

**Before the
United States Patent and Trademark Office
Alexandria, VA 22313**

In re:)
Request for Comments on) Docket No. PTO-P-2014-0058
Interim Guidance on Patent)
Subject Matter Eligibility)

COMMENTS OF GOOGLE INC.

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March 16, 2015

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INTRODUCTION

The Patent and Trademark Office's (PTO's) Interim Guidance on Patent Subject Matter Eligibility generally provides an accurate reflection of the case law and helpful guidance to examiners and applicants. We appreciate the care with which the PTO considered comments from the public, including from Google Inc., on the Preliminary Guidance. We are also grateful for the PTO's invitation of further comment.

These comments address the "Examples: Abstract Ideas" document the PTO released in connection with the Interim Guidance. The PTO gave four examples of patent-eligible subject matter under 35 U.S.C. § 101. We believe the analysis supporting the patent-eligibility of some of the example claims requires further refinement to be consistent with governing law and to provide helpful guidance to examiners.

As the Interim Guidance recognizes, the Supreme Court's decision in *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014), requires a two-step process for determining patent eligibility: *Alice* Step One asks whether the claim is directed to a law of nature, natural phenomenon, or abstract idea; *Alice* Step Two asks whether such a claim contains sufficient limitations to "transform the nature of the claim" from an abstract idea to a concrete application. (Although the examples refer to *Alice* Step One as Step 2A and *Alice* Step Two as Step 2B, we number the analytical steps in accordance with case law throughout this comment.)

The PTO's second example concludes that the claims are not directed to abstract ideas. We disagree because abstract ideas should be characterized at a relatively high level of generality

without incorporating specific claim limitations, which will be considered at Step Two. Thus, the focus in this example should be on evaluating the claims under Step Two.

The PTO's third and fourth examples discuss claims that, in the PTO's view, are directed to abstract ideas but contain enough additional inventive content to satisfy Step Two. Although these examples describe scenarios in which the applicant might be able to craft a patent-eligible claim, the exemplary claims themselves recite conventional or non-inventive equipment and activities, which are insufficient to establish patent eligibility. The analysis relies on features of the invention described in the specification but not included in the claims to find subject matter eligibility. That is inappropriate because the limitations required by Step Two must be found in the asserted claims themselves. In circumstances where an examiner concludes that a specification describes a patent-eligible invention, the examiner should require the applicant to add the relevant limitations to the claims, with a clear prosecution record concerning the meaning and import of the amendments. The PTO should revise its guidance and these examples to require that practice so that issued claims will comply with the dictates of § 101 and the public will have clear notice of their scope.

PART I: Example 2 Describes Claims that, While They May Be Patent-Eligible, Are Directed to Abstract Ideas under *Alice* Step One.

A. Example 2 erroneously goes further than the Federal Circuit's *DDR Holdings* decision in concluding that the claim is not directed to an abstract idea.

The PTO's second example describes a system by which Internet users who click on an advertisement for a product on a host website are redirected to a composite web page that combines information about the product with visually perceptible elements of the host website.

This example is based on the patent at issue in the Federal Circuit’s decision in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). The example, however, differs from the decision in a critical respect. The example states that the claim at issue is not directed to an abstract idea at all and, therefore, that no *Alice* Step Two analysis is required. But the Federal Circuit did not rest its decision in *DDR Holdings* on that basis.

On the contrary, the majority in *DDR Holdings* recited several possible formulations of an abstract idea to which the patent might have been directed—including the dissenting judge’s view that the patent described the basic concept “that an online merchant’s sales can be increased if two web pages have the same look and feel”—and chose *not* to reject any of them. 773 F.3d at 1257 (quoting *id.* at 1263 (Mayer, J., dissenting)). Instead, the court held that, assuming *arguendo* the patent’s claims were directed toward an abstract idea, “the ’399 patent’s claims satisfy *Mayo/Alice* step two.” *Id.* The example thus goes further than the court in concluding that the claim at issue is not directed to an abstract idea under *Alice* Step One. As Judge Mayer recognized, and as the *DDR Holdings* majority did not dispute, the basic idea of making two webpages look alike is general and abstract. That idea is not made any less abstract by the fact that it is relevant only in a “particular technological environment,” *Alice Corp.*, 134 S. Ct. at 2360, or by the fact that it is “Internet-centric,” *DDR Holdings*, 773 F.3d at 1258.

Indeed, the idea of facilitating commerce by making two webpages look alike describes a business method. Because business methods are economic practices and methods of organizing human activity, claims that recite them are typically directed toward abstract ideas under *Alice* Step One. See *Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776

F.3d 1343, 1347 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014). That “does not amount to creation of a business-method exception” to patent eligibility precisely because “[t]he required section 101 inquiry has a *second step* beyond identification of an abstract idea. If enough extra is included in a claim, it passes muster under section 101 *even if it amounts to a ‘business method.’*” *Id.* (emphases added).

B. Example 2 violates the principle that abstract ideas should be characterized at a high level of generality.

Beyond mistating the *DDR Holdings* analysis, example 2 is inconsistent with controlling precedent. Example two goes further than the *DDR Holdings* case by describing the idea to which the claims are directed as “‘automatically generating and transmitting a web page in response to activation of a link using data identified with a source web page having certain visually perceptible elements’” in the *Alice* Step One. But the ideas to which claims are directed should be characterized at a high level of generality. The fact that an idea is related to computers and the Internet does not mean it is not abstract. The Supreme Court has made clear that “limiting the use of an abstract idea to a particular technological environment” is not sufficient to confer patent eligibility. *Alice Corp.*, 134 S. Ct. at 2360; *see also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294; *Bilski v. Kappos*, 561 U.S. 593, 610 (2010). In *DDR Holdings*, Federal Circuit cautioned that “not all claims purporting to address Internet-centric challenges are eligible for patent.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1258 (Fed. Cir. 2014).

The example's flawed reasoning is reminiscent of the patentee's unsuccessful argument in *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014). The patent there claimed an eleven-step method for distributing copyrighted products over the Internet at no charge in exchange for the consumer's viewing an advertisement, a method that the patentee argued was "previously unknown and never employed on the Internet before." *Id.* at 714. The court rejected that argument and held that the claim was directed to "the abstract idea of showing an advertisement before delivering free content." *Id.* at 715. In *Alice* Step One, the court characterized the idea to which the claim was directed at a high level of generality, not limited by the internet context. It acknowledged that the claim contained "additional limitations, such as consulting an activity log," that were specific to implementation of the idea over the Internet; but it held that "any novelty in implementation of the idea is a factor to be considered *only in the second step* of the *Alice* analysis." *Id.* (emphasis added).

The PTO's example contravenes that analytical sequence by incorporating specific claim limitations at Step One to define the idea to which the claim is directed. *See id.* at 3. That is incorrect. It is at Step Two, not Step One, that one must "examine the elements of the claim" to determine whether it contains significant, inventive limitations. *Alice Corp.*, 134 S. Ct. at 2357; *see Ultramercial*, 772 F.3d at 715. By relying on the specific claim limitations to conclude that the claim is not directed to an abstract idea, the example conflates Step One with Step Two, which is likely to confuse applicants and examiners about the structure of the *Alice* test.

To the extent the second example's over-reliance on Step One suggests that the PTO may be reluctant to conclude that a patent with specific claim limitations is directed to an abstract

idea, that reluctance is misplaced. As the Supreme Court has recognized, many, if not most, patent-eligible methods are “[a]t some level” directed to abstract concepts. *Alice Corp.*, 134 S. Ct. at 2354. That does not mean those inventions cannot be patented; it simply means that they must be analyzed at Step Two to ensure that their claim elements add something significant to the abstract idea.

For these reasons, we ask the PTO to revise this example to make clear that the claim in question is directed to the general, abstract idea of making two web pages look alike at *Alice* Step One, but they are nonetheless patent-eligible at *Alice* Step Two because they “recite a specific way to automate the creation of a composite web page by an ‘outsourcer provider’ that incorporates elements from multiple sources.” *DDR Holdings*, 773 F.3d at 1259.

PART II: Examples 3 and 4 Err in Labeling Conventional Equipment and Activities as Inventive and in Relying on Limitations that Are Not Found in the Exemplary Claims.

The PTO’s third and fourth examples discuss claims that, in the PTO’s view, are directed to abstract ideas at Step One but contain enough additional inventive content to satisfy Step Two. These examples may describe scenarios in which an applicant could craft a patent-eligible claim, but the exemplary claims themselves do not contain the limitations needed to transform an abstract idea into a patent-eligible application.

A. Example 3 mistakenly labels conventional steps as inventive and fails to require that the claims incorporate the patent’s true inventive concepts.

The PTO’s third example claims a method, a medium, and a system for “halftoning” (i.e., converting to binary) a grayscale image using a “blue noise mask.” Examples at 7. The example

rightly concludes that the claim in question is directed to an abstract idea because the blue noise mask is produced through a “mathematical operation” and thus relies on abstract “mathematical relationships.” *Id.* at 8. But the example does not provide clear guidance when it misidentifies the additional, inventive aspects of the claim that may give rise to patent-eligibility.

The example states that the “additional steps,” recited in the claims, of “comparing the blue noise mask to a grayscale image . . . and converting the binary image array into a halftoned image . . . add meaningful limitations to the abstract idea.” *Id.* at 9. But the “comparing” and “converting” steps alone cannot amount to meaningful limitations. The example makes clear that prior-art halftoning techniques “involve[d] the pixel-by-pixel comparison of the gray scale image to . . . a ‘mask’ . . . [to create] a binary array . . . [which] is then converted to . . . the image for display.” *Id.* at 7. The exemplary claims describe the “comparing” and “converting” steps in conspicuously general terms that simply parrot that prior art without adding anything. *See id.* (claim specifies “comparing . . . on a pixel-by-pixel basis, each pixel of the gray scale image to . . . the blue noise mask to produce a binary image array; and converting the binary image array to a halftoned image”). Those steps are merely conventional and therefore do not constitute an inventive concept for purposes of Step Two. The Supreme Court has made clear that when a claim is directed to an abstract idea, additional steps that merely tell practitioners “to engage in well-understood, routine, conventional activity previously engaged in by [those] who work in the field” cannot render the claim eligible for patent. *Mayo*, 132 S. Ct. at 1298; *see also Bilski*, 561 U.S. at 610–11.

It is possible, however, that the invention, if properly claimed, could be patent-eligible. The example states that the applicant improved upon the prior art by devising “an improved mask called a ‘blue noise’ mask,” which, compared to previous masks, reduces memory use and computation time while improving image quality.” Examples at 7. The example describes the process of generating the blue noise mask in terms that involve more than just applying the fundamental laws of mathematics:

The blue noise mask is produced through an iterative mathematical operation that begins with generating a dot profile with blue noise properties from an image at a 50% gray level using a blue noise filter. Subsequently, additional dot profiles are generated at differing gray levels. As pixels change across the gray levels, these changes are encoded in a cumulative array. Once all the dot profiles are built, the cumulative array becomes the blue noise mask.

Id. at 7. To be sure, the process of generating the mask requires the use of basic mathematical relationships, so the PTO is correct to conclude at Step One that the claim is directed to an abstract idea. The fact that math is used to generate the mask does not mean that either the mask itself or the process for generating it is necessarily an unpatentable law of nature. *See Mayo*, 132 S. Ct. at 1298–99. Instead, the “overall process,” *Id.* of using math to generate “dot profiles” with specific, desirable properties and combining those profiles in a specific way to achieve a novel result (the blue noise mask) may be patent-eligible at Step Two.

Thus, the example identifies the blue noise mask as the heart of the invention and the only way in which the applicant has “improved upon” the prior art. The exemplary claims, however, barely describe what the blue noise mask consists of or how it is generated. *See* Examples at 7. If the blue noise mask is the inventive concept that renders the application

eligible for patent protection, then its inventive characteristics or the specific process by which it is created should be included in the claim limitations. *See Alice*, 134 S. Ct. at 2357 (Step Two requires evaluating “the elements of the claim”); *Accenture Global Servs. GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (“[T]he important inquiry for a § 101 analysis is to look to the claim.”).

We therefore ask the PTO to modify this example to state that it is the novel aspects of the blue noise mask, rather than the purely conventional “compare” and “convert” steps, that constitute the inventive concepts that render the claims patent-eligible; and to clarify that those inventive concepts must be fully and explicitly incorporated into the claims to provide “practical assurance that the [claims are] more than a drafting effort designed to monopolize the abstract idea itself.” *Alice Corp.*, 134 S. Ct. at 2358 (quoting *Mayo*, 132 S. Ct. at 1297) (brackets and internal quotation marks omitted).

In addition, this example is based on the Federal Circuit’s decision in *Research Corp. Technologies, Inc. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010), a decision that is now obsolete in important respects. For example, the court stated that some of the claims were not abstract because they “require[d] a ‘high contrast film,’ ‘a film printer,’ ‘a memory,’ and ‘printer and display devices.’” 627 F.3d at 869. The court, however, did not find, as *Alice* would later require, that these claims did more than just “recite a handful of generic . . . components configured to implement the [abstract] idea.” *Alice*, 134 S. Ct. at 2360. The PTO should therefore state in the Examples document that it is not adopting the analysis in *Research Corp.*

B. Example 4 does not adequately explain why the claims satisfy the inventive-concept requirement.

The PTO's fourth example addresses claims for a system and method for calculating the position of a mobile GPS receiver using a mathematical model. The example correctly finds that the claims are directed to an abstract idea (the mathematical model) and that the claim's recitation of generic computer components such as "a central processing unit[,] . . . data stored in a memory, and time data from a clock . . . is not sufficient to transform the recited [abstract idea] into a patent-eligible invention." *Id.* at 12. But it goes on to conclude that the claims nonetheless contain "significantly more than the mathematical operations by themselves." *Id.* at 13. While that conclusion may or may not be justified, it is not adequately explained in the example.

As the example acknowledges, the Supreme Court held in *Alice* that "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." 134 S. Ct. at 2358. But the rule the Court announced was in no way limited to patents that recite components of a "generic computer." Instead, the Court's holding about a generic computer was one application of the broader principle that a claim directed to an abstract idea is patent-eligible only if it contains, in addition to the abstract idea, an "inventive concept" that goes beyond the merely "conventional," that is, beyond what is "already well known in the art." *Id.* at 2357 (quoting *Mayo*, 132 S. Ct. at 1294, 1297–98, 1300) (internal quotation marks omitted). On the other hand, additional limitations in a claim that are "well-understood, routine,

[and] conventional” from the perspective of those “who work in the field” are not sufficient. *Mayo*, 132 S. Ct. at 1298.

The example does not make clear why the claims in question satisfy that inventive-concept requirement. The example points to various equipment (“a GPS receiver, microprocessor, wireless communication transceiver and a display”) and activities (“receiv[ing]” data from satellites, “wirelessly transmitt[ing]” data to and “receiv[ing]” data from a server, and “display[ing]” data visually) that the claims recite. Examples at 12. But it does not state or even suggest that the equipment and activities are not “in context obvious, already in use, or purely conventional.” *Mayo*, 132 S. Ct. at 1299.

The example is thus problematic because it may foster the notion that applicants can circumvent the Supreme Court’s inventive-concept requirement by reciting a lengthy, technical-sounding list of equipment and activities, even when that equipment and those activities are already well known in the art. That notion would be mistaken. If the claims in this example merely recite the application of mathematical formulas to equipment (like processors and transceivers) and activities (like transmitting data between a mobile device and a server) that are already well known to makers of GPS systems, then they are not patentable. *See Alice Corp.*, 134 S. Ct. at 2358.

The case on which the fourth example is based, *SiRF Technology, Inc. v. International Trade Commission*, 601 F.3d 1319 (Fed. Cir. 2010), does not support a contrary conclusion. Although the Federal Circuit held the claims in that case patent-eligible, it did so using reasoning that is no longer valid. Applying its former rule that treated a process as automatically

patent-eligible if it was “tied to a particular machine or apparatus,” the court held that the claims were patentable because they “explicitly require[d] the use of a particular machine (a GPS receiver) and could not be performed without the use of such a receiver.” *Id.* at 1332–33. The Supreme Court later emphatically rejected that rule in cases like *Mayo* and *Alice*.

Whether the exemplary claims are patent-eligible depends on whether, in the example’s hypothetical scenario, the equipment and activities recited in the claims are not simply conventional in the field of mobile GPS technology. For example, perhaps the applicant has devised a novel way of applying fundamental mathematical relationships to real-world data (e.g., wireless tower locations) to produce new and useful information. *Cf. Mayo*, 132 S. Ct. at 1299. If that is the case, the claims should contain detailed limitations describing the relevant inventive concepts. Relying on descriptions of these inventive concepts contained in the specification is inappropriate when judging the patent-eligibility of the claims unless those concepts are incorporated into the claims. The exemplary claims, which recite phrases like “estimate a position,” “calculate absolute time,” “create a mathematical model,” and “calculate the absolute position,” without explaining *how* to perform any of these calculations, do not on their face contain adequate limitations.

For these reasons, we ask the PTO to modify the example to clearly identify the nature of the inventive concepts that render the invention patent-eligible and to state that those inventive concepts must be fully disclosed in the claim limitations. The example should also clearly state that the PTO is not adopting the now-discredited reasoning of the Federal Circuit’s *SiRF Technology* decision.