



March 14, 2015

**Via email: [2014\\_interim\\_guidance@uspto.gov](mailto:2014_interim_guidance@uspto.gov)**

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*Re: Comments on 2014 Interim Guidance on Patent Subject Matter Eligibility*

Dear Director Lee:

Thank you for the opportunity to submit comments on the USPTO's *2014 Interim Guidance on Patent Subject Matter Eligibility* ("the Interim Guidance").

Trading Technologies International, Inc. ("TT") is a software company headquartered in Chicago. Since opening in the mid-90's, TT has hundreds of employees throughout the world, the majority in the U.S. TT develops high-performance trading software for derivatives professionals, including the world's premier investment banks, proprietary traders, brokers, Futures Commission Merchants (FCMs), hedge funds and other trading institutions.

TT spends millions of dollars each year on research and development of new products and services and relies on its patent portfolio to protect those investments. Accordingly, TT has a strong interest in ensuring that the rules of the USPTO are interpreted correctly.

TT's comments focus on the "abstract idea" judicial exception, although many of the comments are applicable regardless of the specific judicial exception at issue.

## **I. CLARIFY WHICH GUIDANCE IS CONTROLLING**

The Interim Guidance states that it "supplements the June 25, 2014, Preliminary Examination Instructions in view of the Supreme Court decision in *Alice Corp.* (June 2014 Preliminary Instructions)," while superseding other prior procedures.<sup>1</sup> However, the Interim Guidance addressed a variety of issues raised in comments on the June 2014 Preliminary Instructions that altered the application of and analysis under the two-part test. Consequently, the Interim Guidance should be updated to state that the June 2014 Preliminary Instructions

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<sup>1</sup> "2014 Interim Guidance on Patent Subject Matter Eligibility," 79 Fed. Reg. 74618, 74619-74620 (Dec. 16, 2014).

have also been superseded to reduce confusion with both applicants and examiners as to which procedures may or should be applied.<sup>2</sup>

## **II. THE CLAIM AS A WHOLE MUST BE CONSIDERED**

The Interim Guidance should be updated to emphasize that, in performing the eligibility analysis, claims should not be generalized, addressed in a piecemeal manner, or have elements removed or ignored for any portion of the analysis. That is, all features recited in the claims should be considered in their totality.

## **III. PREEMPTION IS THE MOTIVATING CONCERN OF THE §101 ANALYSIS**

The Supreme Court has repeatedly emphasized that “the concern that drives [the §101] exclusionary principle [is] one of pre-emption.”<sup>3</sup> As the Supreme Court explained in *Alice*, the driving concern is preventing preemption of fundamental “building blocks of human ingenuity.”<sup>4</sup> Other courts in deciding eligibility have also emphasized the preemption concern in their analyses.

However, the Interim Guidance describes the application of the two-part test with the apparent assumption that the test itself answers the question whether there is a preemption of the judicial exception, resulting in preemption being a side effect of the analysis, rather than the overarching concern and guiding motivation.

In addition, the slides for the training materials provided to examiners mention preemption only one time, and only in the context of a claim reciting a plurality of judicial exceptions.<sup>5</sup> It is disconcerting that the motivating concern of the eligibility analysis is barely mentioned in the training materials, as an understanding of the purpose of the analysis is essential to perform it correctly.

The Interim Guidance and corresponding training materials should be updated to emphasize the motivating concern of preemption and explain how this concern guides the analysis under the two-part test. In addition, the Interim Guidance and training materials should be updated to incorporate examples of application of the two-part test illustrating the role of the motivating concern of preemption.

## **IV. PART 1 OF THE ANALYSIS MUST BE CLARIFIED**

### **A. The Examples of “Abstract Ideas” Must Be Clarified**

As a preliminary matter, we note that the Supreme Court has only ever identified two kinds of abstract ideas (i.e., fundamental economic practices and mathematical relationships/formulas) and we caution the USPTO from expanding an exception that is to be narrowly construed beyond these specific examples. To the extent that the USPTO has expanded the examples of abstract ideas, we submit that such examples should be limited only to similar concepts that are demonstrated to be of instantly and unquestionably fundamental “building block of human ingenuity.” However, we emphasize our belief that such an expansion is not advisable and risks going well beyond the intent of the Supreme Court.<sup>6</sup>

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<sup>2</sup> While these comments generally refer to updates or changes to be made to the Interim Guidance, it is also understood that the corresponding training materials for examiners should also be similarly be updated, where appropriate.

<sup>3</sup> *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014); see, e.g., *Bilski v. Kappos*, 561 U.S. 593, 611-612.

<sup>4</sup> *Alice*, 134 S. Ct. at 2354.

<sup>5</sup> “CBT Slides,” slide 25, available at <http://www.uspto.gov/sites/default/files/documents/training - 2014 interim guidance.pdf> (February 2015).

<sup>6</sup> See *Alice*, 134 S. Ct. at 2354.

### 1. “Certain Methods of Organizing Human Activities” Is a Misleading Example

The Interim Guidance states that “[a]bstract ideas have been identified by the courts by way of example, including ... certain methods of organizing human activities....”<sup>7</sup> While this statement is generally accurate, it may be misinterpreted when the eligibility analysis is applied.

In *Alice*, the basis for the language of this example, the Court was not saying that “organizing human activity” is an abstract idea. Rather, the Court was illustrating that the abstract idea identified in *Bilski* did not fit the Petitioner’s proposed definition of an “abstract idea” (a “preexisting, fundamental truth”).<sup>8</sup> That is, the longstanding commercial practice in *Bilski* was not a “truth about the natural world that has always existed,” but it was still an abstract idea even though it was “a method of organizing human activity.”<sup>9</sup>

While the use of the term “certain” does imply that there are some kinds of organization of human activities that are not abstract ideas, the phrase itself is still misleading. The Supreme Court has never said that the fact that a concept is an organization of human activity implied anything about the concept being an abstract idea. Rather, in context, the Court was simply saying that something is not precluded from being an abstract idea simply because it involves an organization of human activity, rather than being a preexisting, fundamental truth. The former is not the logical equivalent of the latter. Being a method of organizing human activity is irrelevant to the eligibility analysis beyond not precluding a concept from being considered as an abstract idea. Consequently, the inclusion of this phrase may cause confusion without clear guidance as to its meaning.

The Interim Guidance should be updated to remove the phrase “certain methods of organizing human activities” from the list of examples of abstract ideas. By removing the phrase, confusion over its meaning can be avoided without affecting the proper identification of abstract ideas. In the alternative, the Interim Guidance should be updated to clarify that “organizing human activity” is not an indication of an abstract idea, but rather, it is a reason that something that is not a “preexisting, fundamental truth” might still be an abstract idea if it is a fundamental “building block of human ingenuity.” Without such a clarification, there is a risk of examiners rejecting certain types of claims, such as “business method” claims, as ineligible without a proper analysis, contrary to controlling precedent.<sup>10</sup>

### 2. Not All Mathematical Formulas Express Scientific Truths

The Interim Guidance states that “[f]or example, mathematical formulas are considered to be an exception as they express a scientific truth, but have been labelled by the courts as both abstract ideas and laws of nature.”<sup>11</sup> (emphasis added). It is unclear whether this is a typographical error. Certainly some mathematical formulas/relationships are expressions of scientific truths. However, many others are not. For example, an equation expressing a new, man-made relationship would not be an expression of a scientific truth. Such a relationship may never have been established previously. Consequently, such an expression would not meet the definition of an abstract idea.

The Interim Guidance should be updated to clarify that not all mathematical formulas/relationships express scientific truths and, further, that not all mathematical formulas/relationships are abstract ideas. Only those mathematical formulas/relationships that express scientific truths or are fundamental “building blocks of human ingenuity” are abstract ideas.

### 3. Use of the Phrase “Less Abstract” Indicates a Fundamental Misunderstanding

In the abstract idea examples that were issued to supplement in the Interim Guidance, two of the examples suggested that certain limitations might narrow the claims in some ways or further describe certain aspects

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<sup>7</sup> 79 Fed. Reg. at 74622.

<sup>8</sup> *Alice*, 134 S. Ct. at 2356.

<sup>9</sup> *Alice*, 134 S. Ct. at 2356 (quotation marks omitted).

<sup>10</sup> The Supreme Court, in *Bilski* and *Alice*, has made very clear that there is no “business method” exclusion – this was a position adopted by only a minority of the Supreme Court.

<sup>11</sup> 79 Fed. Reg. at 74622.

but would not render the abstract idea at issue “less abstract.”<sup>12</sup> The use of the phrase “less abstract” indicates a fundamental misunderstanding of what an abstract idea, as that term has been used by the Supreme Court, means. In this context, an abstract idea cannot be “less abstract” – it is a binary condition: either the concept alleged to be abstract is a fundamental “building block of human ingenuity” or it is not. Abstract ideas in this context do not exist on a continuum. While the conventional/dictionary understanding of “abstract” may lend itself to a sliding-scale, the term of art, as used by the Supreme Court, does not.

The Interim Guidance and the abstract idea examples should be updated to clarify that a concept is either an abstract idea (as supported by evidence) or it is not.

## **B. Evidence Is Required to Allege a Concept Is an Abstract Idea**

Aside from providing case-specific examples of abstract ideas, the Interim Guidance is silent on the need for evidence that a concept alleged to be an abstract idea is actually an abstract idea. Without factual evidence in the record supporting an assertion that a concept is an abstract idea, the burden is placed on the applicant to prove a negative. This is improper, as the USPTO has the burden to make the *prima facie* case to support a rejection under §101, as with any other rejection.

The alleged abstract idea must be clearly articulated and the provided evidence must support identification of the essential elements of the abstract idea, as this is needed for a proper analysis under the two-part test, as discussed further below.

The Interim Guidance should be updated to require that a rejection under §101 include: (1) a clear articulation of the alleged abstract idea, (2) the essential elements of the alleged abstract idea, (3) and factual evidence demonstrating that the alleged abstract idea is a fundamental “building block of human ingenuity.”

## **C. The Scope of “Directed to” Must Be Clarified**

In discussing how to determine what a claim is “directed to,” the Interim Guidance states that “[a] claim is directed to a judicial exception when a law of nature, a natural phenomenon, or an abstract idea is recited (*i.e.*, set forth or described) in the claim.”<sup>13</sup> This definition of “directed to” includes asking whether a judicial exception, such as an abstract idea, is mentioned anywhere in the claim. As noted by the Interim Guidance and stated plainly by the Supreme Court, “[a]t some level, all inventions ... embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”<sup>14</sup> Thus, to interpret “directed to” as put forth by the Interim Guidance would encompass all claims. That is, in view of the Supreme Court’s statement, there are no claims which would not have to answer “yes” to this formulation of Part 1 of the analysis, rendering it a nullity. Consequently, such a formulation cannot be correct.

Aside from “directed to,” the Court in *Alice* also used other terms such as “drawn to” and “claimed” in describing the first part of the inquiry.<sup>15</sup> These terms, along with the analysis applied by the court in *Bilski* and *Alice* clarify that “directed to,” as used by the Court, has a narrow interpretation and this should be

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<sup>12</sup> “Abstract Idea Examples,” 17-19, *available at*

[http://www.uspto.gov/patents/law/exam/abstract\\_idea\\_examples.pdf](http://www.uspto.gov/patents/law/exam/abstract_idea_examples.pdf) (example 7 states “[i]t is also noted that narrowing the commercial transactions to particular types of relationships or particular parts of that commercial transaction (*e.g.*, underwriting) would not render the concept less abstract” and example 8 states “[t]he addition of limitations that narrow the idea, such as receiving copyrighted media, selecting an ad, offering the media in exchange for watching the selected ad, displaying the ad, allowing the consumer access to the media, and receiving payment from the sponsor of the ad, further describe the abstract idea, but do not make it less abstract.”).

<sup>13</sup> 79 Fed. Reg. at 74622.

<sup>14</sup> 79 Fed. Reg. at 74622; *Alice*, 134 S. Ct. at 2354. (citing *Mayo*) (ellipsis in original, quotation marks omitted).

<sup>15</sup> *Alice*, 134 S. Ct. at 2352, 2355-57.

reflected in the analysis. The Court has “repeatedly emphasized this ... concern that patent law not inhibit further discovery by improperly tying up the future use of these building blocks of human ingenuity.”<sup>16</sup> In clarifying further, the Court then stated that “in applying the §101 exception, we must distinguish between patents that claim the “buildin[g] block[s]” of human ingenuity and those that integrate the building blocks into something more ..., thereby “transform[ing]” them into a patent-eligible invention.”<sup>17</sup> (emphasis added, internal citations omitted). According to the Court, the former “risk disproportionately tying up the use of the underling ideas” and are ineligible while the latter “pose no comparable risk of pre-emption” and therefore remain eligible.<sup>18</sup>

In view of the Court’s statements and the motivating concern of preemption, when analyzing whether a claim is directed to no more than an abstract idea, the question is whether the claim on its face recites, in practical effect, no more than an abstract idea (and thereby in practical effect preempts the abstract idea). That is, a claim is “directed to” an abstract idea when the claim, as a whole, only recites the essential elements of the identified abstract idea.<sup>19</sup> As noted in the streamlined eligibility analysis, when a claim viewed as a whole “clearly does not seek to tie up any judicial exception such that others cannot practice it,” the eligibility of such claims will be “self-evident.”<sup>20</sup> Further, we submit that evidence that there are other ways to practice the identified abstract idea outside the scope of the claim conclusively demonstrates that the abstract idea has not been preempted.

While TT applauds the inclusion of the streamlined eligibility analysis provided in the Interim Guidance, we submit it is not sufficient. The existence of the streamlined analysis cannot excuse the fact that the definition of “directed to” in the Interim Guidance is in conflict with the Supreme Court’s statement. The only conclusion to be drawn is that “directed to” must be interpreted more narrowly than having a judicial exception “recited” in a claim. Rather, the claim as a whole must be evaluated against the identified judicial exception to ascertain whether there is any likelihood that the judicial exception will be preempted. In other words, the streamlined eligibility analysis proposed by the Interim Guidance, as clarified by these comments, is itself the proper test for evaluating whether a claim is “directed to” a judicial exception under Part 1.

Accordingly, Part 1 requires (a) first identifying the abstract idea and (b) then determining if the claim, as a whole, appears to in practical effect preempt (that is, forecloses or nearly forecloses) the abstract idea. Thus, an invention is not rendered ineligible simply because it involves an abstract concept. In fact, inventions that integrate the building blocks of human ingenuity into something more by applying the abstract idea in a meaningful way are eligible. It is not enough that the claim merely relates to or includes an abstract idea. In accordance with Supreme Court guidance, the analysis in Part 1 must show that the claim is reciting no more than the abstract idea itself.

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<sup>16</sup> *Alice*, 134 S. Ct. at 2354 (internal quotations omitted).

<sup>17</sup> *Alice*, 134 S. Ct. at 2354.

<sup>18</sup> *Alice*, 134 S. Ct. at 2354-55.

<sup>19</sup> The words “in practical effect” acknowledge that elements that merely implement the abstract idea in a known way do not preclude preemption. Additionally, the “essential elements” refers to the necessary components of the abstract idea. Aspects which are optional or unrelated to with respect to the abstract idea are not necessarily within the scope of the fundamental “building block of human ingenuity.” In *Alice*, for example, the petitioner “acknowledge[d] that its claims describe intermediate settlement” and consequently the claims were “directed to” that abstract idea. 134 S. Ct. at 2356. Thus, in *Alice*, “the relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer,” which the Court concluded, “[t]hey do not.” 134 S. Ct. at 2359. In contrast, in another case, the district court made clear that key elements in a claim unrelated to the alleged abstract idea made it difficult to say the claim was directed to the abstract idea. *Ameranth Inc. v. Genesis Gaming Solutions Inc.*, 11-cv-00189 (C.D. Cal. Nov. 12, 2014) (Dkt. 215) (denying motion for summary judgment of invalidity of U.S. Patent No. 8,393,969, stated “[I]t is hard to say that claim 1 is directed to “the abstract concept of a customer loyalty program, and more specifically to computer automation of a player rewards system within a poker room” when it includes key steps that are not related to the compensation system recited in the claim.”).

<sup>20</sup> 79 Fed. Reg. at 74625.

It is also very important to note that both technical and what some may argue to be non-technical claim elements are sufficient to cause a claim to claim more than an abstract idea, and therefore pass muster under Part 1. For example, the presence of a non-generic, non-conventional computing element would cause a claim to not be directed to an abstract idea under Part 1. But, equally important, so would an element that provides an additional step in an economic practice so as to make the claim recite more than a fundamental economic practice. An example is provided below under “Matching Buyers and Sellers,” with an additional step of matching pursuant to a pro-rata algorithm. Some would argue such steps are not technical. We acknowledge that some entities may argue for a test that would diminish, if not ignore, the import of such claim elements. We submit that such a test is clearly contrary to controlling Supreme Court and Federal Circuit precedent. In *Bilski* and *Alice*, the Supreme Court, consistent with the Federal Circuit, has made very clear that there is no “business method” exclusion – this was a position adopted by only a minority of the Supreme Court. Those who propose tests that do not require the examiner to look at what could be characterized as non-technical or business method steps in determining whether a claim recites no more than an abstract idea are, in reality, proposing tests that will improperly exclude patentable “business methods.”

The Interim Guidance should be updated to explain that the evaluation of whether a claim is “directed to” a judicial exception should be based on analysis of whether the claim as whole clearly does not seek to preempt the judicial exception such that others cannot practice it. This analysis requires (a) first identifying the abstract idea and (b) then determining if the claim, as a whole, appears to in practical effect preempt the abstract idea. In addition, the Interim Guidance should be updated to make clear that evidence that there are other ways to practice the identified abstract idea outside the scope of the claim conclusively demonstrates that the abstract idea has not been preempted. We submit that for the vast, vast majority of claims in any art unit, this will be both true and self-evident. Further, the Interim Guidance should be updated to make clear that all elements of a claim, whether they are arguably technical or non-technical, must be included in the analysis, lest the analysis improperly exclude patentable “business methods.”

## **V. PART 2 OF THE ANALYSIS MUST BE CLARIFIED**

### **A. The Presence of Generic or Conventional Elements in a Claim Does Not Alter the Analysis**

The Interim Guidance states that:

Limitations that were found not to be enough to qualify as ‘significantly more’ when recited in a claim with a judicial exception include: ... Simply appending well-understood, routine and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, e.g., a claim to an abstract idea requiring no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry....<sup>21</sup>

This example relied on statements from both to *Alice* and *Mayo*, yet the supporting portion of *Alice* was referring to a different situation. The above-quoted example from the Interim Guidance is equivalent to the next example given in the Interim Guidance – “[s]imply appending well-understood, routine and convention activities ... to the judicial exception” is the same as “[a]dding insignificant extrasolution activity to the judicial exception.”<sup>22</sup>

In contrast, the portion of *Alice* relied on in the above-quoted example referred to a situation akin to the prior example given in the Interim Guidance – “[a]dding the words ‘apply it’ (or an equivalent) with the judicial exception, or mere instructions to implement an abstract idea on a computer.”<sup>23</sup> Specifically, in discussing

<sup>21</sup> 79 Fed. Reg. at 74624 (citing *Alice* and *Mayo*).

<sup>22</sup> 79 Fed. Reg. at 74624.

<sup>23</sup> 79 Fed. Reg. at 74624.

“whether the claims [in *Alice*] do more than simply instruct the practitioner to implement the abstract idea of intermediate settlement on a generic computer,” the Court concluded that the use of a “generic computer to perform generic computer functions,” where the functions corresponded to the essential steps of the concept of intermediated settlement, was simply a recitation of “the concept of intermediated settlement as performed by a generic computer.”<sup>24</sup> In other words, in *Alice*, the claims were viewed to simply recite taking the abstract idea of intermediated settlement and “apply it on a computer.”

Additionally, in the above-quoted example, the statement that “a claim to an abstract idea requiring no more than a generic computer to perform generic computer functions” is not the same as “[s]imply appending” a computer, so the above-quoted example is also internally inconsistent. Adding additional, generic elements is not equivalent to using generic components to implement the essential elements of an abstract idea.

The above-quoted example creates confusion as to the role of the presence of generic or conventional elements in a claim. The presence of generic components, by itself, does not alter the analysis under the two-part test.

First, the recitation of generic components in a claim does not indicate whether the claim is “directed to” an abstract idea. That is, just because a claim includes generic components does not mean it necessarily is directed to an abstract idea.<sup>25</sup>

Second, the recitation of generic components in a claim does not indicate whether there is an “inventive concept” recited beyond the abstract idea. The Court in both *Mayo* and *Alice* made abundantly clear that what is meant by “significantly more” is that the claim does more than “apply [the abstract idea]” or simply implement it in a conventional way. General computing elements are not enough to save a claim simply directed to an abstract idea. Stated differently, applying an abstract idea on a generic computer is not enough. However, under the two-step analysis, the focus should be on whether there are additional components, elements, features, or functionality that take the claim past the point of merely performing the abstract idea itself on a general computer.

Unlike the claims in *Alice*, other claims that contain elements beyond those essential to the identified abstract idea must be evaluated as a whole to determine if there is an inventive concept apart from the abstract idea. A particular combination of generally recited computer components related to elements that are not essential elements of the identified abstract idea are what should be evaluated to determine whether there is “something more” in the claim to be found eligible under Part 2. The presence of generally recited computer components is not dispositive of anything and should not, by itself, be a factor in the analysis.

The Interim Guidance should be updated to emphasize that the presence of generic or conventional elements in a claim does not alter the analysis, with the understanding that such elements will not save a claim that only recites the essential components of an abstract idea because they are merely saying “apply [the abstract idea].” In addition, the Interim Guidance should be updated to emphasize that the presence of generic or conventional elements in a claim (or the specification) does not necessarily indicate that the claim is directed to an abstract idea. Further, the Interim Guidance should be updated to emphasize that the presence of generic or conventional elements in a claim does not mean that the claim necessarily does not recite an inventive concept.

## **B. The Purpose of Part 2 Is a “Reality Check”**

The majority of the analysis should be completed in Part 1, not Part 2. For claims where it appears that all that is recited is the essential elements of the identified abstract idea (that is, it is not self-evident that there

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<sup>24</sup> *Alice*, 134 S. Ct. at 2359.

<sup>25</sup> In the same vein, just because the specification may indicate that embodiments of the invention may be implemented with generic computer components does not imply that the invention itself is an abstract idea. Such statements in the specification may be needed to comply with the requirement to disclose the best mode, for example.

is no preemption of the abstract idea), closer analysis is required. Determining whether a claim provides an “inventive concept” is meant to be a reality check that is used when the abstract claim is the core of the claim but there may be additional elements that save it. The majority of the claims should never advance to Part 2.

The analysis under Part 2 is not a piecemeal approach. In other words, the approach should not be to remove the generic computer components and “see what is left.” This was argued before the Court and was not adopted. A piecemeal analysis risks invalidating all software patents.

Rather, as discussed above, once the relevant abstract idea has been identified in Part 1, the elements of the claim are considered in more detail. It is important to note that additional components, elements, features, or functionality (whether they are viewed to be technical or not), that extend beyond the mere application of the identified abstract idea, must be fully weighed in determining subject matter eligibility. For example, elements that provide specific functionality – where there are other ways to practice the abstract idea – is a strong indication that the claim is not preempting the abstract idea. In Part 2, the examiner may realize there are elements that cause the claim to recite more than the abstract idea itself. Of course, if such elements would have been appreciated in doing Part 1, the analysis would have stopped there – but Part 2 serves as a safety check.

Under Part 2, the focus is on what the essential elements of the abstract idea are, an articulation of why various features of the claims are merely a recitation of those elements, and what else is in the claims. These must all be considered from the context of the claim as a whole to evaluate whether an inventive concept that is more than the abstract idea is recited. This is a low threshold – as long as the abstract idea is not substantially preempted, there is an inventive concept. Note that this is different from the §102/103 analysis because the elements that are not essential to the abstract idea do not have to be novel/nonobvious under the §101 analysis. Logically, however, if the claims have been examined under §102/103, and have been found patentably over the prior art, it follows that there must be an inventive concept recited in the claims sufficient to confer eligibility under §101. Otherwise, the identified abstract idea, which as a fundamental building block is by definition longstanding in the prior art, would have anticipated and/or made obvious the claim.

The Interim Guidance should be updated to emphasize that in most cases, the analysis will not proceed past Part 1 and that Part 2 serves as a “reality check” that the conclusion reached in Part 1 is correct. In addition, the Interim Guidance should be updated to stress that the threshold to identify elements in a claim that are not essential elements of the abstract idea is low because there is no novelty or non-obviousness requirement for such elements.

## **VI. ADDITIONAL ABSTRACT IDEA EXAMPLES**

We provide several sets of example claims along with corresponding analysis below which we urge the USPTO to incorporate into the updated Interim Guidance. The first set of example claims includes hypothetical claims that apply the reasoning from a recent district court decision involving two TT patents.<sup>26</sup> The remaining sets of examples include hypotheticals claims that involve abstract ideas that may be viewed as more problematic than those in currently-provided examples, and, thus, more useful in examining certain types of applications.

### **A. New Graphical User Interfaces**

Claim 1. A method for placing a trade order comprising: receiving market data; displaying the market data on a graphical user interface; receiving a command to place a trade order via the graphical user interface; and sending a trade order to an electronic exchange.

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<sup>26</sup> *Trading Techs. Int'l, Inc. v. CQG*, 05-cv-4811 (N.D. Ill. Feb. 24, 2015) (Dkt. 1073) (attached as Appendix A) (finding that the claims of U.S. Patent Nos. 6,772,132 and 6,766,304 were “not directed to an abstract idea and, even if they were, an element of the claims recite an inventive concept” and that “the claims recite patent eligible subject matter under 35 U.S.C. § 101”).

Claim 2: A method for placing a trade order comprising: receiving market data including a plurality of bid quantities and a plurality of ask quantities; displaying the plurality of bid quantities sorted in decreasing quantity order and aligned with the plurality of ask quantities sorted in decreasing quantity order on a graphical user interface; receiving a command to place a trade order via the graphical user interface in response to selection of one of the displayed plurality of bid quantities and ask quantities; and sending a trade order to an electronic exchange at a price associated with the selected one of the plurality of bid quantities and ask quantities.

Analysis: In each of these claims, the abstract idea, for the purposes of this example, is assumed to be the concept of “placing an order based on displayed market information.”<sup>27</sup> Under the analysis suggested above, Claim 1, on its face, attempts to preempt or claim the abstract idea. Therefore, under Part 1, the claim is directed to the abstract idea. Under the analysis of Part 2, Claim 1 does not provide any additional functionality or technology that goes beyond the essential elements of the concept of matching buyers and sellers. Accordingly, Claim 1 would not be patent eligible.

Claim 2, under Part 1 of the analysis, is clearly not attempting to preempt the alleged abstract idea. For instance, since the specific manner of the display of the market data; the receipt of the command to place the order; and the composition of the trade order itself, the claim recites more than the essential elements of the alleged abstract idea. The claim requires a particular arrangement and functionality for the graphical user interface and how it is interacted with that does not preempt all ways of performing the alleged abstract idea – there are numerous trading interfaces that would not be within the scope of such a claim. Thus, while the claim may not satisfy novelty and/or obviousness requirements, it does provide an inventive concept beyond the alleged abstract idea. Accordingly, Claim 2 is patent eligible.

Even if Claim 2 was analyzed further under Part 2, it is clear that it provides an inventive concept. While a graphical user interface, in general, may be a generic or conventional element, the particular arrangement and functionality of the claimed graphical user interface is not generic or conventional. These recited elements are features that overcome a problem specifically arising in the realm of graphical user interfaces, a technical field.<sup>28,29</sup>

## **B. Matching Buyers and Sellers**

Claim 1. A method for matching buyers and sellers comprising: receiving orders; and matching orders of buyers with order of sellers.

Claim 2. A method for matching buyers and sellers comprising: using a computing device to receive orders; and using a computing device to match orders of buyers with orders of sellers.

Claim 3. A method for matching buyers and sellers comprising: receiving orders; and matching orders of buyers and order of sellers using a pro-rata matching algorithm.

Claim 4. A method for matching buyers and sellers comprising: receiving orders; time-stamping the orders; and matching orders that were received during a 1 minute window of time according to the time-stamps.

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<sup>27</sup> TT does not concede that such a concept is an abstract idea. As discussed above, factual evidence would be required to demonstrate that the concept is an abstract idea as that term has been used by the Supreme Court.

<sup>28</sup> See, e.g., *Trading Techs. Int'l, Inc. at 9; DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

<sup>29</sup> Graphical user interfaces have long been recognized as a technological field. For example, NASA includes a Human Systems Integration Division that covers several technical areas, including the Human Computer Interaction Group. Moreover, many colleges offer science degrees in human-computer interaction.

Analysis: In each of these claims, the abstract idea is the concept of “matching buyers and sellers,” which is recognized as a “fundamental economic practice.” Under the analysis suggested above, Claim 1, on its face, attempts to preempt or claim the identified abstract idea. Therefore, under Part 1, the claim is directed to the abstract idea. Under the analysis of Part 2, Claim 1 does not provide any additional functionality or technology that goes beyond the essential elements of the concept of matching buyers and sellers. Accordingly, Claim 1 would not be patent eligible.

The analysis for Part 1 of Claim 2 is similar to the analysis for Claim 1. However, in Claim 2, the abstract idea is applied on a computer. Under the suggested analysis above (and *Alice* and *Mayo*), this does not alter the analysis under Part 1, as the claim is still directed to the abstract idea. It is also not enough satisfy Part 2 because it is simply saying to apply the abstract idea on a computer. Accordingly, Claim 2 would not be patent eligible.

Claim 3, under Part 1 of the analysis, is clearly not attempting to preempt the abstract idea of matching buyers and sellers. For instance, since the orders are matched using a pro-rata algorithm, the claim recites more than the fundamental economic practice of matching buyers and sellers. The claim requires a particular way of doing that economic practice and does not preempt all ways, such as using a First-in/First-out approach. Thus, while use of a pro-rate algorithm may not satisfy novelty and/or obviousness, it does provide an inventive concept to the abstract idea of matching buyers and sellers. Accordingly, Claim 3 is patent eligible.

Claim 4 is only matching orders that are received during a specified period of time. It is self-evidence that such a technique would not, in practical effect, preempt all matching of buyers and sellers. Accordingly, Claim 4 is patent eligible.

### **C. Electronic Trading Tool**

Claim 1. A system comprising: a computing device configured to buy a financial instrument and sell that same financial instrument at a higher price than it was purchased.

Claim 2. A system comprising: a computing device, wherein the computing device is configured to determine a price for an order, wherein the computing device is configured to place the order at an electronic exchange at the determined price.

Claim 3. A system comprising: a computing device, wherein the computing device is configured to receive first price from a user, wherein the computing device is configured to determine a second price for an order for a first tradeable object based on market data for a second tradeable object and the received first price, wherein the computing device is configured to place the order at an electronic exchange at the determined second price.

Analysis: In each of the claims, the abstract idea is the concept of “buying and selling,” which is recognized as a fundamental economic practice. Claim 1 appears, on its face, attempts to preempt or claim the identified abstract idea. Therefore, under Part 1, the claim is directed to the abstract idea. Under the analysis of Part 2, Claim 1 does not provide any additional functionality or technology that goes beyond the essential elements of the concept of buying and selling. Accordingly, Claim 1 would not be patent eligible.

Claim 2 appears that it may claim only the abstract idea, but determination of the price may raise a question, thus it is not self-evident that the claim is not directed to the abstract idea. Upon proceeding to Part 2 of the analysis, the claim fails Part 2. The mere “determination” of a price, without more, is merely a routine act needed to place the order. Accordingly, Claim 2 would not be patent eligible.

Claim 3, unlike Claim 2, recites a determination of the price based on the market data for a different tradeable object and a price received from a user. It is self-evident that such a determination would not, in practical effect, preempt all buying and selling. Accordingly, Claim 3 is patent eligible.

## **VII. CONCLUSION**

TT appreciates your consideration of these comments on the Interim Guidance and welcomes the opportunity to discuss them further.

Respectfully Submitted,

**Trading Technologies International, Inc.**

Adam Faier – Senior Patent Counsel

Jay Knobloch – Director of IP Licensing & Litigation

# **Appendix A**

**UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION**

TRADING TECHNOLOGIES	)	
INTERNATIONAL, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	
	)	Case No. 05-cv-4811
CQG, INC., and CQGT, LLC,	)	
	)	
Defendants.	)	Judge Sharon Johnson Coleman
	)	

**MEMORANDUM OPINION AND ORDER**

CQG, Inc. and CQGT, LLC (collectively “CQG”), moves for judgment as a matter of law [897] arguing that the patents-in-suit, U.S. patent 6,772,132 (“the ‘132 patent”) and U.S. patent 6,766,304 (“the ‘304 patent”), are patent-ineligible under 35 U.S.C. § 101. For the reasons stated below, this Court denies the motion.

**Background**

The following facts are not materially in dispute. TT is the assignee of both the ‘132 patent and the ‘304 patent. The ‘132 patent issued in August 2004 and the ‘304 patent issued in July 2004. Both patents claim priority to a provisional application filed on March 2, 2000. Both patents also share the same specification, and are directed to “[c]lick based trading with intuitive grid display of market depth.” ‘132 patent, 1:2-3. According to the shared detailed description, the invention described “provides a display and trading method to ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the price fluctuates.” *Id.* at 3:54-58. Because the analysis of claims under 35 U.S.C. § 101 is the same regardless of claim type, i.e. method claim, system claim, computer

readable medium claim, etc., this Court may analyze one representative claim from each of the asserted patents. *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2359-60 (2014).

Representative claim 1 of the '132 patent recites:

1. A method of placing a trade order for a commodity on an electronic exchange having an inside market with a highest bid price and a lowest ask price, using a graphical user interface and a user input device, said method comprising:
  - setting a preset parameter for the trade order
  - displaying market depth of the commodity, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including at least a portion of the bid and ask quantities of the commodity, the dynamic display being aligned with a static display of prices corresponding thereto, wherein the static display of prices does not move in response to a change in the inside market;
  - displaying an order entry region aligned with the static display prices comprising a plurality of areas for receiving commands from the user input devices to send trade orders, each area corresponding to a price of the static display of prices; and
  - selecting a particular area in the order entry region through single action of the user input device with a pointer of the user input device positioned over the particular area to set a plurality of additional parameters for the trade order and send the trade order to the electronic exchange.

Representative claim 1 of the '304 patent recites:

1. A method for displaying market information relating to and facilitating trading of a commodity being traded in an electronic exchange having an inside market with a highest bid price and a lowest ask price on a graphical user interface, the method comprising:
  - dynamically displaying a first indicator in one of a plurality of locations in a bid display region, each location in the bid display region corresponding to a price level along a common static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the highest bid price currently available in the market;
  - dynamically displaying a second indicator in one of a plurality of locations in an ask display region, each location in the ask display region corresponding to a price level along the common static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the lowest ask price currently available in the market;
  - displaying the bid and ask display regions in relation to fixed price levels positioned along the common static price axis such that when the inside market changes, the price levels along the common static price axis do not move and at least one of the first and second indicators moves in the bid or ask display regions relative to the common static price axis;
  - displaying an order entry region comprising a plurality of locations for receiving commands to send trade orders, each location corresponding to a price level along the common static price axis; and

in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order relating to the commodity and sending the trade order to the electronic exchange.

On December 4, 2014, the Patent Trials and Appeals Board (“PTAB”) instituted a Covered Business Method Review (“CBMR”) proceeding of the ‘132 patent, finding that it was more likely than not that all claims of the ‘132 patent recited patent-ineligible subject matter. However, the same day, the PTAB declined to institute a CBMR of the ‘304 patent. As a result, CQG filed a motion with this Court requesting a stay in light of the CBMR proceeding for the ‘132 patent.<sup>1</sup> This Court denied the motion to stay. CQG appealed that decision to the Federal Circuit Court of Appeals which, on February 5, 2015, affirmed this Court’s order. This Court allowed briefing on the eligibility issue under section 101 and heard oral arguments on February 23, 2015.

### **Legal Standard**

At the outset, this Court acknowledges that the section 101 jurisprudence is a recently evolving and unsettled area of law as it applies particularly to software patents. There is some dispute over the level of proof required in a section 101 patent-eligibility inquiry. CQG asserts that “[a]s a matter of law, patent-eligibility is not subject to the ‘clear and convincing’ burden of proof.” (Dkt. 898 at 3) (quoting *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2253 (2011) (Breyer, Scalia, Alito, JJ, concurring)). TT submits that rather than a preponderance of the evidence burden of proof the appropriate standard should be “clear and convincing.” (Dkt. 962 at 11) (quoting *Card Verification Solutions, LLC v. Citigroup Inc.*, 2014 WL 4922524, at \*5 (N.D. Ill. Sept. 29, 2014)).

This Court recognizes the persuasiveness of Justice Breyer’s reasoning that because the section 101 eligibility inquiry is purely a question of law and there is no statutory presumption of eligibility, it should not be subject to the clear and convincing burden of proof. However, 35 U.S.C.

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<sup>1</sup> The patents were before the PTAB on a petition filed by TD Ameritrade, a party in another lawsuit proceeding in this court. CQG filed its own petition with the USPTO for a covered business method patent review for each of the patents-in-suit on January 9, 2015.

§ 282 provides that patents are presumed valid and it is well established that a party seeking to overcome that presumption must do so by clear and convincing evidence. *See Nystrom v. Trex Co.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005). This Court is “duty-bound to apply the law as enacted by Congress and signed by the President, and in light of the Federal Circuit’s interpretation thereof. Defendants have not presented any authority indicating that the presumption of validity no longer applies to challenges to a patent’s validity under section 101.”<sup>2</sup> *CertusView Techs., LLC v. S&N Locating Servs., LLC*, 2015 U.S. Dist. LEXIS 7126, \*42 n.6, Slip Copy, 2015 WL 269427 (E.D. Va. Jan. 21, 2015). Accordingly, this Court concludes that, until the Federal Circuit or the United Supreme Court mandates otherwise, CQG must show by clear and convincing evidence that the patents-in-suit claim patent-ineligible subject matter.

## **Discussion**

Section 101 provides that “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C.A. § 101. Supreme Court precedents provide three specific exceptions to section 101’s principles of patentability: “laws of nature, physical phenomena, and abstract ideas.” *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). *Alice* articulates a two-step process to determine whether claims of a patent are within the realm of patent-eligible subject matter. *Alice Corp.*, 134 S. Ct. at 2354 (relying on *Mayo Collaborative Servs. v. Prometheus Labs.*, 132 S. Ct. 1289, 1303, 1294 (2012)). This Court must first determine whether the claims of the asserted patents are directed to a patent-ineligible concept: laws of nature, physical phenomena, and abstract ideas. *Alice Corp.*, 134 S. Ct. at 2355; *see also Mayo*, 132 S.Ct. at 1296-1297. This Court must then “consider the elements of each

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<sup>2</sup> CQG points to another concurrence to show that no presumption of eligibility should attach to a § 101 analysis. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 720 (Fed. Cir. Nov. 14, 2014) (Mayer, J, concurring)).

claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S.Ct. at 2355 (quoting *Mayo*, 132 S.Ct. at 1298, 1297). This second step requires a search for an “‘inventive concept,’ or some element or combination of elements sufficient to ensure that the claim in practice amounts to ‘significantly more’ than a patent on an ineligible concept.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1255 (Fed. Cir. 2014) (quoting *Alice*, 134 S. Ct. at 2355). Finally, as *Alice* makes clear, the claims “do more than simply instruct the practitioner to implement the abstract idea” on a generic computer either separately or as an ordered combination. *Alice*, 134 S. Ct. at 2359.

1. *Abstract Idea*

This Court must first determine whether the claims at issue are directed to an abstract idea. *DDR Holdings*, 773 F.3d at 1256-1257. CQG argues that the claims of both the ‘132 patent and the ‘304 patent “recite the abstract idea of placing an order for a commodity on an electronic exchange, based on observed market information, as well as updating the market information.” Dkt. 898 at 1. As a result, CQG maintains, “the abstract idea is nothing more than ‘a fundamental economic practice long prevalent in our system of commerce.’” *Id.* (quoting *Alice*, 134 S.Ct. at 2356). TT asserts that the claims of the patents in suit are not directed to an abstract idea, but to an improvement in computer technology. However, TT maintains that assuming *arguendo* that the claims do recite an abstract idea, the claims “do not seek to tie up the alleged abstract idea such that others cannot practice it.” Dkt. 962 at 13.

Here, neither the claims in the ‘132 patent nor the claims in the ‘304 patent are directed to a mathematical algorithm. *See Gottschalk v. Benson*, 409 U.S. 63, 64 (1972) (holding that mathematical algorithms, even those implemented on a computer, are abstract ideas). The claims similarly do not “recite a fundamental economic or longstanding commercial practice,” *DDR Holdings*, 773 F.3d at

1257, as electronic trading has only been viable for a couple of decades, and its analog predecessor, open outcry trading systems, operate in a significantly different fashion. The claims of the patents also do not address a challenge in business. Rather, the claims at issue in both patents profess to solve problems of prior graphical user interface devices (GUIs), in the context of computerized trading, relating to speed, accuracy and usability.

CQG argues that: “[t]he Asserted Claims recite the abstract idea of placing an order for a commodity on an electronic exchange, based on observed market information, as well as updating the market information.” Dkt. 898 at 1. CQG further contends that the elements recited in the claims merely perform basic functions relating to electronic commodity trading and updating market information using unidentified and generic computer components. CQG further asserts that, “the functions recited in the Asserted Claims – setting, displaying, and selecting – are all ‘purely conventional’ and cannot save the claims.” *Id.* at 2 (quoting *Alice*, 134 S. Ct. at 2359).

If the claims simply provided for “setting, displaying, and selecting” data or information, CQG would be correct in its assessment that the claims are directed to an abstract idea. However, CQG ignores much of the details of the representative claims. Neither the claims of the ‘304 patent nor the claims of the ‘132 patent are directed to solely “setting, displaying, and selecting” data or information that is visible on the GUI device. Rather, the claims are directed to solving a problem that existed with prior art GUIs, namely, that the best bid and best ask prices would change based on updates received from the market. There was a risk with the prior art GUIs that a trader would miss her intended price as a result of prices changing from under her pointer at the time she clicked on the price cell on the GUI. The patents-in-suit provide a system and method whereby traders may place orders at a particular, identified price level, not necessarily the highest bid or the lowest ask price because the invention keeps the prices static in position, and allows the quantities at each price to change.

This issue did not arise in the open outcry systems, i.e. the pre-electronic trading analog of the ‘304 and ‘132 patents’ claims. In live trading “pits,” traders would use verbal communication and hand signals to transfer information about buy and sell orders. In an open outcry system, bids and offers would be made in the open market giving all of the participants a chance to compete for an order with the best price. There is no question that electronic trading is much different than trading in open outcry pits. The speed, quantity and variety of trades that can be made by a single trader over an electronic system are no doubt markedly different than those trades a single trader can make in the open outcry system. This Court concludes, in part, from the apparent differences between the analog versions of trading and electronic trading that the claims of the patents in suit are not directed to the abstract idea of “placing an order for a commodity on an electronic exchange.” Dkt. 898 at 1.

The asserted claims similarly do not preempt every way of “placing an order for a commodity on an electronic exchange,” as systems for doing so existed before this invention, and systems exist now that allow traders to buy and sell commodities on electronic exchanges without infringing the claims of the patents in suit. Therefore, CQG has not met its burden of proving by clear and convincing evidence that the patents in suit are directed to an “abstract idea.”

## *2. Inventive Concept*

Even if this Court were to find that the claims of the patents in suit are directed to an abstract idea, the second part of the *Alice* framework, considering the claim elements “both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application,” leads this Court to one conclusion: the claims recite an inventive concept. *Alice*, 134 S.Ct. at 2355. CQG spent much of its argument, on paper and in court, expounding on the “conventional” nature of trading GUIs. Yet, this argument seems more appropriate for a pre-AIA §§ 102 or 103 validity challenge (for failing to

be novel or nonobvious in light of the prior art). The “inventive concept” step of the *Alice* analysis requires something different than pre-AIA §§ 102 and 103. This step requires courts to locate an element or a combination of elements in the claims “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Alice*, 134 S.Ct. at 2355 (quoting *Mayo*, 132, S.Ct. at 1294).

To ensure patents are not granted when the subject matter to which the claims are directed completely preempts an idea, “[a] claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* at 2357 (quoting *Mayo*, 132 S.Ct. at 1297). It is important to note, “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention,” *Id.* at 2358, thus, the recitation of a GUI in the claims of the patents in suit does not automatically impart patent eligibility.

In searching for the “inventive concept,” by analyzing the claim elements both individually and as an ordered combination, this Court need not delve further than identify the clause in the claims which has raised a flurry of commotion throughout these proceedings: the static price index. The ‘132 patent recites a “dynamic display being aligned **with a static display of prices** corresponding thereto,” and the ‘304 patent recites “each location in the bid display region corresponding to a price level along **a common static price axis.**” This element of the representative claims is what adds the “inventive concept” to the patents-in-suit. While not declaring that the “static price axis” is the defining characteristic of the patents which was not known in the prior art before the date of invention (which is only proper under a §§ 102 or 103 analysis), it seems to be the “inventive concept” that allowed some traders the ability to more efficiently and accurately place trades on electronic trading systems.

As such, even if this Court found that the patents were directed to an abstract idea, under the second part of the *Alice* test, this Court finds that at least the “static price axis” element of the patents in suit was an “inventive concept,” which eliminated some problems of prior GUIs relating to speed, accuracy and usability, therefore the patents-in-suit claim patent eligible subject matter under the *Alice* framework. *DDR Holdings*, 773 F.3d at 1259. When the elements of the claims of both the ‘304 patent and the ‘132 patent are “taken together as an ordered combination, the claims recite an invention that is not merely the routine or conventional use” of computers or the Internet. *DDR Holdings*, 773 F.3d at 1259. This Court disagrees with CQG’s assessment of *DDR Holdings* as inapposite. Instead, this Court finds that because the claims of both the ‘132 patent and the ‘304 patent are “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of” computers, like the asserted claims in *DDR Holdings*, the claims here satisfy the requirements of 35 U.S.C. § 101. *See* 773 F.3d at 1257.

## CONCLUSION

Because the claims are directed to a technological improvement of GUIs, the invention embodied within the claims of both the ‘132 patent and the ‘304 patent is not directed to an abstract idea, and even if they were, an element of the claims recite an inventive concept, the claims recite patent eligible subject matter under 35 U.S.C. § 101.

IT IS SO ORDERED.

Date: February 24, 2015

Entered:



SHARON JOHNSON COLEMAN  
United States District Judge