out.

I think the important thing though is that the Office recognizes this standard and think about how it wants to provide guidance to examiners so that applicants who are now applying for applications have the right ability to be able to have the -- to be able to prosecute with an examiner. And apply this now evolving

standard rather than waiting too many years and just get blanket rejections without any direction or guidance from the examiners.

MR. NAZER: I haven't followed the international decision super closely. I know in Australia there's been some decision that are kind of like the Federal Circuit, have gone a little -- following Alice and citing it approvingly. And otherwise distinguishing it in a way that -- that gives it less truck.

I do think the technical effects at some in -- at some -- I think there was a decision out of the Central District of California that had a sort of you know it when you see it take on Alice. And I've certainly seen in Australia some decisions like that.

There was a patent application that we wrote about at EFF that was granted on filming a yoga class. And the innovation was the camera was placed at the back of the room, you know, in a studio with a floor, you know, --

MS. SAMUELS: White walls. I think it

had white walls.

MR. NAZER: Like most of the yoga studios. And the examiner couldn't find anything about the camera at exactly four and a half feet high.

And in Australia they ran the same application. And the examiner was like this isn't a technological innovation. This is just filming a yoga class.

So, it's certainly a tool. I know our EFF, it was before my time, EFF filed an Amicus Brief in Ilskey, it was along those lines.

MS. SAMUELS: I would just add one more thing when you're talking about international standards. And earlier today at least one person brought up TRIPS.

But, you know, thematically over the course of the day it's been clear that different industries by in large have different feelings on where 101 jurisprudence is. And where we are opposed to Alice.

And I live in the real world. And I

understand that we have a one size fits all system. But I think conceptually a lot of people could agree that sometimes that doesn't make that much sense.

And I actually do think if you looked and worked closely at TRIPS, there is a real argument for treating software inventions differently. I think you could do that under TRIPS.

I think that, you know, we've been patenting software not for a very long time in this country. There's a history that is significantly shorter than other types of technology. And so I think that there are very real and very serious growing pains in this industry.

And I think that to the extent we have a one size fits all system, we need to address those concerns. And other industries, you know, it's not going to be perfect for everyone.

But I think that's a very real thing. But that's why you guys get paid the big bucks.

MR. KRAUSE: Do you think we could say no software patents whatsoever, consistent with TRIPS? Even if they embodied technological solutions?

MS. SAMUELS: I think that there is a real argument that you could say that consistent with TRIPS. Yes.

I think politically that would be a lot harder. But I think that intellectually and -- I think you could do that, yes.

MR. NAZER: Certainly New Zealand has.

MS. SAMUELS: Yes.

MR. NAZER: And if you look at the law New Zealand passed about two and a half years ago, they're a TRIPS signatory. And there's a pretty major reform on software patents.

MR. HANNON: So the couple of questions from the floor that I'll paraphrase here. But essentially I think they're trying to get some free legal advice from our distinguished panelists.

But, what advice would you all give to

a software startup company post-Alice?

MR. GARDNER: Well, as a software company post-Alice.

MS. SAMUELS: Yes. There's your guy.

MR. GARDNER: I mean, I think it's -- well first off it's being involved in this. It's like the fact that the U.S. PTO had, you know, put together the day, and Virginia put a day here, there is a general concern about, you know, the current system and how Alice has affected it.

So I actually had been recommending, and it turns out, you know, had spoken to a couple of other CEOs who are just as worried as I am. Who, you know, one, the CEO of Cabbage wrote a book. He's actually involved in, you know, several at least locally and I think it's Atlanta, Georgia, around patent law.

I would recommend getting involved. And I would recommend, you know, if you feel like you have something that merits patentability to enter the process.

The hard part is, is you know, this --

how do you write a -- how do you create the subject matter for a patent? I mean, when I sat down with our patent attorney to actually write a patent, you know, she was talking about, you know, subject matter and the things, you know, it felt like I was speaking another language.

So, actually sitting down and taking what we write in code and put it into something that is actually patentable. So, that actual process was great. To be able to do that.

So, as, you know, I talk to, I advise a lot of small companies. I also advise investors.

And some investors are, as Julie mentioned, some investors are on one side where they don't like patents at all. Because it frankly affects the companies that they're investing in. And Alice has actually protected them.

But at the same point, you know, your valuation goes up. I mean, if you do have a patent, whether in process or not, whether it's

been rejected or improved, I mean, it increases your valuation.

Of course if you go through a liquidity event, whether it's -- especially if you're being acquired, larger companies acquire companies for their patents. And there's a promise there.

So, I think definitely as, you know, small technology companies, if they believe they have something that fits the standard, then they should absolutely go and go through the process of getting a patent.

MR. LO: I think for us it's -- and it's really the big impact that we've had to -- the big change that we've had to make internally. Which is how we draft applications.

And again, because it's not about Alice saying that you can't get patents on software or computer implemented inventions, it's about whether or not there's a technological solution to a technical problem.

And the more we can disclose,

technology and technological advance, the more we can show the technical effect. The more we can ensure that the claims reflect that.

Then I think the more -- the higher the likelihood that a company I would advise, or our own company, will be able to get a patent allowed. Whether it's from the U.S. PTO, the EPO or our other jurisdictions as well.

This the thing for us that I think is -- that goes a little bit -- and I mentioned it, but I just want to sort of mention it again. Having standards that are more similar, not exactly sure whether they're the same or one is slightly more liberal than the other, but closer, it simplifies things for us.

Because now we know how to draft applications globally as opposed to let's draft a case for the U.S. and let's draft a case for everywhere else. And so having the standards start to converge makes it more uniform in terms of our ability to make sure we're protecting our software innovation.

MR. KRAUSE: Julie, you mentioned that venture capitalists aren't looking necessarily for patents anymore. And yet you just heard Jason say that patents can be an important component of the valuation of a small company.

Do you have statistics to back that -- and we also heard anecdotally. Go ahead.

MS. SAMUELS: Yes, I've got a couple I think in my notes here. And these are from a paper that Robin Feldman put out. So, like I said, I believe she was here earlier and I missed her.

MR. KRAUSE: Yes.

MS. SAMUELS: I don't know if she talked about this at all. She surveyed 200 VC firms. Seventy percent of venture capitalists have portfolio companies that received demand letters.

The "vast majority" of claims came from companies that essentially NPEs, Non-Practicing Entities. This study found that existing patent claims could be "a major

deterrent to investing in startups, and cost on average over one hundred thousand dollars to combat."

There was another study by Katherine Tucker, I believe. I might be getting her name wrong. But I think that's right. And I can include that in my comments.

That estimated in fact that VC investment in startups would have been eight billion dollars higher but for troll threats. That was the five years' previous. And I think that study is now two or three year's old.

That really has to do with both, I think, of the numbers I have with me right now, I have a little bit more to do with troll activity. But, you can't separate the two.

So what we -- what I have seen personally and what some of the data I know has kind of pointed out is that the deterrent effect of bad actors armed with low quality patents has been a real impediment to the flow of venture, the flow of investment.

And while I don't disagree with Jason's point, and I think that there are always going to be investors who look for, you know, for IP value, that's a real thing. I wouldn't pretend otherwise.

We have seen that the negative consequences of particularly pre-Alice software patents has been incredibly problematic. And I can also say, this is a little bit more anecdotally, I work very closely with a lot of venture capitalists.

And the vast majority of those folks that I tend to work with don't look for a patent portfolio as a determinant. They look for network affect. They look for a business that's in the marketplace, that's doing well.

And if there's a patent, great. But that tends to not be the driver alone. And I think pretending that patents as a driver for investment alone in the software space is I think a potentially dangerous path to go down.

MR. KRAUSE: Okay.

MR. GARDNER: Yes. And I -- just to point out, I mean, we're talking about Alice protection versus Alice impact.

We're impacted by those decisions. There are plenty of startups out there that are protected by those decisions so that they're not seeing, you know, getting the receiving end of a demand letter from a patent troll.

And we have -- one of our strategic investors, one of the reasons they actually invested in us is because of the patent portfolio we have. Even though it's in the process.

Because some of the things we're doing, you know, Julie mentioned network affect. I mean, like we don't necessarily have a network affect.

We provide a very technical platform to companies that want to build credit, debit and prepaid products. So, that is very technical in nature. And that's what they're leveraging.

MS. SAMUELS: But you can't separate those two things, right? You can't separate the

--

MR. GARDNER: Oh, yes. For sure.

MS. SAMUELS: Right. Somehow we have to find a place where it all works together.

MR. GARDNER: Yes. So, when we meet with VC's, I mean we meet with somebody who understands how the financial ecosystem works.

And knows that there's a lot of, you know, technical inventions and code and things that go behind that. Not necessarily a network affect. But for sure.

MR. NAZER: One, sort of an anecdotal story I would tell. The way that Alice helps smaller companies, is we, they would -- NPE activity was very active right around the time Alice was decided in apps for restaurants.

So, just providing menus and pretty basic apps. But, you know, when you have a big customer it's a pretty big job to create these apps.

And we had small companies were coming to us because they would -- suddenly their work

was drying up. Because the clients, the larger clients were demanding indemnification because they were -- the market was getting hit sort of hard by PAEs that no one wanted to do it unless they were getting a giant company to provide these services. So that they could indemnify them.

And there was just -- it was just washing the smaller companies out of that field. And a lot of those particular PAEs have subsequently had their patents invalidated under Alice.

And so I think that was a real -- really encouraging event for that ecosystem.

MR. KRAUSE: Okay. This has been great. I've just got -- we've got one minute left. I've got one question. Fifteen seconds each.

It sounded like every single one of you was not in favor of the legislative fix to this problem. To maybe codify Alice and put some clarity into this aspect of the laws.

Did I understand that correctly? To, Julie.

MS. SAMUELS: With regard to, I think there are a lot of legislative fixings the patent system could use. When it comes to 101, I don't think we need legislation.

MR. KRAUSE: Daniel?

MR. NAZER: Yes. I don't think the legislation. I would want is what's on the table. So, I'm going to say no.

MR. LO: I generally would not favor legislation. Particularly in order to allow the courts to have more time to work through Alice.

MR. GARDNER: I would see it as a last resort if we had to get a legislative fix. But yes, if we could work it out ourselves, then by all means.

MR. KRAUSE: Okay. Thank you very much, all of you.

(Applause)

MR. KRAUSE: So we now have a ten minute break. And then we'll be back at 3:00

p.m. for Panel Number Six.

(Whereupon, the above-entitled matter went off the record at 2:51 p.m. and resumed at 3:01 p.m.)

MR. HANNON: If everyone can be seated, please, we would like to begin the final, second to last panel here. So first, we're going to be starting from Dallas, Texas with Ms. Jennifer Kuhn.

MS. KUHN: Hello, and thank you all for staying this late in the day. And I would like to thank the PTO for inviting me to speak today. I'm Jennifer Kuhn. I'm Vice President and Chief IP Counsel at a small software company called Mattersight Corporation.

I'm also one of the Chairs of the Amicus Committee for the Austin IPLA. The views I'm presenting today are my views and they are not Mattersight's views or the Austin IPLA's views.

But the Austin IPLA is on record with the United States Supreme Court in advancing an

interpretation of Section 101 that was largely adopted in the Supreme Court's Bilski decision, and that is when you're interpreting Section 101, you should interpret it the way you interpret any section of any statute of American law.

Today I would like to talk about how we should apply that same consideration to our evaluation of how well Section 101 is working. Let's advance to the next slide.

So this is a quote from Ray Chen when he was a senior PTO official, before he was confirmed with the federal circuit. But it speaks directly to the concerns that I have about how Section 101 is being applied.

That is if patents are the currency of the innovation economy, are we making that currency available to all industries equitably and not favoring some industries, disfavoring others when there's no basis in the statutory language or that favor or that disfavor.

So if we apply that kind of, we take that kind of equitable approach, that kind of

efficiency approach, how well is 101 working to support American innovation. We may see that, advance to the next slide, please.

You will see that there is a lot of, obviously we spent a lot of money on patent prosecution. Thompson Reuters recently estimated that up to $2 billion is spent annually on US Patent applications that never issue.

You also look at, and this is the second point on the slide is, relates to statistics that have been cited in different ways throughout the day. But eight of the twenty lowest allowance art units relate to software innovations.

This leads you to conclude that perhaps the software industry is spending a lot and not getting much for it when it comes to its investments in the patent economy. Now let's go on to the next slide, quickly.

So when you end up with low allowance rates, you also end up hampering how well we can evaluate what our issue patents are worth. If

you're a small software company, you are not paying anybody outside your company to evaluate your patents and tell you what you're worth. You're doing that on your own.

So one of the metrics that I have used at Mattersight and that I think is a solid way to evaluate patents is to look at how many times my portfolio has been cited in 102 or 103 rejections in applications by other software companies, other applications, other patent examinations.

And if you have a significant amount of software patent applications that are getting tied up at the PTO, if they're never issuing, we simply do not have the visibility that we should have on whether or not our patients are actually significant and having an impact in the marketplace, that is they are preventing other applicants from getting applications.

We never see those applications because they are getting stopped not necessarily on 102 or 103 grounds, but they may be getting stopped solely on 101 grounds that end up proving

intractable.

So onto the next slide, please. Software represents $1 trillion GDP. Now what this leaves me to say is what we need is that software is treated equitably. There is no basis in the statute for favoring other solutions and disfavoring a software solution.

And clear standards, as Sharon Israel pointed out this morning, clear standards are our friend in this area. If we had clearer standards, we very likely would have less of a variance in the low allowance rates versus higher allowance rates units as they relate to software, the software industry.

My final slide, a lot of the discussions that today has focused rightly on the concerns that companies that are behind themselves on the defending patent entrenchments lawsuits have. But in truth, less than one percent of patents are litigated, or companies like mine, they are largely used to secure financing and attract investors.

And patents are frequently licensed. In 2014, KPMG analyzed patent royalty rates across industries and found that the software industry has a relatively high royalty rate for patent licenses relative to other industries.

So they do have value other than litigation and litigation concerns should not be the sole driver for whether or not, for how we evaluate how well Section 101 is working. Thank you, that concludes my comments.

MR. HANNON: Great. Thank you, Ms. Kuhn. Our next panelist will be Colleen Chien.

MS. CHIEN: So I'm going to present today, thank you so much to the Patent Office for being here and for inviting me to participate on today's panel. And I'm going to be presenting some research that Arti Rai and I are doing on diagnostics innovation.

And this question of whether or not putting aside kind of 101 policy and putting it in focus, innovation policy more broadly, whether we are seeing a decline in diagnostics innovation

in the post-Mayo period.

And we think this question is really important for two reasons. One is because of the importance of patents to diagnostics innovation. A number of business models are based on having patents. And so naturally, the impact of this decision on this industry is important to look at.

But also because the importance of diagnostics innovation to several national priorities, in particular the precision medicine initiatives including those that were launched by the president starting in the State of the Union in 2015 and a lot of the energy around the Cancer Moonshot and trying to come up with different types of targeted therapies that help people that don't have other options as well as healthcare reform and thinking about the costs of medicines.

So if you go to the next slide, we simply were looking at this question of have these decisions, focusing mostly on Mayo, but have these decisions been making it more

difficult to patent diagnostics resulted in a decline in innovation beginning around 2012.

And we have a lot of caveats to this analysis, primarily that we can't really measure innovation only by looking at the different metrics that I'm going to show today which are patent filings and transactions.

There are other things that we're looking at as well, and obviously a shifted trade secret is something that is hard to measure. In addition, I think something that's really important is that there are a lot of other things going on in the ecosystem.

And when we talk to companies, what we hear about the most, and frankly in terms of policy are things like reimbursement changes. Also, things like the President's Precision Medicine Initiative, other funding cycles are going to be important.

Next slide, please. With that in mind, we looked and tried to test two types of hypotheses in terms of trying to tease out what's

happening. One is the kind of overall sense that innovation as proxy by patent filings has declined. That was the assertion that we set out to test.

But we also wanted to look at whether or not patent scope had narrowed. And we thought that there were, in both of these cases, going to be winners and losers to both of these types of shifts. Even if the patent scope has narrowed, that might help certain types of innovators, even if certain patents aren't being issued, that make certain business models easier.

So if you're trying to create an array based business where you have a number of biomarkers, well if I don't have to get licenses from every single biomarker company out there now because I don't have patents, then I'm freer to operate. I can offer more tests on one kit and that's more beneficial to the consumer.

But it might hurt those young startup biomarker companies who are going to be the next myriad and can no longer be so. So we wanted to

think about those, both of those factors. Next slide, please.

And what we did in particular is look at the amount of innovation looking at patent apps. We looked at the scope of protection, looking at patent claims and how long they were, and we also looked briefly at the market for innovation, and we focused on transactions.

And these are primarily SEC reported transactions. When a public company enters into a transaction which might affect its stock price and its future work, it has to report it to the securities and exchange commission.

So we looked for those and tried to see what was happening in terms of those publically reported transactions, which are just a slice of the entire transaction market, but they give us something.

Next slide, please. So I'm not going to go too much into the details, but this information will be available in our public comments. What we did is look at innovation

before and after Mayo. It's as I mentioned before looking through the lens of applications and material transactions.

And we tried to create a control as well as look at what we considered to be diagnostic innovation. So we focused on what we called core DX, what others I think are calling kit or content diagnostics innovation. That is the biomarker based innovation that is pervasive in this field.

And then we created a control group that was looking more at enabling technologies. And if you look at the next slide, you can see that the enabling technology group had similar but more upstream analysis of gene and gene expressions.

And so it was a good indicator of activity in this area, but not being at one of these kind of technologies that depended really on that particular type of protection. So we think this is a good control group, but we have some caveats to that analysis.

Next slide, please. Here's all the fine print about some of the weaknesses of this approach. You know, we don't actually know when once a decision comes out, how that's going to be reflected in applications, what's the cycle exactly.

So we looked really at 2011 as the last year where you had the ability to get that type of protection, and 2012 was the first year where you couldn't, at least for most of the year. And so we started to look at that difference.

But there might be more lagging going on. There's all kinds of issues with using CPC based or class based identification which is what we did. We still think that's the best approach that's available but it's, you know, hard to say that these are perfect groups.

And as we heard earlier, there's gaming that goes on to get your application into one or another group. And so that's going to cloud the analysis. Next slide, please.

And so with those caveats in mine, the let's just look at these questions and what we figured out, and I'll just kind of jump to the conclusions given the amount of time that I have left.

So the first question about whether we could measure decline or not. Next slide. We looked at, if you go to the next slide, patent filings through 2014, the end of 2014. We chose that because you have this 18 month lag, and so that was kind of the full last period where we were pretty confident that we saw the patents.

Even that's a little bit problematic though because you have non-publication requests. So certain applications that may never make it out of the Patent Office or may not make it out for a lot longer. So that number is going to be a little bit depressed.

But what you see on your slide here on the left is the core DX applications. And you do see that there was a decline in 2012. We think that hit happened, we need to look more

granularly at the months. But we think it did happen in the latter half of the year.

But then a bit of a recovery where the applications started to rise again. It looks like they've fallen off a little bit at the end of 2014. But again, we don't know how much of that is truncation.

When you look at the pure technology enabling applications in this space, our control group, you do see that they registered a more steady increase before leveling off or declining a little bit in 2014. Next slide, please.

And so what you could say is that in both cases, you know, applications are up, they're growing, but that the pure kind of core diagnostic applications have grown more slowly than the tech enabled applications.

And so while one has increased eight percent since 2011, that's the tech enabled applications, the core diagnostics applications have only grown at a rate of three percent.

So if you go to the next slide, you'll

see sort of our bottom line here which is that there is no real clear decline due to Mayo. And I'll go through the rest of it in the comments.

So going to the next slide, in terms of material transactions, and then the next slide after that you'll see that transactions have gone up dramatically since 2011. So we think that that's evidence of robust activity there.

Going on the next slide, and the next slide in terms of the actual scope of protection, we do find that there has been some narrowing there. And the slide before shows the kind of length of the first claim.

But the first claims for core DX applications are longer. They're about 12 percent longer whereas enabling tech applications are only two percent. Thank you.

MR. HANNON: Great, thank you. Our next panelist is Michelle Fisher.

MS. FISHER: Good afternoon. My name is Michelle Fisher and I'm a CEO and Founder of Blaze Mobile. First I wanted to thank the US PTO

for hosting this round table, for your spirit of collaboration, and soliciting feedback from the public, especially having the Q&A this time to compliment the session that you had in Washington, DC.

I also wanted to compliment you on the refresh rate of the guidelines. I think the speed and quality has been impressive and helpful at least in our case.

I'm here to represent the small inventor, small business perspective today. And I started my company 11 years ago, Pre-Alice and its software and its payments. So we're sort of right in the middle of the storm.

And my experience and what some of the challenges that we found is that examiners aren't reading the guidelines. And in one case, the examiner actually didn't read the past three guidelines before making an examination.

And so, you know, I think it's awesome again as I mentioned that you guys are spending the time and resources to hold these round tables

to solicit feedback, to publish new guidelines which incorporate new court cases.

And then all of us are here also, you know, soliciting, providing feedback and trying to understand it and apply it to our patents. But when examiners aren't investing the time as well, it hurts the process.

So as a result, these 101 rejections have an impact for both the US PTO in terms of spending time issuing rejections that aren't justified spending time or money, as well as in opportunity costs, that time that was spent on issuing a false rejection could have been spent on an application that's in queue for example.

For inventors such as myself, the baseless 101 rejections have a lot of implications, some that are apparent and some that may not be apparent.

First, obviously it's costly in terms of the expense for filing response as well as the US PTO fees, tens of thousands of dollars. It's time consuming. And then for small businesses,

it's an additional burden to actually have to file a response to a rejection that's not warranted.

It represents an opportunity cost on many levels for small business. First there's lost revenue associated with not having a patent that you can assert. There's a direct impact to lack of venture funding because not only do you not have the patent, but you can't assert it.

And for companies that are led by women and people of color who actually receive less than five percent, 0.3 percent respectively of venture funding, it makes the playing field even more unlevel.

For small businesses who represent roughly 50 percent of the working population, about 120 million individuals. Small businesses also have generated over 65 percent of new jobs since 1995.

And so when small businesses are burdened with additional costs associated with getting patents and protecting their products,

it's actually bad for the economy.

Last but not least, it makes it challenging to stay competitive while large corporations with deep pockets continue to benefit from the innovation of small companies as well as innovation of not only my company but other companies who are in some cases eclipsed by the large corporations.

So I have several recommendations to mitigate this problem. First obviously, the examinations for 101 shouldn't be untethered from the guidelines which we all spend so much time and hard work putting together. It's not optional reading.

And then I feel like if an examiner is issuing a 101 rejection that doesn't incorporate guidelines, then it should be vacated. That's as plain and simple as that.

Perhaps publishing a summary of all the guidelines, there's probably been about four, half a dozen since Alice came down, maybe in one document would make it easier for the examiner to

go through it.

Similar to 103 rejections, and 102, the 101 rejection should include reasoning, not just a list of court cases. Instead of awarding points to examiners for making rejections which drives sort of the wrong behavior, perhaps penalizing examiners who aren't actually sort of following their rules.

And then last but not least, perhaps training examiners or exposing them to the real hard costs associated with filing applications, filing RCEs and appeals, both in terms of the legal costs and the costs associated with the Patent Office.

So in summary, you know, I wanted to again thank you again for providing this forum to solicit feedback on what's a very important issue for small businesses such as myself.

MR. HANNON: Great, thank you. Our next panelist will be Patrick Giblin.

MR. GIBLIN: Hi. Thank you very much. I am honored to be here, and I truly am the small

entrepreneur. We are a very small startup that's had the fortune of being able to have a number of patents issued, and I'm here to speak to that audience on both ends of what it means to us and what we think is kind of important moving forward.

So please go to the next slide. I want to tell you who I am. I'm an inventor with five US Patents. They're involved with artificial intelligence, machine learning, and natural language processing.

In sort, we read comments and reviews on all content and create better search, content recommendation, and ad tech. So there's some very big companies that everyone knows that obviously are in our footprint.

I'm a geek, I love databases and computers and I have no formal computer science or computer engineering. That puts me at sort of a detriment at times to some people. I'm a law school dropout, flunk-out. So I get the law. You know, I made it through first year and I said

I'm out of here.

That was something my parents are still wondering about. Again, founder of an artificial intelligence and machine learning that's for comments, and I've already spoken to that.

I'm broke. I'm raising funds every day, you know, and trying to survive every storm that comes my way. I owe $892,000 and counting. If you're an investor, I would like to talk to you.

I build as fast as I can. I mean, that's what you do as an entrepreneur. That's what you do as an inventor. And I sleep on couches because sometimes that's all I can do. My life sucks but I love it.

I don't work for the money, I build a dream. Next slide. I think those are important matters to discuss because it's really what's important about the patent system and where there is some failure I think.

You know, we're here to talk about

eligible subject matters for patents which is the step one. You know, and there's case law and it's like okay, am I back in law school as I was reading this or is this about theory.

And what I really realized and remembered was that the law is really, it's not black and white, it's gray. And inside of that there's always interpretation that we had each way. There's four cases that everyone's referencing here today, and I'm going to default to the fact that much wiser people are making those decisions.

I'm here to help give understanding to what we can do to make the process maybe a little bit better and more aware to all spectrum inside of it because I think there's a number of people that are influencing and controlling this.

I do believe in the steps, you know, is it obvious, is it unique, and is it useful. And I think it's time that we start protecting people who are doing very good things. Next slide, please.

I believe in patents, and the reason is they're important. They protect inventors, and that was what the real purpose was when they first established the patent and trademark office.

You know, it's David versus Goliath in many ways, big businesses versus inventors. The first major issue with patents was during the industrial revolution, and I kind of call it civil war, you know, it was the second civil war where there's a lot of battleground going on in the American economy.

And now we're in the technology revolution which is the third civil war of this great nation of ours that's built around inventions and freedoms and ability to do things.

It's redefining subject matters, right? There's new worlds. Protect them, honor them, help build for inventors and not for big business. That's what's important.

Trolling sucks. I mean, see lawyers. That's who's doing this. This isn't inventors.

It's a bad platform. No inventor starts as a troll, I guarantee you that. We all are building a dream. We're all struggling to get something going.

So try and help protect them and think of them, you know? We're beat down with bad things and partners and this has got to stop. Extend the rights maybe, increase fees for wrongdoing. Make it hurt when people violate patents or when trolls do wrong with patents.

They know what they're doing is wrong. And cap money after years rather than the life of the patent itself. Why does an inventor not be able to carry that along in his lifetime when so much has been put into it? What's wrong with that?

Again, let people have reasons to invent. Next slide, please. You know, I do believe this becomes lawyers versus inventors. You know, a lawyer's job is about cost and hours billable. It's a greed formula.

You know, do we fight it or do we buy

it. Can we cut around this without paying for it? Can we beat them with our war chest. How does the logic work here. Cost management, is that really what invention is supposed to be about? But that's what it is.

Inventors are usually doing it for the good. I have an idea. I want to build this. Please help, I need money, I need team, I need framework, I need a chance. And that's kind of been lost in this whole process in my opinion. Next.

Strength and speech should not always win, big business focuses on that. They've got big war chests, lots of lawyers, lots of engineers and they just kind of work around things. And that's tough. It's really tough to be a startup in that ecosystem.

And it does it too often. You know, inventors are trapped and held under water, and this pain is real. The things that we hear from venture capitalists which has been spoken of already today as well as big business that just

doesn't really honor the people who have invented things ahead of them.

That's a real problem that needs to be addressed inside of this system of how things are relevant and how they're approved. Once you get, you know, the process is slow as I've spoken to, but once you get your patent issued there's, like, this celebration.

And then all of a sudden you realize oh my God, I've got to defend this. I need more money. I mean, that's a terrible way for it to kind of go. And that's part of the system I think that has to be addressed as well inside of what we're trying to accomplish here today regarding what subject matter is relevant. Next slide, please.

So this goes back to new questions to consider. Does subject create a market opportunity or condition? You know, what is the intent of the owner within the subject that they're trying to create. What is the intent of a litigator inside of, like, why this is or isn't

working from a case law standpoint moving forward.

It's about who wrongs who, you know, why are we here. Is it good or is it greed? And if there is a subject matter that should be considered, we really have to start opening up the ideas and the parameters around that because the world has changed significantly. Next slide, please.

It's the speed of technology. That's a lot of what's been spoken about today. Look at how much has been invented via the web since the mid-1990s. There's a ton of content and software and other things that are very important and they should be recognized and they should really be addressed.

We must be protecting those that are inventing. These are new, eligible subject matters for patents. Discover them, label them, protect them. You know, speed causes more pain and we have to address that. How does the big business allow themselves to stand in front of

all this. Next slide, please.

You know, software as a service is the new hardware. The software is a modern goldmine. There's Bitcoin, there's big data, there's machine learning, artificial intelligence, human engagement, all of this is important for us to define as subject matter and to recognize that there's people building very, very useful applications inside of there that need to kind of make sure that their position is protected in my opinion.

It's a new economy. Protect the property or we're going to have, you know, there's going to be a lot of civil suits and financial unrest that will begin to take over. Next slide.

Help the good, crush the evil. Thank you.

MR. HANNON: All right, so our final panelist today is Kim Rubin.

MR. RUBIN: Welcome to Silicon Valley, the new automotive innovation capital of the

world. Today in the Valley there are eight companies developing a coal powered car. Come on, guys, that was funny.

(Laughter)

MR. RUBIN: Though there's no such thing as a software patent, who am I? I have a degree, I have experience, I've done startups, I have a heap of inventions, I'm a patent agent, I have a pretty good selling book on Amazon for a book on patent law. And I have a bookshelf for patents, and I have two file cabinets. There they are.

I have to keep track here. So there's no such thing as a software patent which I'm going to try to prove to you in the next seven and a half minutes, judges issue opinions, computer scientists generate proofs.

There's no such thing as a rubber patent. We're waiting for slides. We're using PDFs. There we go. So I'm going to speak to you today in plain English. No French, no Latin, no legalese. And I'm going to leave citations as an

exercise for fourth year law students.

So we're going to start at the Constitution. We missed a slide, but that's fine, Nadine. Stay there. So there's no such thing as a software patent. There's no such thing as a rubber patent, there's no such thing as a steel patent, there's no such thing as an electricity patent. There are only patents.

And everything that I'm going to talk about today is firmly rooted in the law, starting with the Constitution, Article 1, Section 8, Sentence 8, "To promote the progress of science and useful arts by securing a for limited time for inventors the exclusive right to their discoveries."

Right. So I reread the Constitution several times. I cannot find the exemption for software. If you prefer your law a little more current than the Constitution, we have 1952 where Congress said statutory subject matter includes anything made by man under the sun, which I consider narrowing of the Constitution, but

that's what Learned Hand said.

So jumping forward to 2011, the AIA. Okay, here is the only text in the AIA regarding patentable subject matter. Apparently none of you find those things useful. All right.

So is software not a thing? Is data not tangible? Okay, so everybody in this room that does not own a cell phone and has never used a computer, raise your hand. Okay, great audience participation.

All right, so back to the Constitution. The key word here is useful. You'll notice there are no other limitations. It doesn't even have to be a thing. It only needs to be useful.

So I used to tell my engineers don't call it a computer. Okay, the meaning of the word computer is so broad that the word itself is meaningless. Okay, computer is directed to everything from an abacus, a loom, logic, and your microwave, control of a 787 Dream Liner to the search for life on an extraterrestrial

planet.

So a computer is just a grammatical placeholder. It's like the word device, it has no actual significance. But if you don't have a computer and you don't have a computer program, what you do have are method steps.

So we're going to look briefly at the contours of method versus algorithm versus process. Okay, now we know that processes are patentable, it says so right here in the MPAT.

So let's look at the experts, how the experts say about processes. So you know, here are process, true love, a whole life, and my favorite, fighting monsters said by an old law professor. So clearly, a process is patentable.

On the other hand, algorithms, computer programs, software. So for example, algorithms for data encryption, DES, Diffie Hellman, public key cryptography, RSA, okay, I can't imagine anything less a thing than multiplying the first prime number you see there by the second prime number. But that's exactly

what Diffie Hellman does.

But without these mathematical algorithms, we would not have the most important technology developed in the past 40 years. There would be no web, no ecommerce, and no electronic privacy.

So clearly, mathematics, numbers, and software fail the useful test under the Constitution, right? Well, we can always us the prior art for ecommerce, we can trade seashells. Ah, but you say we have to have significantly more. That word's come up a lot today.

So the question, exactly how large does a prime number have to be in order to be significant? Now most of you multiply two times three by the third grade. So all Diffie Hellman does is use larger numbers. So exactly how big does a prime have to be before it's significant?

So to summarize, processes are patentable, okay, and algorithms are not. Okay, so a little less sarcasm, but determining the differences between methods, algorithms,

processes, and software is like parsing clouds, fluffy.

But I didn't come here today to whine, I can do that at home. I have a solution. Okay, and the solution is in the form of a flow chart. MPEP loves flow charts. Okay, so here's mine. First, is it abstract. And as every examiner knows, and you're going to find out in your first office action, yes.

In fact, the recent district court just gave up and said assume abstract, which if you're a prosecutor you're there. Next step, is it novel. If not, reject it.

Next step, is it non-obvious? If not, reject it. Okay, you're done. It's a patent. Oh, but what happened to 112? Okay, you're right. Let's look at the disclosure. Is it full, clear, precise, and exact? If not, reject it.

So there you have it, examining a software patent application in three steps, is it clear, novel, and non-obvious. If yes, it's a

patent, and this is how you examine all software patent applications.

In fact, this is how you examine all patent applications. Oh, but Kim, you say what happened to 101. Okay, so back we go to 101. Is it patentable? Well then it adds significantly more to the art. If it's not patentable, it does not add significantly more to the art.

Okay, it's simple, 101 is just form paragraphs as it ought to be. Okay. So by the way, this flow chart, this simple three step algorithm is totally compatible with supreme court opinions and Director Lee's outstanding and completely ignored guidelines.

So there's the court case, new and better, 102 and 103 are used by the court to determine 101. Okay, there's no such thing in seven and a half minutes.

All right, one last point that's key. Software methods have code. I prefer to put it in Claim 1. If you can execute Claim 1, probably you mute 112. If you don't have code, you have

an idea, not an invention.

Okay, too much detail. So I'm out of time, but I'm going to leave on a note of humor. Okay, how many Supreme Court Justices can dance on the head of a pin? All right, and the answer is you all know is an even number.

All right, I have one more joke, but we're going to have to leave that for Q&A.

MR. HANNON: Great, thank you. So I'll start out with a question, I guess, for the independent inventors on the panel. And I would just ask how have your filing practices changed after, in the wake of Alice? How has that shifted things for your businesses?

MR. GIBLIN: I mean, I can begin. You know, it's more difficult for us today. I work with one of the biggest and best firms I think in the world, the DLA Piper, and there's a hesitance from their side because the investing it takes on both ends from the legal side, the lawyer's time as well as mine.

Also just kind of building what's

called the picket fencing around your IP has become a little bit less of a recognized ease. I mean, there's a lot of ambiguity in what that means to me with that until our technology is challenged against it. Right? So we've kind of slowed down, for lack of a better word or term.

MR. RUBIN: So I developed a 15 page response to the first office action using extensively the guidelines and the case law that I file almost the same argument on every single first office action.

I've gotten 101 rejections on mechanical devices inside of vending machines. And so half the time, the examiners just give up and move on to substantive examination. The other half of the time they just say, you know, Applicants arguments are not compelling with no argument, and they go eat lunch.

But I do now try to draft claims basically isomorphic to the patentable subject matter. You know, I try to take those claims and substitute words for my client's invention and

then hopefully that's going to be compelling.

Not always. You can probably count the number of examiners that actually know the guidelines on one hand.

MS. FISHER: Yes, I would just echo the other panelists. You know, pre-Alice, we would at least, I know in the law firms that I work with here in Silicon Valley the advice was to limit disclosure in your patent applications 11 years ago because otherwise, you know, if you're putting the secret sauce in your patent application, you're pretty much creating a blueprint for your competitors to follow to create products.

MR. RUBIN: Which I'll say is the whole point of a patent is to disclose best way and enablement. So I'm a big believer in having code. I prefer python. I actually write Claim 1 so it's executable. You know, maybe Amazon and Google could loan some computers to the Patent Office and the examiner can execute Claim 1 I think it may meet 112.

MS. FISHER: So as I was saying --

MR. RUBIN: Oh, sorry.

MS. FISHER: As I was saying, 11 years ago the advice was to limit disclosure so that your patent application doesn't become a blueprint for product development for your competitors in the best case. In the worst case, a way to reengineer around your idea.

And so obviously nowadays the idea is to put more into your patent application. And so you risk, you know, spilling more of the secret sauce. That's kind of the short answer.

MS. KUHN: This is Sharon Kuhn in Dallas. I just wanted to speak --

MR. BAHR: I heard a lot of comments about examiners not applying the guidance. So would you say the problem more is that there should be a legislative or some sort of change to the law, or that we really need to do just a better job of getting examiners to follow the guidance?

MS. FISHER: I think the latter. I

mean, obviously the more elegant approach, cost effective and time efficient approach is just to get those examiners to follow the great guidelines.

I mean, I've been prosecuting my own patents for the past five years. And so to see the speed at which you've been issuing guidelines and incorporating the court cases actually has been wonderful from my perspective.

If we just had the examiners follow that, that's sufficient.

MR. RUBIN: Yes, I don't think that we need a legislative solution to that. I would sure like to see one on patent trolls and the litigation and a bunch of other things that are kind of broken on the litigation side. You know, we're not going to get any legislation anyway.

But I think the Patent Office can really solve this problem I think between training and motivating examiners properly. Examiners don't even know now, you know, how many of their rejected applications are appealed.

It's not even available information.

I've had supervisors tell me that they're prohibited from supervising senior examiners. I've had examiners whine bitterly to me that they're not even in the right art unit. So I think doing some restructuring of how examiners are trained and motivated would go a long way.

I think the guidelines are great. I think the examiners are just not examining. And you know, the Patent Office is a profit center for the US Government, and you've got customers standing in line three years holding money over their head.

Some of them are holding $4,500 spiffs and yet, you know, you're not serving those customers. And you could.

MR. HANNON: Thank you.

MR. GIBLIN: I mean, just to add to that --

MR. HANNON: I'm sorry.

MR. GIBLIN: No, it's okay. I was

very fortunate to be able to be represented by someone who has filed, you know, thousands upon thousands of patents.

And my interview with the examiner was much more streamlined because she knew the questions to ask, which was also, you know, so the guidelines were kind of there and she was able to navigate that.

And what I guess I'm saying to you within the guideline issues, and what I think I'm hearing from Michelle as well is I think more transparency, right, and more just awareness of really what's going on will add to a lot more deal flow for lack of a better word because I don't think the Patent and Trademark Office wants to get into deal flow counting.

But you know, that would matter. I think that would be very important and helpful. I don't think that has to come with legislation from outside but maybe just with the transition inside the patent end to end result.

MR. HANNON: Thank you.

MR. KRAUSE: Professor Chien, I don't know if you saw but the panel before lunch was a bunch of life sciences people saying it's the end of the world because of diagnostic methods not being as patentable as they were after Mayo. What do you think they would think, and some of them are still here, of your presentation?

MS. CHIEN: Well, I think that it's important and I think that those folks would agree that any policy decision should be evidence based. It should be based on a state of what's actually happening.

Now what I can see from looking at the whole scope of patents and transactions is different from one individual company can see from their own docket and the patent rejections they're getting back.

But I did hear some consistencies in what was discussed, and I actually talked to a few folks as well during the break.

What I think is consistent is that there is still innovation happening in these

areas right now. And overall I think there is also a difference in this sector particularly because it's so heavily dominated by non-profit patenters and patent applicant, people are applying for patent applications.

So in some of the slides I didn't get to, I show that over 50 percent of patents are applied for by entities that make less than $10 million. And a lot of that is public entities like University of California or others.

And so those folks are not as particularly I think dependent on patents. So overall they might be increasing the numbers of patent applications, you still might be seeing a lot of pain in certain sectors and I think that's worth teasing out a bit further as we go and look at the data.

But another thing that we've seen is not only are the patent applications still rising to some degree, maybe not as much as they would have in a different world, but that the protection is narrower and that is consistent as

well with what I heard earlier on the panel, especially the questioner from the PTO.

So those things I think actually are consistent. The question again is though looking beyond what we have in this data and try to look at what's the saying about the next generation of companies, something we've also heard during our interviews is that IP centric business models are not going to be viable anymore but that doesn't mean that innovation isn't still happening. It's just happening in different ways.

And then what we do with that is a question I think for all of us to consider.

MR. RUBIN: Can I comment on that? The question about life sciences, you know, I want to point out the Constitution actually uses the word discovery, that inventors can have discoveries which I think is directly related to life science patentability.

But you know, on that topic, I would really strongly encourage looking at what other countries do, you know, Korea, China, EPO in

particular. I think that they've got a very strong grasp on the idea that if you have a discovery, the discovery itself is not patentable, but if you apply it then it is.

And I think that really captures the essence, and so I would really encourage looking at consistency with the way the international community deals with life sciences.

MS. CHIEN: If I can just weigh in on that because I think it's a really important point that was brought up earlier as well several times with the idea that we should really make sure that, especially on a diagnostic side, we need to look at other countries and try to calibrate eventually to those standards.

And there is a difference now. We also measured and seeing that some EPO patents were broader than the ones that the US counterparts got.

But I think that the question for us as a country is about innovation and the price that we're paying for it and whether that's

happening. So if a company is innovating because it can get patents in Germany or in Europe but it may not be able to get as much protection in the US, that innovation is still happening.

And so if our consumers can benefit from the additional competition that a lack of patent production provides and pay lower prices here, but this, the innovator can still get their investments recouped by getting monopoly profits elsewhere, I don't necessarily think that's a bad deal for our consumers.

And we know that the price of healthcare is something that there's been a lot of attention on. So I think that generally speaking, we need to be thinking not only from the perspective of an individual's company and preserving a particular business model but more generally about this innovation and making sure we have the correct incentives.

MS. PERLMUTTER: Just to follow up on that point, so Professor Chien, do you think, one question I had as I was listening to some of the

discussion about different standards and different countries, on a prior panel someone made the point that if there's protection in other countries but not in the US, that one of the consequences might be that you could no longer rely on trade secrets or patent protection in the US because the disclosure in other countries would eliminate the possibility of having trade secrets protection here.

So one question I had is do you think there is any danger that the result of differing standards internationally might be that US businesses would rely more on trade secrets protection leading to less disclosure.

MS. CHIEN: Yes, that's a really good question. I think that's fairly complicated, and it would depend on the situation. I would say, for example, I was just in Utah where myriad has been in the profile think of all of us, we've understood that they had protection and then lost it.

But because they were first to market,

they had a lot of data and they were able to use that kind of trade secret protection to be a market leader and continue to have that. People would still buy their product even though it was more expensive because if you're going to make a decision about having a mastectomy, you're going to want the data provider or the diagnostics company that actually has all the information about all the different mutations and all the variations that are out there.

But I think over time their advantage will erode. So this is probably a long winded way of saying it's a really good question. I don't have the answer. I think it's going to depend on a particular business.

MR. RUBIN: Yes, lack of conformity on life sciences with other parts of the world is definitely a problem in the US. I mean, I have friends that work in that industry. And you know, it's a serious issue to have companies that aren't protected in the US. So yes, it really matters a lot.

MS. CHIEN: I will say one thing that surprised us in terms of thinking about this question of other countries and domestically. I think one of the biggest, again I think I said this earlier, the biggest issue for these companies in terms of getting compensated really is reimbursement rates right now that are very compressed.

So even if you can get a great patent, you can get a great product, if you can't get somebody to pay for it, that's a big problem right now for the industry and I think that's where there's been a lot more focus, frankly.

MR. HANNON: I understand we have some comments from Dallas. Ms. Kuhn, if you're able to make your way to the microphone there and share your views with us.

MS. KUHN: Well, I think the issue I wanted to speak to is one of the questions was to the independent investors, how has your practice changed since Alice.

I am actually an inventor at my

company as well as being their chief IP counsel one of the ways that we have had a lot of success is we file as a small entity, and we have used Track 1. And by both, by using Track 1 for our patents, we have been able to significantly increase the speed at which we're getting patents to issue.

I think we started in, when I first started working for Mattersight as outside counsel in 2011, they had one patent issued and one about to issue the day I had my first meeting. And then since then we've had 29 more patents issued, and we're, you know, looking to keep that pace going.

I think that Track 1 has a tremendous advantage for software companies because I think actually Track 1 has a tremendous advantage for everybody because if you have a shorter period of time that passes in between each office action, you don't have to go through this reeducation process with the examiner.

The examiner only has so much time

really to look at each office action and take his or her next step. And if he worked on your application just a couple of months ago, he or she will remember everything that happened. And that just has been tremendously valuable to us.

So we've had a lot of success in that, and I would say if you're struggling here and if you're in an industry where the lifespan of your current product or the product you're trying to cover is shorter. I think a lot of the biotech industry, you're looking maybe a longer lifespan so you're maybe not needing to file under Track 1.

But like I said, we've had tremendous success under Track 1, and it has really highlighted the differences that are in certain art units versus other art units where with certain applications and certain art units, we are having our fourth or fifth set of claims issued for patent.

We will have another patent that we consider to be just as technical and just as

innovative that will be on its third or fourth request for continuing examination.

So we've had both success for Track 1 and I recommend Track 1, but I also say that it has really highlighted kind of the unevenness of the application of the standards.

And quickly I would like to speak to whether or not there should be a legislative solution. I don't think we're currently at the time for having a legislative solution.

Keep in mind that after KSR, the KSR decision issued, there were several years of what you really can only call churn where district courts and the federal circuit were working out how that standard was actually going to be applied.

We're still in that churn period I think for Alice. And I think the churn period is actually going to be longer than the KSR period, mostly because there is less applicable case law for us to kind of draw on for examples.

But I mean, with obviousness, there

were decades of case law analyzing components of the business analysis, we just don't have that kind of prior case law to look back on for Section 101. Those cases are very few, were very few and far between prior to Alice.

So I think we're still in the churn period. We're still not at the point where we know whether or not legislative solutions can be appropriate. Thanks.

MR. RUBIN: I would like to add speed is great. But the Track 1 people are all butting in line in front of my clients that can't afford that. And so it doesn't ultimately benefit everyone. It just benefits the people who, you know, have more money.

MR. HANNON: Do the other panelists agree with the concept that we might be in this sort of post-Alice churn where things are still somewhat volatile and they will eventually settle down?

MS. FISHER: Yes. I mean, I think from my perspective we're in the next chapter in

terms of trying to enforce the patents that we have. And so unfortunately, Alice is retroactive, right? So even if you filed your patent ten, five, ten years ago, and you were sort of adhering to the advice of your attorney to limit disclosure.

You know, you're still obligated to point out improvements to a technical problem. And so to the extent that you have that in your patent application that was written five, ten years ago, that's great. But if you don't, then you're penalized for that, right.

In hindsight it's 20/20 vision. One way to address that problem, I was listening to some of the panelists earlier today and what's interesting to hear both small and large companies talk about the fact that, you know, they don't like to be held accountable for paying for patents from companies that really weren't involved with inventing the idea.

And so there was a comment there should be evidence, you know, provided by these

companies that they were actually involved in the invention. So as I was sitting here waiting to come up I thought well what's one good way to address that problem.

And the only parallel that I can think of is with regards to 102 or 103, if you have to provide proof pre AIA, first event, there are procedures in the MPEP that call for reduction of practice which includes a business plan and product and testing.

Well, why not apply the same procedures to 101? And so it's pre-AIA, first to invent. And so if you didn't have that information in your patent application, perhaps it was available in your product engineering functional specifications, not a patent spec but a functional specification, or your engineering inventor's notebook or source code.

So sort of leverage all the things that you probably already have internally as your company, or as your building your product that you didn't put into your patent application

because you wanted to protect your idea, and use that as a vehicle for mitigating abstractness because right now abstractness is basically a euphemism for broad claims, and that's not fair for people who ten years ago saw a void in the marketplace and created a product and wanted the product to have the broadest appeal to their consumer base and decided to patent that. So they shouldn't be penalized as a result of it.

MR. GIBLIN: I mean, from our position, we're just waiting for the storm, I mean, with what Alice is going to mean to what we were because our patents were written pre-Alice.

We feel that based upon what we've looked at and based upon advice from counsel at DLA that we're still in a very strong position because of just being forward thinking about it in regards to how software really would be seen or looked at and what we really do.

But ask you ask about, I think the question was are we in hesitation mode or we on pause. I'm definitely on pause. You know, the

cost of time, effort, money, and mystery is really a preventative. So I'm going to continue to build what I have to see what's next.

MR. RUBIN: So, you know, Alice in Wonderland is just complete fantasy as, you know, the very first panelist we had here today and a lot of other people have pointed out, you know, has no basis in the Constitutional law.

But I mean, it has some good things going for it which is that it's a fabulously blunt tool to get rid of 10,000 really bad patents that never should have been issued. You know, so that's a good thing.

But all those awful patents would fail 102 and 103 and 112 if anybody bothered to look at that. I mean, the intel's example of the cup behind the piece of paper, I mean, all the examiner had to do is clip a renaissance painting to the back of the office action and you would see things that are hidden, aren't presented.

And you know, Amazon's complaint about having a flying object deliver packages, I mean,

seagulls are prior art on that. If it's really an ancient human activity, I mean, an examiner can't find an example? It's just nuts.

If it's all those easy things, then why not just have the examiner come up with something and attach it and generate a 102 exemption. And so, you know, those huge bad patents that are out there, 10,000 or more, I would like to see those get rejected under traditional rules and then sort of let Alice peter out under its own foolishness, this kind of giant dragon that it is.

MR. HANNON: All right, I think on that note, unless there's another question, no? We'll go ahead and end this panel before we bring up the next and last panel. So thank you.

(Whereupon, the above-entitled matter went off the record and resumed following a brief recess.)

MS. PERLMUTTER: Welcome to our last panel of the day. We're going to start as our first panelist, Bob Armitage speaking to us from

US PTO Headquarters in Alexandria.

MR. ARMITAGE: Good afternoon, or good evening. Am I set to go?

MS. PERLMUTTER: Yes, we can hear you.

MR. ARMITAGE: Well, thank you for the opportunity to open a discussion on the last session today. I must say, in spite of the skepticism on the need for legislation, I'm actually going to focus on a possible role for Congress to provide some remedial help, particularly I think focused on the bio farming industry.

As my opening slide suggests, I intend to use the next seven minutes to address the question can we find a rational, principled, expansive, and politically palatable approach to statutorily defining patent eligibility.

To avoid any suspense, my answer to this question is going to be yes we can. Many in the patent profession have analyzed recent Supreme Court Jurisprudence have come to the conclusion that there is no Constitutionally or

policy justification for judicially imposing the two part test set out in the Mayo and Alice decisions of the Supreme Court.

Instead, a strong case can be made that the explicit statutory requirements for patentability suffice to address all the articulated concerns of the court over patent rights that might cover or otherwise relate to a natural law or phenomenon or other abstract concepts.

These two observations taken together suggest that any Congressional action to address the recent Supreme Court Jurisprudence should have as its principle objective the outright abrogation of the so called implicit exception and its two part implementing test.

If this premise is accepted, then the only remaining question is what if anything more should a new patent eligibility statute require.

In this regard, I think it's important that any abrogation of the implicit exception should not be an invitation by Congress to

develop an alternative extra statutory requirement limiting patent eligibility.

Congress should exercise its authority to define by statute all the conditions and requirements for patentability including any and all patent eligibility requirements.

Over the past two years, I've seen a number of proposed approaches for such remedial limitation, or legislation. Some of these approaches, after careful vetting, unfortunately appear to have produced dead ends.

Among what I believe to be the dead end approaches are the so called reappraising efforts. Proposals of this ilk attempt to restate existing patentability requirements in new words. In a new Section 101 provision on patent eligibility designed to moot the Supreme Court's implicit exception jurisprudence.

These include proposals that would add a human intervention or a practically useful embodiment or application requirement to Section 101.

To the extent proponents of these proposals assert that they instead add substantively new patentability requirements rather than merely being duplicative of existing statutory requirements, it remains unclear what objective, predictable, or administrable standard they would impose to hold statutorily patentable subject matter, patent-ineligible under Section 101.

On November 9th, 10th, and 11th of this year, I had the opportunity to participate in a Banbury Center conference at Cold Spring Harbor. In a statement filed yesterday with the Patent Office as a response to the federal register notice of today's round table, a group of participants from that conference described one option for a new patent eligibility requirement that might accompany the abrogation of the implicit exception.

A number of Banbury Conference participants, "recommended that Congress enact a substitute requirement limiting patent

eligibility to technological inventions, i.e. inventions contributing to the technological arts. Such a measure would codify the standards set out in the concurring opinion in Kappos V. Bilski and foster greater harmony between US patent law and the patent law in Europe."

These Banbury Conference participants are not alone in making such a recommendation. Numerous scholars have suggested that the constitutional reference to the useful arts translated into more contemporary language is a synonym for the technological arts.

Indeed, there's a possibility that the European standard for industrial applicability could be adapted into a Constitutionally constant eligibility standard based on defining inventions that contribute to the useful arts.

How specifically might a new Section 101 be crafted to accomplish all of these objectives? Definitely you would need to assemble together several moving parts to achieve a fully codified eligibility law.

First, a new Section 101 could expressly overrule the Supreme Court's two part test in the implicit exception through an unambiguous statutory provision.

Second, it could then continue by recodifying in the new provision the existing Section 101 requirement on statutory categories. Third, it could add back a clear right to patent provision that went missing from the patent statute in enacting the AIA.

In addition, it could add a new requirement expressly recognizing an implied Constitutional limitation on patenting by recognizing that patent-eligible inventions must contribute to the useful arts.

Fourth, a specific provision could be added offering a per se bar on the patenting of a natural law or phenomenon or other abstract concept as such since concepts by themselves don't contribute to the useful arts.

Fifth is last provision could be accompanied by a further refinement that adds a

new safe harbor to prevent a relationship between a claimed invention and an associated or underlying concept from negating patent eligibility.

As a last piece of this new Section 101, it could operate to effectively define the useful arts as the technological arts consistent with Justice Stevens' Bilski concurring opinion. Over the years, the patent laws have been saddled with several provisions that seek to diminish or eliminate patents on non-technological subject matter.

The proposed amendment to Section 101 would moot the need for such limitations and could justify the repeal. In a complete legislative package, the Section 101 amendment could be paired with a research use exemption, implementing the 2006 recommendation of the National Academies.

I would note that in the statement I referenced earlier by the Banbury Conference participants, it contains the specific

recommendation to this effect.

In summary, the preemptive priority for any legislative effort should be the abrogation of the implicit exception and the two part test used to implement it. Doing so may not be politically possible without some additional threshold tests limiting patent eligibility.

While the reprising approaches fall short on both legal and political grounds, the useful arts approach, although by no means perfect, appears highly promising. Indeed, it could be leveraged to justify removing the recent patent limiting provisions placed into the patent laws.

For the good of the patent system, let's work together, let's find a rational, principle, expansive, and politically palatable approach for taking this effort before the new Congress.

I offer these comments, and I hope that they might assist in identifying such a path forward. Thank you.

MS. PERLMUTTER: Thank you very much. We'll now turn to our second panelist, David Jones.

MR. JONES: That was very good. I'm not going to provide nearly as much content as Bob which is almost always the case. So I'm going to try to keep things fairly short because most of what I had in my notes to talk about people have already addressed in the day and I think we're all probably tired.

And so the overall question here is what is the impact of the changes and eligibility line.

And Microsoft was very concerned when, you know, when we first saw Mayo and tried to imagine how Mayo would be applied to software brought up the nightmares of the Benson Flook days where it didn't matter how technological your algorithm was, how it was implemented on the computer, the practical impact of that, the benefits technologically of that algorithm.

It was just not, you know, under

Benson and Flook it was just not patent-eligible. And that was a real problem and concern for us. Unlike some, we were actually encouraged by Alice. Alice seemed to introduce new concepts.

This received a lot of discussion today regarding the advancement of technology and set up at least the potential for a dichotomy between practical inventions that advance technology and abstract ideas. Right? If you advance technology you're not an abstract idea and vice versa.

That seems to have been taking hold in recent cases like McRO, Enfish, BASCOM, and we're actually quite encouraged by that. So at least at the federal circuit level we actually believe the case law is trending in the right direction.

I mean, the initial estimation when we looked at Alice was if this were applied very literally in the software area, we could lose 80 percent of our portfolio.

And now, you know, I would place that number much, much lower and a lot of the negative

effects, at least in the software area, seem to be focusing on inventions that I would not really consider software that are closer to business methods where they don't seem to have a lot of technology or research behind them.

So that's point number one. I think the case law is trending in the right direction. We've also become much more comfortable with the examination process. I mean, I've spoken I think individually to several of you but also at PTO events before and expressed some frustration with the 101 rejections that we get.

We still get a significant number, but fewer actually than we were post Bilski. So actually the rejection numbers are not as bad as people, or at least as I might have expected, and we're starting to see higher quality rejections.

We had early on some fairly hilarious rejections. One involved a server algorithm for, kind of an automated algorithm for optimizing virtual network topology on server farms. And we got a certain methods of organizing human

activity rejection, unexplained. Right?

So some of these rejections early on, you know, it was clear the examiners were not focusing on the guidelines and they didn't explain. It made communication and responding to these rejections very difficult.

That seems to have gotten quite a bit better than it was. In terms of kind of where we go on policy and the overall legislative question, I will say software patents are very important to Microsoft.

I mean, we spend over $11 billion a year on research and development which I think rivals most pharma companies. I mean, our products are terribly expensive to develop. We file a lot of patents. We care a lot about it, and we do feel like the eligibility question has harmed US innovation in some ways.

Certainly, the uncertainty about what is patentable has been challenging. We are getting rejections on in some cases from the US PTO where the patent's allowed both in Europe and

in China which is slightly hilarious given that software per se is excluded in Europe.

So I think that we have had some challenges, we have had some uncertainty. But things are very much headed in the right direction. If that does not continue, we would certainly be open to legislative options.

At this point we believe that moving towards an advance in technology notion, something similar to the useful arts option that Bob mentioned actually is already happening in the courts and is very, very useful and avoids the very trouble kind of claim dissection that happened under Benson and Flook and has happened to a certain extent under Mayo and Alice where the courts ignore what they considered to be routine conventional steps and dissect the claim down to an abstract idea and a bunch of stuff that they just don't consider to be all that relevant.

But almost any patent can be invalidated under that rationale and, you know,

it's really a line drawing problem and a question of how abstract things are. And we would much rather the courts and the PTO focus on technological advancement.

We think that's consistent with the policy, of the patent system, and we think it's likely to lead to more predictable outcomes for companies and will drive innovation. So that's all I have and I would be happy to answer any questions.

MS. PERLMUTTER: Thank you very much. The next panelist is Professor Peter Menell.

MR. MENELL: Nadine, if you can just pull up my slides, thank you. Good afternoon, everyone. This is a great, I think this is a historic opportunity for all of us to share the wide range of ideas. I was especially pleased to learn from the people in the different pockets.

As a scholar, I tend to look at things from a I would say higher altitude. I'm trying to look at a big picture historically and also across the industries. And I have to say that

I'm inclined to believe that we are at a juncture in US history where it will be necessary, or at least I certainly hope Congress will take up this issue.

My three points, and I'll spend most of the time on the first, is that the Mayo/Alice cases are deeply flawed in terms of both statutory legislative history and in terms of jurisprudence.

We tend to romanticize the Supreme Court, but we have to recognize, they're a very busy body. They don't have technological expertise as one of their comparative advantages. Their law clerks don't come from the technological fields.

And as I'll try to explain, I think that we have some major failings in that part of our patent system right now. I'll briefly talk about the impact of 101 on innovation, and then I want to close by calling for legislation along the lines that Bob Armitage did, and for a bigger role for PTO in that process.

So let's look at the Mayo case. Why did we get here? I mean, it struck me and many scholars who had been following the Supreme Court that this was a situation following Bilski in which we wouldn't get much of a big bang.

Many of us didn't file briefs. We did file in Bilski. Bilski seemed to say Supreme Court's going to take a cautious approach. But what did we get in Mayo? We got I think the most radical departure from traditional principles of any case in history.

And why? Well, as we've heard today, it was driven largely by concerns about patent trolls. There was concerns about nuisance suits and I think the Supreme Court thought maybe the 101 lever could be used.

So one of the things that I've done more recently is to pull all of the briefs in the Mayo case. There were several dozen filed, and there was exactly one brief that talked about what the Supreme Court ultimately ruled.

There was only one brief that refers

to the Nielssen case, that refers to this earlier era. And it was filed by Josh Sarnoff, a professor who I know and I admire, but I have to say I think Josh missed the boat on this. And we've since spoken and he has acknowledged that he didn't see all of the issues.

So here in Section 1(a) of his brief he says prior art treatment of excluded discoveries and creativity in their application are longstanding requirements of the Patent Act.

Well, the basis for it which is summarized here, and this will be available for those of you who are going to look online, are some statements from the O'Reilly Morse case that references the Nielssen case.

So O'Reilly and Morse was about telegraphy. Most of the claims were granted, but the final kicker was I don't propose to limit myself. I'm going to claim every use of electromagnetism.

And the Supreme Court promptly rejected that. And in so doing, they talked

about this case involving the hot blast furnace. This was one of the most important inventions of the industrial revolution and it involved a very simple principle.

If we pre-heat the air that we inject into a furnace, we can make the furnace hotter. Now that seems pretty obvious, but it wasn't obvious then and it was a very important innovation.

The Supreme Court talked about it. But as it has been reexplained in the Flook and later Mayo decisions, they got it completely wrong in the modern cases and it was completely in the O'Reilly Morse case.

They said that Morse did not provide a machine or apparatus, and therefore he was not eligible whereas Neilssen had. And the fact that he claimed it very broadly was fine because all methods of preheating air worked, and the apparatus was well known.

And when you go back to the case, you'll see there's an extensive quotation from

Baron Parke in the Neilssen case. And I've highlighted it in yellow. I'm not going to read it in detail. The highlighted language is what we're going to come back to.

There is a statement, and I'll say that this statement taken out of context supports the Mayo decision. But when we learn the context, it doesn't. So we think the case must be considered as if the principle being well known, the principle of preheating.

Okay, so let's come forward with this concept. What's wrong with this case from the standpoint of jurisprudence and legislative history? Well, had I filed a brief I would have asked the question what is the purpose of the term discover in our statutory history?

And if you go all the way back to the beginning, it's been referenced earlier today. Discoveries is a touchstone for our patent system. It's always been there, there's references throughout all of this case law. And yet the Supreme Court doesn't give any credit or

doesn't ask why it's in the legislative history.

The most important source of information in my review is the 1836 Act. We don't talk a lot about it but it's the most important act for the purposes of the Patent Office. It created you.

And what did the Act do? Well, it solved the problem that we had from 1793 update 36 which is we only had a registration system. And I had studied this legislative history many times before in trying to understand the history of claiming.

But I went back and I looked at the main report, the senate report. And it talks about the problem of a registration system and how this leads to nuisance claims in a lot of the problems we hear about today.

But there's another portion of the Act that talks specifically about the notion that the patent system extends to science and discoveries of science. And it couldn't be stated more clearly that the purpose of the patent system is

to reveal the mysteries of nature.

This is such beautiful language when you realize that that's what is happening in the laboratories. And as long as you apply it, that's all that you need.

And the Supreme Court was unaware of this language. And I mean, say it's old. Well one can come forward and see that this discovery concept finds its way throughout our history.

But the Planned Patent Act and it's legislative history talked a lot about this notion of discovery. And we allowed discoveries, we allowed protection for planned patents. These are not things that are made by humans.

They are discovered and protected for nearly a century now. And so this is, I think, a critical and underexplored office that the Patent Office can really help in bring into the attention.

Now let's go to the Mayo case. The Mayo case goes back to the same language. Here it is, you can see that they have the same

quotation. Justice Breyer pulls it out, he says that this is important to him and this is how he's going to base the inventive application requirement.

I'm almost done. I'll go as quick as I can. And so he says in the opinion itself, he says that there was an inventive application. And well, that statement as compared to the actual record in Neilssen. Here's what they said in Neilssen, this is the case that he says there was inventive application.

He says the mode of heating was perfectly well known. It was perfectly well known. They didn't read the case. Now this is our Supreme Court, they're busy. But they ought to raise the cases they cite. That's what Neilssen says.

What was Neilssen really about? It was about whether it was a machine. And the important line in this passage is the sentence prior to we think the case must be considered as if the principle being well known. It says we

think that the plaintiff does not merely claim a principle but a machine.

And the reason they use this reference to considering the principles well-known is because they were drawing reference to an earlier case, Minter v. Wells where there was a machine versus principle issue.

And in that case, the principle was well known. So they were merely postulating. This is, like, a 1L, you know, failure to read the case kind of problem. So that's what we're dealing with.

So what I had hoped, and many did, that the Supreme Court could fix that in the Ariosa case. There we got I think a really clear case of a scientific principle being applied, an important discovery that's important for all of us. And yet, it was considered unpatentable.

So many of us who filed briefs, I filed a briefs. I filed a brief with Jeff Lefson and we said just go back and fix it. Well, the Supreme Court didn't fix it. So now we live in

the world in which we all have to pretend that the emperor has clothes.

Well, let me just tell you, it doesn't. And the PTO, without being provocative, can just say here's the history, you ought to know it. It's an authoritative agency. And in that respect, what I want to just say is that the Supreme Court has a history in this area and they used to be a little more shy about technological superiority.

In the Benson case, they completed the decision. And this is Justice Douglass who gave us a lot of questionable patent jurisprudence. But even he says if these computer programs are to be patentable, we need to have Congress look at this issue.

So I don't think that we should act like the common law can solve all ills here. We have a pretty clear ill. It ought to be addressed. Now I would like to open up that box wider and have the Supreme Court, I mean have Congress look at a variety of the questions that

have been raised.

But certainly, we shouldn't let this issue stand as it's currently presented. Now what's the role for the PTO here? Well, I think the PTO can do things that it's doing in some other areas like in the copyright area, produce a report that tells the full history and explains this kind of background information so that our legislators know they're not seeing it from lobbyists, they're seeing it from an authoritative agency.

I'll mention the Copyright Office did a similar thing recently on pre-72 sound recordings and the making available right. These reports I think can help fuel very positive legislative action.

I'm not worried about unintended consequences because as has already been said, we're living through very significant unintended, and as I've tried to illustrate, just completely mistaken decisions.

MS. PERLMUTTER: Thank you very much.

Let's turn to our third panelist, Wayne

MR. SOBON: Thank you very much. Good afternoon, I'm Wayne Sobon. I've been a patent agent and an attorney for the last 30-some years. I'm a past President of AIPLA and I recently served on the Patent Public Advisory Committee of the US PTO.

But I'm here delivering these remarks on behalf of myself alone. Similar to Mr. Ruben and Professor Menell, I would like to go back also to some first principles in history.

Article and Section 8 of the Constitution neatly divided the promotion of on the one hand science, the fields of knowledge and ideas by securing exclusive rights to authors of their writings, things like books and maps and charts.

And then the useful arts where science and ideas are transformed into tools and actions in the world by securing exclusive rights to inventors of their discoveries.

Basic ideas in science remain free for

all. One of the first Congressional acts was, as we know, the Patent Act of 1790 which granted patents to any persons that, "have invented or discovered any useful art, manufacture, engine, machine, or device or any improvement therein not before known or used provided that it was deemed sufficiently useful and important."

I think it's instructive to go back and understand what was meant by useful arts. According to Sheridan's Dictionary of 1780, useful meant, "convenient, profitable to any end, conducive or helpful to any purpose," and art meant. "the power of doing something not taught by nature and instinct, a trade, artfulness, skill, dexterity, cunning."

It's also interesting for us modern eras to know that the original sense of technology was from the Greek technae which simply meant art or craft as opposed to episteme, or scientific knowledge or systems of understanding.

Technology was much broader than its

current engineering focus meaning. Sheridan defined technical as, "belonging to the arts, not in common or public use, popular use." And Webster in 1833 defined technology as simply a treatise on the arts, an explanation of terms of art.

The intellectual property system framed in the Constitution and enacted in the first of our patent laws, and to my mind was elegant and sensical. Science was free to all people to advance. The work advancing science was protected through copyrighted works, and applied knowledge was protected by patents.

And the breadth of useful arts was extremely wide, encompassing all that was useful in the real world and in commerce, "the power of doing something not taught by nature and instinct."

This elegant scaffolding I would say sufficed the US Patent system for the better part of 200 years. And similar to Professor Menell, in certain cases touched on the boundaries

between abstract idea, episteme, and protectable useful art, technae.

The Morse Telegraph case I think is really instructive. There the Supreme Court denied Morse's super broad Claim 8, "the use of mode of power of electric or galvanic current which I call electromagnetism, however developed for marketing or printing intelligible characters, signs or letters at any distances."

The Court rejected this saying, "He claims an exclusive right to use a manner and process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent. The Court is of the opinion the claim is too broad and not warranted by law."

While often cited as an early subject matter case, really the Court was making what we would now term a 112 indefiniteness and lack of written description rejection.

It's also I think incredibly instructive to note that the same Court allowed

Morse's Claim 5 which broadly claimed, "The system of signs consisting of dots and spaces and horizontal lines for numerals, letters, words, or sentences substantially as set forth herein and illustrated for telegraphic purposes."

A system of signs, but specifically applied in the real world within telegraphy. Query whether this would survive Alice.

Section 101 patentability challenges of the '70s in Benson and Flook culminated in the Diamond vs. Diehr decision of 1981 and the roughly contemporaneous Chakrabarty decision of 1980 which set out a broad ambit of patentability on the advent of the digital and biotechnology revolutions.

Coming as they did at the foundation of the Federal Circuit, these decisions reinforced a view that the US Patent system was capable of broadly encompassing, "anything under the sun that is made by man," as the Chakrabarty court quoted the Senate Committee report on the 1952 Act.

The Diehr Court noted that Section 101 simply provides, "a general statement of the type of subject matter that is eligible for patent protection subject to the conditions and requirements of this title."

The more substantive requirements for whether a particular invention is novel, Section 102 and non-obvious, Section 103 stand wholly apart from whether the invention falls into a category of statutory subject matter.

Quoting the '79 CCPA case In re Bergy authored by Judge Rich who we all know was a co-author of the Patent Act of 1952. And as Judge Rich underscored in Bergy, Section 101 was never intended to be a standard of patentability.

The standards or conditions as the statute calls them are in 102 and 103. This is consistent with the legislative history accompanying the 1952 Act which explains that Section 101 sets forth the subject matter that can be patented subject to the conditions and requirements of this title, that is 102, 103, and

112.

Of course, as a number of people have noted, every innovation is a set of abstract ideas given concrete application in the real world. Unfortunately under current practice, Section 101 has become a destructive rusted machete for an area of law that calls for sharp scalpels.

There seems to be something especially difficult for the courts and the PTO in handling digital and biological innovations. It's far easier today I would say to get a patent by adding one more gear or lever to an 18th Century cuckoo clock than trying to protect an elaborately coded new application on a smartphone.

And the US is now falling behind Europe and China in the protectability of these inventions. I would say we have allowed the Supreme Court to craft our US industrial policy. And as noted by at least some today, there is some evidence that failure to protect these

inventions is having an effect on early stage funding and development.

Absent a strong turn by the federal courts back to the Diehr and Chakrabarty vision of patentability, I would argue we probably do need a legislative adjustment, one that should be as elegant and brief as possible in line with the adjustment that happened in the 1952 Act that added the new brief Section 103 to, "stabilize judicial jurisprudence about obviousness."

I would suggest something similar for Section 101, something along the lines of adding at the end a simple sentence saying, for purposes of this Section, it is irrelevant whether the invention or any of its claimed elements is otherwise unpatentable under Sections 102, 103, or 112.

I believe something this simple or its equivalent accompanied by clear legislative history can help undo so much of the new troubling jurisprudence that imports these other conditions of patentability at the outset and

restore 101 to the minimal, simple threshold for inventions of the useful arts to which it was always intended. Thank you.

MS. PERLMUTTER: Thank you very much. So our last panelist on this panel is Marion Underweiser.

MS. UNDERWEISER: Thank you very much. Thank you for the opportunity to speak today. Subject matter eligibility law in the United States is broken. The Supreme Court's recent decisions in Bilski, Mayo, Myriad, and Alice are the cause.

The Court has unapologetically refused to define the metes and bounds of its test, and has against the advice of the patent community, including the PTO, used 101 to do the work properly reserved for the other statutory sections causing great uncertainty for both patentees and potential infringers about the enforceability of a broad swath of both software and biotechnology patents.

This is not some minor issue that can

be worked out on a case by case, fact by fact basis over the course of years. It's a critical problem that undermines innovation and economic success in the United States, and it is therefore one that must be fixed in a holistic way that reflects a healthy innovation policy which is something only Congress can do through legislation.

We at IBM agree that patent quality is important, and IBM has for many years worked with the Patent Office and with Congress and with other patent owners to improve patent quality.

But let me make this point very clear. Subject matter eligibility is not a way to determine, address, or improve patent quality. Subject matter eligibility does not address the matters that critics of the patent system complain about such as patents that are vague, old, or overbroad.

This is the work of the other statutory requirements found in Sections 102, 103, and 112. Nor is subject matter eligibility

about whether a patent owner irresponsibly asserts its patent rights.

The inevitable reality that some patents are, sorry, that subject matter eligibility is about the areas of innovation that a Government chooses to encourage or to discourage.

The inevitable reality that some patents are of poor quality or asserted by irresponsible parties is not a reason to make it impossible for anyone to obtain patents because they happen to be in a certain technological area as many people have mentioned today use the same metaphor.

This overreaction is a classic example of throwing out the baby with the bathwater. A vague and narrow scope of what is patent-eligible does not help us explore the specifics of any particular invention, nor does it address abusive litigation behavior.

Instead, it establishes a cramped innovation policy that picks winners and losers,

awarding enforceable patent rights to those who are lucky enough to work in a field arbitrarily deemed to fall on the right side of the line.

And where is this line being drawn? Currently the law creates uncertainty and narrow patent eligibility in the most cutting edge areas of innovation including software and biotechnology, fields that are the least understood and most vulnerable to misappropriation.

Undermining the incentives for investment and innovation in these fields discourages research and development and reduces the availability of innovative products.

In IBM's field of information technology for example, software exports generate between $50 and $57 billion in 2012. Moreover, experts of software and related services grew by nine to ten percent per year between 2006 and 2012, nearly 50 percent faster than all US exports.

And the software and information

technology industries have been a bright spot in an economy that often struggles to create jobs, directly employing more than 2.5 million Americans in 2014 and indirectly supporting nearly 7.5 million more jobs.

Software has also become the medium of modern innovation, revolutionizing industries such as automotive, healthcare, and manufacturing to name a few.

It's hard to conceive of a more damaging policy direction for our country than one that undermines R&D investment in this area. But that's exactly the result of the current narrow, uncertain state of subject matter eligibility law.

IBM is a software company. The cutting edge in software development is cognitive computing or artificial intelligence. This year the World Economic Forum named AI as one of its top ten emerging technologies for 2016 because it could unlock higher productivity and better health and happiness for millions of people

within the next few years.

Leading software companies are making significant investments in AI. At IBM for example, cognitive computing is driving whole new categories of industry specific innovation in areas such as finance, healthcare, and security.

But innovators can only afford to make these types of paradigm changing leaps in innovation if they are certain that patents will perform their job of protecting their significant investments in R&D.

Irving Wladawsky-Berger, a thought leader and former strategist for IBM, recently said that one of the key ways of assessing progress in AI is to compare it to human intelligence.

Any activity that computers are now able to perform that was once the exclusive domain of humans could be counted as an AI advance. But the current state of eligibility law makes vulnerable this new horizon, distorting and oversimplifying inventions, leading to a

determination that many are patent-ineligible.

Without any fact finding or claim construction, a judge can simply declare that an invention implemented through software is something humans have previously done, now enabled on a generic computer, and thus patent-ineligible abstract idea.

We have heard some, many people today point to recent cases where software is actually found patent-eligible, to argue that the courts are approaching a solution on patent eligibility.

While we are certainly gratified that not all federal circuit judges read the Alice decision as the death knell for software patents, the fact that over two years after the Alice decision, with over 12,000 claims invalidated, some judges faced with clearly meritorious inventions will work backwards to justify eligibility does not mean we should call off this type of conference and head home.

These cases use an ends justify the means analysis and they are thus inconsistent

with each other and provide no reliable rules that can be used to predict outcomes going forward.

This is the hallmark of failed jurisprudence. Judges have no faith that applying the test will yield what they believe should be the proper outcome, so they bend the test to suit their desired result. Step two becomes step one, preemption matters, and then it doesn't.

This is judicial anarchy aimed directly at groundbreaking technology. We need clear rules governing patent eligibility both for the benefit of innovative firms and for society, the ultimate beneficiary of these innovations.

We cannot afford to perpetuate the failure of our subject matter eligibility laws. Even now while China's Patent Office considers ways to make it easier to obtain software related patents, we continue to flounder and meander in confusion, not on whether to sanction bad actors or how to find and apply the best prior art, but

on the simple question of what we think our patent systems should protect.

A significant course correction in subject matter eligibility law is required to protect, sustain, and grow US R&D investments. Time and again, the courts have shown that they do not know how to address this issue.

The time has come to ask Congress to sweep away the cases that have created this problem by finding a legislative solution that ensures we promote innovation in the fields so important to our economy. Thank you.

MS. PERLMUTTER: So I would like to thank all of the panelists for their presentations. And let me kick off the Q&A part of the discussion by noting that on this panel, unlike some of the others, the majority, although not necessarily everyone, seems to support a legislative solution.

We heard from Bob Armitage as the first speaker a fairly detailed outline of a legislative approach which would overrule the two

part judicial test in favor of a useful arts or technological advancement approach.

And so I would like to throw the floor open to the four other panelists for any views or thoughts or reactions to that proposal, recognizing that you may have heard it for the first time a few minutes ago.

MR. JONES: So we've long thought that the purpose of the patent system was to advance technology and that a useful arts test made sense. I mean, I think the, as I said, there is, who knows if it will be sustained but there really does seem to be a trend if you look at the Federal Circuit decisions over the last year in the software area.

Both the ones that hold patents eligible and the ones that hold patents ineligible already seem to be focusing on the advance in technology language from Alice.

So you know, I think you would have to very carefully weigh, and I apologize, I worked in Congress for a long time so maybe I'm overly

skeptical. I just, a lot of different things can go wrong in the Congressional debates and then you're stuck with, you know, assuming that something's actually enacted you're stuck with the language.

So I think you would have to weigh the risks there to really believe something was going to make things better. But in principle, I think a technological arts, useful arts type of test, or a technological effects type of test as is applied by the EPO actually will lead to good policy outcomes.

MR. MENELL: I think we probably all have something to say, so we'll just go down the line. So I think it, I think we heard a lot of support for that type of test, although some earlier panels thought that it can be done through the courts.

I question that, especially in, well the diagnostic area is a completely, you know, different kettle of fish and it wouldn't address some of the concerns that exist there.

I do think that the courts have gotten close to a part of the useful arts test in the Alice decision, and certainly the concurrence in Alice which seems to endorse Justice Stevens' opinion from Bilski.

And I frankly think that the business method path has been a very bad path for the patent system. And I think even Judge Rich was pushing the line based on some of his earlier writings. We can talk about that separately.

I would like to see the diagnostic issue addressed with some of the data and some of the analysis. I can't say that Professor Chien's preliminary results helped me that much because we may have been seeing a real expansion in that area.

So even if there's modest growth, we still might be losing. And the other thing we're doing is pushing a lot of it into trade secrets. We're doing a lot of things that I think are very risky if we want to have disclosure and advancement of knowledge through patent type

systems.

On software, I think machines have long provided a basis for protecting software. What I question is 20 years, and that is sort of a verboten issue. But there is nothing scientific or economic about 20 years for everything. And that might have worked back in the age of apprenticeship, but it doesn't work today.

And so what I would push for for a much longer term revision. Not something we would have to do next year, but I would hope that the Patent Office could see that we want to move towards more of a technological zoning system where we identify within pockets of technology ways of figuring out how best to promote instead of just saying we have a one size fits all system.

Now I still think we can do something sooner to help the diagnostic industries and to clear up some of the confusion that's out there. But for me, long term, I would like to see a much

greater emphasis.

There's now an Office of the Chief Economist. We ought to be thinking about how to go beyond what has been a centuries old system to a truly sophisticated and forward looking system.

The other thing is, you know, people say you have to do one size fits all because, you know, software can be used in anything. There's nothing to suggest that we can't be creative in that enterprise.

The other thing is we can do things prospectively. So we don't have to kill the existing patents. We don't have to hurt the existing stakeholders. But we can help the next generation of stakeholders, some of the people perhaps that Julie Samuels was talking about, try to bring them in without hurting the people like IBM who have already made those investments based on the system that was there.

MR. SOBON: I would say a couple things. One is I am speaking also from my past experience as I was Chief IP Counsel for

Accenture and we were very heavily involved in the Bilski debate because that company especially spent hundreds of millions, still continues to spend hundreds of millions of dollars on research in the field of industrial engineering which is not necessarily, might not fall within the technological arts in a narrow sense.

But as I tried to argue I think in my comments, historically understood, useful arts was a much broader thing than what we might think of today as technology which I think gets seen as transistors and gears and chemicals.

And we were actually very pleased that the Bilski court ruled that, once again, what they had already ruled several times in the Benson Flook and Diehr decisions which was they had never said that there was a specific machine or transformation test or a bright line test for this.

And they also had never said and never would say that a business method, absent any actually specific mechanism wouldn't be

necessarily potentially patentable. I think that was a good decision.

I think the key ill of the current 101 jurisprudence, which I think Professor Minell, given what his comments would possibly agree with me and what I tried to express is that the ill is the importation in the two part test of a novelty and/or obviousness test imported into the initial 101 analysis without factual discussion on it.

And it sounds great if you're on the defense side to have at the pleading stage a patent completely destroyed without any discussion about whether it really truly was a novel or an unobvious improvement on the background useful arts.

That I think is the key ill. And that's what I think a very surgical legislative fix should try to fix if the courts seem not to be able to do so. And I think given the Supreme Court's decisions after Prometheus, I find that is going to be very hard to undo that gene, which I think is the pernicious issue that we're facing

right now.

MS. UNDERWEISER: So I have to apologize. I have not studied carefully Bob's proposal, so I'm not going to specifically speak to that language. But I just wanted to say a couple of cautionary words about a kind of a technical arts or technical effect test.

We do not have a definition for that. The EU doesn't either. And I know that looking at the case law in the EU, we see this and say oh, it's stable. There are inventions that are patentable in the EU and they're not patentable here.

But the truth is the EU has gone through quite some time to get to where they are, and it is my understanding that the way they define their concept of technical is by how close or far away a patent claim is from their stated exclusions.

And the ones that I think you may have seen in the statute to business methods or software per se or games or other gaming methods

or other things of that nature which the EU has made a policy decision to exclude.

Right, so we can have a debate in Congress about whether or not we think certain subject matter areas should be excluded, but it's something we've never done in the US, and it's never served us to promote innovation.

So I think we have to be careful about how we define something like this. You know, again, it sounds good, technical, non-technical, right? But we know from looking at, someone earlier today referenced the cover business method review statute and the concept of technical being introduced into the definition.

And with all due respect, the definition is a little circular. And so, you know, there isn't really a separate definition in there of what is meant by that. So it's something that we all kind of struggle with to figure out where is this going to be, not necessarily going to be, you know, a panacea for us.

And we do have to ask ourselves much as things are in chaos in the US right now, is the EU system our goal. Is that what we want? Has the EU system promoted innovation in a way that we think is what we deserve in the United States to promote innovation.

MR. KRAUSE: Well, just following up on something Marian just mentioned, and also I kind of almost heard a reference to it when Wayne was talking. Marian mentioned the fact that Europe doesn't allow patents on games, for instance.

Wayne on the other hand endorsed the definition of useful arts based on the dictionary definitions from the 1700s which I think would apply to games, am I correct on that?

MR. SOBON: You allowed the Monopoly patent in the '30s. I think gaming and systems of games is perfectly patentable. Those are useful and they're creative and I see no reason why you can't patent those. And when you in fact, the Patent Office has routinely allowed

those sorts of things.

MR. KRAUSE: Okay, so that's --

PARTICIPANT: Do the other panel members --

MR. SOBON: It's sort of like why not. I mean, I don't understand what the real harm is, frankly. So if you want to have a different game, get a different game.

MR. KRAUSE: Well, the question is how much resources should patent examiners who are trained in what we refer to as technology have to devote to examining things that are clearly non-technological which other countries, as Marion says, have excluded completely.

MR. MENELL: Well, you know, earlier we heard reference, I think it was the Amazon representative, to sort of the overarching principle. You know, we shouldn't just assume because it's useful art that Congress should exercise the power that the Constitution gives it.

We should be continually evaluating

how to move forward to promote progress, and that changes over time. One of the really complex aspects of these puzzles that we're currently working with is that there are other methods of intellectual property, trade secrets, copyrights, trademarks, that all come into play as companies are developing their portfolios and building these businesses.

And we shouldn't assume that just because it's not patented there isn't some motivation. Network effects, first mover advantage, there are a lot of ways in which companies can and do strategize about these issues.

So just because these are large industries doesn't mean that sort of pumping up the patents because we've also heard that there can be negative effects when we give out a lot of these rights, and then we wind up playing these nuisance suit games.

And so I do think that there are multiple ways of approaching this. But I do

agree that we ought to try to at least push us back on the path of protecting fundamental applications of scientific discoveries because that is I think part and parcel of what does, you know, deal with public health issues and important issues.

Games, I don't know. I would like to see a study. But I certainly feel that, you know, the Sequenom type patent was eligible. It may well not have been patentable. But it was the idea that we wouldn't allow a non-invasive diagnosis to be even within that pool is just seems, you know, completely outside of what I think the patent system should be about.

MS. PERLMUTTER: I also want to make sure that Bob Armitage has a chance to respond if he would like to.

MR. ARMITAGE: Yes, maybe just a couple of comments. You know, I know in my heart perhaps what the perfect amendment would be to the patent statute to solve the problem with the Supreme Court jurisprudence.

And I would have stopped my slides with the one that talked about abrogating the entire body of jurisprudence and just relying on the statutory provisions on the ground that they do all the policy work the Supreme Court thinks needs to be done.

But having listened to the entire program today, I'm fairly convinced that as perfect as that amendment is, it politically doesn't stand a chance of going anywhere.

So then the question becomes if we're going to do something that from at least that extreme point of view is not a perfect solution, what do we do that's still principled and palatable and yet has an expansive view on the role of the patent system.

And therein lies, at least my belief, that unless we start thinking about making explicit what is implicit, that is if something doesn't contribute to the useful arts I doubt there is one Justice on the Supreme Court who believes that that type of subject matter defines

something that's eligible for patenting.

So if we just start from that principle, my question is can we make it work because I have a hunch that if we could, that might be an imperfect solution. Imperfect, yes, but yes, a solution because it just might be something you could get through Congress.

MR. KRAUSE: But what's your definition of useful arts, Bob? It sounds like it's different than Wayne's.

MR. ARMITAGE: Yes, you know, it's very interesting because I started working on this out of a sense of desperation that everything else I saw being done just didn't look to me like it made sense for one reason or another.

I came across and read again very carefully Justice Stevens' concurring opinion which has kind of a middle ground, not Wayne's ground but a middle ground on what useful arts means.

I took another look at actually Tony

Dutra's brief, his own personal brief in the Alice, amicus brief in the Alice decision that again went through the history of how useful arts might distinguish from other types of human endeavor that wasn't considered eligible for patenting.

If you fast forward and take the contemporary view of the term technological and technology, you have basically what was done with the trips agreement saying as Hans Sauer did this morning, patents are for fields of technology.

So I think basically you build on that contemporary understanding. You have it informed by what's going on in Europe. You don't necessarily do exactly what the Europeans do, but you adapt it to our Constitutional tradition of limiting patents to contributions to the useful arts for the purpose of promoting progress in those arts.

MR. KRAUSE: Just one more quick one. Wayne, you mentioned that there's evidence that there's a deficit in early stage funding for

small businesses. Julie Samuels kind of said the opposite in her remarks. Can you submit evidence to us or can you talk about it a little bit here?

MR. SOBON: I have seen people refer to this, I'm not an expert in that area. You know, and I think the Chamber of Commerce's comments today were along the lines of just almost the opposite.

There is an effect and I think there is at least anecdotal evidence that, you know, and some of us have focused on that venture capitalists and others investing in new stage funding on average, on the margin would rather invest in something that's protected if there are, especially if there's existing market entrants who already could then see what the new company is doing and rapidly take it on and use their network effects to just adopt the new technology.

That's obviously a very big danger, so having something protectable like Microsoft found with Stack Electronics is actually very powerful

for small and medium size enterprises.

MR. KRAUSE: Yes, what did you think of that case, Microsoft, Stack Electronics from the 1990s?

MR. SOBON: I'm sorry, but it predates me.

MR. KRAUSE: It's famously what caused Bill Gates to change his mind about patenting because it was a small company that actually --

MR. JONES: And there a big damages award. So I generally agree that it actually is a large company. In some pays patents, although we tend to be fairly pro-patent, I mean, we have tens of thousands of engineers that can replicate most technology once we understand how it works.

So it's very easy for large companies to go out there and swamp the small guys. And you know, our general counsel used to say, I don't know if he still says it but he used to say there are only two reasons for us to acquire a company, to get their people or to get their IP.

Right, those are the two things that

we can't, you know, build internally. We either need to get their employees because they're brilliant or we need to get their IP.

So I do think that IP, in the acquisition context, actually matters a fair amount to lots of companies.

MR. MENELL: Well, if you think about what's been going on over the last decade, I mean, Congress took up these issues in the early 2000 period after the bubble burst. And most of the action was actually in the courts.

We get eBay, we get KSR, we got a whole series of cases. What we ultimately get from Congress is the AIA which sort of added a new administrative process and first to file.

But we now are facing sort of a second tier of problems caused by one part of that Supreme Court jurisprudence. You know, I don't have a problem with eBay, KSR. I mean, one could quibble about whether they were consistent or at least eBay was consistent with equity jurisprudence.

But I think it's generally been good and has helped to solve a lot of what we're calling the troll problem. But the 101 jurisprudence did throw out some of the baby with the bathwater and I think just illustrates that the Supreme Court is not institutionally well situated to address these problems.

I think the PTO is an important institution for helping, and I think ultimately Congress is our main source for making the big social decisions.

In copyright we do it every 50 or 60 years. We haven't really done it, at least on a 101 level, you know, in recent history.

MS. PERLMUTTER: All right, we are out of time. I know there are still some questions from the audience, and I think it's been a fascinating conversation, so I would like to apologize for not being able to get to all of them.

But let me just close by saying really the day has been intense, it's been long, but

it's been an absolutely full and very rich discussion I think with a lot of illumination in a lot of respects and also a tremendous amount of food for thought.

I wanted to extend thanks to all of the participants for sharing their ideas and their time. And I also particularly wanted to thank the team from the US Patent and Trademark Office that came out here to make this complicated, multi-city event work.

So in particular let me mention Elizabeth Shaw, Hollis Robinson, Nadine Herbert, and Linda Taylor who are all here among you. So thanks to everyone.

(Whereupon, the meeting in the above-entitled matter went off the record at 5:01 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Exploring the Legal Contours of Patent Subject Matter Eligibility

Before: US Patent and Trademark Office

Date: 12-05-16

Place: Washington, DC

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Court Reporter