IN THE MATTER OF:

UNITED STATES PATENT
AND TRADEMARK OFFICE
NON-FUNGIBLE TOKENS STUDY

Tuesday,
January 26, 2023
The parties met remotely, pursuant to notice, at
10:00 a.m.

PARTICIPANTS:

KATHI VIDAL, Undersecretary of Commerce for Intellectual property and Director of the U.S. Patent and Trademark Office
DAVID GERK, U.S. Patent and Trademark Office

Panelists, Session 1:
JOSEPH WOLFE, DLA Piper
NELSON M. ROSARIO, Rosario Tech Law LLC
GIOVANNA FESSENDEN, Hamilton, Brook, Smith & Reynolds, P.C.
MARK STIGNANI, Barnes and Thornburg LLP
DAVID HARDOON, Wang Hardoon P.C.
RYAN CHOWDHURY, Fish & Richardson P.C.
MICHAEL KASDAN, Wiggin and Dana LLP
DOV GREENBAUM, Yale University; Reichman University (IDC) Herzliya
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MAURICIO URIBE, Knobbe Martens
JOEL BOCK, Dentons US LLP

Panelists, Session 2:
DOROTHY HARAMINAC, GreenVets, LLC and Kiribex
LEANN PINTO, IPwe, Inc.
ROBERT MOWRY, Rekttech
KARY OBERBRUNNER, Igniting Souls & Blockchain Life
CLEVE MESIDOR, The Blockchain Foundation
LUCINDA LEWIS, Car Culture, Inc.
PATRICIA MACKENZIE, Independent Creator
MERAV OZAIR, Wake Forest University; Emerging Technologies Mastery
RAM SHANMUGAM, Heera Digital
PAMELA NORTON, TitleChain
SESSION 1: IP PRACTITIONERS

<KATHI VIDAL> Good morning everyone, or good afternoon, depending upon where you are. I'm Kathi Vidal, the Undersecretary for Commerce and the Director of the United States Patent and Trademark Office.

I want to welcome you to the public roundtables for the study on nonfungible tokens and related IP law issues. Today we are focused on NFT's impact on patents. For those of you who joined us this past Tuesday, we had almost three dozen trademark experts present their views on NFTs. It was a really interesting and engaging session.

And last night I met with Director Shira Perlmutter from the Copyright Office, and she's very excited about their upcoming event on January 31 that the Copyright Office will hold on the impact on copyright holders.

So thank you for your civil engagement and for being part of this important discussion. We have almost two dozen presenters today. I also want to invite all of you, whether you are a presenter or in the audience, to submit detailed written comments through www.regulations.gov by Friday, February 3.

NFTs have had big implications, both nationally and internationally. In my recent trip to Southeast Asia, it was one of the topics that the audiences wanted to talk about, they wanted to hear about it.

Your thoughts and comments today, and your written comments will be used in a number of ways. First, we here at the USPTO are considering the policy implications of NFTs and the policies we should be supporting. Secondly, it will influence how we engage with other countries and the positions we take. And lastly, your
views will help us with our report in response to the Senate IP Subcommittee's request for a study on how NFTs impact intellectual property. So very critically important to a lot of what we do, and your comments could not come at a more critical time.

NFTs are seemingly everywhere. They are now being used in connection with products and services in such industries as music, fine arts, sports, finance, medicine, and so many others. Aspects of the technology are being integrated into new patent applications that we are seeing, and NFTs are being used to track ownership of patent assets.

Our work on NFTs is part of a broader umbrella of work that we are doing around AI and emerging technologies. We invite you to be involved not only more deeply in our work on NFTs, but also on other emerging technologies.

Please check out our AI Emerging Tech Partnership. This work is going to influence our policies around AI and all types of emerging technologies. It will also help us implement those technologies to better serve our customers. I just want to let you know there is an upcoming session on AI Emerging Technology that will be held Wednesday, February 8, in the Dallas, Texas office and will also be remote and the topic is innovation-driven AI.

So please stay engaged with the USPTO. Watch our channels. We are doing everything we can here at the USPTO to incentivize more innovation, for more people from around the country, to make sure we have the policies and laws to protect that innovation and to bring it to impact.

And we're especially focused on the technologies that matter to the country, and on emerging technologies. We are making sure that we have the laws and the policies to protect the innovation and get that innovation to impact.
I just want to mention two quick initiatives that we're working on - the Council for Inclusive Innovation, as well as our recently launched Women's Entrepreneurship Initiative. Again, these are meant to give broader access to everyone while we work within the USPTO on our policies and laws. We welcome your participation in all of these initiatives.

Again, we look forward to your comments and input today. And look forward to receiving your written submissions, due a week from tomorrow, on February 3. Now I will turn it over to David Gerk and the team and thank them for all of their hard work in organizing today's event. Thank you.

<DAVID GERK> Thank you, Director Vidal, for your insights and remarks this morning. We are very pleased to have had you join the discussion today. And welcome panelists and audience members. As mentioned, I'm Dave Gerk, Principal Counsel and Director for Patent Policy in the USPTO's Office of Policy and International Affairs, and I'm very pleased to be moderating today's roundtable.

During this panel, we will hear from panelists who have knowledge and experience regarding the technological aspects of NFTs, NFT platforms, and NFT's relationship to both the underlying assets they define and intellectual property rights in those assets.

As the Director shared, your input is critically important to help ensure we have a full understanding of these emerging technologies, including any challenges and opportunities they present for IP holders and new entrepreneurs to obtain, protect, and enforce their rights.

During your remarks, we invite you to address any issues you believe are relevant to the joint study being conducted by the United States Patent and Trademark Office and the United States Copyright Office. You may address the questions posed in the USPTO
and U.S. Copyright Office's joint Federal Register Notice published on November 23, 2022, or you may raise additional issues you believe are important for the Offices to consider as we conduct this study.

Before we begin, I'd like to remind everyone of a couple ground rules for today's panels. We were fortunate to have a large number of speaking requests for today's roundtable, so we will hear from a number of diverse perspectives today.

To ensure that all panelists have sufficient opportunity to provide their perspectives, we have asked the speakers to limit their remarks to 10 minutes each and to prioritize the issues they believe should be raised. We will strictly enforce this time limit throughout today's panels. Of course, we welcome panelists to expand upon their remarks by submitting written comments in response to the USPTO and U.S. Copyright Office's joint Federal Register Notice. The deadline, as mentioned, for submitting such written comments is February 3, 2023.

With that, why don't we begin? Our first panelist today is Nelson Rosario. We invite you to please provide your remarks at this time. Thank you. Do we have Nelson? Why don't we move on and go to Joseph Wolfe, please?

<JOSEPH WOLFE> Thank you, David. Okay. My name is Joseph Wolfe. I'm an associate at DLA Piper. At DLA, I primarily handle preparation and prosecution of patent applications, specifically in the software space. So, of course, I've seen and handled a fair amount of NFT-related inventions the past couple of years.

So my remarks will primarily focus on the types of innovations that we've seen, as well as the patent-related challenges to kind of protecting these NFT-related innovations. So in terms of how we've seen NFTs being utilized, and when seeking patent applications, we see them used in a variety of cases, but of
course, mostly as a means to authenticate an underlying asset, whether that asset be a digital asset, so we think of, in the conventional sense, of an image, a video, a GIF, a physical asset, so think a proof of authenticity for a baseball card or some sort of service.

We've also seen kind of more unique digital assets, if you want to call them digital assets, being associated with NFTs. So think about a digital asset being an identity token for an individual. So this identity token can be stored as an NFT and be utilized as a means to authenticate an individual with certain institutions. So during the creation and storing process, the individual's identity can be confirmed by a trusted agency so that downstream institutions do not have to go through the process of reauthenticating the individual. They can instead rely on the information that's in the token.

In another example, we've seen digital assets be like an eSIM profile. So if you think about the cell phone registration process, especially when you want to download a new eSIM, an eSIM profile can be stored in the metadata of some sort of token that's stored on the blockchain.

So while, of course there are a lot of examples where NFTs are-- protections being sought, in the case of NFTs associated with specific assets, there are a lot of applications and inventions for improving the process of generating or minting an NFT. So think about some processes, such as improving on-chain storage, so reducing the amount of data that could be stored on chain if an individual would like to store the underlying asset on chain compared to off chain.

Improving the security of NFT storage-- so this is focused on kind of wallet security or improving, simplifying, or automating
the minting process. These are all applications and types of
inventions we've seen within the NFT space.

So now, turning to patent-related challenges associated with
NFTs, I think most of the issues that are applicable to NFT
innovations are shared across technology areas, such as blockchain
to a larger extent, as well as software applications even broader
than blockchain.

But focusing on NFT, of course, the two areas that get
discussed the most are subject matter eligibility and novelty,
nonobviousness considerations.

For eligibility, which everyone knows is a big one, I think it
really comes down to the type of NFT innovation you are pursuing
protection on. So, as I mentioned earlier, if we break down NFT
inventions into two categories, for example. So the first category
being tying an NFT to an underlying asset and the second category
being improvements to the NFT process.

When we focus on the latter case, the improvements to the NFT
process, such as creating, minting, maintaining, or improving kind
of storage processes, I would say that I've seen the eligibility
hurdles be a bit lower because these improvements typically focus
on improvements to the technology space and in some circumstances,
 Improvements to the computer itself.

So, for example, if we think about improving on-chain storage
by reducing the memory requirements or reducing the amount of data
that we have to store on chain, somehow that can improve the
underlying operation of the computer itself.

Now, things get a little trickier when we talk about
eligibility in the context of the former case. So tying an NFT to
an underlying asset. In the former case, I could see - and I've
seen - eligibility challenges during prosecution. But at the same
time, I don't think that they are this insurmountable hurdle that
one would expect them to be. A carefully drafted application that takes advantage of those eligibility guidelines from 2019 should at least anticipate or avoid a challenge.

Because when you consider those subject matter groupings, we're talking now mathematical concepts, mental processes, certain methods of organizing human activity, these latter two groupings, mental processes and certain methods of organizing human activity, seem to be very prevalent to the NFT space.

For example, mental processes. It all comes down to how the practitioner has drafted the claims for your invention. At a higher level of generality, you can see a circumstance where an examiner could issue an eligibility rejection on a mental process ground. But if you incorporate elements, such as broadcasting the token to a blockchain or something more specific than that, now you take it out of the realm of a mental process and possibly avoid that grouping.

Now, for certain methods of organizing human activity, that comes down to what is your use case for this NFT? So I think the example I provided above was in the context of an identity token. So if you're using an identity token for a financial workflow or you're using it to authenticate yourself with a bank, that could be a circumstance that falls under a fundamental economic concept, which would fall under that grouping.

So in those circumstances, it's important to kind of build up in your application this narrative that explains why this is an improvement and why the NFT application here isn't this "abstract idea," but has these technological improvements that provide this practical application, so you set yourself up to overcome these rejections during the examination phase.

So while, of course, I do think eligibility is a consideration that applicants should consider when pursuing patent protection, I
don't believe it's this insurmountable hurdle. What I think could be very helpful is if the USPTO comes out with additional eligibility examples for this technology space, specifically different types of NFT innovations that could be used to assist applicants’ practitioners, both during the drafting phase and the examination phase, something that we can cite to that would help us during this process.

And of course, I want to touch on novelty, nonobviousness, not the most groundbreaking topic in patents, but with the increased visibility and discussions surrounding NFTs the last few years, there is an abundance of prior art out there in the non-patent literature space. So if applicants or practitioners are performing a prior art search, it would be prudent to consider a broader search outside of patent databases. So consider Google. There's a lot of YouTube tutorials out there that explain kind of the NFT process and the NFT use cases.

So while eligibility, of course, is a consideration, there are also considerations on the novelty, nonobviousness front due to how popular NFTs have been the past couple of years. So I'm just coming up on the 10-minute mark and I will stop my remarks there. Thank you.

<DAVID GERK> Thank you very much, Joseph, for those insights. We have Nelson with us, so why don't we turn back so we can keep moving, try and work through the agenda in order. So Nelson, please feel free to provide your remarks. Thank you.

<NELSON ROSARIO> Thank you, David, and thank you to the Office and everyone involved in putting this together. Happy to be here and provide some remarks. My remarks are going to be at a fairly high level and kind of general based on my experience in this space.
So I feel that a little background on myself is in order to kind of frame where I'm coming from and why I think this is an important conversation. So I'm Nelson Rosario. I'm the founder of Rosario Tech Law, a boutique firm based here in Chicago, Illinois. I work with emerging technology companies and many companies that are operating in the kind of Web3 crypto space. I have been doing IP-related work in this space since about 2016. And I've worked with a lot of different scale companies, from large, multinational corporations down to kind of seed-stage startups that are trying to figure out how to deploy this technology.

And in addition, I also am an adjunct law professor at Illinois Tech, Chicago-Kent College of Law, where I've been teaching a class called “Blockchain Cryptocurrency and the Law” since January of 2018 that kind of covers the technical background of this industry, as well as the legal issues that are raised by the kind of new, innovative approaches to exchanging value on the internet and information.

So I know that the purpose of the study being conducted by both Offices is to kind of dig more into what is going on with NFTs and how they may impact intellectual property rights in general, and so I think it's important to kind of take a step back and take a look at what's actually new and innovative here. I have supreme confidence that the Office will be able to kind of figure out the actual technical functioning of NFTs, although I'm sure if you were to ask every member of this roundtable to define what an NFT is, you would probably get a different answer from every single person.

So, as I said, my comments are more high level in general, but it's important to start kind of at the beginning and what's actually new with blockchain and cryptocurrency and NFTs. And with the introduction of Bitcoin, we for the first time had unique digital property that was able to be transacted on the internet
without the use of a central counterparty. That was kind of one of
the principal innovations brought about by its introduction. And so
what that enabled was censorship-resistant value transfer on the
internet and we just didn't have that before.

Now, a lot of things have come since that time, including
NFTs, smart contracts, etc. And it's important to kind of bear in
mind that characteristic that's enabled by this technology, that
idea of censorship resistance. NFTs are kind of an iteration that
builds off of that innovation and they allow for this kind of
decentralized authentication of information. We've seen it kind of
mostly in the popular consciousness with respect to art. That was
kind of the craze in 2021, carried over into 2022, and still to a
certain degree today, depending on who you talk to. But that idea
of kind of decentralized provenance is a logical extension of that
initial idea of censorship-resistant value transfer.

So I mentioned those kind of two characteristics because I
think they present a lot of opportunity and also a lot of
challenges for the Patent Office as they kind of move forward. I
thought that the previous speaker did a great job highlighting some
of the different use cases of how people are thinking about NFTs. I
know of people that are using them in much the same way as you
would have any other kind of physical collectible, but a digital
kind of replica of that, that's more easily tradable with anybody
around the world. But there's also people that are building out
systems that treat NFTs in a sort of, kind of rights management or
access type way, right? If you are an NFT holder, then you are able
to gain access to a particular social event or club, etc.

Now, the reason that the technology is kind of being built out
like this, and why technologists and many of my clients and other
individuals' clients here are excited about it is that kind of
decentralized, kind of censorship-resistant aspect, right?
I'm really focused and intrigued by people that are building solutions on these public, permissionless blockchain networks, most popular of which are Bitcoin and Ethereum. Most of the attention is focused on the Ethereum blockchain. That's kind of where most of the NFT activity is.

And so this new paradigm where we have unique digital property, censorship-resistant kind of authentication enabled by these public, permissionless networks, where we don't have that central counterparty in the middle, is going to lead to new ways of people interacting, new ways of organizing human behavior, new ways of people doing things that we can't even really imagine just yet.

It may take a long time, it may not. It really depends. But I think the challenge for the Patent Office and other kind of government entities that are trying to figure out, okay, how concerned or interested or how can we leverage this technology, is going to be that public, permissionless network kind of nature of these networks where most of the technologists are most interested, right?

Because in a public, permissionless blockchain, anyone can join the network and participate at any time. And that, rightfully so, gives kind of government agencies, regulators, etc., a pause because it's giving up a measure of control.

So, just as an example, with respect to patents, I know that there has been a lot of interest in trying to create a kind of private patent ownership chain, let's call it, where it's easier for individuals to kind of buy and trade, buy and sell patent rights. And NFTs are one way that you can at least express the intention of buyers and sellers for the trading of those rights. Now the hiccup becomes well, is a government agency like the U.S. Patent and Trademark Office going to recognize that as a valid transfer of rights? Is a federal judge in a dispute going to
recognize that as a valid transfer of rights? The answer may be yes, but that sort of infrastructure is going to need to be built out for people to kind of realize those streams and for a kind of private parallel market to be built up.

And there is a decent chance that for it to really leverage what's new and unique, it would have to be built on a public, permissionless blockchain network. And I'm not entirely sure where that's going to go or what that will look like, but I do think it's something that the Office needs to kind of think deeply about beyond just kind of the technical underpinnings of how these things work.

And with respect to patentability issues, what sort of innovations do we think are worthy of protection?

And one more point, as I'm getting closer to time here, is as people become more comfortable with the ideas of NFTs, the idea of NFTs being a sort of-- some people call it a receipt or a pointer, some sort of authentication, verification, proof of provenance with respect to some sort of physical or digital item, I think that will become much more prominent as we see this idea of the metaverse kind of build out. Whether or not it's a metaverse that's built on public, permissionless blockchain network, of which there are some that are kind of developing as we speak, or it's a private kind of metaverse, as being built by companies like Meta, etc. NFTs are going to go a long way to help us try and figure out, well, who exactly owns what. But again, that runs into the same problem mentioned before of, well, how exactly is the government going to recognize these kind of ownership claims?

So those are really the two main points that I wanted to bring up in my remarks today. I think I'm close to time, so I'm going to wrap it up and just say thank you for allowing me a chance to share my thoughts.
Thank you very much, Mr. Rosario. We’ll move on to our next speaker, Giovanna Fessenden, please.

Thank you, David. Pleasure to be here today. Thank you so much. This is very exciting. I'm grateful that the PTO and the Trademark Office and the Copyright Office are all being sort of thought leaders by organizing this kind of roundtable.

So my name is Giovanna Fessenden. I'm a patent attorney. My background is in computer science. I have been practicing in the software space protecting innovations for over 20 years. I am an IP attorney at Hamilton, Brook, Smith, and Reynolds, and I'm also on the Board of Directors of the Berkshire Innovation Center.

As a patent attorney who's extremely passionate about innovation, I really see the advent of blockchain and NFTs as being as transformative in our daily life and our economy as the internet was. I mean it, to me, I really feel like it's in the blockchain and NFTs are in their infancy.

And, you know, from my background, I started off as a web-based programmer, a Java programmer in the 90s. And I grew up witnessing and contributing to the evolution of the internet from being a web-based sort of message board, early, like Usenet or just mostly file transfer-oriented environment, to the rich media interactive experience that we have today, that we get to experience. And there's been a ton of intellectual property around the internet as it's evolved over the several last decades.

And I see the evolution of blockchain and NFTs on a similar path. The internet is what we call Web2, and the blockchain is Web3. And like the early internet in the 90s, the blockchain Web3, it's not a media rich experience. Right now, it's very text based. It's a transactional record.
The blockchain Web3 solves so many technical problems already that we have on the internet. It provides transparency and clear chain of title, of ownership of physical and electronic assets. And with the innovation of NFTs, I really see the potential for Web3 to be infinite because NFTs can represent any real world or electronic asset or be a tool. And NFTs can control those assets and they can act as their own software interface through smart contracts to control that asset, and the potential is enormous.

So I think it's important to allow the blockchain and NFTs to develop organically, to its potential and not to impede technological progress with excessive regulation. It will only cause development and investment in the technology in this space to move offshore, as we've already seen. And this would be undesirable for the United States. We should be leaders and the innovators in this space and embrace the technology and make it a haven, in my view.

With the downfall of FTX, obviously there was lots of concerns about crypto. But FTX, in my view, it wasn't a technology problem. I mean, it was a malfeasance problem. And I would say also, in part, it's a result of the United States not embracing crypto and blockchain and providing the proper infrastructure and regulations for it here. And instead it causes companies to move offshore and set up abroad and where we don't have as much control as we would have over here. So ultimately, I think it's paramount for the United States to be the leader in the global economy and innovation for blockchain, crypto, for NFTs. And we should embrace it and be at the forefront of this technology, regulate the crypto space, but do it thoughtfully and exercise caution in ensuring that investment and innovation won't be chilled or that we're not going to impede investment in innovation because of overregulation.
So, as an example, the internet, it benefited hugely from a laissez faire approach from the U.S. government for decades. And while I believe that crypto should be regulated, there's so much more to the blockchain and with NFTs than crypto. I mean, crypto is just a very small portion of blockchain technology. And I think blockchain and NFT should enjoy a more laissez faire approach.

We should take this opportunity to develop, lead the world in this space, encourage standards to help improve security and efficiency. And we need a delicate balance between regulation and kind of a laissez faire approach.

With respect to patentability, NFTs and the blockchain have so much potential to solve so many technical problems. And I see these technologies as being pretty robust for our strict 101 standards, as long as they are solving a technical problem and providing a technical solution. I think that the PTO has been appropriate in granting patents and not being overly strict in this space. So I'm grateful for that.

And there's so much innovation to be had in the space. Just today, I just saw that the Blockchain Bandit had attacked a bunch of bitcoin wallets and siphoned off tons of crypto money.

Wallets, for example. We need better technology, maybe hardware-based wallets. There's so much innovation there to be had. And I'm fortunate enough to have amazing clients. I've been working in this space since 2013, was one of my first clients in blockchain, and I did even a TEDx Talk in 2016 on the blockchain revolution. And so I've been in this space for a long time, and I have amazing clients that have great technology and I feel like-- I hope that, I know there's a lot of congressional committees that are looking at everything very closely, but it's important to have industry leaders in this space.
As an example, one of my clients, Forte, which is a gaming blockchain client, they're not just gaming, they're providing like a huge infrastructure around blockchain technology and creating standards and security.

And this is what we need. We really need strong leaders in this space to help build our infrastructure and create really robust and secure systems so that we could make the next generation of this technology.

Ironically, when we're going back to sort of the 101 issues of patentability, I think of the innovation, the genesis of blockchain, which is from the Bitcoin white paper, and I look back at that and I wonder, what if Nakamoto, he may not even be a real person, so there might be an inventorship issue there, but what if he had filed or they had filed for patentability on that? Would the Patent Office have granted a patent on it? Because really, the blockchain is a fusion of many old types of technologies to create something new. And I think that it would have been potentially patentable. The combination of peer-to-peer architecture, hash encryption, a consensus algorithm to provide this new transformative structure that creates a chain of ownership for electronic assets. I think that there would have been the potential there.

So I'm grateful that this concept of the blockchain wasn't patented, because we do-- it has definitely, it was clutch for this whole new economy that is being developed around it. But there could have been an opportunity there to patent.

And I think ultimately, blockchain and NFT innovations are so ripe for patentability because it's just so early. They're in their infancy, and they could provide so many technical contributions. And I really am grateful that the Patent Office is recognizing their value and granting patents in this space and I'm happy that
we've got a lot of great companies out there working to develop in this space.

But I would also encourage that our whole government would also embrace the technology so that we can have more organic and companies investing more here in our country to put us at the forefront of this space. And so that's my thoughts, but thank you so much.

<DAVID GERK> Thank you, Ms. Fessenden. And thank you to all the speakers, have done a wonderful job speaking about finding correct, good balance of regulation. In self-regulating, everyone's done a great job on sticking to 10 minutes. So thank you, let's keep that up. Our next speaker is Mark Stignani. We look forward to your remarks. Thank you.

<MARK STIGNANI> Thank you. I appreciate the opportunity to speak and thank you both to Undersecretary Vidal and the USPTO of providing this forum.

My comments are going to be largely around the tracking mechanism that NFT provides versus whether it's an IP asset type or not. One of the things that I should say about myself is that I have been working in emerging legal tech for over 25 years. I predate the internet, have worked on ARPANET in the 80s. I practice, not just patent law, but digital data security, privacy, as well as other aspects of corporate law that surrounds the use of crypto as well as NFTs.

I come from a long background of content of 16 years in-house at companies like Westlaw and Derwent. I speak monthly on cryptocurrencies. I also co-chair the Practice Innovation Committee for Emerging Technology at AIPLA. So I represent the old guys' view on NFTs as we come forward here.

So the key initiatives here is, I look at NFTs, in many cases, I see a solution in search of a problem. And so one of the things
that I think about NFTs is they’re a unique opportunity to present something as a link on a ledger.

The blockchain, I think, is well formed, and it has a good basis to it. I think that the whole focus on the anonymity of blockchain is probably not something we need to focus on for the USPTO. I think the USPTO would be kind of the official granter and holder of U.S. patents. It certainly should present itself much more like a central bank digital currency provider, rather than a facilitator of anonymous networks transferring patents here and there.

So I think one of the things that I would really encourage us to consider in bringing NFTs into the Patent and Trademark Offices remit is that the NFT as it is right now is really so undefined really as an asset type, that it's just a token that's attached to something real in the World Wide Web or in the in the metaworld. It confers almost no IP rights, unless the smart contract - which is its own misnomer - does so, so there is no predictability.

So the key considerations I would urge the USPTO to engage with the blockchain and with the NFTs is to be a source of trust and predictability as to whether you're a broker, whether you are the facilitator of a blockchain that helps NFTs engage with patents, whether they're transferring a patent right, conferring an assignment, conferring an inventor, that an inventor has agreed to assign their rights.

I think fundamentally the best and highest use of NFT and blockchain use at USPTO is really for to use it as a facilitation tool, to increase the speed, security, predictability of each matter that the USPTO brings in, and works through, and grants.

As you were the holder of record for literally all the intellectual property registration rights, but for domains and copyrights, I think you have a very powerful position to hold as a
trusted resource to engage with blockchain, to engage with the
various transactions around patents. And rather than-- I'm worried
less about the USPTO being the obstructor to these types of
transactions, but the registrar of these transactions, so that we
have one place.

In 16 years of acquiring companies as an in-house company and
another 12 working at Barnes & Thornburg and other law firms, one
of the biggest problems I see is locating the chain of title,
locating the chain of custody that is around a certain patent asset
or an SIRO. Often I find orphans that have been kind of left behind
as companies have merged and collapsed. So you end up with a great
deal of assets that are just being unused or being unfounded in
many cases.

So one of the things that I think blockchains and smart
contracts could be used for is especially the transfer,
registration, and holding of the patents. I think that this could
start at the inventor state, where the inventors actually validate
the USPTO. Rather than signing an assignment that they register,
their assignment of rights in the blockchain at that point in time.

This would also be available early on to validate whether or
not the company has adequately assigned rights. I think that the
registration recordation of all entities that own patents would be
a valid use of blockchain for the USPTO as well.

The whole aspect of validation, I think, is right clearly in
the middle of the remit of USPTO for any asset class they hold
onto. I think that also the registration liens and security
interests, things like FRAND royalties or availability for standard
essential patent status, are also things that could be recorded on
the blockchain in the Patent Office rather than forcing us to go
out to different other standards organizations to discover all the
things touching on a patent. Same thing goes for litigations or IPRs.

So one of the things I think that blockchain would offer in high advantage for the USPTO is the ability to do transactions without engaging simple human process, the process that [inaudible].

So the automation I think the blockchain offers for USPTO is there. I think, as we get further and further into smart contracts again. I’m somewhat scoffing at smart contracts as being a FORTAN statement that I learned in 1980, 1973 actually, 1977, excuse me.

You also will have the ability to then automatically transact patents and licenses and such like that. The NFTs remind me somewhat of the Digital Object Identifier work that was done at the Copyright Office in 2000. I mean, it’s a good idea. It just lacks execution at this point.

So one of the things that I would urge the USPTO to consider doing is being a trusted anchor point for all the patents, design patents, SIRs, anything else that it holds - trademarks - that it holds within its official authority as being the holder of both the proof of ownership, the actual affirmation of grant rights transfers, as well as engaging with that as a mechanism.

Having been involved in the Patent Center through AIPLA, I would urge an incremental adoption of these things rather than a wholesale thing to the USPTO. I think that there is imminent blockchain engagement opportunities with the current systems you have to make them better and more reliable and more predictable.

And I will close off my commentary here, is that the NFTs, I think, are much more hyped than practical at the point. They are still an ESG drag.

If the USPTO is going to engage NFTs, I would urge you not to go down the proof of work pathway. Minting a single NFT still
causes your refrigerator to run for a week, if that’s the last
calculation of that.

So being that you are the official entity, I don’t think you
would have to be-- go through that whole proof of transaction
aspect. It simply would have to be go through the proof of stake,
where the USPTO affirms a transaction that happens between two
parties.

I do think that the USPTO should require full identity of
patent ownership. We see too many patent transactions that are not
visible to the public, and when they get into litigation, there is
a long and expensive route to validate that chain of title.

So with that, I will close my remarks and appreciate the time
and opportunity to speak.

<DAVID GERK> Thank you very much, Mr. Stignani. Our next
speaker is David Hardoon.

<DAVID HARDOON> Hello. Thank you Undersecretary Vidal and the
organizers of the event. I think this is an incredible opportunity
to discuss and to kind of gain some understanding of this new
technology.

So I have a computer science background, and I'm a practicing
patent attorney, and I work with innovation every day and in a
position where I counsel clients regarding their blockchain
technology, the use of technology, and I get to needle inventors
about whether that technology makes sense to implement here, and
really try and understand why they're using this technology over
others.

So one of the things that I ask inventors when they bring
blockchain technology to me is, how is this use of the blockchain,
how is this improvement better than, for example, just storing data
in a database that we've known about for decades? Is there a real
use for this, or is this something that's merely buzzwords, or the
use of technology in order to get investors in the space? And I've cautioned inventors that sometimes the use of their technology doesn't make sense, and so we should possibly include more legacy technologies alongside their other innovations when it comes to protecting their improvements.

That said, on the patentable subject matter front, I try to counsel clients about the distinction between improving blockchain technology, improving NFT technology, and merely applying that technology. For example, if they are improving the process of authentication or changing and improving protocols for mining blocks, for example, an alternative to proof of work or proof of stake, if they're reducing the cost of storage on the blockchain or reducing the time that it takes to process transactions in a way that doesn't harm the underlying blockchain, those are— or improving protocols for the creation of NFTs and their linkage to the use of external storage. I think where you're improving the functioning of those technologies - and I think there's a ton of innovation in that space - I think under patentable subject matter, those things are pretty clearly patentable.

Where companies come to me and they're merely leveraging existing technology and using it just because they created a new coin or have an idea for a new way to use this technology, it doesn't necessarily make sense to file a patent because their leveraging of that technology just might not provide enough material for it to be considered patentable subject matter. So I deal with that all the time and sometimes I, as patent attorney, have to be the bad guy, or at least kind of a gatekeeper in some ways for what my clients can or shouldn't file for.

Some of the assets that my firm is working on currently are a protocol for documenting a chain of title for hemp production and sales. Tying real-world assets to commodities, for example, is
really interesting. And allowing multiple parties, including multiple government entities, law enforcement, to access data that ensures that a person or party is legally able to possess that commodity and you can tie that commodity to that person is really interesting.

I've also worked with tying NFTs to real-world collectibles and the ability for folks to tie a real, hard asset to a digital one, and so that linkage allows the transfer of that asset and for verification and authentication of that asset to third parties.

I filed patent applications to improve blockchain technology, the use of NFTs, and improved protocols for the authentication of location, of people, and the creation of digital prizes for people who are in a particular space.

I think there's incredible advancement in the space and I'm really excited to hear about the innovation that solo innovators and technology teams and startups are coming out with, and it's a real joy to be able to discuss the technology that they're so excited about with them.

In the future, I think that there's a great deal of potential to use smart contracts to effectuate the enforcement of contractual terms and the licensing of IP. Professor Lawrence Lessig and the book "Code" opened my eyes to the possibility of underlying code as an enforcement mechanism for contracts and licenses.

The ability of NFTs to bind downstream parties is exciting from both a technical and a legal perspective, and the inclusion of automated payment mechanisms as a possibility to lower costs and the barriers for entering into contracts and licenses.

Additionally, when purchasing digital assets, it's important to understand that the asset is vulnerable to attack or fraud. For example, storage on the blockchain is incredibly expensive, and as a result, the payload of many NFTs are stored off-chain. Depending
on how and where the assets are stored, they may be vulnerable to
attacks, where different text or images are substituted for what
the purchaser thought that they were getting.

Today, when counseling clients, I try to explain those risks
involved, including whether courts would interpret smart contracts
as a contract downstream, and third-party issues regarding binding
purchasers and repurchasers of digital assets. And I try to explain
that this comes up fundamentally when things are not working.
Because courts don't involve themselves in enforcement of contracts
when everything is going according to plan.

So when things break down and you see unexpected behavior,
what happens and what are the rights of the parties in this case?
Whether that is a third-party oracle that pushes data to the
blockchain to provide a source of truth, that interacts and
triggers smart contracts, or the functioning of the blockchain
network itself, or a bug is found in smart contract code, or
exploited, or bugs exploited by a third party or the NFT owner
themselves

Outside of the code of the blockchain, what mechanisms are
there for recovering property when something breaks? It's important
to understand what you are purchasing and selling when you are
dealing in NFTs and digital assets, particularly when those digital
assets are tied to intellectual property.

Lots of stories in the news about parties buying up NFTs with
the assumption that they're now able to make copies of a work just
because they own the official NFT to that work. Most folks with a
legal background, attorneys and scholars, would say no. At best,
they have a limited license to use or view that work, and they
don't have broad sweeping rights to make copies of the work.

When linking code to underlying legal rights and obligations,
could be interpreted by courts and by parties, because sometimes
the code does not speak for itself, particularly when things break
down.

If there's a bug in the code, it's hard to understand exactly
what the intentions of the parties were. And, as it stands, I am a
bit skittish in recommending the use of smart contracts for broad
sweeping regimes other than basic transfers of digital assets, as I
don't think that linkage is there yet.

Do I think that the official system of assigning IP should be
in the blockchain? At this point, I don't think it makes sense, but
I do think that we shouldn't necessarily hamper the ability of
people to grant licenses and sublicenses using digital tokens, and
I think that's worth experimenting with.

So overall, I think there's a lot of positives with respect to
NFT technology, and I'd like to see where that technology develops.
Thank you.

<DAVID GERK> Thank you very much, Mr. Hardoon, today. Our next
speaker is Ryan Chowdhury.

<RYAN CHOWDHURY> Hi, everyone. Thank you to the Patent Office
for initiating the study, the participants for sharing their
perspectives, and to everyone for your time and attention to topics
relating to emerging technology.

So a bit of background about myself before I give some
comments. I'm an associate at the Washington, D.C. office of Fish &
Richardson. I've been practicing IP law about eight years now, and
my practice spans across all aspects of patent law, including
patent prosecution, post-grant matters before the Patent Trial and
Appeal Board - or PTAB - and some district court litigation as
well. I also have experience counseling clients on blockchain and
cryptocurrency-related patent applications. And more recently, I've
also had the privilege to be member and participant of several Web3
communities. So I've seen how builders are approaching NFTs from an industry standpoint.

And so my comments today will be fairly high level, and will focus on the intersection of NFTs and emerging Web3 systems and how patent policies can fit within such systems. As I give the comments, I think the policy question that I want everyone here to ask yourself is, how should patent rights fit within the context of decentralized Web3 systems? And I bring that up as-- because as a patent attorney that was getting into these Web3 communities, what I noticed is a tension between exclusive rights granted by patents and the ethos of Web3 to promote decentralization.

So, to start, I'd like to give a little bit of context of how I understand an NFT. I think another panelist had mentioned that if you ask the definition of an NFT, you'll get several different definitions and I think that's particularly true given how broad an NFT can be understood to represent depending on the context.

And so the context that I'll be talking about today is the definition of an NFT within the context of Web3. The way I understand it is a permissionless representation of ownership of metadata that can be tracked, sold, and monetized. I use the word permissionless because any user can create or mint an NFT on a public blockchain, such as Ethereum, without explicit authorization by another entity. And that's very powerful because you can essentially mint whatever NFT you want without someone else telling you whether it's okay to do that or not. And so with power and technology also comes risks, and that's what some of the other panelists today have focused on.

In terms of the NFT that's minted on the blockchain-- the blockchain chain serves as a distributed ledger that publicly stores ownership data. The metadata that is defined by an NFT can be associated with an underlying asset, such as a digital asset,
like an image file. There is also interest that's developing in associating the metadata with real-world assets or assets that exist off-chain in the real world.

And so with this context, an NFT should really be understood as the foundation of Web3. And one of the ways in which a lot of Web3 communities are using NFTs is a way of enabling participation. So an NFT or ownership of an NFT gives you participatory rights in a Web3 community.

In terms of how Web3 communities are being organized online on the internet today, what I've seen is a lot of Web3 ecosystems use a decentralized governance model. And this decentralized governance model also applies to the technology stack that's used by a lot of blockchain products.

I'll share my screen here to give you kind of an overview of the decentralized governance model from a high level. These are the components of a decentralized governance model that's typically used in a Web3 community. At the lowest level, you have a blockchain network, which provides an open distributed ledger or database system, and this means that the data is contained within the blockchain, it's distributed or duplicated across computers, and therefore it's sufficiently decentralized.

On top of the blockchain, you have a composable smart contract protocol. The protocol is essentially executable code that's stored on a blockchain and is automatically executed when predetermined terms and conditions are met.

And above that, you have a client or it’s sometimes referred to as a decentralized or distributed client or a dApp. And it's-- in the Web2 world, it's similar to a mobile app or a web app. It's essentially a software program that operates on a peer-to-peer network of computers running on a blockchain platform, providing a variety of functions.
And so when you think of the decentralized governance model, the question that I've asked myself, and the question that I invite everyone that's attending this study to ask themselves, is where do patent rights fit within this decentralized governance model?

One of the things that I will say is a key ethos of Web3 is that the blockchain networks and the smart contract protocols need to be open source for the systems to be sufficiently decentralized.

And so you see a big focus on blockchain, and this is thought to be an imperative for both the purposes of security, as well as fostering decentralized economies of such systems. Transparency associated with open-source technology means that anyone is free to use the technology at the blockchain level as well as the protocol level. And so that really creates opportunities for the Patent Office to think about where patent rights and exclusive rights granted by patents fit into this decentralized governance model.

Turning to some policy challenges and issues—as a high level, patent policy should not disrupt or be intention with these key ethos of web3 seeking decentralization. Rather, my view is that the patent laws and regulations that incentivize participants to seek exclusive rights to grow and expand web3.

And so one of the ways that I've conceptualized that is to think about where patent rights fit within the technology stack. And so when it comes to the blockchain network and the contract protocols, they're intended to provide permissionless, trustless, and verifiable ecosystem in which value can be transferred and upon which web3 products and services can be built. The technology is supposed to be or it's intended to be available to the public. I essentially see them as public goods. They are the core innovations of programmable blockchains and where we expect value to accrue in the long term. And so, in my view, exclusivity or exclusive patent
rights at these layers of the stack potentially could stifle innovation.

However, if you get to the client or the decentralized or distributed application layer, I think this is where a lot of interest in exclusive rights should focus. And that's because at this layer, the applications provide functionality. And a lot of companies that are innovating in this space have developed a lot of proprietary intellectual property that's built upon the open-source standards at the protocol and network layer.

The applications also enable products and services to be deployed and run without a central party to operate them. They open a vast world of possibilities, including community-empowered applications that need not rely on algorithmically-driven ad programs to make them economically viable. And that's a very big focus of web3 at the current moment. They also incentivize creators to innovate, and if creators have IP or exclusive rights at the application layer, they're incentivized to innovate further.

And so, turning next to NFT-related inventions, from my perspective, what seems less important for patent protection are open-source token standards on a blockchain, such as the ERC-721 or the ERC-1155 standards on the Ethereum network.

Another challenge - and other panelists have focused on this - is patent eligibility issues related to NFT-related inventions. I think, as a matter of policy, the eligibility regulations should restrict abstract processes that use NFTs in a manner that preempts the traditional business process. So this is similar to our existing patent eligibility jurisprudence, as well as protocols and processes that are the focus of blockchain development entities, such as the Ethereum Improvement Protocols or EIPs.
I also see less of a focus for patent protection in the blockchain protocols, which, as I mentioned before, I think should represent public goods for web3 communities and projects.

So then that brings us to the next question, which is, what type of NFT-related inventions should be prioritized or the focus of patent protection? The way I see it, methods and systems that interact with blockchains and allow NFTs to be created, traded, managed in new ways are areas that create opportunities for patent protection.

So some examples of this are new ways of transacting with NFTs, account abstraction techniques to create privacy layers for public NFT metadata that's accessible on a blockchain, data verification techniques using NFT metadata, data structures for associating NFT on-chain metadata with off-chain data, transaction protocols for processing and validation methods for using the NFTs.

DAVID GERK: Sorry, Mr. Chowdhury, we're really running over time here, so we're going to have to move on to the next speaker.

RYAN CHOWDURY: Great. Thank you so much, and I'll end my comments here. Appreciate it.

DAVID GERK: Our next speaker is Michael Kasdan.

MICHAEL KASDAN: Thanks everyone. My name is Michael Kasdan. I'm an IP partner at Wiggin and Dana in their New York office. I'm also the Co-Chair of our Blockchain & Digital Assets group, and I work with an array of clients across different industries in this Web3 space that we've been discussing. I'm also an adjunct professor at NYU School of Law, where I teach a course that started as a patent licensing course and has expanded to IP licensing, including starting to talk about some of the monetization techniques for NFTs. I also guest lecture at NYU Startup School on IP for entrepreneurs, as well as on NFTs and blockchain and the metaverse. I'm also co-chairing the New York chapter of the
Licensing Executives Society, and I am the Chapter Head for the New York Chapter of the International IP Commercialization Council. My practice for 20 years has included and focused on IP litigation and IP licensing, as well as advising emerging technology companies on IP strategy.

I came to blockchain as somewhat of a skeptic after hearing a lot about cryptocurrency for years, but learned about the space over the past number of years, basically from clients who had really innovative, interesting ideas in some of the use cases that I'm going to talk about.

So clients in the patent space, clients who want to do interesting licensing and monetization. And it's been an interesting time, with a lot of learning and writing and thinking about this space, and I'm really pleased to be among this group and to listen to some of the comments from the other speakers.

Before I commence my remarks, I also wanted to thank Undersecretary Vidal and the Offices for the opportunity to share these thoughts this morning, especially I wanted to commend the USPTO and the Copyright Office on this joint initiative to gather information about NFTs and IP. I think it's really important.

Turning to my comments, I wanted to direct my comments on three areas. And the first area I wanted to focus on was just to share a bit about the breadth of non-fungible tokens in terms of use cases, in terms of industry verticals and folks using this technology in different industries, also in the way they can flexibly treat IP rights.

And I'm going to attempt to fade here and see if I can throw up a slide on this. Here we go. So hopefully folks can see that slide.

<DAVID GERK> We can.

<MICHAEL KASAN> Great. Thank you.
But the place I want to start is with the use cases. I think NFTs came into a lot of popularity, a lot of public conversation, into the mainstream, with a lot of focus on the digital art and digital collectible space, which I think is a really interesting space.

But the use cases are far broader than that. And I think as Undersecretary Vidal talked about, she was recently traveling in Asia and talked about the many different industries that are interested in and in fact implementing using NFTs.

And I had the same experience. A lot of folks want to talk about this across different industries. And I think starting with a place— that's kind of the definition, we talk about fungible tokens, right? Fungible tokens are like fiat currency. You can exchange one for one. Non-fungible tokens is anything else that can be tokenized and is unique. And that's a very, very broad asset class.

And I'm not going to spend a lot of time in this slide, but it's intended to give some color as to the array of use cases being used across different industries.

So certainly we have the digital art and digital collectibles. NFT use cases also extend to linking digital online products to real-world products. Also things like tickets and access badges, token-gated communities, events.

Another use case that's a little bit less in the news—but others have mentioned today—are tracking real-world assets or even intangible assets like IP. So in the real estate industry, we think about title and what a mess that is and how inefficient it is. So the ability to digitally track, authenticate, something like provenance and title.

Tokenizing real-world assets is another use case, as is the sort of digital video game metaverse space, where we're spending
more time in digital spaces - like this one - and we may have avatars or gear or other digital assets that we own.

So I just wanted to start there just because I think it speaks the breadth of use cases, I think speaks to the breadth of the topic, and the complexity of it.

And I also just wanted to throw up this slide in terms of some of the benefits of blockchain that folks focus on. And two of them I wanted to highlight that I think are particularly relevant. One, why are we excited as IP folks about this topic? We're creating more and more digital stuff every day. We're spending more time in digital spaces, and NFTs provide a vehicle to monetize digital assets that were previously hard to monetize. And so the ability to have a certificate that provides authenticity, scarcity, and provenance allows you to monetize all manner of different types of assets.

The second benefit that I wanted to mention that I think is really relevant to us speaking about innovation here and that others have mentioned is this ethos, I think in this potential democratizing effect and sort of the change and the transition from web2 where the sort of pipes companies are taking the lion's shares of the profits and control, and you need to go through a middleman to reach markets. The ability to be able to tokenize things, store it on this immutable ledger. It places a lot of power back in the hands of artists and creators and innovators and inventors and gives them the ability to more directly reach markets and profit on their inventions. I think that's really exciting. So I'm going to stop sharing, and go back.

So, for example, in the digital collectibles space, the other I think, important thing to highlight is that there's also a great diversity of the way IP rights flow with NFTs. So for digital collectibles, for example, like some of the profile pictures that
were initially popular and still are, oftentimes those can convey no IP rights at all. You buy it, you can display it, like if you were to buy a t-shirt, you can wear it, you can display it digitally, but you can't commercialize it.

NFTs also, in other use cases, have the ability to convey all sorts of IP rights, full commercialization rights. So examples like Bored Apes Yacht Club or Gutter Cat Gang or some of those profile pic projects that are commercially valuable, give the holder of the NFT the ability to commercialize it, to make a new movie, to license that to a brand. And I think that's really exciting.

We also have NFTs where the NFT includes patent ownership rights or license rights. So some entities in the decentralized science - or DeSci - space have created IP NFTs. And there are news reports - or were news reports - of some companies working on tokenizing IP for transferring and handling IP, licensing of patents, and also selling NFTs on marketplaces, like NFTs that convey patent rights.

So folks are excited about this. I think there's a lot of potential there in terms of unlocking value, bringing new liquidity to the asset class, and folks are excited about that. And I think it is worth being excited about.

I think it also-- this flexibility and this breadth, also illustrates that transparency and clarity, in terms of what a particular NFT is and what IP rights it includes or doesn't include, is a really, really important issue. And it's important for stakeholders and policymakers to work towards creating standards that really provide that in the marketplace.

I think it also underscores how important it is to ensure authenticity. I said ideally they provide authenticity, and as others have mentioned - as some of the written comments submitted to the Office mentioned - authenticity can only be guaranteed at
the source. I think that provides an opportunity for folks to lead
in this area, including the Patent Office.

The second area that I want to briefly comment on - and which
others have touched on - is blockchain and NFT-related patents and
patent quality. I think when I first came to this space, it was an
interesting experience as a lawyer, because two things that you
hear are things like, this is web3 and patent and copyright and
trademark law -- that's web2 law, and we're past that. That's not
relevant anymore. The other thing you hear, which I do understand
but push back against gently, is we're going to put everything in
smart contracts and we don't need lawyers anymore.

I think the reality is that while these new technologies do
pose challenges, there's no such thing as web3 law. There's just a
law, including patent law. And just like we're seeing increased
trademark filings in the NFT space and copyright filings for these
assets, we're also seeing patent filings.

And I just wanted to emphasize before my time is up that, as
others have mentioned, I think it's very important and there is a
lot of innovation and need to grant patents on novel and nonobvious
inventions. And I think, as with any emerging technologies, I just
want to emphasize to the Office that it's important to train in
this area so that we're awarding patents of the proper scope.

<DAVID GERK> Thank you Mr. Kasdan for your remarks.

<MICHAEL KASDAN> I think I'm at my time, and I'll submit the
rest in writing and appreciate the opportunity.

<DAVID GERK> Thank you. Ten minutes goes fast, for sure. Our
next speaker is Dov Greenbaum.

<DOV GREENBAUM> Okay, so I'm just going to quickly share a
slide. Hopefully you guys can see that.

<DAVID GERK> Yes. We can see it.
I want to thank the Patent Office and everyone involved for allowing me to speak today. It’s an honor to be on this great list of practitioners who are involved, and getting to see what everyone’s been saying. Clearly, as the eighth person on this list, a lot that I planned on saying probably will have been said already, or has been said already. So I'll try to be as brief as possible, and I'll try to be as novel as possible.

I'm also a bit different. As you can see, I'm more of an academic than a practitioner. My background is in genetics and bioinformatics. I'm an attorney licensed in California and to the USPTO. I was formerly a litigator in biopharmaceuticals, more recently a patent prosecutor in the areas of software, robotics, and missile defense. And currently I am also-- I'm a researcher in molecular biophysics and biochemistry at Yale, and also I'm a law professor at Reichman University in Herzliya in Israel, where I'm also director of the Zvi Meitar Institute for Legal Implications of Emerging Technologies. We're very much involved in this sort of space. We do a lot of stuff with meta. We've run conferences in the area of metaverse and smart contracts and NFTs. I have a doctoral student who is in the area of smart contracts. I've run a course -- a lot of fun -- entitled The Law of the Metaverse in the Metaverse, where actually the students are actually in the metaverse for the entirety of the course. A lot of them throw up at the end, but that's for better or for worse.

Like speakers before me, I'll try and be high level. I will assume basic understanding of NFTs and patent law and everything like that. So without further ado, I'll just quickly run through this. Hopefully it's changed.

So I just want to touch on a whole bunch of topics-- the intersection between NFTs and patents. One is the development of an ownership/assignee database, with using NFTs to sort of track
ownership of patents. Other sorts of blockchain-associated tools. In the area of NFTs and patents, the idea of tokenization of patent ownership. I’ll touch a little bit on issues relating to selling NFTs of inventions, some issues with regard to patent sale and licensing via NFTs, and I'll just finish with some issues on design patents.

So really quickly, I don't know if anyone's seen this, but IPwe and Casper Labs, and at some point also IBM was involved in this, announced last week that they were converting 25 million patents to NFTs. I sort of assume in an effort to develop an ownership-like database, and like many have said before me already, there's a lot of value to stuff like this. So the NFTs are easily transferable. They're immutably and transparently recorded within whatever blockchain they're using. I think it's a proprietary blockchain by IPwe, so it's going to be a permissioned, private blockchain, with all the positives and negatives that come with that.

One of the good things is, I think that - and practitioners will note this - that the assignments will be timely recorded, which is great. Oftentimes assignments aren't timely recorded for whatever practical reasons. More so prior to 2015, when there was a fee, there was more reasons, but now less reasons.

Some have already mentioned that NFTs on the blockchain will provide a clear chain of custody of who owns what. In terms of patents, it's another issue with the assignee database, and sometimes some people within the chain of custody don't necessarily put their information into the database. And hopefully also this will also require licensing of NFTs representing the patents.

On the downside of this of course, is will such a system be redundant with the USPTO's already database? And if it is redundant, will assignments in the system be acknowledged by the
USPTO in courts? Will we have issues like 261 failure to record? If you only record within the NFT sort of system and not within the USPTO system, will that be considered a failure to record? Of course, I don't know how they end up - or will end up - setting up this particular blockchain, but of course there will be issues with the anonymity or the pseudonymity of the recording, and perhaps the need for persistent identifiers, such that we can actually follow the chain of custody. So that relates to using NFTs in terms of ownership and an ownership database.

Moving along, thinking about other tools once you have developed an NFT database that tracks patent ownership, you can imagine a whole host of tools that will be relevant and useful for patent owners, practitioners, licensors, litigants, and even researchers. Hopefully at one point-- again, they announced that they were going to do 25 million. I assume that's more than what's going on in the USPTO. And so you would assume that they're working on multiple sort of patent offices. And so there would be some interest in seeing whether or not that would create more interoperability between a data held in various patent offices.

Again, being that it's on the blockchain and being that they're NFTs, and being that they're relatively standardized - depending on what NFT standard you use - hopefully they'll be very transparent, which will make research on these apps, on these datasets, easy, decentralized datasets. So if anything ever happens, of course there'll be access to the data.

And I think what was just mentioned before me is, of course, one of the concerns is that we all assume - or some assume - that when something goes up on the blockchain, that assumes that that information is reliable and truthful, but in reality, it's only immutable. Anyone can put whatever information they want up on any-well, I'm speaking too broadly, but information can be put up on a
blockchain that isn't necessarily truthful or reliable, and yet it might be immutable. And so the question is, how do we assess reliability of the information that's put up on these sorts of databases?

Moving on, I think this has also sort of been mentioned, this idea of tokenization of patent ownership. This has been discussed in real estate and other areas of ownership. And of course, this would be great for developing a patent marketplace. As many of you know, most patents are never licensed, and so oftentimes a lot of money is spent on developing patents, but they're not really valuable.

Tokenization of patent ownership via NFTs would create a more liquid sort of marketplace, an ability to, like I said, commodify expensive assets without necessarily licensing them. Of course - and I have no answer for this - but the question is, if you do tokenize ownership and people get to buy little pieces of a patent, are they still considered a joint owner of the patent under 35 USC 262, and all that comes with that, meaning that they can all license without anyone-- all the other owners' involvement. And so essentially what you have is a very useless sort of patent that thousands of owners of that patent can actually license at their own discretion.

Of course, there's another question is, is the marketplace--is the tokenization of a patent via an NFT, is that a license that you're selling the patent or are you selling it or you're merely licensing it? And of course, the distinctions are valuable distinctions in terms of what you can and can't do with that patent.

Moving on. So again, one of the values of selling a patent via an NFT is of course you can create your own bespoke license via an NFT to sell or license your patent to various different
stakeholders. And again, each of those sort of licenses would be recorded on whatever blockchain you are using for those NFTs. Of course, on the flip side of that, you may have naive sort of users and whom-- they may purchase an NFT of a patent, assuming that they may get a whole host of rights with that NFT associated with that patent. In reality, there's no reason why that NFT has to provide any rights associated with that patent. So there is an opportunity here to sort of trick naive sort of traders.

An interesting sort of issue that is unrelated to what I've been talking about until now is the issue of exhaustion. As we know, the Federal Circuit was overruled in 2017, in terms of what does exhaust the patent, and they were pretty clear on it. But I don't know if it remains to be clear, whether or not if I sell an NFT representing an invention - so not representing a patent, but actually representing an invention - does that actually exhaust that patent? I don't think that's been tested anywhere. It would be interesting to see what would happen in that sort of case.

Of course, that also goes to the issue of when I do sell an NFT downstream of an invention, is that a license or a sale of that invention? It's not clear what represents a license or what represents a sale, and oftentimes NFTs are licensed and not sold. But again, that's a three-way circuit split in terms of what defines a license-- what defines a sale. And it just gets confused even more when you throw NFTs into the mix. Moving on--

<DAVID GERK> Unfortunately, Dr. Greenbaum, we've hit your ten-minute mark, so we have to move on to the next speaker.

<DOV GREENBAUM> Okay. I apologize.

<DAVID GERK> No, thank you very much for your remarks. As I said before, it goes quickly. Our next speaker is Mikal-Ellen Bennett. Please? Thank you.
<MIKAL-ELLEN BENNETT> Yes, hi there. First of all, thank you for inviting me. And also it's Mikal-Ellen Bennett, said just like the man's-- Michael.

<DAVID GERK> My apologies.

<MIKAL-ELLEN BENNETT> It's fine, it's fine, it's fine. So I am a practitioner at a very small firm in North Carolina. We're located-- we have offices in North Carolina, so most of our clients are small or growing and originally small businesses, startups. So I will try to be brief in my remarks. And I think I'm going to bring a bit of a different view to this as a small firm practitioner. I've advised many clients regarding NFTs, but I also assess all of their IP needs when I'm working with these clients. So that perspective may make my thought process here a little bit different.

I am a registered patent attorney for, well, let's just say over a decade, I don't want to show my age, but my natural instinct when it comes to NFTs, when I first started thinking about them in terms of IP was copyrightable, of course, trademarkable even in some circumstances. Patentable, maybe a few, maybe. But my knee-jerk reaction was rare circumstances. I have had clients, small business clients ask me about these things in my practice.

So I am a biochemist by training, so I'm pretty familiar with the plant patent side of things, as well as the design patent side of things. And then I know that the literature out there today, the popular view is to treat them along the lines of design patent applications. But even that, those two frameworks of design patent applications and plant patent applications, neither one of those frameworks really fits very well with these NFTs, and I'll discuss that in more detail.

The panelists who've have spoken before me have given great insight and clarity, wonderful remarks into the basics of the NFTs
and how these NFT patent applications, of course, would be different from other types of patent applications due to the absolutely unique nature of the emerging technology of NFTs and blockchains and Web3 itself. Their views on the state of the industry have just absolutely been beautifully articulated and I think everybody can learn a lot from that.

The popular viewpoint, as I said in the literature, in the academic discussion, seems to be treating NFTs as design patents. And while my knee-jerk reaction is a bit more like the previous speaker, Giovanna Fessenden - with this space could benefit from a more laissez faire, hands off approach - you know, that also dovetails nicely with Mr. Stignani's statement of NFTs are much more hyped than practical at this point. And from the small firm practitioners' point of view, I have to agree.

Then, so that kind of makes it-- in order to begin issuing patents for NFTs en masse, you'd have to almost come up with a totally new framework to treat these patent applications the same way as we currently treat the special case types of patents, such as plant patents and design patents, if the Patent Office were to proceed in issuing NFT patents in the same vein as design patents, as the literature currently discusses.

But they are different than design patents, with a whole host of issues regarding the underlying asset. For example, as Mr. Wolfe touched on in his remarks there - I believe the first speaker - where the underlying asset is not necessarily as likely to be a protectable article of manufacturer, like with a design patent. So this would undermine the entire design patent framework. If the underlying article of manufacturer - whatever that NFT was protecting - was not that article of manufacture. And, in addition, with the design patent framework, you have the issue of ornamentality. Not all of these NFTs are necessarily going to be
ornamental to their underlying asset. So there's not a great fit once you dig down into these more nuanced elements of that design patent, I don't think.

To me, they do look a bit more like plant patents. But again, like a plant patent, each NFT - as Mr. Wolfe pointed out, and I think, I think somebody else did too - the NFT application would have to stress a technological improvement or a distinguishing feature of some type, much like a plant patent application would.

From what's what all is out there in the prior art world and that prior art world - as Mr. Wolfe did point out - was absolutely overwhelming, not just in terms of what all is patented, but in what all exists in the NFT space that is not patented, which is almost all NFTs to date.

So that would be a very [network connection drops for a few seconds] improvement. The degree of improvement or distinction, of course would be quite different. Magnitudes of order smaller in the NFT scenario than in the plant patent scenario, thereby making it a much finer distinction, and thereby making that framework a little bit of a tough fit for direct application to NFTs as well.

The other issue that comes up is AI. A lot of these NFTs that are generated today, like take Twitter for example, where you can just press a button and AI will generate your NFT that you can use as your avatar. AI can do the whole process of generating that NFT.

In plant patents, AI can of course generate a DNA sequence, for instance. But it actually takes a human to execute the steps, like transfecting the DNA into an organism to make the actual plant for which you are seeking a patent, the patent protection. With NFTs, AI's doing all of those steps. So the issue of AI as an inventor, to me, makes patents just as a whole an incredibly uncomfortable fit for this new technology.
The useful life of the underlying asset, of course, would be another difference with design patents. So, much like design patents have a shorter term, I believe the term of the NFT patent would probably need to be addressed in a framework for patentability. Perhaps you do an even shorter lifespan still for an NFT patent, for instance. I mean, I don't know, but I'm just saying, the life of the underlying asset seems to possibly be an issue as well, with patentability of these NFTs that we are discussing. And again, the use of AI should be strongly considered because it's going to come up as AI is the inventor, because I just pressed a button and AI generated this.

So these kinds of issues-- I don't envy the U.S. Patent and Trademark Office and your task in front of you in generating this new area of patent law. But I do thank you for your time and hearing from a small firm practitioner and our more broad view of how we've seen NFTs treated, which is just cursory inquiry, a little bit of trademark prosecution at this point.

<DAVID GERK> Thank you very much, Ms. Bennett. We very much appreciate your insights and remarks. Our next speaker is Kristopher Kastens, please.

<KRISTOPHER KASTENS> Thank you. Sorry, I'm getting some echo there.

What I want to focus on - I know we've covered a lot of ground already with the speakers that we've had - I want to go over some issues regarding, first, how NFTs are patentable and how patents relate to NFTs.

So, when we're talking about NFTs, we're talking about a data structure that really has many use cases. And I don't want to lose focus on that because it's gotten a little bit of a bad rap in recent days because people have been focusing on how an NFT is a representation or a link to a data structure regarding a cartoon
picture. But I would say generally NFTs are used in a much broader sense. And I am somebody that is very interested in the complete use space for NFTs. And I think they have a lot of applicability and are patentable in certain instances with respect to how they are used, and particularly when it comes to systems where NFTs are utilized as portions of those, and are utilized for particular aspects of, the data infrastructure of how those are used.

So, I really want to focus on a couple of different issues. And so, one of those is 101, right? I mean, I think that's the elephant in the room when it comes to NFTs, which is, what is patentable, actually under the current patent structure?

And so, as I've said, NFTs are used in a number of different ways. And so what we've used them for is very important, I would say, because they can be utilized in very complicated systems as an aspect of those systems and very novel systems for an aspect of those systems. So I don't want to lose the forest for the trees with respect to how they are utilized.

NFTs are generally just tokens that have individualized properties associated with them, similar to - I'm assuming many of those on here have a programming background - similar to how a different variable will be able to store different value, NFTs can be able to store different values associated with that within a system, but generally they can be public - a public blockchain or a private blockchain - but they come with an associated background on how they are, that can verify them.

NFTs, like I've mentioned previously, have been heavily associated with particular art projects. But like I said, I think they have a lot of technology associated with them that is beyond art projects and can be novel and can be patentable. And so my thoughts on those as a practitioner in this space is that-- I'm going to focus on how the USPTO can associate with this technology
space, and I think it is that the USPTO has already developed rigorous standards for 101 examinations and I think they should continue to do that and especially with respect to the NFT space and the crypto space.

And I think how that plays in to current situations with regards to patentability is that the patent examiner is often the person that is most closely associated with the actual examination and the understanding of the underlying technology, as well as the overarching subject matter for the area.

So, as I am primarily a litigator, I've seen time and time again where anything within the computer science space is challenged under 101 grounds. And I think that it is important that the USPTO, as part of the patent system, continues to do a detailed analysis with respect to the 101 grounds for the technologies related to the NFTs.

And I think it's similarly very important that the U.S. courts—I think it's important that it is reflected within the actual file history of patents, so it can be understood with respect to litigations and how that is actually used within, with respect to, if these patents are actually litigated. Because I think there is a huge number of blockchain-related patents that are coming down-- coming close to issuance and issuance so far, and I think they do reflect very novel aspects of technology and it is imperative, I think, to have the Patent Office being able to show their work with respect to how these are patentable and how that will show that the particular patents are patentable to a person, a neutral party of ordinary skill in the art. So I think that is very important and that is a key aspect of how these patents and NFTs should be used in the future.

I've noticed, I've already looked at the agenda for the rest of this panel, and I see that we have some people from industry
that are going to be talking about specifics regarding reflecting patents as ownership rights and NFTs. I think that’s a very interesting area and also one that could actually have very important aspects with regards to how patents are actually reflected, how they are recorded for regarding the ownership rights of those. So I'm looking forward to seeing the rest of the panel on that.

But as I've said, I think I've seen other people already discuss the same things that I was planning to discuss. So I'm just going to cut off my remarks there because those were the primary points that I wanted to hit that had not already been hit on this roundtable.

<DAVID GERK> Thank you very much, Mr. Kastens. Particularly bringing up the enforcement issue, which I think we were hearing a little bit more about for the first time. With that, we'll move to our next speaker, Mauricio Uribe.

<MAURICIO URIBE> Good afternoon. Thank you. My name is Mauricio Uribe, patent attorney and partner Knobbe Martens Olson & Bear. I’m also Chair of the Washington IPA chapter. My background is in electrical engineering and computer engineering and I’ve been practicing for almost 25 years in that space. And so my perspectives will come, obviously, from my experiences.

As we've seen with our speakers today, a number of them, general comments, and the request for the comments were so broad. There were so many topics to talk to.

I'm going to do similar to just the previous speaker, just focus specifically, and I'd like to talk a little bit in terms of the ownership of patents and the use of NFTs with regard to that, and especially with regard to bona fide purchasers.
So I'm going to go ahead and share my screen. And part of this is to include-- not only for purposes, but because this is made part of the record, and so there's a lot of extra stuff.

Now, the importance from my perspective of NFTs is the underlying blockchain. And from my perspective - and you heard this from the speakers and assume that a number of the attendees already are aware - there's three properties that I've always viewed in terms of underlying blockchain. We've heard that quite a bit already today. Immutability, decentralized storage, and elimination of trust.

And I think it was an earlier conversation today-- when you talk a lot about blockchain, and when you first look at those solutions, the question is, how are you really leveraging these aspects of immutability or decentralized storage or elimination of third parties? And what you often find, with either inventors or even business implementers, the utilization of a blockchain, say, for example, private blockchain, you may or may not be able to guarantee the immutability. And so, ultimately, I'm not sure that there's a huge difference between some form of centralized storage or some databases system than blockchain other than it just happens to be technology that may be well run, easy to use, but may or may not have those same aspects.

And so part of that is really important in terms of when we first start looking at this and the concept we have is in terms of ownership and patents, my initial thoughts were, why do we need that, right? There is no really challenge to the patent asset itself in terms of what the claim language is. There's no question in terms of when you download a patent someone has changed the claims or that you don't have trust in the Patent Office to have that.
And so it really just seemed like—when my initial thought of, do we really need to have patent assets as NFTs? It didn't really seem to jump out at me as something that was super important or super strategic, other than perhaps the benefit of just transactional basis in terms of not really leveraging that.

But it did come up in the context later. When you look at this NFT, the breakdown of an NFT—you've got technology, the information, the application of which we've talked about from a patentability standpoint, and underlying tech or the application.

The information itself ends up being really important. And you see that, in terms of a lot of the NFTs, the value proposition often isn't in terms of the asset that's in it, right? A digital image, say, for example. A lot of times, it's in the rights that are transferred with that, or the transaction history, or perhaps even it's tied to physical goods.

And that, to me, is really where it comes out in the concept of the bona fide purchaser. So including the statute here again, for purposes of the record, but not for reading. But this really ultimately—and I think Dr. Greenbaum mentioned this—in terms of the ability to record. And what we have that is, in case law and jurisprudence, the balance of that recording statute for transfers of assignments, grants, or conveyances and recording at the Patent Office against good faith purchasers and inability to do so.

But it goes a little broader than that because what really comes down to, where I think there's a lot of value in the potential for an NFT, is that courts over the case of jurisprudence have balanced the interests of good faith purchasers versus potential licensees. And the fact that if a license is granted to a patent, and then the good faith purchaser takes subject to that, they take it subject to that license. And that really represented a balance in terms of what the good-faith purchaser knew about those
existing licenses versus the rights of the licensee who was granted a license prior to that.

We've also seen jurisprudence related to security interests, and whether the federal doctrine supersedes out of state law for perfection of the security interests in patent assets. And so you see a lot of recordation also used at the Patent Office related to that.

And then the opposite effect of that is in terms of a fraudulent transfer, if you will, and someone takes a subsequent license. Whether there is, in fact, the jurisprudence related to whether there's a good-faith purchaser application to potential licensees down the road.

All of those represent, from my perspective, at least some balance of the court systems to the interest of either the original patent owner, the potential licensee, and the potential good-faith purchaser down the road.

So it's seems like NFTs really, in this perspective, have the opportunity to provide us a solution to this, that doesn't really have to result in a balance of those efforts. And so, for example, here, with the good-faith purchaser running with the license, the case law is pretty clear in the favor of the licensee in terms of the licenses run with the patents.

And we've seen that similar to, with regard to, security interests, also run with the patent, similar to a licensee. But in that sense, the recordation statute, it seems like the state law interests supersede that of the federal law because the federal law doesn't seem to cover-- and in this last case here, that the bona fide purchaser does not extend to potential licensees down the road, of them having a bona fide purchaser defense. And so it seems like there's always been a selection down the road, depending on the language of the statute, 261 versus the other.
And it seems like what we have is in the Bored Ape Yacht Club - and I know that's been mentioned a couple of times - but the real question was there in terms of a fraudulent transfer of rights. I know this is a copyright question in terms of that, but it really raised the question, can there be a bona fide purchaser when the transaction history is part of the NFT? And then that was settled and so it didn't ultimately get resolved.

But it kind of raised that issue as like, can we have a system, right? And I think Dr. Greenbaum talked about a system, can we have a system where it goes beyond the requirements of 261, but ultimately has a situation where we might be able to provide for some kind of resolution of these balances, right?

With licenses records, for example. It's not required right now, but if you had a transaction history, it would resolve that, right? Even though licensees have the benefit of the case law, it would be a part of the transaction record and you would no longer have those bona fide purchasers who would take it to licenses that weren't known and then you could reconfigure licenses in that way of due diligence, of saying record that.

Security interests is the same thing. Bona fide licensees could look at the transaction record of a patent and no longer have to be subject to the opposite effect, of saying they're going to be in favor of a fraudulent transfer, but ultimately use the NFT as that mechanism, that resolution for negating that balance.

And so to me, that's the real opportunity for NFTs. Kind of very topic, very specific. I think there's a lot of open questions related to how that would be done. I think our previous panelists have also mentioned the topics of anonymity, large scale licenses and how that would be recorded on a per license basis and transfer, and also the validation of the data itself being written to that. So I think there's a lot of opportunity there. But this ultimately,
I think, while a very narrow issue, just seems to be a really valuable place. And hopefully what we'll see is that, within our jurisprudence and within our technical solution, doctrine of more fair transactions with NFTs, using NFTs as a mechanism is very good.

So with that, I'll end my comments. Appreciate the opportunity. Thank you very much.

<DAVID GERK> Thank you very much, Mr. Uribe, for those comments. And we have our final panelists here this morning. And thanks to everyone for their collegiality and staying on time. We're right on time. So, without further ado, I'll pass it to Joel Bock.

<JOEL BOCK> Thank you Undersecretary Vidal and Mr. Gerk for allowing me to the opportunity to speak and discuss the issues relating to NFTs and Patent Office. A little about my background. I'm a former digital design engineer, electrical engineer, and I'm currently a partner in the Venture Technology group at Dentons US LLP, and Co-Chair of the Technology Transaction subgroup. Just a second... I’ve been practicing for almost 30 years. My practice focuses on tech transactional work, patent and trademark prosecution, post-grant proceedings, and patent litigation, with companies in various stages of the business lifecycle, from startups to multinational corporations.

I'm excited to be part of this discussion and helping the PTO and the U.S. work through these issues to remain the world-leading technology innovator. My remarks should not be taken as an endorsement of any particular approach, but rather as an attempt to point out issues and challenges relating to NFTs and the use of NFTs to remain at the forefront of technology innovation and implementation.
While NFTs are applicable in all the areas of intellectual property law, I believe the patent space presents the greatest challenges. Prior speakers have discussed the blockchain, Web 3.0 use cases, and benefits of blockchain. They have also discussed issues relating to protecting NFT technology by patenting and the challenges faced in preparing such applications, and the examination and review of such technologies by the Patent and Trademark Office.

I will try to focus on the issues that may arise in attempting to integrate the use of NFTs by the PTO. One of the key issues is to ensure that NFTs can maintain uniformity to be able to be utilized by the PTO.

In the early 2000s, I worked with a client that had developed digital postmarks for the U.S. Postal Service. Unfortunately, the technology was not widely adopted because it was so innovative and its benefits were not well understood.

Today, the benefits of digital authentication are well understood and have been adopted by many industries. So one area that I think needs to be examined is used by PTO of NFTs. And what do I mean by that? I mean that potentially NFTs could be used to represent an issued patent. In the future, the PTO can issue NFTs instead of distributing physical copies of patents.

In the past, it was the red ribbon copy that reflected ownership. We served a claim for patent infringement. The plaintiff would have to present the official copy to the court. With NFTs, this can change and the PTO can go fully digital. That potentially could save cost for the PTO. It could enhance the way users can interact with the PTO, and it will help turn the PTO into a fully digitized system.

The benefit and promise of anonymity by using the blockchain is sort of in conflict with the goal of the patent system, of
providing access to full information about the technology, the inventor, applicant, current owner. So there has to be something done about that conflict. How can that be resolved?

One issue is putting information about licensing of patents, of an assignment of a patent, with digital contracts. A lot of that information may be in the contract and that may become part of that title chain.

Today, many companies, instead of recording the full agreement where an IP asset has been assigned, where a patent has been assigned, or the full license agreement, where the entity is licensed a particular patent, oftentimes other types of documents are recorded, such as an assignment document, which doesn't include information about the price that was paid for that assignment, or the other parameters of the transaction relating to that assignment.

Using blockchain, the Patent Office will have to figure out, and users will have to figure out, how to implement that. Where you want to keep certain information confidential, but other information as part of that blockchain. So there's a challenge in segregating that information, segregating the confidential information from the title, transfer, and ownership aspects.

Certificates of provenance—some of the speakers discussed that. The NFT can help identify ownership. The software, it may be easier to associate the NFT with the software product, with the software aspect, and that could be through embedded code.

When you're talking about a hardware system or some sort of physical object there's more challenges there. How do you associate that NFT with that specific item? There has to be some identifier on the item or associated with that item, the physical object to associate that NFT with the physical object. With certain hardware components there may be firmware that's already embedded in the
device and potentially you can associate the NFT by embedding some
code into that firmware. But for other physical products that don't
have firmware, there may be challenges.

The other challenge on provenance is, can it be used to help
identify infringement? Or, for example, many companies are engaged
in software audits to make sure that licensees are using the
appropriate number of licenses or appropriate number of copies of
the software. Can NFTs help in that situation? Potentially. An NFT
could be associated with each copy of the software. And if the
company that owns the software can track those copies and track the
use, there may be a better way to enforce licenses and make sure
that they're not being used inappropriately.

The issue of fractional ownership-- how do you record that?
One of the speakers had discussed the issue of whether a fractional
ownership or licensing is what is actually occurring. Well, if it's
fractional ownership, the owner-- if a company is selling shares in
a patent and there are 1,000 owners, each of those owners could
potentially license that patent freely without having to account to
the other owners. That could create major problems in protecting
the patent and enforcing the patent and ensuring that the patent is
being used appropriately.

There are also business benefits, opportunities for businesses
to connect to consumers, by using NFTs. It's easier to create a
digital connection than a physical connection, and that can help in
marketing products.

Royalty tracking-- there have to be ways to track royalties.
So can that be done digitally as well?

These are all capabilities that have been developed and are
being implemented. The question is, how does that tie into an NFT's
use in the Patent Office or by the Patent Office to represent a
particular patent or ownership of a patent?
Again, with the aspect of infringement, by having NFTs associated with a particular object, companies can determine whether there is infringement occurring with respect to software, with respect to physical products, by trying to check to see if those NFTs matches the NFT associated with the physical object.

And then the final issue I want to discuss is just protecting NFTs under patent law. So currently, design patents can protect designs, a particular physical image of something as long as it's not functional, but it has to be applicable to a physical object.

In the past, the Patent Office has granted patents, design patents, that cover web pages or other types of non-physical objects as long as they are presented on some sort of display. And there's no reason why NFTs that are associated, for example, with an art object or some other physical image cannot be protected in the same way through design patents.

As far as utility patents - I know a number of the speakers have also discussed utility patents - there are, again, many ways to protect NFT technology through utility patents. And since the Alice decision, the Patent Office has continually updated its analysis and the way it analyzes patents based on internal developments and also based on Federal Circuit precedent to help innovators and help patent attorneys understand how to protect software patents and how to draft patents in order to protect those innovations.

So I leave you all, as the final speaker, I thank everyone for all the interesting presentations that have been made today. I thank the Patent Office for giving us the opportunity, as patent practitioners, to contribute to this important area. And I hope that we continue to work together to innovate and help the Patent Office become the strongest patent Office in the world. Thank you.
<DAVID GERK> Thank you very much, Mr. Bock. And again, thanks to all our panelists this morning. A really lively discussion, a lot of great insights, which were, of course, really appreciative of having this expertise. We're right on schedule. So again, I want to thank you all on the first panel for being mindful of time.

We're going to take a break now. Hopefully, folks will grab a bite to eat or take a break and return with us. We're going to start back up at 12:30, maybe a minute or two after at worst, hopefully by 12:30. Please come return. We've still got an equally enlightening panel on the second half focused on industry representatives, and we look forward to seeing you back here at 12:30. Again, 12:30 we will resume. Thank you all.

< END OF SESSION 1 >
SESSION 2: INDUSTRY REPRESENTATIVES PANEL

<DAN GERK> Good afternoon everyone, and welcome back to our roundtable on patents and non-fungible tokens. We had a very productive first morning session. Hopefully you were able to join us. If not, we welcome you. And we're going to jump right in, for time purposes as well, to continue our efficient discussion of these important topics.

So our first speaker is Dorothy Haraminac. So, Dorothy, please go ahead.

<DOROTHY HARAMINAC> Thank you. So, I'm Dorothy Haraminac, and I will address three issues: the call for aggressive enforcement, misconceptions of IP ownership, and unrealistic standards as a governor of implementation.

The call for enforcement is paired with a complaint about a lack of identity on NFT sales platforms. There is case precedent for platforms that profit from sales of illicit goods between unidentified users. In the United States v. Ross Ulbricht, the defendant was the alleged platform administrator and was held accountable for the actions of its users, most of whom were not identifiable. He was convicted and sentenced to two and a half lifetimes, largely based on the volume of transactions and the illicit nature of goods transferred between users. He neither sold nor shipped these goods himself. I don't think those calling for aggressive enforcement for trademarks intend to call for something more aggressive than two and a half lifetimes, and that's not the fairest comparison. But the fact remains, when platforms traffic in and profit from counterfeit goods, criminal causes of action may exist.

I hear a similar call for enforcement echoed in this roundtable for patents. I would caution the USPTO against
introducing actions that are served with existing regulations, such as those holding sellers accountable when they offer infringing products for sale, consumer regulations, and contracts.

The concept of holding platforms accountable for enabling sales between users has been tested in court, and it is the court system that provides an appropriate venue for enforcement related to infringing products. Harsh penalties for repeat offenders, such as large retail chains that actively monitor small business trends for the purpose of infringing on their designs, may disincentivize predatory behavior. However, the USPTO's role in that regard is limited.

There is a presumption that the rightful inventor receives the IP right, but this is not reality. An inventor is made rightful only after overcoming the hurdles of cost and complexity to file with the USPTO. An underrepresented group in this study are individuals who would hold IP rights — but don't — because they cannot afford to hire an attorney and cannot navigate the complex registration systems. There's another group who choose not to be identified that I'll get to later.

NFTs and public blockchain technology can reduce cost and complexity if implemented by the USPTO. Features such as immutability, decentralization, and security can reduce barriers for would-be patent holders. However, once these features are eroded, that utility is also eroded. This occurs when features such as public are switched to permissioned, when decentralized becomes hybrid, or when immutable becomes edited.

I encourage the adoption of technology to reduce barriers to entry into IP ownership, and I caution against the use of eroded technology masquerading as though it still maintains the same features of a public blockchain.
The presumption of rightful ownership is also implied in a chart shown by others, which claims an increase from 17% to 90%. Now, this chart does not differentiate between IP that forms the basis of innovation and patent trolls, which stifle innovation. IP owners face an additional hurdle after overcoming cost and complexity, which is the high cost of defending their IP, and that high cost serves a purpose. It disincentivizes patent trolls. The USPTO should not reduce cost of defense without addressing the initial barriers to entry first. To do so stifles innovation and favors current ownership over new applications.

I also implore the USPTO to execute a diligent consideration of the public space and avoid lowering the bars for novel, nonobvious and other requirements. The public space for NFT concepts are not well indexed by common search engines, so the USPTO needs to familiarize itself with where these things are discussed and developed.

The USPTO can address barriers to entry by enforcing a narrow reading of existing regulations, treating specific metaverse environments as individual industries, and adopting blockchain processes that maximize efficiency, transparency, and data integrity.

In the patent system, an NFT appears to be an article of manufacture. It is manufactured by software methods, and those specific methods may be protectable under a utility patent and those methods may qualify as trade secrets with the use of homomorphic encryption and other treatment.

The resulting article of manufacture may exemplify a design, but is not a design in and of itself. The use of that article may play a role for other IP rights, such as trademarks.

This is not a laissez faire approach and these protections already exist. The role of the USPTO should not expand to
manufacturing. As an issuer of NFTs, the manufacturing service belongs in the market, not in the hands of the USPTO. If the USPTO issues NFTs, they should be limited to recording the patent itself and licensing thereof, and should not venture into manufacturing an applicant's design or function. And this does not preclude the USPTO from using NFTs or public blockchain technology to improve its process, just as it has improved patent applications with the advent of the internet and databases.

New technology must surmount the application of unrealistic standards as a governor on implementation. The appropriate comparison is not an imaginary ideal where enforcement is cheap, all bad actors are easily identified, all products fit in nice neat boxes, and all transfers are recorded in real time. That ideal doesn't exist in the current system and is an unrealistic demand for any new system, although a blockchain may help with some of it.

The appropriate comparison is the current system, which has a high cost of entry, a steep learning curve, and a high cost for enforcement. If the adoption of a new technology alleviates those barriers, as compared to the current system, then it is worthwhile to pursue. That pursuit should consider additional risks of new technology. But those risks must be balanced against the benefits that tech provides, both from an industry perspective and from a USPTO adoption perspective.

I've heard references to Bitcoin. The reason Bitcoin was not patented and its creators do not identify themselves was a choice. And those people are examples of opting out of identity online in favor of privacy, transparency, and security.

That choice happened because Bitcoin contains cryptographic methods known as encryption algorithms. Exporting encryption algorithms outside the United States may draw investigation under
EAR and ITAR, which control the export of weapons. Some encryption is classified as a weapon in this country.

There is a strong culture of privacy and transparency inherent in the blockchain space that runs counter to a centralized identity system. The USPTO should consider enabling an unidentified owner to apply and own IP rights. They could offer security over IP ownership, without storing identity information whatsoever. The systems that support doing so were designed in the 80s and 90s and were the foundation of Bitcoin. The USPTO and others who centralize identity storage must acknowledge the risk their display of identity information poses as a source for theft. And it must consider the use of homomorphic encryption, which protects data in use. The USPTO must also consider how many would-be owners opt out of seeking ownership because of the risks posed by exposing their identity online. And I encourage the USPTO to consider a system that no longer requires the submission, storage, and display of identity information.

Address the cost of complexity of applications. Address the risks that you pose by posting so much identity information online. Address the cost for enforcement with a balanced consideration of both current owners and of future applicants. And do so by comparing the proposed solution to the current system, not to an unrealistic ideal. This concludes my remarks.

<DAVID GERK> Thank you very much for those remarks, Ms. Haraminac. Our next speaker is Leann Pinto.

<LEANN PINTO> Hi everybody. I am— let me get to screen share here. Hi, thank you for joining me. I'm Leann Pinto, president of IPwe.

I want to first start by thanking Undersecretary Vidal and the USPTO for this opportunity. IPwe is a global innovation leader in AI and blockchain-based IP analytics, software, and services. IPwe
is at the forefront of the digital transformation of IP, which
we're fostering worldwide with the introduction of our
revolutionary patent NFTs. We believe this is the first real
blockchain NFT use case for business. So I'm honored to be here
today as an industry representative to the USPTO's patents and non-
fungible tokens roundtable discussion.

A little bit about IPwe. IPwe was founded by Erich
Spangenberg, a true visionary in the IP space and a leading
practitioner in patent monetization. Erich realized early on that
patents were an untapped asset class. Even with the successes, he
realized, he understood that the innovation engine was not being
fueled appropriately. There are many valuable patents hiding in
plain sight, with many businesses and inventors uncapable of
realizing any return on their investment.

Indeed, the fundamental business problem in the IP space is
that patents, and intangible assets generally, are underutilized,
undervalued, and generally misunderstood.

Currently, there are approximately 25 million active patents
in the world, all with low transaction, commercialization, and
financing rates due to lack of transparency, liquidity, and no
standardized asset valuation metrics.

Upon seeing the potential of blockchain, and in particular
NFTs, to address the friction and inefficiencies present in patent
transactions, IPwe was founded in 2018.

How are we addressing this fundamental problem? IPwe
originally announced that we are tokenizing the corpus of issued
active patents worldwide to the tune of 25 million patent NFTs.
These patent NFTs power our Smart Intangible Asset Management tool,
which is a SaaS solution for IP analysis, valuation, and management
in one platform. We launched SIAM formally last week, concurrently
with the news of our digitalization of 25 million patent assets as dynamic NFTs.

IPwe, through SIAM and patent NFTs, seeks to empower all internal stakeholders with simple, consistent, relevant financial and performance metrics to further innovation. And this is being done by patent NFTs.

How are we going to achieve this goal? The data is fed into our patent NFTs, which we call IPwe Digital Assets, by our partner directly, Clarivate. Clarivate is the worldwide leader in IP data, and they have the best-in-class patent datasets.

IPwe takes and populates our patent NFTs with pertinent, publicly available data feeds from Clarivate to initially mint the dynamic patent NFTs. Then these are available-- these are securely stored on Clarivate’s blockchain. Patent entities can then be updated with patent owners' private data about each asset, including licensing, transaction history, evidence of use, prosecution history. Any data that's associated with that asset can be added there. The NFTs are also accessible anywhere, only by the private key holders, which ensures any private data that's added remains confidential.

By tokenizing patents to operate underneath SIAM, IPwe is ensuring that all patent owners can have increased efficiency, transparency, and trust in the IP space, experience improved patent portfolio management, creating value and liquidity for patent owners, and making the system more approachable and easy to use for all.

There's many advantages of maintaining an IPwe digital asset of a real-world patent asset. These have been discussed earlier today. Two of the main ones are data aggregation. IPwe digital assets can aggregate all relevant data about patents in one place, allowing for quicker, more efficient analysis, and data
verification as well. Collected data is only valuable if it's trustworthy. When adding a data point to an IPwe digital asset, IPwe and other third parties can confirm its level of trustworthiness, as we've heard others discuss earlier today.

IPwe's goal is to at some point ensure all the history of a patent will sit on its corresponding IPwe Digital Asset, not just who owns it, but who's licensing it, who's commercializing it, who's financing it. All of this information can be used to confirm value, making for a robust, liquid transferable asset.

The digital transformation of patents into NFTs benefits the patent owners, as well as its licensing and commercial partners, by increasing transparency around the assets, which in turn increases value and commercialization rates.

Patent NFTs will also benefit banks, insurers, capital market players, basically anyone who lends, insures, or financially engages with IP. By making trading IP more cost-efficient and simplified, with all key information about an asset standardized and stored in one easy-to-access, secure location.

I believe my remarks have touched on most of the topics for public comment, but I wanted to call out a few specifically for further elaboration. Topic one was about the current uses of NFTs in your field or industry. IPwe isn't aware of any other use cases of enterprise or government using NFTs as a digital encapsulation of pertinent data concerning a patent asset. We believe our recent announcement of the tokenization of 25 million dynamic patent NFTs is revolutionary and an extremely useful future application of NFTs in the IP space, starting first with patents. But we also believe that many other types of IP assets will be well-suited for management via NFT technology, including trade secrets and know-how, among others.
Topic Two, about IP-related challenges and opportunities. We feel there are more opportunities posed by NFTs than challenges. Simply storing all relevant data about one patent in a single location, instead of spread across multiple disparate databases, will allow enterprise to achieve a level of efficiency never before known.

We believe the largest challenge is not necessarily IP-related, but more so, technology adoption-related. The current uses of NFTs have distorted the true nature of what an NFT is. It's a simple, digital encapsulation of data.

Topic Eleven is about adjustments being made to IP portfolio planning and management. IPwe hopes that patent owners will eventually manage their entire patent portfolio with patent NFTs and our SIAM solution.

We have experienced great interest in the digital transformation of IP, in particular patents and trade secrets in Japan. The government of Japan has recently issued revisions to a corporate governance code that requires reporting of a company's investments in intellectual property, as well as its utilization, in an understandable and specific manner. We believe that corporations in Japan will be adjusting their IP portfolios, and management thereof, in response to these recent revisions. We hope that the companies and enterprise in the United States will follow suit.

In conclusion, the USPTO’s study explicitly acknowledges that blockchain and its applications, like NFTs, are here to stay. IPwe's use of NFTs is novel. However, it's also a much more useful instance, with rights that are easier to grasp and apply than what is currently understood, for example, NFTs in the art world.
For us, it's really a matter of explaining how creating NFTs as digital stores of IP-related data provide a powerful mechanism for businesses, from SMEs through enterprise, to manage their portfolio of IP assets. And then how beyond simple tokenization, IPwe Digital Assets will eventually unlock additional commercial opportunities and a larger ROI with greater efficiency than has ever before been seen by players in the IP space.

IPwe believes that patent NFTs are at the heart of the digital transformation of IP, providing a unique, elegant, and revolutionary solution to known problems in the IP space. I want to thank you very much for this opportunity to extol the virtues of NFTs as applied to patents. IPwe hopes that many others come to appreciate the volume of issues that can be solved with tokenization of patents and the digital transformation of IP. Thank you.

<DAVID GERK> Thank you very much for those remarks. Ms. Pinto. IPwe was mentioned in the first panel, so it was great to have you here to give your perspective as well, to supplement that discussion. So thank you again.

Our next speaker is Robert Mowry.

<ROBERT MOWRY> Hi everyone. Pleasure to be on the call. My name, as David was saying, is Robert Mowry. I teach the blockchain certificate at UCLA Extension and I have a consulting firm for businesses here in California and the broader states called Rekt Tech.

And there are a few points that I wanted to make in terms of the utility of NFTs and the way the Patent Office can roundly look at protecting what needs to be protected and taking a hands-off approach from what exactly would need to be protected for the broader ecosystem as a whole. So limiting the scope, and then including the point-specific areas that would need to be addressed.
So, first on metadata. So metadata that spells out the IP rights is integral to be able to communicate effectively what the value would be best communicated to be. And that is a way that you can have an NFT participant that would be doing a mint or be fractionalizing some digital asset or asset that would have a title on the blockchain to be able to spell out exactly what permissions are being granted. So being able to have that communicated broadly and be interpreted as it's spelled out in the actual metadata.

And then the use of IPFS as a storage mechanism. So not having to concentrate-- the storage of a file, whether it be audio, video or what have you, onto any sort of centralized server, but allowing that to be done on the Interplanetary File System that's traditionally used nowadays, and hopefully would be broadly adapted in the future.

The open-source tooling around NFT, being able to be broad in scope such that you can mint a non-fungible token using a variety of means and still have that be an acceptable protocol that's readable across numerous blockchains wherever it may be minted, either on a permissioned basis or on any number of public-facing blockchains.

With respect of recurring artist royalties, although there are significant artist resale right protections in the UK and France and really a select few countries, in many nations the art dealers themselves have significant power, lobbying power and so on. So the actual respect of the resale rights is not broadly seen. So NFTs really have ignited in the way they have because they were able to include a resale element that's allowing an artist or different type of creator to continue to get that flow of income, that if you were an art dealer, I would purport that you would want to support their continued efforts to do a solo gallery or to broadcast their
career in a way that would be beneficial to you as an owner of their art or digital assets.

And then as Ms. Haraminac was talking about earlier, the homomorphic encryption, or some sort of tooling that would separate an identity with what would to be consistent with what we see today, when you might file a patent, stateside, needing to have a person's identity or something like that.

The need to protect digital identities, especially as we enter the metaverse or have a digital twin online, not have to be going around the digital experience with our government identity is a useful tool and it can protect us, not to the degree that we don't want to obfuscate ourselves from the government or Patent Office or regulated players that we're happy to disclose ourselves for and respect the KYC and AML or anything that's requested of us, but just as a protection for that data that's put out there.

And even sharp technology companies have demonstrated that they've had difficulty navigating and not getting hacked. So the real utility of these NFT platforms and assets is the on-chain ownership that makes provenance for art and any number of different assets that have value associated with who's owned it and who's collected it, who's distributed it. Is it authentic to that artist? Is it from their wallet?

That's of huge value that often makes it very difficult when you're trying to auction off things and you're having to say, well, this may have been owned by this person, but we can't verify it and we have a handwritten letter. The blockchain makes it much more clear to have that done to the degree that it can be continued to be nurtured, is worthwhile, and the utility of asset fractionalization, which we're seeing much more on the finance side, of people securitizing their funds and fractionalizing it, and using the blockchain as a settlement means for assets, as a
whole, on the financial side, but increasingly in the world of art and elsewhere.

But I think the utility is broad, and when it comes to patents, the other speakers were speaking very intelligently and impressively on the utilization of NFTs for patents that would communicate the actual ownership.

But it's even more than that. So UC Berkeley last year had an NFT of the actual patent disclosures associated with their ones that were quite visible for CRISPR and cancer immunotherapy. And they were able to raise money just on the historical value of these disclosures themselves without transmitting any sort of significant value that would be associated with these patents.

So, in conclusion, just respecting the ways that the NFT technology can broadly benefit players in the space, whether or not they have all their identity online, and the ways that U.S. can continue to be a lead in these technological issues, but protect those that are first movers and are building out the early technologies.

<DAVID GERK> Thank you very much, Mr. Mowry, for your remarks. Our next speaker is Kary Oberbrunner.

<KARY OBERBRUNNER> Thanks so much, David. I'm going to share my screen, so if you can let me know if that comes through, that would be fantastic. Can you see it, David?

<DAVID GERK> We can see it now, thank you.

<KARY OBERBRUNNER> All right, thank you. It's great to be here. I want to thank the USPTO for their interest in this exciting new technology. I want to thank Director Kathi Vidal as well.

I'm going to focus specifically on the fact that we now live in a world where any time there's friction, we are headed for disruption. We probably are all familiar with some of these different companies or products or technologies - Bitcoin, Uber,
Netlix, Alibaba, Airbnb, Amazon, and Facebook. And each one has evolved, some with controversy. However, each one has a unique place in the market because of friction. And anytime friction evolves to a place where it costs too much time and money, disruption is sure to follow.

I believe that today's IP process regarding patents has friction. I personally have patents that are pending, and the average cost of a patent is between $15-20,000 and more. I'm not a lawyer, however, I have a fantastic one. And the average time takes around three years. We have a lot of lawyers that are involved in this panel, and I'm very grateful for them. We know that 80% and more of patents are rejected, and they have to go back for additional clarification, research, documentation, which causes more friction.

We have a process that protects IP that costs $100, and it's possible in 24 hours. And it's heavily dependent upon blockchain technology and NFTs.

I believe that we're here today because I represent a lot of inventors and creators and thought leaders and influencers. Blockchain has made it possible to have decentralization.

And I personally am an author. I have a doctorate. I'm a university professor. But I myself published books. Here's just some of my clients-- and we essentially are a publisher, so we do IP publication.

We've grown over the years to include thousands of authors. And these authors are actually listening to the panel today. They care about this because every book represents intellectual property. And you can see that we also, as a company, focus on IP promotion. I believe that a book is not just a book. A book is not just a business card. A book is supposed to go from a message to a movement. And so in our company, Igniting Souls Publishing, we
basically take a book and turn it into 18 streams of income. And you can see that an NFT could actually be a container for those different 18 streams of income.

I knew that the world was changing. I felt it. And about two years ago, I said, what is going on? I need to solve this thing. And so whenever I don't know the answer to something, I do something dumb. I go write a book on it, because I feel like if I am going to understand it, I need to master it.

So this is a book that just came out. It's my book. I cowrote it with Lee Richter. Lee Richter is currently working with the Vatican on an NFT project. One of the NFT projects that they're doing is literally licensing David, as in, like, Michelangelo's David. And when you purchase that NFT, which they call a key, you get access to the Pope.

And so you're starting see very practical use cases of what NFTs can do. This is a chart from the book that I wrote.

And I know I have about six minutes left because I'm timing, so I'm going to go fast.

But I want everyone to realize, we throw around these terms, and we don't know what they mean, or we just glaze over. But Web1, Web2, and Web3, the different components are in red. And we could unpack this for a long time. We don't have time today. But I want people to realize that in Web1, they created and they owned. Meaning the industry, the man, whoever you want to say, the woman. Web2, we create and they own. In other words, we were the ones creating YouTube videos, Facebook posts, Twitter tweets, and yet Big Tech owned it.

And when the social dilemma came out, we realized, oh my gosh, there's data mining going on. Web3 paves the way for creators. It actually brings a decentralized internet, of which NFTs play a role, i.e., digital assets, and blockchain is the railroad, and
crypto is the currency. And you'll see here below that, I'm
specifically going to finish my second half talking about IP.

This is a picture of the S&P 500. In 1975, 17% of the S&P 500
was intangible assets. What we're talking about today, patents.
Today in 2020 - actually, we're not in 2020, but you know what I'm
talking about - we're now 90%. And so this is absolutely flipped.
We live in a different economy.

And so we as a company said we better focus on IP protection
as well. I started a second company called Blockchain Life, and
this really rounds out what we do - IP publication, promotion, and
protection.

Anytime consumers feel like there's too much friction, they're
going to choose another path. And it costs too much time and money
in its current form, when the technology of blockchain and NFTs
allow speed. And yes, I'm an entrepreneur, I love speed. And yes,
there's some other people here that are that great other side of
the equation, which is legislation and governance, which we need.
But I would argue today that anybody on a Mac or a PC can
literally, with a few keystrokes, make a TM, a C, or an R with a
few keystrokes.

Which begs the question, there's disruption going on, and
there's a lot of people who are just using copyrights that aren't
actually protected and there's confusion. And we feel that as
consumers.

I would say we're having right now what's called a wet
signature moment. And what I mean by that is, prior to 2000, we had
to do wet signatures. When 2000, the legislation said that we could
now do digital signatures - electronic signatures - what happened
was it massively opened up growth and progress.

And today we're having a wet signature moment with IP where we
can literally open up new growth and progress by removing friction.
And so I believe NFTs do that. I don't have time to go into all the
detail today, but obviously blockchain is the railway, NFTs are
built on top of it. They have smart contracts.

And I believe - as some of my other amazing panelists shared -
the use case for NFTs. I don't think it's just fad art. I love
utility, and blockchain allows us to have a decentralized database,
ledger, where now we can put upon that smart contracts, which are
self-executing and bring a variety of benefits.

And I believe that everybody's smartphone in the near future -
if not already - is going to house NFTs that are represented as
medical records - health tracking, document storage, credits,
debit, biometric data, investments, and yes, even patents and
copyrights and trademarks.

So in conclusion, the world is changing. Will you be ready or
get left behind? Thank you very much for your time today.

<DAVID GERK> Thank you very much, Mr. Oberbrunner, for your
remarks today. Our next speaker is Cleve Mesidor.

<CLEVE MESIDOR> Good afternoon, can you hear me okay? Thank
you for having me on. I am Cleve Mesidor. I am thrilled to be here.

I am the Executive Director of the Blockchain Foundation. We
are a 501(c)(3), and we focus exclusively on education. Previously,
I was a public policy advisor for the Blockchain Association, which
is the largest advocacy group for the crypto space in Washington
D.C. I also serve as a mayoral appointee to the DC Innovation and
Technology Inclusion Council.

I've been working in crypto for six years. Previously, I
served in Congress and then I served in the Obama administration.
Interestingly, it was during the Obama administration in 2013 that
I first learned about bitcoin. While as an appointee in the Obama
administration, I was part of the Commerce family, as PTO is. I was
with the Economic Development Administration. So I'm thrilled to actually be able to bring my two worlds together.

I want to start by pointing out that Black and Latino communities lead national adoptions of cryptocurrency by double digits. We are not late adopters to crypto. We are the earliest adopters to crypto. Quite frankly, we are the nerve center of adoption. We have been part of crypto from the beginning, I would argue, since that white paper went to the cryptography listserv in 2008, and then when bitcoin was first minted in 2019.

I say this because this is important. Oftentimes, Black and Latino cultures are eclipsed or erased from the history of the things that they created, and we want to make sure that that is not the case in crypto.

So there's a lot of talk about privacy within the blockchain and cryptocurrency space, and a lot of people feel privacy is the game changer. I disagree. I think ownership is the game changer. That is the power of decentralization. It expands access. And NFTs are a great example of that. So non-fungible tokens, what are they? There's a lot of hype out there. I have to tell you, I could care less what celebrities and athletes and big companies are doing.

For the communities I represent, for too long, creators, artists-- they could not protect their intellectual property, let alone monetize it. They were pariahs to big entities stealing the intellectual property. So decentralization, blockchain technology, small contracts, has facilitated the possibility for NFTs. So now everyday artists - and I'm talking about the high school students, those folks on your block, the everyday creators, the ones who fuel America’s creative industries - they can now protect their intellectual property, monetize it, and create a marketplace.
That is a game changer. But it's even further. They can now code that small contract to ensure they get paid in the secondary marketplace. So they sell their art to you, they make money. You sell it to somebody for triple that value, they still make value.

For everyday creators, that is a game changer. But there's more. They also learned a new skill along the way. Along the way, they had to learn, whether it be MetaMask or how to digitize their art. So when we think about preparing entrepreneurs for the industries of the future, we've done that through NFTs, and we've done that for microenterprises, everyday people, not big corporations, not big entities.

I will say that even though Black and Latino communities are at the nerve center of adoption, we are rarely included in policy conversations. And that's a problem.

So I want to spend my time talking about the folks PTO should be talking to as they do this review. And I'm doing this because my remarks are off of the record, and I want them to be included in the record.

These early creators have applied for patents. They're building projects to tackle inequities within the creative space. And they are the ones who are fueling the NFT marketplace.

I want to start by pointing out Lady Phoenix. Lady Phoenix is just this incredible creator. She actually-- when you think about Christie's and other auction houses that have come into the space, she actually was the first one with Christie's to actually launch one of her NFTs through that process. Dynamic Black woman.

Now a Latina - Beatriz Ramos. She founded Dada, I believe in 2013, and she and her team and the artist she represents created the first NFTs, way before CryptoKitties.

Another artist is Micah Johnson. He created Aku. I owned two of his NFTs. I remember a few years ago when Black creators came
together so we can actually make sure his first drop was successful. In seven minutes, he raised, well, he amassed $1.7 million. And Aku is now on the cover of Time magazine - was on the cover of Time magazine - and Micah has a movie deal. A Black artist who is leading in this space.

Now, we have some platforms that are intended to make sure that we can thrive in this space. I want to point to Black@. So if you go to blackat.io, Harold Hughes is leading that project. So they're creating a marketplace for creators. So people think of OpenSea - think of Black@. And their URL is blackat.io.

There's also a creator marketplace called Blacktag, Blacktag.com. Akin Adebowale leads that.

Now, one of my favorite folks in this space is Nathan Jones. He's one of the co-founders of Royal. Royal actually makes sure that entrepreneurs can collect royalties. And can they do that leveraging blockchain technology. I was on a panel with Nate during South by Southwest a few years ago, and he talked about his father, who was a musician, who was a musician with many of these biggest artists that you, you've heard of. And he talked about being young and these artists coming to his home, and his father helping them with their music. But he said they were still just everyday, working-class people. The people who roamed in his home were making millions, but his father was still not profiting. And so for him, leveraging blockchain, Royal is an opportunity to make sure that entrepreneurs, startups, can actually capitalize and get the royalties that they deserve.

I want to highlight Professor Tonya Evans. She leads Advantage Academy. Professor Evans is an IP attorney. She's also a nationally regarded crypto expert. She has been a leading voice in terms of making sure we're having this conversation about intellectual
property, but also to make sure that that conversation is inclusive.

Now, I commend the U.S. Patent Office for having this conversation, but I want to urge you that we need inclusive policy-making, inclusive policy-making that forces entrepreneurship. Right now, the current dialogue around NFTs that we're hearing from the SEC and from others - about whether they're securities or commodities - all of those conversations actually help to push the entrepreneurs and microenterprises out because we're not considering them as part of the process.

There are lots of IP laws on the books that we should be looking to, and also, policy should have entrepreneurs as a priority as we develop them. How will policy impact large companies, but also, how does it impact entrepreneurs, startups and creators? After all, America's economy is still driven by small businesses, entrepreneurs, and microenterprises.

As I close, I want to note that when we debated the internet in the 1990s, we didn't have conversations about inclusion, accessibility, entrepreneurship. And now, as we're building the decentralized economy, at the starting point of this whole Web3 crypto blockchain digital access space, we can have these conversations.

But we also have to make sure we're focused on creating space for Black and Latino creators, entrepreneurs to be part of the policy-making conversation. Otherwise, we will create policies that continue to fester long-standing inequities.

I want to thank you for the opportunity to add my voice. I urge you to expand this conversation, hear from the Black and Latino leaders, who are always building and doing dynamic things and have paved the way for a lot of those who are profiting to actually be successful. Thank you.
<DAVID GERK> Thank you very much, Ms. Mesidor, for your comments and remarks today. We really appreciate them.

Our next speaker on the panel today is Lucinda Lewis, Ms. Lewis?

<LUCINDA LEWIS> Hello. How is everyone today? I'm so thrilled, honored, and delighted to provide my remarks. What a world we live in - that an individual entrepreneur can provide comments to Undersecretary Vidal. Mr. Gerk, I'm very proud to be part of this process, to have a better understanding of NFTs and patents and what they do for our future.

As I mentioned, I am an entrepreneur. I'm a creator and inventor, an author, historical archivist, a technologist, a coder, and above all, an automotive enthusiast. I hold copyrights, trademarks, and patent applications.

I have an unusual background. I grew up in a small aircraft in the mountains of West Virginia. My father was an attorney, and he needed to get to the courthouses, and the two-lane roads were not conducive to travel, so I was taken out of school to help with the maps and the radios as a child. It was an exciting time. We sometimes flew to Cape Canaveral and watched the launches. It really changed my mind in ways that I could not foresee as a child.

But when I graduated from college and was accepted to law school and declined the opportunity, my grandmother stepped in and grew a fit. She was a very powerful force of nature, and she said that if I wanted to become an artist and create in photographs or film, that I had to register all of my copyrights. So I kept my promise to my grandmother, and I have been registering IP for many years.

It was a painful process in the beginning, but suddenly when blockchain erupted into the world, I realized that this is why I've
been doing it all these years. So I've been experimenting with
blockchain recently, and I want to show you some of the results.

There is no doubt we are in a renaissance. When we look back
at this historical period of the Renaissance era, we can see the
important role that Leonardo da Vinci's notebook was in providing
provenance surrounding his work.

We can also understand the importance of the invention of the
camera obscura to the realistic work of the painter Vermeer. And I
believe that the tools, that NFTs and blockchains have unleashed
are incredibly powerful for the future.

In my particular case, I've been experimenting with NFTs as a
way to educate about my favorite subject, automobiles. The NFT that
I'm going to show you contains IP providing provenance about the
artwork depicted in the blockchain.

My work deeply involves metadata and proof of provenance tied
to rare artwork or architectural artifacts inspired by the
automobile, like diners, drive-ins, Route 66, etc. For another
example, is my metadata can show what a particular color a car, a
rare car was, at a particular point in time for future collectors.

Using the Copyright Registry, I was able to, in effect,
provide a notarization of historical artifacts through copyright
registration. Now I can turn around and hash this data in the
blockchain.

So for me, intellectual property is what is contained in the
IP. It's very much a powerful tool for young creators. We need to
better educate them on what they need to do to protect themselves.
How they can show their asset ownership, what the object looked
like, tell the story about it, provide binding terms of service,
and human-readable contracts.
NFTs in a way are automobiles on four wheels. I'm going to try to flip my screen here and see if I can show you what I've got. Let's see. Are you able to see this now?

<DAVID GERK> Yes, we can see it.

<LUCINDA LEWIS> Okay. So what I'm suggesting is a very simple step - an artist creates, he registers his copyright, he expresses the license, he attributes the credit, mints the NFT, and persists knowledge. That is the key that we need to do. Patents that pull upon NFTs will then be able to read the underlying data.

This is one I made last night. It's an NFT about a 1908 Model T. What is it? Well, it's piece of artwork, it's data, it’s attributions, it’s permissions, and it’s assertions that are now persisted through the blockchain.

An NFT is not just art. Much of the value lies in its data. It's important that it be verifiable and authenticated data. This is where the real value comes.

This is an interface that shows you how I made this last night. On the right side is the artwork and the story about it. As you can see, I was using one of the modern tools, ManifoldVault. On the left side is the data that I provided into the blockchain.

How did I do this? I wrote properties. I wrote properties that asserted the artist, the title of the collection, the name of the collection, the type of vehicle--you can configure this as you will, my trademark, my copyright notice, a digital Identifier, a form of verified identity, the type of license I was issuing, and a link that one could read the full license.

This is an opportunity of what we could help evolve through cooperation between the Trademark, Copyright, and Patent Office.

Now, we're looking at the real JSON from last night's NFT. Here we see the attribute pointing to a verified identifier. Here we see the trademark notice in the blockchain, the copyright
notice, the verified identifier, the license type, and a link to a
written terms of service published on Arweave, a competitor to
IPFS, but I've chosen to work with for specific reasons.

So I'm suggesting that we help drive education through the
resources we already have in our government, the Copyright Office,
and the U.S. Patent and Trade Office, to educate creators on how
they can express their IP, and smart contracts, and specifically
through properties using verified identifiers.

Someone touched on this earlier. we need Identifiers. The
Transportation Department needs Identifiers. That's part of our
problem now with the transportation industry. But we can validate
copyright, trademark, and licenses through a lot of the tools we
already have.

For example, here is a screenshot of a Library of Congress
catalog lookup. As you can see, there's a registration number. Is
there some way we can tie in identifiers straight to that and
record it in our electronic Copyright Office records? I think there
may be. I would like to engage the audience in a way that we can do
this as an opportunity to educate and inform the future. Thank you
again. I really appreciate this opportunity.

<DAVID GERK> Thank you very much, Ms. Lewis, for those
comments and remarks and those examples. Our next speaker today is
Patricia MacKenzie.

<PATRICIA MACKENZIE> Hi. I'm an artist. I create AI. My recent
work is focused on a model I made, a portable neural network where
I unexpectedly found that the map that emerges is a harmonic
oscillator with discrete energy states that's important for quantum
computing AI.

I would like to illustrate some select challenges posed by
NFTs through a performance piece that began in December 2021 called
NFT Extreme Features, wherein I attended public and private events
in the NFT space and asked, how would I create an NFT that would
not be available for sale until 2168?

The artist statement for this piece is as follows - My entire
body of work remains deemed unethical or unsafe AI until 2168 by
the elite offshore government. Global enforcement of laws by elite
offshore states predominantly occurs through warfare, meaning the
destruction rather than creation of value. Censorship, AI, and more
generally, mental warfare, is grounded in fear and reward-based
learning or classical conditioning. The insight into learning and
memory provided by the very first recording of long-term
potentiation in rabbits by Lømo and Bliss remains true, including
the hypothesis that fear-conditioned LTP could not be replicated in
a competing lab due to the fear context being far less terrifying
than mental warfare instantiated by hostile forces.

Mental warfare is a Machiavellian black hole. My role as an
artist is to transform the energy expelled from a black hole into
beauty, breathing life into the harmony of the universe, breathing
new life out into the cosmos.

A preliminary challenge I face with this piece is
communication with protocols and exchanges primarily occurs in
centralized spaces like Twitter and Telegram. Quantification and
determination of the origin of mental warfare and even
differentiating bot armies from human users on Twitter is beyond
the current capabilities of AI.

I watched another founder make topics trend on Twitter and
censor post stories in real time for the first time in 2017, and
would be happy to provide more in-depth analysis, including
blockchain-specific variants of this technology, many of which are
illustrated in the FTX bankruptcy saga, U.S. versus SPF, and will
be explored further in my comments.
The Art of War is generally defined as postmodern art or institutional critique as a satirical form of art, like Warhol's repeating silk screens of Marilyn or Andy Warhol Foundation for the Visual Arts v. Goldsmith. Reimagining Web3 as Yuga Labs Inc. v. Ryder Ripps it all.

NFTs are assigned a UID that is unique in the context of a trademark and by design is amenable to art that blurs the line between substantiative difference and substantiative differences that form a trademark style.

In contrast, nascent art movements forming after postmodern art blur the line between patents and copyright. New movements seek to create eternal works using $0 in institutional waste.

I use AI to replace the resources traditionally pried by an institute, resources my gender precludes me from receiving during my lifetime. Notably, the original institutional dissonance is predicated on the belief that women cannot own significant discoveries. The formal reason provided for deeming my work unethical is women will not receive equal recognition of resources for 150 years. Therefore, relinquishing my IP to a man is the safe option.

My decision to continue to create unsafe AI and broadly work deemed unfundable at the brand initiative planning meeting is evident in the patents I file. Integrating long durational databases of art and knowledge, like published patents and the Library of Congress and the blockchain, elegantly connects public records of creation and destruction to an immutable record of funded and unfunded work.

The same way I provide my physical address, I can optionally provide a public encryption key or wallet address to my intellectual property filings. Importantly, the ability to change this address, like a second printing or a new addition, allows for
the creation of new technology like quantum compatible encryption
and identity anonymization. It disincentivizes fraud.

The offshore elite have chosen the U.S. as the jurisdiction
for this tech cycle of catastrophic failures. Institutional banks
like J.P. Morgan allowed patents to be used in asset costs already.
Like the New York Stock Exchange and USC, there is opportunity for
USPTO to become a digital gold standard for intellectual property.

Clarification in the law is needed regarding ownership and
what specifically is being sold. If I make an artistic ceremony for
quantum computing AI, it needs to be clear this artwork is distinct
from purchasing the quantum AI patent.

Towards the end of my thesis, my advisor stopped
distinguishing me from my AI. Being viewed as a commodity
indistinguishable from the art I create, is an unavoidable
universal aspect of being an artist.

Prince performing with the word slave written on his face and
Britney performing “I'm a Slave 4 U,” eloquently expresses this
need for clarification. The law needs to provide a clear way to
indicate I'm selling a copy of a “Book of the Dead” reimagined for
AI originating from modern Nefertari, not modern Nefertari.

[Unintelligible name] also authored NFT extreme features on this
statement. I'm also eternally grateful for Tony [unintelligible
surname] early support and mentoring and all the amazing lawyers
who helped with my disaster mess AI prior art issues at NYU.

I work under elfsciences, elfsciences.com. Digital copies of
my work are actually not on my site currently, as any digital work
can be minted and sold as an NFT without my knowledge or consent,
which may occur on protocols I'm currently censored from on the
basis of AI safety.

Thank you for allowing me to speak and also all the amazing
panelists for their contribution to this discussion. I'm really
excited to see how brilliant lawyers and lawmakers rearranged the
discord between the U.S. laws and the offshore and artist laws.
Thank you.

<DAVID GERK> Thank you, Ms. MacKenzie, for your remarks today
and your time. Our next speaker is Merav Ozair.

<MERAV OZAIR> Hello. Thank you. Good afternoon and thank you
for having me here. I want a-- a special thanks to the USPTO for
inviting me, giving me an opportunity to post my thoughts about
NFTs and patent. Thank you for that. And I also applause that the
USPTO is doing this kind of study.

Now, A little bit about me. So I've been in this space for
over seven years, in the web3 - what we call today the Web3
metaverse - all this emerging technology, and I've been recognized
as one of the leading experts in this field. My background is in
fact finance. This is where my PhD and most of the experience. So
therefore the way that I also look at it is from a finance
regulation perspective, not just even though-- all what have been
mentioned here earlier by my esteemed panelists about art and
authentication, all that inclusivity, diversity, all that-- this is
probably one of the reasons why I'm so engaged with the Web3 and
see the opportunities there.

But when I'm thinking about patents and NFTs now, let's focus
on that, not just as an IP in general and what blockchain Web3
technology can bring to the world and how it can change our lives.
There are three interesting questions, at least in my mind, when it
relates to NFTs and patents.

One of them is-- one of the things that I'm thinking about is
that can and should we be patenting NFTs, meaning the technology
behind the NFTs. And I'm going to talk about it in a second. So
this is the first question.
The second question that is on my mind is the flip side of it, which has already been addressed earlier by the other esteemed panelist that was from IPwe, Ms. Pinto. We're talking about, can we NFT a patent? So that’s the flip side, which I'm going to talk about, can and should we.

And the third one, which might be a little bit more philosophical at the moment because we're not there yet in the metaverse virtual space, etc., speaking about it, is, what if, let's say I have a physical object that is, already has a patent, that's in an iPhone. We know that Apple has many patents on that. Now, if I'm going to create a digital twin of that to be used in the virtual world, what rights - or is there even any rights - of those patents within the virtual world? And this is something that maybe it's too philosophical at the moment, but it's never too soon to start thinking about things that may happen and think about it before the fact and not after the fact.

So these are the three interesting questions that I have in mind, and I'm going to touch on them because I know that I'm limited with time, so I'm going to touch on them very quickly as time permits.

So let's talk about the first topic, which is should you or can you patent the NFT, the technology behind the NFT? I think this is a very tricky question. And I know that there are some companies who have received patents on the technology of NFTs. I don't want to go into that because I don't want to create some kind of a misinterpretation of whether I’m for a particular company or something.

But in any event, most of the information I think - that was already talked about at the beginning by panelists before - is that the technology of creating an NFT is basically an open source. I mean you can find it on different platforms like whether it's
Ethereum or Algorand and we know about smart contracts because with
a smart contract it’s basically software, whether it's an NFT, and
an NFT is basically an application and it's software at the end of
the day, which is created with the ERC [unintelligible number],
smart control. But if you have Algorand, for example, you can
create an NFT, a basic one, even without a smart contract. So
there's a lot of information for open source of all kinds of
platforms that is already there and it's very advanced.

So if someone is coming and trying to ask for a patent for the
technology behind the NFT, I think it will be very challenging
because you have to go through all the open sources that are out
there and there are many of them.

When I look at Cryptokicks, the Nike, they got patents on
that. It can be offstream, [unintelligible] and breeding, which
kind of resembles the CryptoKitties by Dapper Labs. I don't know if
that even got a patent. So that was an open source created back on
the Ethereum platform.

And in order for any technology of someone to come with an NFT
that they will create some patents for that. I think that would be
a bit challenging for the Office to go through all these open
sources and look at all the advanced technology, because there is—
will be very, very advanced technology that is out there and
available and say whether whatever you're coming up with is really
unique and should be patented. Because I think that it should be
open source and remain in the open-source arena and not being
patented in that way because most of there it is. So that's, as for
— because of time — I'm just going to that when I'm talking about
NFT patenting and NFT technology in that regard.

So now, moving to the flip side of it, when we are talking
about NFTing a patent, as I said, IPwe and Ms. Pinto nicely talked
about that. Now do I believe that should or can be happen? Should
we do that? Yes. In my mind, in my humble opinion, every
certificate should be an entity, whether we're talking about real
estate, deed or title, whether we're talking about all of the
licenses that we have - a marriage license, driving license, even
your college degrees. So why not also patents? Because there's some
kind of certificate, of some sort of authentication.

I do believe that in the power of the blockchain technology to
allow for data sharing globally, in a way that is protected,
authenticated, trackable, traceable, transparent, and immutable. So
I do believe that this is something and I do that support that. So
it's not just patents, but every certificate, that it's going to
really open up and facilitate a lot of our business models that we
have today.

Again, coming from the finance perspective, now there is an
issue that I'm kind of playing with. If you think about
monetization, I'm not talking that you're going to monetize your
driver's license, I hope not. But let's say patents. In the case of
the IPwe, if they want to go the extra mile and not just
authenticate them, but also allow for monetization, then the
question becomes is, do they fall under securities law? And would
you actually have to be careful because now are you going to
functionalize them, tokenize them? How is it going to work? And
then there's other regulations that need to be considered and
thought of.

Now, I believe, and this is something that I've been working
on, is compliance. If it does fall into these securities laws, if
that happens, then it is possible to build in on-chain, as they
call it, within the smart contract, the compliance aspect. It is
viable and possible and when the time comes, I hope that whoever is
going to build this kind of platform will think about that. So
whoever is building this kind of platform should also think that
extra mile, and think ahead about these issues of securities law
and other compliance issues that needs to be addressed if you want
to monetize it and tokenize it and allow for all this. What we are
hoping for, creating more income and freeing up this kind of
business model. So these are issues, the thing that the platform
will decide to create that needs to take that into consideration
when we're thinking about this question.

And lastly, I know that I don't - I'm coming out of time - is
the philosophical questions about what happens if you digitize
physical objects already patented. Then that probably needs to be,
depends on what that digital asset is going to do within the
virtual world. For example, can that digital assets can, I don't
know, with a smart contract can get, let's say, phone calls from
the physical world and vice versa, something like that for example.
I know it's philosophical at the moment, but never too soon to
start thinking about where we're headed.

So thank you so much for giving me this opportunity and I am
thrilled about this technology and hope it will bring good to this
world. Thank you.

<DAVID GERK> Thank you very much, Ms. Ozair. And I think we
are now moving on to actually our final panelist of the day, and we
look forward to hearing now from Pamela Norton.

<PAMELA NORTON> Hello, can you hear me?

<DAVID GERK> Yes, we can.

<PAMELA NORTON> Okay, great. Again, I'd like to thank the
Undersecretary, Ms. Vidal, for the opportunity to present today and
give a little bit of context here on this first page.

My name is Pamela Norton. I'm the CEO and founder of Borsetta
Labs and TitleChain. To the right describes the vision I've had for
the past seven years - that you will look at what's in your wallet,
which will be all of your assets, whether they're business or
personal assets will be tokenized. This is the future. I have been 
in technology my entire career, launching companies and being in a 
very-- this is my fourth disruptive tech cycle. This is obviously 
the largest that I've ever experienced.

When I launched Borsetta Labs I was very focused on bringing 
back trust, transparency, and security, specifically for brands. We 
were titling high-value assets on the blockchain. I'll go through 
some examples of what we began doing and today now we are deploying 
an open protocol called TitleLock. It's a digital asset registry 
services that we are launching in Wyoming, and the vision is to 
create an open protocol pathway to secure IP on chain for a Web3 
economy.

So where we began-- we launched the very first titled NFT 
luxury asset in 2018. The wallet experience was very much like your 
everyday business. Here you can see the retail agreement, the asset 
market valuation, certification, was all embedded in the 
transaction. So from a user perspective, there was crypto happening 
in the background, but they weren't exposed to it, right? Which is 
the problem we still have today.

But this is a good example of an NFT-titled asset that was 
transacted and the owner of this asset can now potentially put this 
in a marketplace in the future. All the validation of, the 
information of who, and the authentication of the asset, was 
included in the NFT title.

So we made a strategic change, we've been quietly building 
these past seven years. We knew that if we could be on the 
development of a system on a chip, we will have 100 hyper-connected 
devices to us in, I think, by the year 2035. And we're very 
concerned about chips and sensors and the ownership and the IP of 
those chips and sensors that will be embedded in our everyday life. 
So we secured a project with the U.S. Air Force for a very
sophisticated AI system on a chip. And we took our patent-pending process in the secret design of this chip. There were some very unique things that this chip could do. All the IP was embedded in this title. We had a scoring for this on the security and valuation, the IP rights of the IP itself. Third-party IP was embedded. And we secured it in a vault. So just think of like a safety deposit box.

We also founded the Private AI Institute in 2020. Again, I was very concerned about AI and trying to get ahead of it from a social perspective, as well as control of, our ownership, IP and rights. And from that, we have some new open-source software that's coming out. So we're excited that some of the investments that we've made in that sector have come through.

Unfortunately, this chip got COVID and died, so it never got taped out. But the intent is this chip, in essence, could actually not be fabricated in a non-friendly state and could not be reverse engineered, or cloned. There's a lot of other unique things about this chip.

So the problem we're focused on now, as I mentioned, we've been really very involved in the supply chain. And what we found in the supply chain was that you're sort of in the middle. You're having a very hard time validating ownership and IP rights on the front end.

So our focus is on self-sovereign identity rights and control that's chained to the title, origination, the provenance of that asset, and then it's locked to and what we call it - intellectual capital, digital rights.

We've got 31 trillion of intangible assets that will be going on chain. We do not have a mechanism today to extract that value of those 31 trillion coming on chain today. And we have an additional 280 trillion in physical assets that will be coming on chain.
So this kind of recaps what we've all been talking about here. This is really visually what I want to show is the problem we have today. We have crypto assets that are disconnected from our legal system, and our financial systems cannot recognize them.

So we've had all of this growth in the center and a bit of mayhem, as you all know, with the recent fallout of the crypto market, and sort of this disconnect between law and accountancy today.

So TitleChain, we're launching TitleLock this year, which is in essence, a digital asset safety deposit box. So just think of your physical safety deposit box that you have in a bank will actually reside in our launch location in Wyoming, and I'll get into that in a minute. But it's a way for intellectual capital that can now be locked and ready for the Web3.

What's happening today is brands don't know how to participate. They're filing new trademark filings, trying to cover themselves in the metaverse, and they can't figure out what to do. So we believe the best thing for brands or creators or inventors is to be able to lock what they currently have in creating a digital asset.

So the way we do that is some technology that's been around for quite some time called a Ricardian contract, it was developed in the 90s. It is a human and machine-readable contract. It follows arbitration law framework, which is recognized in 160 countries around the world and it's really, in essence, this intelligent bridge for us. It's a way for us to encapsulate in that contract embeddable components, executable components on what you want that contract to do.

But following the rule of law that we have today, in essence, we have the compute power today to be able to have this technology work which didn't work in the 90s. So now that we have this bridge,
we can NFT IP and create digital assets. And what we want to try to help promote this year is some support on the accountancy side, where companies and entities can recognize a new reporting component for a company, which is called an immutable digital asset Register.

So my vision has been, since 2017, is to create an open-source protocol layer for the world, right? To be able to verify the asset identity, the ownership, the valuation that's tied to it, as a party's property title rights to that asset.

This is just very high level of our patent pending, the division again, first time inventor and I can attest-- it is a very difficult process, but it's one that I hope the world will be able to leverage, which combines recognition for person, place, thing, animals, whatever.

It covers the-- this asset actually exists in a new world, which is called a Web3 world. And can participate in a new economy, whether it's a D5 marketplace exchange. We cover title chain of custody, so from birth to end of life.

But when you think about the sort of a title protocol at any given point, you know the legal state of that asset. So is that asset in escrow? Is that asset in a custodian bank, a digital asset bank, is that asset being collateralized? So there's a lot of ways. Is that asset being seized? Is that asset in a bankruptcy sort of situation, which helps clear up a lot of the issues that we've seen this past year of who owns what wallet and where.

So the opportunity to collaborate-- we really want to create a Web3 marketplace and new economy. And we believe using a proof-of-title protocol offers a regulatory pathway for us to accelerate a Web3 world that's protecting intellectual capital. Because at the end of the day, it's where it begins, right?
So, this year, Wyoming will be on track to be the first state to offer registered digital assets. They have passed probably some of the most progressive laws on blockchain and crypto, over 25, maybe 30. Currently they are reviewing right now their stablecoin Act, as well as a registered digital asset act. TitleChain is a registered Wyoming corporation, as well as Borsetta Labs. We moved all the companies here because the state was very progressive with blockchain and technology.

So we are offering a digital asset registered agent service for creators and inventors and business entities. And what that means is we are focused on self-sovereign identity rights for the inventor, creator, or owner.

We then validate that KYC, that person or entity. We create a new entity or an entity is moved to the state, and that entity then is a controller of the keys to those NFT assets, whether they're patents, trademarks, copyrights, patent pendings, or trade secrets. And we can kind of get into that in a minute.

So it's a way to have a legal recognition of IP assets from the actual owner and controller of the asset, or the entity, or the power of attorney who has rights management, if you will, for the entity.

So, my recommendations, I obviously have a lot. We obviously would love to work with-- we have delegated nodes on our network and being able to demonstrate how we can create a global IP registry asset for the world.

We are focused right now in Wyoming. We have 25 of the most amazing use cases of IP from entertainers, from music, from film, from some of the most innovative technology in America right now, for renewable energy, to what's called atmospheric-generated water, which is quite cool.
We have several DAOs, which, if you're not familiar with it, a DAO is a decentralized organization that is recognized as a legal entity. In Wyoming, I call it a digital co-op. So, just like a credit union, these will be companies of the future, and we will demonstrate how this new entity is actually an owner of NFT IP assets and how they will be recognized.

I do have some recognitions around generative AI copyright. I do believe we should be able to demonstrate a pathway for those involved, like Patricia and others. It is a creative idea of the mind, right? And so as long as that copyright, whether it's an AI symbol that it has been inspired by AI, I do believe there should be a pathway that those creators and inventors - from AI animation and new storytelling - that are disclosed, but they should have the ability to have control of those rights and distribution of that asset.

I also have a recommendation. I know I'm running out of time here, but we want to test-- we have a very interesting trade secret, so similar to kind of like a non-disclosure that people sign. It's a way to lock down, maybe it's a proprietary algorithm, or some unique thing that an inventor, creator wants to share with the Patent Office, that they would have the ability to, in an encrypted way - we're doing some interesting things with homomorphic encryption that Dorothy talked about - that's happening this year, which, again, is revolutionary, that we can learn on data that never leaves the box. It's quite fascinating.

So we'd like to be able to test some of those cases to help people fast-track those innovative ideas in a way that is trusted and secured.

Thank you so much. I appreciate it. I know that was, like, a lot there, but happy to answer any questions.
<DAVID GERK> Thank you very much, Ms. Norton. And like all the panelists, very enlightening remarks today, I see we were extra efficient in this panel of industry representatives. So I'll exercise a little bit of the discretion as moderator here. And I think to the extent any of the second-round panelists have another minute or two at most, that they'd like to elaborate on something that was said, to the discussion. I think we have time for maybe two or three of those type things. So if you'd like to do that, I can call on you if you turn your camera on, and then I'll give some quick closing remarks, and we'll let everyone on their day.

Has anybody turn their camera on? Looks like, I don't know, Pamela, were you going to make one other? Ms. Norton, were you going to make one? Okay, you're leaving?

Okay. Ms. Mesidor, if you'd like to make another minute.

I think you're on mute still. I'm sorry.

<CLEVE MESIDOR> Apologies. Yes, sorry. I want to just reiterate my emphasis on inclusion in the policy and rule-making process and also emphasize that we need to hear from different voices if we're going to create a new paradigm.

I do think diverse entrepreneurs are vital to the-- well, across the blockchain and cryptocurrency ecosystem, whether it be D5 or Web3. And so we have to make sure that as we are deliberating, debating and figuring out what is the best path forward, especially as it pertains to intellectual property laws that have not always worked for people of color or communities that have been locked out.

I can't emphasize enough that I do not believe we hear enough from those of us in this space who can offer different perspectives. Thank you for the opportunity to be here today.
Great. Thank you very much. And I see - we'll take Ms. Pinto and then Ms. MacKenzie, and then we'll call it a day. So we'll go with that plan. So, Ms. Pinto.

I just came back on in case there was any questions. I didn't have anything else really to add right now.

Actually, I'm going to ask you a question, if you don't mind. And since there's one minute and you're up, maybe in three or four sentences, just maybe for those who may not follow - and I'll admit I don't know the technology as well as I probably should - I have been following the discussion a lot, but I know in your presentation you talked about where you're going to make NFTs of 25 million patents. Essentially, what does that mean in four or five sentences? And I know we did see from others, they talked about what making an NFT. One was made last night, and we saw what goes into it. Maybe just if you're willing to share, what in four or five sentences, what does that really mean you're going to make NFTs for 25 million patents?

Yeah, it's a reasonable question. I mean, from the time when I was at IBM, I was presented with this concept, and I didn't really kind of understand it either. And I'm a patent lawyer.

So basically, what we do is we're taking the publicly available data. So it's about ownership and things that are immutable associated with that. So issue date, priority date, expiration date, owner, assignee, all of that is what is being used to initially mint the token. And that's data that it's going to stay with that and it's publicly available data, right?

We're just getting it from Clarivate, so we know it's verified because it's the best-in-class IP dataset. Our thought is that if we have it already made for the owners, then they'll be more
comfortable with the fact of actually having it as an NFT versus
being willing to do it themselves.

I think that we need to be careful about rights associated
with NFTs and patent rights. They're not necessarily intertwined.
Having an NFT-- there's no rights that we're creating by issuance
or minting of the NFT. It's just taking that data and storing it in
one place. And that's the concept of what we're trying to do. And
by doing that, it opens up the market for liquidity and
transferability of that asset.

<DAVID GERK> Great. Thank you very much. And then last one. I'm
sorry, Miss Lewis, I think we're going to cut it off after Ms.
MacKenzie, if that's okay. But again, please submit comments to the
Federal Register Notice and obviously feel free to reach out to our
Office to continue the discussion. So maybe as a panelist will let
you have the last word here. Ms. McKenzie.

<PATRICIA MACKENZIE> Okay, I'll write this as a comment if I
have time. But I do want to point out that, as someone who works on
quantum computing, all the ideas in this were amazing. But it's
also really important to remember that most of these protocols run
on things like AWS, which are not necessarily things that will
exist in 150 years. And that's like an ongoing, really difficult
infrastructural problem. So just keep that into consideration.

Technologists like me are working as hard as we can to try to solve technical challenges of having something that can exist and
be stored. Because blockchain, again, it only stores the record of
the exchange. It doesn't necessarily store the work. And trying to
create a system where that work is stored as long as something like
Nefertari’s tomb is an ongoing thing that we're working on that's
not done yet.

<DAVID GERK> Great. Well, again—
<PATRICIA NORTON> Just one thing really quick. Thank you so much, Tricia, because our protocol is post-quantum proof, and I completely agree with you that this is an issue. IPFS is not secure. We are going to have another-- a side conversation. So thank you. I really appreciate it.

<DV AVID GERK> Well, thank you for that. Again. Thank you. So at this point, we'll consider our discussions closed. Our panel discussions will be closed. Just a couple of closing comments here. Obviously, so much was discussed, really great discussion, so we could not be more ecstatic. On behalf of, obviously, Director Vidal and the USPTO’s Office of Policy and International Affairs and all the others putting it together, I would like to thank the team behind the scenes. A lot of work, as you'd imagine, goes into preparing a session like this, a meeting like that. So to the GIPA and IT and audio visual teams that put in a lot of time. Also to some other policy attorneys and advisors behind the scenes – Courtney Stopp, Lila Feisee, and Keith Mullervy, I know, put a lot of time into it.

And then again, I'll just close by reiterating, we very much want to hear further thoughts. If this discussion has prompted you to have further things you think are worth raising, please do submit them in response to the Federal Register notice on February 3.

And there will be a further discussion like this with the Copyright Office, so I encourage you to, of course, attend that. So again, thank you so much to everyone for just an outstanding discussion today, and we look forward to continuing the discussion. Good afternoon.