

BUSINESS METHODS PATENT ELIGIBILITY: AN EXAMINER'S VIEW AND A PLEA FOR CERTAINTY

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Abstract

This paper will explore the difficulty a patent examiner faces when applying the Supreme Court's two-step test put forth in the *Alice Corp. v. CLS Bank Int'l* decision, i.e. whether there is an abstract idea, and if so, whether the claims contain something that amounts to "significantly more". The case law that has led to the two-step framework will be briefly discussed, as will the USPTO's 35 U.S.C. § 101 guidance. Real-world examples and the outcomes reached, if any, will be discussed with particular attention to how an examiner determines whether an abstract idea is recited, and the thought processes involved, and whether the abstract idea is overcome by recitation of something in the claims that amounts to "significantly more". As hopefully will be clear after review of the examples, and given the complexity of the issue and the amount of time and effort spent by the examiner on these § 101 issues, the author will contend that § 101 needs to be amended to afford more particularity and certainty to applicants, examiners, courts, and the public at large. Lastly, potential proposals of how § 101 could be amended to afford more certainty and predictability will be briefly presented.

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1.0 INTRODUCTION

As a former patent examiner at the United States Patent and Trademark Office (USPTO) who examined business method patent applications post-*Alice Corp. v. CLS Bank Int'l*, I know only too well how difficult—some might say impossible—it is to determine with any degree of certainty whether a particular claimed invention’s subject matter is eligible for patenting or not. But, we must arrive at a decision, and we must do it to the best of our abilities under the circumstances. Oddly enough, this was my favorite part of being an examiner—35 U.S.C. § 101 *Alice* determinations. For instance, when searching for prior art under 35 U.S.C. §§ 102 and/or 103, an examiner either found the prior art he or she was looking for, or he or she did not. It was a fairly mechanical process and, while the work might be difficult given the examiner’s time constraints, at the end of the day the prior art was either out there or it was not. The same applied to 35 U.S.C. § 112 issues and objections, in that there was either disclosure or there was not, or there was clarity or there was not. The biggest issue facing the examiner was the amount of time allotted to make the necessary determinations. Once again, it is largely a mechanical process for the examiner to raise the necessary rejections and attempt to force the applicant to amend the claims accordingly.

I do not mean to oversimplify §§ 102, 103, and 112, but an *Alice* § 101 determination is another animal altogether. It requires critical thinking, a knowledge of the applicable (and often inconsistent or conflicting) case law and USPTO guidance, an understanding that each and every application needs to be looked at individually based on the facts of that particular application, and the ability to examine to the best of one’s ability in a very uncertain environment. While there is a great deal of ambiguity, examiners in this area deal with *Alice* § 101 as a major part of their duties, day-in and day-out, and often have a “feel” for what is eligible and what is not. During my time at the USPTO, I felt as though I had a duty to review each application and, to the best of my abilities, relay my determination, taking into account the most pertinent case law and the Office’s guidance, to the applicant in the most complete, coherent, and comprehensive manner that I could. I knew that reasonable minds might differ as to my determination, but I felt I owed all parties who might be affected by the claimed invention my most well-reasoned, written record on what seemed to be eligible subject matter, and what did not. It was interesting in the sense that it was not purely mechanical and required a great deal of, shall we say, *abstract* reasoning. *Alice* determinations became a large, if not predominant, part of the work an examiner in the business methods area was responsible for post-*Alice*.

Most of my colleagues and the applicants I spoke with did not share my opinion about *Alice* § 101 determinations. I can certainly understand why—after all, it added a great deal of work to my day-to-day operations, and the results were rarely, if ever, clear-cut. *Alice* § 101 determinations are complex and time-consuming, and, most of all, there is a great deal of uncertainty and unpredictability associated with them. As Administrative Patent Judge Hung H. Bui states,¹ “[i]n *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014), the Supreme Court set forth an analytical two-step framework to determine whether a claim is directed to a judicial exception, *i.e.* an ‘abstract idea.’ Since *Alice*, however, the Federal Circuit, the district courts, and the United States Patent & Trademark Office (USPTO) have all struggled to implement the Supreme Court’s *Alice*

¹ H. BUI, *A Common Sense Approach to Implement the Supreme Court’s Alice Two-Step Framework to Provide Certainty and Predictability*, 100 J. Pat. & Trademark Off. Soc’y 165, 2018

two-step framework in a predictable and consistent manner... However, none of these precedential decisions provides sufficient guidance as to what aspect of a claimed invention suffices for the claim to transition from ineligible to eligible.”

At this point, it is important to look briefly at the statistics surrounding business methods and to delve into the court cases leading to the *Alice* two-step framework. Consideration of the court decisions will be followed by a review of the USPTO guidance, enabling me to discuss the way in which examiners should apply the two-step framework. After explanation of the two-step framework, real-life examples will be presented to give a sense of the difficulties involved in applying it. Lastly, proposals for possible amendments or changes to § 101 that might help reduce the uncertainty associated with it will be briefly presented.

2.0 STATISTICS

The USPTO has published the allowance rates in the business methods area following *Alice*. The fiscal years and percentages are listed below:

- FY2014: (the year *Alice* was decided) the allowance rate was 27.4%;
- FY2015: the allowance rate was 10.4%;
- FY2016: the allowance rate was 6.2%; and
- FY2017: (through August) the allowance rate was 12.7%.²

I note that it is difficult to calculate allowance rates by year because the year in which the application was filed is rarely the year in which the application was allowed or abandoned. Since allowance rates differ depending on the method used to calculate them and how business method applications are classified, during my research I have found some variance in the number of allowances, or in the patent grant rate, over the years. For example, in a chart published at Patently-O,³ the electronic commerce applications for 2014 (i.e. those consisting of business method art units in the 3620s, 3680s, and 3690s) show allowance rates of around 8%—not 27.4% as presented above. In my tenure at the USPTO, I often heard it said that our business methods allowance rate hovered around 3.5% after *Alice*, but I have not been able to find any references to back this number up.

When all applications across all technology areas are considered, the allowance rates are substantially higher, at just a tad above 70%, according to the same Patently-O article.

In terms of challenges in the courts and at the Patent Trial and Appeal Board (PTAB), as of April 30, 2017, the courts had granted 67% of various types of ineligibility motions, invalidating hundreds of patents and thousands of claims. The PTAB, as of April 30, 2017, had determined patent-ineligibility for 97% of patents under Covered Business Method (CBM) reviews based on § 101 challenges.⁴

While it would have been nice to have further information on the statistics of claims, applications, and patents in the business information area, the above numbers do provide evidence that there is a significant difference between business methods and other technology areas. Using the Patently-O data, there is a huge variation in allowance rates of 8% vs. 70%. This means that an applicant is almost nine times more likely to receive a patent if the application is not filed in a business methods area. As one can see from the figures for the courts and the PTAB, two-thirds of actions in the courts and a full 97% of actions at the PTAB result in a negative finding of patent-eligibility in relation to § 101. Since both business methods and other technology areas largely play by the same rules apart from § 101, it raises the question as to why § 101 is such a hurdle to patentability.

This being the case, let us now take a look at the relevant cases and guidance in the business methods area to get some insight into what is involved in § 101.

² <https://www.uspto.gov/sites/default/files/documents/Notices-of-Allowance-in-Business-Methods-2017-v2.pdf>

³ <https://patentlyo.com/patent/2015/08/patent-grant-technology-area.html>

⁴ Bui, *supra* note 1, at 174.

3.0 CASES LEADING UP TO AND INCLUDING *ALICE*

3.1 *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*

State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998), was the case that initiated the modern business methods environment. Signature was the assignee of U.S. Patent No. 5,193,056 and State Street Bank challenged the '056 patent, asserting invalidity, unenforceability, and non-infringement. The Federal Circuit described the '056 patent as being generally directed to “a data processing system (the system) for implementing an investment structure which was developed for use in Signature’s business as an administrator and accounting agent for mutual funds. In essence, the system, identified by the proprietary name Hub and Spoke I, facilitates a structure whereby mutual funds (Spokes) pool their assets in an investment portfolio (Hub) organized as a partnership. This investment configuration provides the administrator of a mutual fund with the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership.”⁵ The court continued that the claims initially contained six machine claims, which incorporated means-plus-function clauses, and six method claims. During prosecution, however, the six method claims were cancelled, resulting in only the means-plus-function machine claims being allowed. The court recited independent claim 1, with subject matter in brackets stating the structure that the written description discloses as to the respective “means” language recited in the claims. Claim 1 is reproduced below:

1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:

(a) computer processor means [a personal computer including a CPU] for processing data;

(b) storage means [a data disk] for storing data on a storage medium;

(c) first means [an arithmetic logic circuit configured to prepare the data disk to magnetically store selected data] for initializing the storage medium;

(d) second means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases or decreases based on specific input, allocate the results on a percentage basis, and store the output in a separate file] for processing data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds, [sic, funds’] assets and for allocating the percentage share that each fund holds in the portfolio;

(e) third means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases and decreases based on specific input, allocate the results on a percentage basis and store the output in a separate file] for processing data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and for allocating such data among each fund;

⁵ *State Street*, 149 F.3d 1368, 1373, Background, first paragraph.

(f) fourth means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases and decreases based on specific input, allocate the results on a percentage basis and store the output in a separate file] for processing data regarding daily net unrealized gain or loss for the portfolio and for allocating such data among each fund; and

(g) fifth means [an arithmetic logic circuit configured to retrieve information from specific files, calculate that information on an aggregate basis and store the output in a separate file] for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.

The court therefore found that claim 1, when properly construed, claimed a machine, namely, “a data processing system for managing a financial services configuration of a portfolio established as a partnership, which machine is made up of, at the very least, the specific structures disclosed in the written description and corresponding to the means-plus-function elements (a)-(g) recited in the claim.” Since the court found the claim to be directed to a machine—one of the four patentable subject matter categories—the court found it to be directed to proper statutory subject matter under § 101.

The court did not end the analysis there, however. The Federal Circuit rebutted the lower court’s ruling that the claimed subject matter “fell into one of two alternative judicially-created exceptions to statutory subject matter [...] the first exception as the ‘mathematical algorithm’ exception and the second exception as the ‘business method’ exception.” Analyzing § 101, the Federal Circuit noted that “the expansive term ‘any’ in § 101 showed Congress’s intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in § 101.” In addition to this, the Federal Circuit noted that the Supreme Court identified only three judicially-created categories that are unpatentable—laws of nature, natural phenomena, and abstract ideas.⁶ The Federal Circuit noted that the Supreme Court held that mathematical algorithms are not patentable subject matter to the extent that they are abstract ideas,⁷ until they are reduced to some type of practical application, i.e. “a useful, concrete and tangible result.”⁸ The court used *Alappat* as an example of a patentable algorithm applied in a “useful” way, in that “data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced ‘a useful, concrete and tangible result’—the smooth waveform.”

The Federal Circuit found that “the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm because it produces “a useful, concrete, and tangible result”.⁹ The Federal Circuit held that Signature’s claimed “data processing system for managing a financial services configuration of a portfolio” was patent-eligible subject matter under § 101, as long as it produced “a useful, concrete and tangible result”, even though the useful result

⁶ *Diamond v. Diehr*, 450 U.S. 175, 185.

⁷ Noting *Diehr*, 450 U.S. 175, 67 L. Ed. 2d 155, 101 S. Ct. 1048, passim; *Parker v. Flook*, 437 U.S. 584, 57 L. Ed. 2d 451, 98 S. Ct. 2522 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 34 L. Ed. 2d 273, 93 S. Ct. 253 (1972).

⁸ *Alappat*, 33 F.3d 1526, 1544, 31 U.S.P.Q.2D (BNA) at 1557, via *State Street*

⁹ Bui, *supra* note 1, at 189, discussing *State Street*.

was expressed in numbers, such as price, profit, percentage, cost, or loss.¹⁰ The Federal Circuit also explained that (1) there was no such thing as a business method exception to patentable subject matter, and (2) business methods should be treated as any other process claims.¹¹ This “opened the floodgates for computer-implemented and business-method patent applications in the late 1990’s and early 2000’s.”¹² Due to the influx of business method applications, objections to these patents also grew and criticism regarding the validity of business method patents resulted in both the Federal Circuit and the USPTO beginning to narrow the boundaries of eligible subject matter in the mid-2000s.¹³

Due to the criticism revolving around patent eligibility of business method patents after the *State Street* decision, the U.S. Supreme Court revisited the scope of patent eligibility under 35 U.S.C. § 101, first in *Bilski v. Kappos*, 561 U.S. 593 (2010), and most recently in *Alice Corp. Pty. Ltd. v. CLS Bank, Int’l*, 134 S. Ct. 2347 (2014).¹⁴ These two cases will be discussed next.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.* at 190.

¹³ *Id.*

¹⁴ *Id.* at 192.

3.2 *Bilski v. Kappos*

In *Bilski*, the Supreme Court addressed the question of whether “a patent can be issued for a claimed invention designed for the business world.”¹⁵ The Supreme Court addressed three arguments regarding whether a claimed invention is outside the scope of patent law, namely, (1) it is not tied to a machine and does not transform an article; (2) it involves a method of conducting business; and (3) it is merely an abstract idea. Furthermore, the Supreme Court addressed whether the “machine-or-transformation test” was the sole test to be used for determining patentability of a process. In *Bilski*, the claimed invention explained how buyers and sellers of commodities in the energy market can protect, or hedge, against the risk of price changes.¹⁶ The court found that the key claims were 1 and 4, wherein claim 1 was the independent claim, and claim 4 put the concept into a simple mathematical formula. Claim 1 is reproduced below:

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:
 - (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumers;
 - (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
 - (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

Briefly addressing points (1)-(3) above, the Supreme Court found that, under point (1), adopting a “machine-or-transformation test” as the sole test for what constitutes a “process” (as opposed to just an important and useful clue) violated statutory interpretation principles when construing § 101, as the ordinary meaning of the term “process” would not require the term to be tied to a machine or to transforming an article. The Supreme Court held that the “machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101 [but the] machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible ‘process.’” Under point (2), the Supreme Court ruled that it was unaware that the common meaning of the term “method” should exclude business methods from patentability and pointed out that federal law does, indeed, explicitly contemplate the existence of at least some business method patents—although, the court also noted that while the federal law leaves open the possibility of some business method patents, it does not suggest broad patentability of all such claimed inventions. The Supreme Court stated that “some business method patents raise special problems in terms of vagueness and suspect validity.” The Court held that at least some business methods should fall within the “process” category and should be held as patentable subject matter.

¹⁵ *Bilski v. Kappos*, 561 U.S. 563 (2010)

¹⁶ *Id.*

Next we turn to point (3) above—was the claimed invention in *Bilski* merely an abstract idea? Here, the Court ruled unanimously that it was. The concept of hedging risk was, indeed, an abstract idea. The Supreme Court looked to three previously decided Supreme Court cases to help them with the analysis—*Gottschalk v. Benson*, 409 U.S. 63 (1972), *Parker v. Flook*, 437 U.S. 584 (1978), and *Diamond v. Diehr*, 450 U.S. 175 (1981). The author finds the Court’s summary of their previous cases to be clear and concise, and helpful in understanding the § 101 determinations. The Supreme Court’s summaries of these cases from the *Bilski* decision are therefore reproduced below:

In *Benson*, the Court considered whether a patent application for an algorithm to convert binary-coded decimal numerals into pure binary code was a “process” under §101. 409 U. S., at 64–67. The Court first explained that “[a] principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.” *Id.*, at 67 (quoting *Le Roy*, 14 How., at 175). The Court then held the application at issue was not a “process,” but an unpatentable abstract idea. “It is conceded that one may not patent an idea. But in practical effect that would be the result if the formula for converting...numerals to pure binary numerals were patented in this case.” 409 U. S., at 71. A contrary holding “would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.” *Id.*, at 72.

In *Flook*, the Court considered the next logical step after *Benson*. The applicant there attempted to patent a procedure for monitoring the conditions during the catalytic conversion process in the petrochemical and oil-refining industries. The application’s only innovation was reliance on a mathematical algorithm. 437 U. S., at 585–586. *Flook* held the invention was not a patentable “process.” The Court conceded the invention at issue, unlike the algorithm in *Benson*, had been limited so that it could still be freely used outside the petrochemical and oil-refining industries. 437 U. S., at 589–590. Nevertheless, *Flook* rejected “[t]he notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process.” *Id.*, at 590. The Court concluded that the process at issue there was “unpatentable under §101, not because it contain[ed] a mathematical algorithm as one component, but because once that algorithm [wa]s assumed to be within the prior art, the application, considered as a whole, contain[ed] no patentable invention.” *Id.*, at 594. As the Court later explained, *Flook* stands for the proposition that the prohibition against patenting abstract ideas “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment” or adding “insignificant postsolution activity.” *Diehr*, 450 U. S., at 191–192.

Finally, in *Diehr*, the Court established a limitation on the principles articulated in *Benson* and *Flook*. The application in *Diehr* claimed a previously unknown method for “molding raw, uncured synthetic rubber into cured precision products,” using a mathematical formula to complete some of its several steps by way of a computer. 450 U. S., at 177. *Diehr* explained that while an abstract idea, law of nature, or mathematical formula could not be patented, “an application of a law of nature or mathematical formula to a known structure or process may well be

deserving of patent protection.” *Id.*, at 187. *Diehr* emphasized the need to consider the invention as a whole, rather than “dissect[ing] the claims into old and new elements and then...ignor[ing] the presence of the old elements in the analysis.” *Id.*, at 188. Finally, the Court concluded that because the claim was not “an attempt to patent a mathematical formula, but rather [was] an industrial process for the molding of rubber products,” it fell within §101’s patentable subject matter. *Id.*, at 192–193.

The Court found that, in light of the above precedents, the claimed invention was not patentable subject matter: the concept of “hedging” was a “fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class.” The concept of “hedging” was therefore an unpatentable abstract idea, much like the algorithms in *Benson* and *Flook*, and allowing one to patent risk hedging would “preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.” The answer to point (3) above—was the claimed invention in *Bilski* merely an abstract idea?—was therefore in the affirmative; and thus the patent at issue in *Bilski* was deemed ineligible under § 101.

3.3 *Alice Corp. Pty. Ltd. v. CLS Bank, Int'l*

The two-step framework applied in *Alice*,¹⁷ which is now implemented by patent examiners, was first introduced by the Supreme Court in *Mayo Collaborative Servs. V. Prometheus Labs., Inc.*, 566 U.S. 66 (2012). While *Mayo* was not in itself “business method” subject matter, the two-step test asked (1) whether the claims are directed to a judicially recognized exception, *i.e.* abstract ideas, laws of nature, or natural phenomena, and (2) if so, “whether the claims do significantly more than simply describe these natural relations,” *i.e.* whether additional elements considered separately or as an ordered combination “transform the nature of the claim” into “a patent-eligible application” of the judicial exception.¹⁸

The Supreme Court used this two-step framework in 2014 when ruling on *Alice* to (1) address whether business method claims involving a scheme for mitigating “settlement risk” between two parties by using a third-party intermediary are patent-eligible under 35 U.S.C. § 101 and (2) to formalize the two-step framework to distinguish between (i) patents that claim the basic “‘buildin[g] block[s]’ of human ingenuity” and (ii) patents “that integrate the building blocks into something more.”¹⁹ The Supreme Court’s *Alice* two-step framework is an attempt to balance the competing interests of those who promote innovation and those who impede normal technological progress. The Court, however, declined to provide any guidance or definition for the term “abstract” or for what constitutes an “abstract idea.”²⁰ This is an important point to keep in mind when we come to consider the work of examining applications from an examiner’s point-of-view.

Claim 33 of U.S. Patent No. 5,970,479 was used as the representative claim in this case, and is reproduced below:

33. A method of exchanging obligations as between parties, each party holding a credit record and a debit record with an exchange institution, the credit records and debit records for exchange of predetermined obligations, the method comprising the steps of:

(a) creating a shadow credit record and a shadow debit record for each stakeholder party to be held independently by a supervisory institution from the exchange institutions;

(b) obtaining from each exchange institution a start-of-day balance for each shadow credit record and shadow debit record;

(c) for every transaction resulting in an exchange obligation, the supervisory institution adjusting each respective party’s shadow credit record or shadow debit record, allowing only these transactions that do not result in the value of the shadow debit record being less than the value of the shadow credit record at any time, each said adjustment taking place in chronological order, and

(d) at the end-of-day, the supervisory institution instructing on[e] of the exchange institutions to exchange credits or debits to the credit record of the respective parties in accordance with the adjustments of the said permitted

¹⁷ *Alice Corp. Pty. Ltd. v. CLS Bank, Int'l*, 573 U.S. 208, 134 S. Ct. 2347 (2014)

¹⁸ Bui, *supra* note 1, at 196-197.

¹⁹ *Id.* at 198.

²⁰ *Id.* at 201-202.

transactions, the credits and debits being irrevocable, time invariant obligations placed on the exchange institutions.

When the Court applied the *Alice* two-step framework, it found under step 1 that *Alice*'s "process" claims were drawn to the abstract concept of intermediated settlement because "mitigating 'settlement risk'" between two parties is "a fundamental economic practice long prevalent in our system of commerce." Under *Alice* step 2, the Court found no "inventive concept" recited to transform the abstract idea into a patent-eligible invention because all claim elements, when considered "individually" and "as an ordered combination", simply recited the abstract concept of intermediated settlement as performed by a generic computer, the process being "carried out in existing computers long in use." The Court reasoned that *Alice*'s "process" claims (1) "do not, for example, purport to improve the functioning of the computer itself" and (2) "[n]or do they effect an improvement in any other technology or technical field."²¹ The Court additionally found the "media" claims to be identical to the "process" claims, and the "system" claims to be no different from the method claims in substance, thus concluding that "they too are patent ineligible under § 101."²² The Court found that "[n]one of the [specific] hardware cited by the system claims offers a meaningful limitation beyond linking the use of the [method] to a particular technological environment, that is, implementation via computers."²³ The mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention; no more can advancing an abstract idea "while adding the words 'apply it'" or limiting the use of an abstract idea "to a particular technological environment."²⁴ The Supreme Court held the claimed invention to be an abstract idea using a computer "as a tool," and thus concluded that it did not contain "significantly more." The patents at issue consisted of subject matter that was found to be ineligible under § 101.

²¹ *Id.* at 202.

²² *Id.*

²³ *Id.* at 202-203.

²⁴ *Alice*, citing *Bilski* at 610-611.

4.0 USPTO RESPONSE AND EXPLANATION OF RULES

In response to the *Alice* decision, the USPTO was tasked with training examiners and practitioners on how the new eligibility requirements would be implemented. Since 2014, the Office has provided the examining corps with numerous guidelines, examples, training opportunities, memorandums, roundtables, and forums. This has resulted in Sections 2103, 2104, 2105, 2106, and 2106.03-2106.07(c) of the Manual of Patent Examination Procedure (MPEP) being updated to reflect the Office's current eligibility guidance.²⁵ We now turn to the MPEP to review 35 U.S.C. § 101, which will in turn be helpful in the next section setting out examples.

Section 2104 of the MPEP first states the language of 35 U.S.C. § 101:

35 U.S.C. § 101

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof may obtain a patent therefor, subject to the conditions and requirements of this title.

Section 2104 further states that 35 U.S.C. § 101 has been interpreted as imposing four requirements²⁶:

- a. First, whoever invents or discovers an eligible invention may obtain only ONE patent therefor. This requirement forms the basis for statutory double patenting rejections when two applications claim the same invention, *i.e.*, claim identical subject matter. [...]
- b. Second, the inventor(s) must be the applicant in an application filed before September 16, 2012 [...] and the inventor or each joint inventor must be identified in an application filed on or after September 16, 2012. [...]
- c. Third, a claimed invention must be eligible for patenting. As explained in MPEP § 2106, there are two criteria for determining subject matter eligibility: (a) first, a claimed invention must fall within one of the four statutory categories of invention, *i.e.*, process, machine, manufacture, or composition of matter; and (b) second, a claimed invention must be directed to patent-eligible subject matter and not a judicial exception (unless the claim as a whole includes additional limitations amounting to significantly more than the exception). See MPEP § 2106 for a detailed discussion of the subject matter eligibility requirements and MPEP § 2105 for special considerations for living subject matter.
- d. Fourth, a claimed invention must be useful or have a utility that is specific, substantial and credible. See MPEP § 2107 for a detailed discussion of the utility requirement.

For the purposes of this paper, we are most interested in the third point above. We turn to MPEP § 2106 to explore the two-factor framework for determining subject-matter eligibility. In 2014, the USPTO issued its “2014 Interim Guidance on Patent Subject Matter Eligibility” (“2014 IEG”),²⁷ published on December 16, 2014 as 79 Fed. Reg. 74618, which is intended to guide

²⁵ <https://www.uspto.gov/patent/laws-and-regulations/examination-policy/subject-matter-eligibility>

²⁶ MPEP § 2104

²⁷ https://www.uspto.gov/sites/default/files/documents/2014_eligibility_qrs.pdf

examiners when determining subject-matter eligibility under 35 U.S.C. § 101 in view of the *Alice* decision by the U.S. Supreme Court. The most pertinent guidance is the flowchart reproduced below, which illustrates the subject-matter eligibility analysis. The flowchart is discussed herein.

Step 1 is used to determine whether the claim is directed to a process, machine, manufacture, or composition of matter. This step has not changed and is explained in MPEP § 2106(I). Assuming that the claim(s) is/are directed to one of these statutory categories, we proceed to Step 2. Step 2 is the two-part analysis from the *Alice/Mayo* decisions. This step is separated into 2 parts: Step 2A and Step 2B.

Step 2A determines whether the claim is directed to a law of nature, a natural phenomenon, or an abstract idea (i.e. judicial exceptions). The 2014 IEG offers some guidance to examiners when making the Step 2A determination. The information related to business method applications is provided herein:

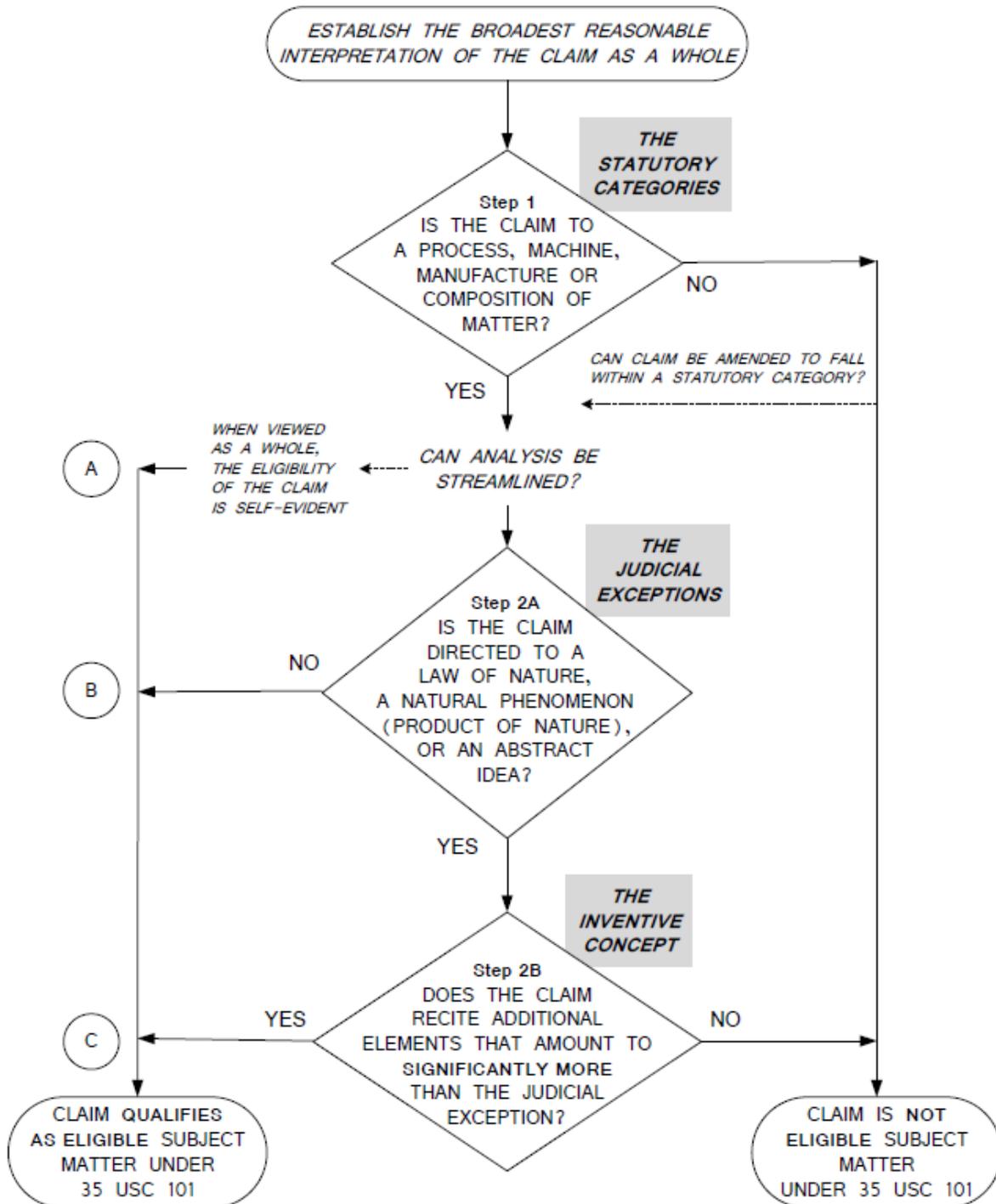
- a. “Directed to” means the exception is recited in the claim, i.e., the claim sets forth or describes the exception.
- b. If the claim when viewed as a whole clearly does not seek to “tie up” any judicial exception, use the “streamlined analysis”.
- c. Examples of the types of concepts that the courts have found to be laws of nature, natural phenomena, or abstract ideas are provided [forthwith the 2014 IEG].

If the answer to step 2A is yes, the claim is directed to a judicial exception, then Step 2B determines whether any element, or combination of elements, in the claim is sufficient to ensure that the claim as a whole amounts to “significantly more” than the judicial exception. Again, there are several points used to assist examiners making a determination as provided herein:

- a. The additional elements should be considered both individually and as an ordered combination. Individual elements when viewed on their own may not appear to add significantly more, but when viewed in combination may amount to significantly more than the exception.
- b. The Supreme Court has identified a number of considerations for determining whether a claim with additional elements amounts to significantly more than the judicial exception itself. Examples of these considerations, and how they are applied, are provided [forthwith the 2014 IEG].
- c. Consider each claim separately based on the particular elements recited therein—claims do not automatically rise or fall with similar claims in an application.
- d. If a claim is directed to a plurality of exceptions, conduct the eligibility analysis for one of the exceptions. Additional elements that satisfy Step 2B for one exception will likely satisfy Step 2B for all exceptions in a claim. On the other hand, if the claim fails under Step 2B for one exception, the claim is ineligible, and no further eligibility analysis is needed.

If the answer is that there is not “significantly more,” then the claim(s) is/are ineligible for patenting, as the flowchart below shows. It sets forth the two-step framework provided for in the 2014 IEG and MPEP 2106:

SUBJECT MATTER ELIGIBILITY TEST FOR PRODUCTS AND PROCESSES



(A) (B) (C) → THE PATHWAYS TO ELIGIBILITY

The Office subsequently updated the 2014 IEG with the “July 2015 Update: Subject Matter Eligibility”.²⁸ Understandably, there was great confusion among the public as to how an examiner determines what constitutes an abstract idea and whether a claim contains “significantly more”. The July 2015 Update responded to six major issues in response to comments received by the USPTO. These six issues were (1) requests for additional examples, particularly for claims directed to abstract ideas and laws of nature; (2) further explanation of the markedly different characteristics (MDC) analysis; (3) further information regarding how examiners identify abstract ideas; (4) discussion of the *prima facie* case and the role of evidence with respect to eligibility rejections; (5) information regarding application of the 2014 IEG in the corps; and (6) explanation of the role of preemption in the eligibility analysis, including a discussion of the streamlined analysis. The issues relevant to this paper will be discussed below.

The guidance points out that the abstract idea exception, like the other judicial exceptions, was created by the courts to protect the building blocks of ingenuity, scientific exploration, technological work, and the modern economy. The courts have declined to define abstract ideas, other than by example, and thus the 2014 IEG instructs examiners to refer to the body of case law precedent in order to identify abstract ideas by comparison with concepts already found to be abstract. The July 2015 Update provides examiners with information about the types of concepts the courts have considered to be abstract ideas by associating Supreme Court and Federal Circuit eligibility decisions with judicial descriptors, or categories, based on common characteristics. Hence, a claimed concept must not be identified as an abstract idea unless it is similar to at least one concept that the courts have identified as an abstract idea. Furthermore, the July 2015 Update notes that judicial exceptions need not be old or long-prevalent. Therefore, while a claimed invention may be novel, the claimed invention may be considered to be a judicial exception if the claimed invention is a “‘basic tool of science and technological work’ that lie beyond the domain of patent protection.” The issue the Supreme Court was concerned with was that of pre-emption because “without this exception, there would be considerable danger that the grant of patents would ‘tie up’ the use of such tools and thereby ‘inhibit future innovation premised on them.’” The USPTO issued guidance in the form of four particular categories that abstract ideas fall into.²⁹ The four categories are:

- a. “Fundamental Economic Practices”: This category describes concepts relating to the economy and commerce, such as agreements between people in the form of contracts, legal obligations, and business relations. The term “fundamental” is used in the sense of being foundational or basic, and not in the sense of necessarily being “old” or “well-known”. The July 2015 Update additionally includes examples of cases that found certain concepts to be abstract which fall into these categories. Similar concepts found by the courts include:
 - i. Concepts relating to agreements between people or performance of financial transactions, such as creating a contractual relationship (*buySAFE*), and hedging (*Bilski*).
 - ii. And, concepts related to mitigating risks, such as hedging (*Bilski*), and mitigating settlement risk (*Alice Corp.*).

²⁸ <https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf>

²⁹ *Id.* at 4-5.

- b. “Certain Methods of Organizing Human Activity”: This category describes concepts relating to interpersonal and intrapersonal activities, such as managing relationships or transactions between people, social activities, and human behavior; satisfying or avoiding a legal obligation; advertising, marketing, and sales activities or behaviors; and managing human mental activity. The term “certain” is used to qualify this category description in order to remind examiners that (1) not all methods of organizing human activity are abstract ideas, and (2) this category description is not meant to cover human operation of machines. The guidance also notes that some “methods of organizing human activities” can also be subject to other categories, and not merely just one category. Similar concepts found by the courts include:
- i. Concepts relating to managing relationships or transactions between people, such as creating a contractual relationship (*buySAFE*), hedging (*Bilski*), mitigating settlement risk (*Alice Corp.*), processing loan information (*Dealertrack*), managing an insurance policy (*Bancorp*), managing a game of Bingo (*Planet Bingo*), allowing players to purchase additional objects during a game (*Gametek*), and generating rule-based tasks for processing an insurance claim (*Accenture*).
 - ii. Concepts relating to satisfying or avoiding a legal obligation, such as tax-free investing (*Fort Properties*) or arbitration (*In re Comiskey*).
 - iii. Concepts relating to advertising, marketing and sales activities or behaviors, such as using advertising as an exchange or currency (*Ultramercial*), structuring a sales force or marketing company (*In re Ferguson*), using an algorithm for determining the optimal number of visits by a business representative to a client (*In re Maucorps*), allowing players to purchase additional objects during a game (*Gametek*), and computing a price for the sale of a fixed income asset and generating a financial analysis output (*Freddie Mac*).
 - iv. Concepts relating to managing human behavior, such as a mental process that a neurologist should follow when testing a patient for nervous system malfunctions (*In re Meyer*), and meal planning (*DietGoal*).
- c. “An Idea ‘Of Itself’”: This category describes an idea standing alone such as an uninstigated concept, plan or scheme, as well as a mental process (thinking) that “can be performed in the human mind, or by a human using a pen and paper.” Similar concepts found by the courts include:
- i. Concepts relating to processes of comparing data that can be performed mentally, such as comparing information regarding a sample or test subject to control or target data (*Ambry, Myriad CAFC*), collecting and comparing known information (*Classen*), comparing data to determine a risk level (*Perkin-Elmer*), diagnosing an abnormal condition by performing clinical tests and thinking about the results (*In re Grams*), obtaining and comparing intangible data (*Cybersource*), and comparing new and stored information and using rules to identify options (*SmartGene*).
 - ii. Concepts relating to processes of organizing information that can be performed mentally, such as using categories to organize, store and transmit information

- (*Cyberfone*), data recognition and storage (*Content Extraction*), and organizing information through mathematical correlations (*Digitech*).
- iii. And, at least one case found the steps of displaying an advertisement in exchange for access to copyrighted media to be “an idea, having no particular concrete or tangible form” (*Ultramercial*).
 - d. “Mathematical Relationships/Formulas”: This category describes mathematical concepts such as mathematical algorithms, mathematical relationships, mathematical formulas, and calculations. The courts have described some mathematical concepts as laws of nature. Similar concepts found by the courts include:
 - i. Concepts relating to a mathematical relationship or formula, such as an algorithm for converting binary coded decimal to pure binary (*Benson*), a formula for computing an alarm limit (*Flook*), a formula for describing certain electromagnetic standing wave phenomena (*Mackay Radio*), the Arrhenius equation (*Diehr*), and a mathematical formula for hedging (*Bilski*).
 - ii. Concepts relating to performing mathematical calculations, such as managing a stable value protected life insurance policy by performing calculations and manipulating the results (*Bancorp*), reducing the amount of calculations in known and established computations (*FuzzySharp*), an algorithm for determining the optimal number of visits by a business representative to a client (*In re Maucorps*), an algorithm for calculating parameters indicating an abnormal condition (*In re Grams*), computing a price for the sale of a fixed income asset and generating a financial analysis output (*Freddie Mac*), and calculating the difference between local and average data values (*In re Abele*).

It is important to note that, with each of the above categories of abstract ideas, there are precedential, and often non-precedential, cases that correspond to at least one of each category listed above. Herein lies a major obstacle for the examiner—does the application before him/her adequately fit into a previously decided case issued by the Supreme Court or the Federal Circuit, such as those listed in the categories above? Since there is no bright-line rule, the examiner is often left with less than ideal circumstances for deciding whether there is, indeed, an abstract idea. Oftentimes, the examiner is faced with making a best guess when comparing whether the application is similar enough to one of the above court decisions or concepts to enable him/her to make the rejection. The example cases described in the following section will help to shed light on how an examiner identifies the abstract idea and correlates it to a court case or concept.

The guidance also clarified how an examiner is expected to make a *prima facie* case for rejection. The initial burden is on the examiner to explain why a claim or claims is/are unpatentable, clearly and specifically, so that the applicant has sufficient notice and is able to respond effectively. The examiner’s burden is met by clearly articulating the reason(s) why the claimed invention is not eligible, by providing a reasoned rationale that identifies the judicial exception recited in the claim and why it is considered an exception, and by identifying the additional elements in the claim, if any, and why they do not amount to significantly more than the exception. This rationale, according to the USPTO, may rely on the knowledge generally available to one of ordinary skill in the art in relation to (1) case law precedent, (2) the applicant’s own disclosure, or (3) any other available evidence. However, at the time of the July 2015 Update, the USPTO noted that the courts

considered the determination of whether a claim is eligible to be a question of law, and not reliant on evidence based on factual findings that a claimed concept is a judicial exception. When identifying judicial exceptions, the Supreme Court relied solely on comparisons with concepts found to be exceptions in past decisions. Furthermore, the Supreme Court did not cite any evidence in support of the “significantly more” inquiry, even when additional elements were identified as “well-understood, routine, and conventional” in the relevant art.

Where Step 2B is concerned, the July 2015 Update helped to clarify what constitutes “significantly more”. Again, however, the guidance recommended that examiners “rely on what the courts have recognized, or those in the art would recognize” as elements that are well-understood, routine and conventional. The examples given in the July 2015 Update stated that the courts have recognized that the following computer functions are understood to be well-understood, routine, and conventional when they are claimed in a merely generic manner:

- (a) performing repetitive calculations;
- (b) receiving, processing, and storing data;
- (c) electronically scanning or extracting data from a physical document;
- (d) electronic recordkeeping;
- (e) automating mental tasks; and
- (f) receiving or transmitting data over a network, *e.g.*, using the Internet to gather data.³⁰

Each of these examples was cited as ineligible in at least one court decision preceding the July 2015 Update, and each of the above examples cite at least one court case that rendered it ineligible. At the time of the July 2015 Update, there were not the 100+ cases to guide examiners in identifying abstract ideas or determining what constitutes “significantly more”, as there are now. Furthermore, at the time of the July 2015 Update, the courts had not identified any situations in which evidence was required to support a finding that the additional elements were well-understood, routine or conventional; rather, examiners were instructed to treat the issue as a matter appropriate for or similar to judicial notice by relying on their expertise in the art.

In May 2016, the Office issued a memorandum concerning another subject matter eligibility update.³¹ Regarding a subject matter eligibility rejection under Step 2, the 2016 Memo stated that examiners should, after determining what the applicant had invented and establishing the broadest reasonable interpretation of the claimed invention, perform the following:

- (a) identify the judicial exception by referring to **what is recited** (*i.e.*, set forth or described) in the claim and **explain why** it is considered an exception (*i.e.*, that the concept is similar to a court decision which identified an abstract idea);
- (b) identify any additional elements (**specifically point to claim features/limitations/steps**) recited in the claim beyond the identified judicial exception; and
- (c) explain the reason(s) that the additional elements taken **individually, and** also taken as **a combination**, do not result in the claim as a whole amounting to significantly more than the judicial exception (*i.e.*, the rejection should explain why the courts have recognized, or

³⁰ *Id.* at 7.

³¹ <https://www.uspto.gov/sites/default/files/documents/ieg-may-2016-memo.pdf>

those in the field would recognize, the additional elements when taken both individually and as a combination are well-understood, routine, and/or conventional activities).

Examiners were also reminded that the examples issued by the USPTO in the IEG documents are merely intended to show exemplary analyses—they are hypothetical examples—and should not be used as a basis for an eligibility determination or relied on in the same manner as a decision from a court.

The 2016 Memo states that, under Step 2A, a rejection should point to the specific claim limitation(s) reciting the abstract idea and explain why these claim limitations set forth the abstract idea. If there is an abstract idea, the rejection should identify it and explain why it corresponds to a concept that the courts have identified as abstract. This is important, as shown in the example cases below, in that the claims are broken apart—one part consisting of the language that may identify the abstract idea without the additional elements, and the second part consisting of the additional elements to be considered for “significantly more.” Under Step 2B, the examiner should identify any additional elements (i.e. features/limitations/steps) recited in the claim beyond the judicial exception and explain why they do not add “significantly more” to the judicial exception. Again, the 2016 Memo reiterates that this explanation should address the additional elements both individually and as an ordered combination when determining whether the claim as a whole recites eligible subject matter. For claims that recite generic computer components performing generic computer functions at a high level of generality, such as using the Internet to gather data, examiners can merely explain why these generic computing functions do not meaningfully limit the claim. The July 2015 Update lists some computer functions the courts have recognized as well-understood, routine, and/or conventional activities or elements, and examiners can rely on these decisions in the determinations. Additionally, for claims that merely add insignificant extrasolution activity to the judicial exception, such as mere data gathering in conjunction with an abstract idea or that generally link the use of the judicial exception to a particular technological environment or field of use, examiners can merely explain why they do not meaningfully limit the claim (e.g. a final step of storing data).

Interestingly, the memo notes that when the examiner has concluded that particular claim limitations are well-understood, routine, conventional activities or elements in the relevant field, the rejection should explain why the courts have recognized, or those in the relevant field of art would recognize, these claim limitations as such. However, a prior art search is not necessary to resolve whether the additional element is well-understood, routine, and/or conventional because novelty does not necessarily show that an element is well-understood, routine, conventional activity. This point has been widely questioned, as will be shown below in the *Berkheimer* memo. Nevertheless, the USPTO’s position has been that issues of prior art (i.e. 35 U.S.C. §§ 102 and 103) are separate from issues of law (i.e. 35 U.S.C. § 101).

Finally, the 2016 Memo states that, in response to a rejection based on failure to claim patent-eligible subject matter, an applicant may: (1) amend the claim, and/or (2) present persuasive arguments or evidence to rebut the rejection. Examiners are instructed to carefully consider all the applicant’s arguments and evidence when rebutting a subject matter eligibility rejection.

In July 2017, the Office issued an Interim Eligibility Guidance Quick Reference Sheet (2017 IEG) setting out “significantly more” considerations helpful in identifying claims that amount to an “inventive concept” or, rather, those additional elements in claims with significantly more than the judicial exception.³² These fell into two categories—those that qualify as “significantly more” and those which do not. The two categories are listed below:

- a. Limitations that were found by the Supreme Court or the Federal Circuit to be enough to qualify as “significantly more” when recited in a claim with a judicial exception:
 - i. Improvements to the function of a computer itself;
 - ii. Improvements to any other technology or technical field;
 - iii. Applying the judicial exception with, or by use of, a particular machine;
 - iv. Effecting a transformation or reduction of a particular article to a different state or thing;
 - v. Adding a specific limitation other than what is well-understood, routine and conventional in the field, or adding unconventional steps that confine the claim to a particular useful application; or
 - vi. Other meaningful limitations beyond generally linking the use of the judicial exception to a particular technological environment.

- b. Limitations that were found by the Supreme Court or the Federal Circuit not to be enough to qualify as “significantly more”:
 - i. Adding the words “apply it” (or the equivalent) with the judicial exception, or mere instructions to implement an abstract idea on a computer;
 - ii. Simply appending well-understood, routine and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception;
 - iii. Adding insignificant extrasolution activity to the judicial exception; or
 - iv. Generally linking the use of the judicial exceptions to a particular technological environment or field of use.

These two categories were of great help during examination when determining whether there was, indeed, “significantly more” in the claims at hand.

In April 2018, the Office issued a memorandum concerning “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*, Fed. Cir., Feb. 08, 2018).”³³ The Federal Circuit had issued a precedential decision in *Berkheimer*, holding that the question of whether certain claim limitations represent well-understood, routine, conventional activity is that of a disputed factual issue, which precludes summary judgment that all the claims at issue are not patent-eligible. While the *Berkheimer* decision does not change the basic subject matter eligibility framework as set forth in MPEP § 2106, it does provide clarification as to the inquiry into whether an additional element (or combination of additional elements) represents well-understood, routine, conventional activity. Specifically, the Federal Circuit held that “[w]hether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination.” The

³² <https://www.uspto.gov/sites/default/files/documents/jul-2017-ieg-qrs-sig-more.pdf>

³³ <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF>

memorandum clarifies that such a conclusion must be based upon a factual determination. Now, the question of whether additional elements represent well-understood, routine, conventional activity is distinct from patentability over the prior art under 35 U.S.C. §§ 102 and 103. Thus, when determining whether the claimed invention is “significantly more” under Step 2B, an additional element (or combination of elements) is not well-understood, routine or conventional unless the examiner finds, and expressly supports a rejection in writing with, one or more of the following:

- a. A citation to an express statement in the specification or to a statement made by an applicant during prosecution that demonstrates the well-understood, routine, conventional nature of the additional element(s).
- b. A citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s).
- c. A citation to a publication that demonstrates the well-understood, routine, conventional nature of the additional element(s).
- d. A statement that the examiner is taking official notice of the well-understood, routine, conventional nature of the additional element(s). However, if an applicant challenges the examiner’s position that the additional element(s) is well-understood, routine, conventional activity, the examiner must then provide either (1) one of the items discussed in paragraphs a-c above, or (2) an affidavit or declaration under 37 CFR 1.104(d)(2) setting forth specific factual statements and explanation to support the position.

The *Berkheimer* memo was issued only shortly before I left the USPTO, and the examples given below do not reflect application of the *Berkheimer* memo. Even prior to the memo being issued, however, I always attempted to incorporate evidence in my § 101 rejections and allowances, merely because it is good measure for a patent examiner to do so. While evidence is often so trivial as not to be needed (e.g. a processor is a conventional component in modern computer systems), I hope that you will see in the following examples the importance of citing to the specification, citing to court decisions, and citing to third-party references for proof, rather than merely taking official notice or making a blind statement that something is well-known, routine, and conventional.

Since 2014, the Office has issued a plethora of additional guidance and memorandums to the examining corps to help with *Alice* determinations. This mainly concerns specific cases or examiner training and, due to constraints, is beyond the scope of this paper. For example, there is a continuously updated “quick reference sheet” and “chart of subject matter eligibility court decisions” identifying each and every Supreme Court and Federal Circuit case that has rendered an answer to a 35 U.S.C. § 101 *Alice* eligibility question, as deemed relevant by the USPTO. Additionally, certain precedential decisions have been considered of particular importance in the eyes of the USPTO and memos have been drafted to that effect, outlining particular § 101 guidelines for examiners and practitioners to take special note of. When, and if, these memos or guidance are pertinent, they will be discussed below in the examples. As shown above, case law, and the resulting USPTO guidance, is of paramount importance to an examiner who must determine whether a claimed invention is ineligible under Step 2. However, due to the breadth of cases now available, the author will only discuss those cases relevant to this paper.

Furthermore, while the above section sets out the rules for an examiner operating in the § 101 *Alice* environment, it should be abundantly clear by now that there are no hard and fast rules for an examiner examining a particular application. Each and every application must be subjected to these same particular and detailed determinations. It is rare to pick up an application in the business methods area and find that the claimed invention fits perfectly into an “abstract idea” box previously determined by the court—or to find that there is no eligibility consideration needed. It is equally rare for an application to have a clear “significantly more” determination as previously determined by a court. While some applications are clearer one way or the other, oftentimes the examiner needs to look at all the facts that weigh in each direction and do his or her best to make the correct determination. Depending on the technology area concerned, this may often result in an examiner issuing a § 101 *Alice* rejection to ensure the issue is considered. I have often considered § 101 *Alice* determinations to depend on more than a gut feeling; after all, there is an analysis to be undertaken, but not quite to the level of a “sure thing”. As I mentioned above, I always felt most comfortable putting together a well-reasoned eligibility analysis and rejection in writing in the Office Action, so as to put the applicant, any courts that might have to determine the issue in the future, the USPTO, the public, and especially myself as the examiner, on notice about potential § 101 issues and ensure that all parties were aware that the examiner at least considered the possibility of a § 101 issue and discussed it with the applicant. However, to sum all this up, it is certain and predictable that business method § 101 *Alice* considerations are anything but certain and predictable.

Now that you are armed with a rough overview of the case law and a brief explanation of the USPTO’s guidance, let us turn to some real-life examples from my docket during my time as a patent examiner.

5.0 EXAMPLES FROM MY DOCKET AS AN EXAMINER

In this section, we now turn to real-life examples of business method applications to get a view of the difficulty and complexity of making these *Alice* determinations, and a walk-through of an examiner's thought processes on selected applications. The following examples are the author's own cases that were docketed to him while employed as a patent examiner. The author notes that, to avoid weighing in on pending cases, only cases that have been disposed of through allowance or abandonment will be discussed here. Furthermore, so that readers may review the case history, if they so desire, only publicly accessible³⁴ cases will be discussed. It is also important to note that only issues related to 35 U.S.C. § 101 will be discussed, not other issues related to patentability. Some of the example cases may have been disposed of for issues other than § 101 and the examiner would not have been privy to such information. Additionally, the author wishes to make known that the rationale of allowance or rejection was based on the case law and guidance available at the time the application was reviewed. It is possible that, had a particular application been examined earlier or later than it was, a different outcome may have been possible, based on the guidance and case law available at that time. These examples will not take into account USPTO guidance offered after the mailing date of the respective rejection or allowance, nor will it cover any guidance that may have been offered after July 2018, as that is when the author left the Office. Additionally, the author wishes to make known that during his time as an examiner, the information given to examiners in determining eligibility under § 101 was the same information as is provided at the USPTO's § 101 microsite, which contains all relevant § 101 material.³⁵ I was often asked if there was secret guidance that we received as examiners that was not available to the public, and my answer is that there was not. All of the guidance is public. It is important to note that reasonable minds can, and do, differ when determining § 101 applicability, as the author hopes will become apparent when discussing the examples below.

For each of the following examples, I will attempt to adhere to a similar analysis structure. For each of the rejected applications, the author will first discuss the § 101 rejection section in the rejection itself, then the examiner's response to the applicant's remarks. For the allowed applications, the most recent rejection will be explored first—both the rejection section itself and the response to arguments—followed by the reasons for allowance pertaining to § 101 in the Notice of Allowance. The claims have been included, along with any amendments, *in the way they were filed with the USPTO*. The author has not corrected the claims for antecedent basis issues, spelling, grammar, etc.

The author hopes that the reader will acknowledge that each of the below examples adheres to roughly the same structure as was reiterated across the author's (i.e. examiner's) docket. The author attempted to be consistent across all applications in how the § 101 rejections and allowances were structured, and in how the § 101 was applied and responded to, once an effective process was composed. The reason for this is two-fold. First, examiners are afforded little time to consider these issues and write them up. Having an easily reproducible structure and process is key to achieving examiner production requirements. Second, the structure set out below allowed for all of the elements to be considered and presented before the applicant, and any other interested parties

³⁴ Publicly accessible applications can be found at the following website: <https://portal.uspto.gov/pair/PublicPair>

³⁵ USPTO § 101 microsite: <https://www.uspto.gov/patent/laws-and-regulations/examination-policy/subject-matter-eligibility>

such as supervisors, quality, judges, other examiners, and the public at large. It is important to tackle each application consistently and ensure that the applicant's claims and other material, the USPTO guidance, and the court decisions have all been considered and recorded in a well-reasoned and well-documented fashion.

Lastly, as I mentioned before, these are cases that I personally have worked on, and each of them was disposed of through either allowance or abandonment. § 101 was, and is, a very complex and novel determination for an examiner to perform. Immediately after the *Alice* decision, in particular, there was limited guidance for examiners to make these § 101 decisions. I took a lot of pride in my work and I always attempted to have a well-reasoned and well-documented approach to § 101. It is for this reason, I hope, that none of my own § 101 work was appealed. At a bare minimum, I felt I made a *prima facie* case as to why each case was being rejected, or allowed, under § 101. In a way, I always hoped that my work would be subject to appeal, if for no other reason than to check that I was, or was not, doing it correctly. Whether because I was able to convey my concerns effectively regarding § 101, or the applications I worked on did not warrant an appeal, or there was simply too much uncertainty and expense involved in appealing my decisions, the following examples were not subject to appeal. They should give readers some insight into an examiner's thought processes when determining § 101.

Below you will find eight examples. I chose these examples because I felt they were a good mix of the variety of issues that an examiner might face. Each of the examples raises different issues which help to shed some light on the thought process that the examiner goes through in determining § 101 using the two-step framework, the relevant case law, the USPTO guidance, and Applicant materials. I find that viewing numerous examples of the vast array of § 101 issues facing an examiner is essential in trying to understand how an examiner analyzes the § 101 issues as well as how the examiner attempts to remain consistent when applying it across all the cases on their docket. Furthermore, there is a mix of allowances and abandonments that may help readers understand what may or may not be weighed as eligible or ineligible.

Without further ado, here are the examples:

5.1 Example 1—U.S. Application No. 14/148,395 (Status: Allowed)

Let us first begin with an allowance to get us off on a positive note. The first case is U.S. Patent No. 9,947,057 B2 (U.S. App. No. 14/148,395), issued to Google, Inc. The application was filed in the U.S. and claimed priority to other U.S. provisional and non-provisional applications. This is an application that was originally rejected under 35 U.S.C. § 101, but ultimately was found eligible due to similarity with a precedential court case. The reasons for the allowance, as well as the most recent rejection, will be discussed.

In the Final Rejection mailed October 27, 2016, the examiner rejected claims 1-20 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework from the guidance above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). Of the examined claims, representative independent claim 1, a method claim, is reproduced herein (independent claim 10, a system claim, and independent claim 16, a computer-readable media claim, are similar to claim 1):

1. (Currently Amended) A method comprising:
 - integrating an online promotion into an application integrated with a social media platform via an application programming interface (API), wherein the application is configured to enable retrieving of profile information from the social media platform for the online promotion;
 - receiving an indication of interest in the online promotion from a participant through an entry point;
 - retrieving, from the application integrated with the social media platform, identification information from a profile of the participant;
 - generating a personalized version of the online promotion that is integrated with the application, with the personalized version of the online promotion containing at least some of the participant’s identification information including a verifiable portion of the participant’s identification information; and
 - distributing the personalized promotion to the participant, wherein the verifiable portion of the participant’s identification information on the personalized promotion provides a higher level of security and authenticity, relative to a level of security and authenticity provided by information not found in promotions that do not contain such verifiable portions of identification information.

Under Step 2A, as the guidance instructs, the examiner first broke the claims apart into two parts—the first comprising the claim language restricted to determining the abstract idea, and the second comprising the additional elements to be considered under Step 2B. For Step 2A, the examiner recited the portion of language of claim 1 that was being considered as the abstract idea portion, which stated: **receiving**...*interest in a promotion*, **retrieving**...*identification information from a profile of a participant*, **generating**...*a personalized version of the online promotion including a*

verifiable portion of the participant's identification information, and distributing...the personalized promotion to the participant. The examiner determined that the claims were directed toward the abstract idea of “utilizing a social network for distribution of personalized promotions”, which is simply the organization and comparison of data, an operation that can be performed mentally and is “an idea ‘of itself’”. Here, looking at the above extracted portion, the examiner viewed the invention as merely receiving information from a user interested in a promotion, receiving information about them, generating a personalized version of the promotion from the received information, and distributing the personalized version to the user. This is really a way of advertising or marketing to a user. Furthermore, this is a process that could be performed by a human. The human, say a promoter, could speak to a college student on the street, find out they were interested in a concert, receive personal details such as a name of the student, write the student's name on a special concert ticket, and hand the student the ticket. As such, the claim language above was directed to an abstract idea.

The examiner found the concept similar to other concepts identified by the courts as being abstract, such as obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)), collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)), comparing new and stored information and using rules to identify options (*SmartGene, Inc. v. Advanced Biological Labs.*, 555 Fed. Appx. 950 (Fed. Cir. 2014)) (non-precedential), and using categories to organize, store and transmit information (*Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988 (Fed. Cir. 2014)) (non-precedential).

The author notes how messy it can be to attempt to separate the claim into two parts—the first comprising everything but the additional elements, and the second comprising only the additional elements. Oftentimes, the extracted language does not make a lot of sense without the additional elements. At other times, it makes it very clear that the additional elements are not really needed at all to perform the invention. This really does vary on an application-by-application basis. One good thing to note for both the examiner and the practitioner is that it does put both parties in a position to see which portion of the claim language is being considered to comprise the abstract idea and which portion of the claim language is being considered as additional elements for determining “significantly more.” While, personally, I feel that there can be overlap in language between Steps 2A and 2B, and that separating the claim language as such can be a very messy process, the procedure at least helps the parties understand exactly what claim language is being considered under each step.

Another fuzzy issue is how it is that examiners determine what the abstract idea is. It is hard to state with any certainty how, exactly, this is best performed. In my experience, I attempted to review the abstractness of the first extracted language and determine what was actually being performed in the claim. Other major clues were what the applicant stated in the preamble of the claims or what the specification—particularly in the abstract, summary, and background sections—stated the invention was directed to. Sometimes it was clearer than at others. I always preferred to use the applicant's own language, if possible, rather than to coin something myself. Nevertheless, the abstract idea should be what the invention is really directed to or what the claim intends to accomplish, excluding any additional elements. The easiest example of this is the Supreme Court's decision to merely find “mitigating settlement risk” in *Alice* or “hedging” in

Bilski. In its rulings, the Supreme Court really seemed to simplify the claim down to its bare-bone abstractness. I routinely received arguments from practitioners who disagreed with my determination of the abstract idea and argued that the claims were instead directed to, essentially, a verbatim recitation of their entire claims. I always tried to find common ground between a one-word abstract idea and recitation of the entire claim that struck at the heart of what the claimed invention was truly directed to—distinguishing claims directed to a technical improvement from those directed to a category defined as an abstract idea. This is never easy to perform in business methods and, for the sake of argument, I tried instead to merely restate the applicant’s language as to what the claimed invention was directed to. Furthermore, this determination was always fluid, based on amendments through the rounds of prosecution, as amended claims can change what the claimed invention is directed to. As such, I always attempted to bring in the thrust of the specification and what the claimed invention seemed to be truly directed to in determining the abstract idea. Nevertheless, if the application ended up in a business methods art unit, it was routinely found, either because of the nature of the invention and subject matter, the trepidation of examiners afraid that their work would be subject to supervisory or quality review, or simply the fact that examiners in this area are used to finding abstractness due to the area of technology, that business method applications typically contain an abstract idea.

Obviously, the next major question here is whether the claimed invention is really similar to the cited court cases. Practitioners were always quick to point out that the facts of their claimed invention were not similar to the facts of the cited court cases. Oftentimes, this was true. However, what I feel that many practitioners do not understand is that the examiner is looking for similar concepts, and not always similar facts. In the business method area, as an examiner, I was always surprised by how many claims were, indeed, merely collecting and comparing data to reach some outcome or result—in the era of big data, this is truer than ever. Most of my rejections cited *CyberSource* and *Classen*, because most of the applications I dealt with performed, at some level, some combination of obtaining and comparing data, collecting and comparing known information, or collecting data, analyzing it, and presenting certain results of the collected and analyzed data (*Electric Power Group*). I did my best as an examiner to find the most relevant precedents to apply to the claimed invention at hand among the plethora of § 101 case law, but oftentimes there was something that seemed very abstract but did not fit nicely into one of the court decisions. As more and more precedential cases were issued as guidance, it made the job of finding—or not finding—similar concepts easier.

Another issue, particularly in the early years following *Alice*, as the USPTO was attempting to get a grip on what fell into § 101, there was a great deal of pressure on examiners to reject. Both applicants and examiners were confused, and probably many still are. However, the guidance, though not yet perfect, has certainly improved. At the same time, the quality of applications coming from practitioners has improved as they are now actively aware of potential § 101 pitfalls. It takes years for most applications to find their way into the hands of an examiner for the first time, and therefore many of the cases in the pipeline, perhaps even now, were written pre-*Alice*. In my experience, the applications filed later have had much more success in overcoming § 101.

Finally, in this claimed invention, the examiner cited non-precedential cases, *SmartGene* and *Cyberfone*, as that was the accepted practice prior to further precedential cases being issued. After more precedential cases had been decided, the USPTO frowned upon citing non-precedential cases

unless the facts of the claimed invention were incredibly similar to those of a non-precedential case. As these applications continued prosecution, many of these non-precedential cases were dropped from the rejection, unless the facts of the case uniquely matched the claimed invention being reviewed.

Moving now to Step 2B in the rejection section, the examiner found that the claims did not include additional elements that were sufficient to amount to significantly more than the judicial exception. Here, we view the extracted elements from the second, more technical portion of the claim language. The claims recited the additional elements of, “*one or more processors, integrating an online promotion into an application integrated with a social media platform via an application programming interface (API), and one or more non-transitory computer storage media encoded with instructions that when executed by the one or more processors cause the one or more processors to perform the abstract idea stated above.*” Individually, the additional elements as recited were surmised to be a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of “utilizing a social network for distribution of personalized promotions” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers.

The examiner is essentially informing the applicant that elements such as “one or more processors” and other routine computer elements like memory storing software or APIs are the type of computer components that, individually, are well-known, routine, and conventional components one would expect a computer to incorporate. They do not have any real bearing on the claimed invention itself. As in *Alice*, these components are merely being used “as a tool” to perform an abstract idea. The components are not being improved, as would be the case with a technical method of improving a processor to make it faster (in all applications across the field of processors) or improved memory. These elements are merely there to incorporate a structure—a computer—that can perform the claimed invention, which, as here, has been determined to involve an abstract idea. In this situation, even taking all the additional elements as a whole, there was still not “significantly more” as when the components were viewed together, they formed a computer which performed the abstract idea. As such, the examiner found the claim to fail Step 2B.

The steps of *integrating*, *receiving*, *retrieving*, and *distributing* were merely the “receiving, processing, and storing data” steps that had been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ultramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Furthermore, the step of *generating* was merely automating the mental task of organizing and comparing data which could be done by a human by hand or by thinking (*See Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.4d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). As such, the additional elements alone and in combination performed well-understood, routine, and conventional activity and were found ineligible. The July 2015 Update referred to above states that the courts have recognized that the above computer functions are well-understood, routine, and conventional functions, when they are claimed in a merely generic manner. The categories are discussed in Section IV, Requirements Of A *Prima Facie* Case, and the categories correspond to cases located in the footnotes at the bottom of the July 2015 Update. The examiner added this

information to the Step 2B rejection to provide a well-documented record and to provide the applicant with evidence of where the courts had determined such actions to be conventional.

The applicant did not provide substantive arguments relating to the § 101 rejection at this stage. However, the applicant did request an examiner interview to discuss the § 101 rejection and filed a Request for Continued Examination (RCE) to continue prosecution. An amended set of claims accompanied the RCE and are reproduced herein:

1. (Currently Amended) A method comprising:

integrating an online promotion into an application integrated with a social media platform via an application programming interface (API), wherein the application is configured to enable retrieving of profile information from the social media platform for the online promotion, with at least a portion of the retrieved profile information comprising a social network identification that is unique to a participant;

each time the participant accesses the online promotion via the application, recording, in a data repository, an entry with the social network identification, with recorded entries tracking a number of times the online promotion is accessed by the participant, wherein the tracking with the recorded entries provides a higher level of security for providing verified access to the online promotion, relative to a level of security provided by tracking access to the online promotion with cookies;

receiving an indication of interest in the online promotion from [[a]] the participant through an entry point;

retrieving, from the application integrated with the social media platform, the social network identification information from [[a]] the profile information of the participant;

retrieving, from the data repository, the recorded entries with the social network identification retrieved;

based on retrieval of the recorded entries, determining that the number of times the online promotion is accessed by the participant is less than a pre-set number of promotion entries;

responsive to determining that the number of times the online promotion is accessed by the participant is less than the pre-set number of promotion entries, generating a personalized version of the online promotion that is integrated with the application, with the personalized version of the online promotion containing at least some of the participant's social network identification information including a verifiable portion of the participant's the social network identification information; and

distributing the personalized version of the online promotion to the participant, wherein the verifiable portion of the participant's the social network identification information on the personalized version promotion provides a higher level of security and authenticity, relative to a level of security and authenticity provided by promotions that do not contain such verifiable portions of the social

network identification information.

The examiner found that the amendments helped to move the case forward. Upon review of the application, the examiner noticed that the Specification might provide support for eligible material if the applicant agreed to amend the claims to reflect such material. It was always my intention as an examiner to assist in finding eligible material if and when the time allowed. If at any time I could find even a remote chance that there were eligible concepts in a court decision, I tried to encourage the applicant to take advantage of it. After an additional examiner-initiated interview, the applicant agreed to amend the claims to take advantage of the court precedent. The applicant drafted an amended set of claims, as will be shown below, to incorporate language from the Specification similar to the eligible court decision.

In this situation, the examiner looked to the Specification to take note of applicant's defined problem or need and the corresponding solution. In paragraphs [0022]-[0023], the Specification recited: "*Some organizations running online promotions have tried to tap into social networks by advertising their promotions to social media users via online banners within social networks. However, when a social media user clicks on one of these banners **they are directed to the organization's website outside of the social network** where they enter the promotion. While this method of advertising promotions through social networks has enabled these organizations to encourage some social media users to enter their promotion, it has not enabled them to benefit from the viral or word-of-mouth power of the social networks **because users are directed outside of the social media network to interact with the promotion** ...Described below is a promotion technology **to be integrated with participating social media-based platforms** that may be used by an organization to run a customized online promotion so that the organization's promotion can tap into a number of viral features provided by the social media-based platforms...that can help spread the word about the promotion in a highly efficient and cost effective way.*" Paragraphs [0082]-[0084] of the Specification spoke further to this, in that, "*the interactive webpage or webpages integrate the promotion with the viral features of the participating social media-based platforms and access the data contained in a participant's social media-based platform profile **without requiring participants to migrate away from the interactive webpage or webpages.***" The above bolded sections are important because they link the application at hand to a previously decided eligible court decision. The examiner found that *DDR Holdings*, explained below, incorporated a similar concept and the examiner could base a Notice of Allowance on such information. Here, it was imperative that I get everything down in writing on the Notice of Allowance to explain my position and make clear why the claimed invention was being allowed.

The applicant amended the claims to take the above bolded sections into account and the claims were amended as such by an Examiner's Amendment in the Notice of Allowance:

1. (Currently Amended) A method comprising:
 - integrating an online promotion into an application integrated with a social media platform via an application programming interface (API), wherein the application is configured to enable retrieving of profile information from the social media platform for the online promotion, with at least a portion of the retrieved profile information comprising a social network identification that is unique to a participant;

each time the participant accesses the online promotion via the application, recording, in a data repository, an entry with the social network identification, with recorded entries tracking a number of times the online promotion is accessed by the participant, wherein the tracking with the recorded entries provides a higher level of security for providing verified access to the online promotion, relative to a level of security provided by tracking access to the online promotion with cookies;

receiving an indication of interest in the online promotion from the participant through an entry point;

retrieving, from the application integrated with the social media platform, the social network identification from the profile information of the participant;

retrieving, from the data repository, the recorded entries with the social network identification retrieved;

based on retrieval of the recorded entries, determining that the number of times the online promotion is accessed by the participant is less than a pre-set number of promotion entries;

responsive to determining that the number of times the online promotion is accessed by the participant is less than the pre-set number of promotion entries, generating a personalized version of the online promotion that is integrated with the application, with the personalized version of the online promotion containing at least some of the participant's social network identification including a verifiable portion of the participant's [[the]] social network identification; and

distributing the personalized version of the online promotion to the participant, wherein the verifiable portion of the participant's [[the]] social network identification on the personalized version provides verifiable portions of the social network identification, without requiring the participant to migrate away from the application.

The examiner found the claims of the application, as amended, to be at least similar to the claims in *DDR Holdings, LLC v. Hotels.com, L.P.* (773 F.3d 1245, 113 U.S.P.Q. 2d 1097 (Fed. Cir. 2014)) and explained the rationale in the Notice of Allowance. In *DDR Holdings*, the Federal Circuit found the claims to be eligible under § 101 and the rationale for such is reproduced herein (edited for brevity):

As an initial matter, it is true that the claims here are similar to the claims in the cases discussed above in the sense that the claims involve both a computer and the Internet. But these claims stand apart because they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. **Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.**

In particular, the '399 patent's claims **address the problem of retaining website visitors that, if adhering to the routine, conventional functioning of**

Internet hyperlink protocol, would be instantly transported away from a host's website after "clicking" on an advertisement and activating a hyperlink.
[...]

In more plain language, upon the click of an advertisement for a third-party product displayed on a host's website, the visitor is no longer transported to the third party's website. Instead, the patent claims call for an "outsource provider" having a web server which directs the visitor to an automatically-generated hybrid web page that combines visual "look and feel" elements from the host website and product information from the third-party merchant's website related to the clicked advertisement. In this way, rather than instantly losing visitors to the third-party's website, the host website can instead send its visitors to a web page on the outsource provider's server that 1) incorporates "look and feel" elements from the host website, and 2) provides visitors with the opportunity to purchase products from the third-party merchant without actually entering that merchant's website.

The dissent suggests that the "store within a store" concept, such as a warehouse store that contains a kiosk for selling a third-party partner's cruise vacation packages, is the pre-Internet analog of the '399 patent's asserted claims. Dissenting Op. 4. While that concept may have been well-known by the relevant timeframe, that practice did not have to account for the ephemeral nature of an Internet "location" or the near-instantaneous transport between these locations made possible by standard Internet communication protocols, which introduces a problem that does not arise in the "brick and mortar" context. In particular, once a customer enters a physical warehouse store, that customer may encounter a kiosk selling third-party cruise vacation packages. There is, however, no possibility that by walking up to this kiosk, the customer will be suddenly and completely transported outside the warehouse store and relocated to a separate physical venue associated with the third-party—the analog of what ordinarily occurs in "cyberspace" after the simple click of a hyperlink—where that customer could purchase a cruise package without any indication that they were previously browsing the aisles of the warehouse store, and without any need to "return" to the aisles of the store after completing the purchase. It is this challenge of retaining control over the attention of the customer in the context of the Internet that the '399 patent's claims address.

[...]

The '399 patent's claims are different enough in substance from those in *Ultramercial* because they do not broadly and generically claim "use of the Internet" to perform an abstract business practice (with insignificant added activity). Unlike the claims in *Ultramercial*, **the claims at issue here specify how interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink. Instead of the computer network operating in its normal, expected manner by sending the website visitor to the third-party website that appears to be connected with the clicked advertisement, the claimed system generates and directs the visitor to the above described hybrid web page that presents product information from the third-party and visual "look and feel" elements from the host website. When the limitations of the '399 patent's asserted claims are taken together as an**

ordered combination, the claims recite an invention that is not merely the routine or conventional use of the Internet.”

The Examiner found the *DDR Holdings* excerpt to weigh in favor of the eligibility of the claims at issue. As stated in the Specification, “the interactive webpage or webpages integrate the promotion with the viral features of the participating social media-based platforms and access the data contained in a participant’s social media-based platform profile **without requiring participants to migrate away from the interactive webpage or webpages.**” The examiner found that, as in *DDR Holdings*, the claims yielded a “result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink” by not “requiring the participant to migrate away from the application.” Furthermore, the examiner found the claims similar to those of *DDR Holdings* in that the claimed solution was necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.

As a further note, looking back at the 2017 IEG from above, the examiner found the claims to address point (v): further improvements in computer technology that add a specific limitation other than what is well-understood, routine, and/or conventional in the field at the time of the invention. The Examiner looked back into the Specification to find such improvements and noted the following: (1) paragraph [0101] of the Specification addressed an improvement to a conventional problem in the field, namely, “*The system can check to see if a cookie has already been established on the participant’s computer that includes information that the participant has exceeded the number of entries or downloads for a given period of time for that promotion. Although, cookies provide a way to track whether participants have previously entered a promotion, it is not foolproof because a participant can circumvent this check by erasing related cookies from his computer’s memory*”; (2) paragraphs [0073]-[0075] pointed out that “*organizations can distribute individualized and secure coupons or vouchers as part of an online promotion through social media channels...that enable websites to access the profile information of social network users...By offering the coupon or voucher via an application within a social network...organizations are able to tap into the database of the participant’s social media profile to obtain and display identifying information about the participant on the coupon or voucher. This enables the system to provide the participant’s information directly on the coupons or vouchers, which provides a much higher level of identification of coupon holders than what has been previously available...The advantage of this is that this technique provides an extra level of security for companies providing coupons because it is very difficult for a coupon holder to just copy a bunch of coupons and give them to their friends. Including personalized information about the coupon holder on the coupon or vouchers is a more secure method of distributing promotional incentives*”; and (3) paragraph [0110] pointed out that “*In contrast to the cookie method of determining the eligibility of a participant, greater security is provided by tracking participants through their social network identification because participants cannot edit or tamper with the recorded number of entries associated with the participant’s identification.*” For these reasons, the examiner found this to be an unconventional departure from, and improvement to prior art methods and systems at the time of the invention, and included all of this rationale in the Notice of Allowance.

5.2 Example 2—U.S. Application No. 14/208,199 (Status: Abandoned)

The second case to be discussed is U.S. App. No. 14/208,199, originally assigned to Time Warner Cable Enterprises LLC. The application was originally filed in the U.S. and claimed priority to a U.S. provisional application. This is an application that was rejected under 35 U.S.C. § 101 in both the Non-Final and Final rejections and ultimately abandoned. The reasons for the most recent § 101 rejection will be discussed below.

In the Final Rejection mailed May 02, 2017, the examiner rejected claims 1-4, 6-15, 17-18, 20-21, 23-25, and 27-28 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework described above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). Of the examined claims, representative independent claim 1, a method claim, is reproduced below (independent claims 20 and 23, process claims, independent claim 27, a system claim, and independent claim 28, a computer-readable media claim, are at least moderately similar to claim 1 and will not be explored in this discussion):

1. (Currently amended) A method comprising the steps of:
 - maintaining, on a persistent storage device, a database of contracts, said database having at least one record for each of said contracts, said at least one record for each of said contracts including at least one field comprising a corresponding contract end date and at least a second field comprising review-based reliability status of the end date for a corresponding one of said contracts;
 - obtaining, at a computer processor in communication with and collocated with said persistent storage device, at least one user query; [[and]]
 - responsive to said at least one user query, generating, with said computer processor, a signal to cause a display device, connected in communication with said computer processor via the Internet, to display a histogram of said corresponding contract end [[date]] dates for at least one of said contracts and for at least another of said contracts, and a signal to cause said display device to concurrently display said reliability status for each of said at least one and at least another of said contracts; and
 - providing a system, wherein the system comprises distinct software modules, each of the distinct software modules being embodied on a non-transitory computer-readable storage medium, and wherein the distinct software modules comprise a database module and a user interface module;
 - wherein:
 - said maintaining of said database of contracts is carried out by said database module executing on said computer processor;
 - said obtaining of said at least one user query is carried out by said user interface module executing on said computer processor; and
 - said generating, with said computer processor, of said signal to cause said display device to display said histogram is carried out, at least in part, by said user interface module executing on said computer processor.

Under Step 2A in the rejection section, as with the above example, the examiner first broke the claims apart in order to analyze them without the additional elements. The claim language directed to the abstract idea was found to be: *maintaining...contracts, having at least one record for each of said contracts, said at least one record for each of said contracts including at least one field comprising a corresponding contract end date and at least a second field comprising review-based reliability status of the end date for a corresponding one of said contracts; obtaining...at least one user query; responsive to said at least one user query, generating...a signal to cause a histogram of said corresponding contract end dates for at least one of said contracts and for at least another of said contracts, and a signal to concurrently display said reliability status for each of said at least one and at least another of said contracts.* The examiner determined that the claims were directed toward “contract administration,” as pointed out in Applicant’s Specification at page 1, which was found to be simply the organization and comparison of data which can be performed mentally and is “an idea ‘of itself’”. As you should note, the Applicant in this case did not state what the claims were directed to in the preamble to the independent claims. The examiner therefore referred to the Specification to determine what the Applicant felt the claims were directed to. While this rationale is explained at length below, this concept was similar to the *Electric Power Group* decision—“collecting information, analyzing it, and displaying certain results of the collection and analysis.”

The examiner found the concept similar to other concepts identified by the courts as being abstract, such as obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)), collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)), and collecting information, analyzing it, and displaying certain results of the collection and analysis (*Electric Power Group, LLC, v. Alstrom*, 830 F.3d 1350, 119 U.S.P.Q.2d 1739 (Fed. Cir. 2016)). Here, it is noted that this was a later rejected application and all of the court cases cited were precedential cases.

Under Step 2B in the rejection, the examiner found that the claims did not include additional elements that were sufficient to amount to significantly more than the judicial exception. The claims recited the additional elements of, “*a persistent storage device, a database, a computer processor in communication with and collocated with said persistent storage device, a display device connected in communication with said computer processor via the Internet, a system which comprises distinct software modules wherein each of the distinct software modules are embodied on a non-transitory computer-readable storage medium, the distinct software modules comprising: a database module, a user interface module, a contract engine module, an external program interface module, and a memory.*” The additional elements as recited were surmised to be a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of “contract administration” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers.

In this example, there appear to be more “additional elements” than in the previous example, and as such, I think the reasons why it was found to be conventional are important. Some elements, like the above example, were merely routine computer components available in any generic computer—a persistent storage device (i.e. a hard drive), a database, a computer processor in

communication with and collocated with said persistent storage device, a display device connected in communication with said computer processor via the Internet, and a memory. These were conventional computers, albeit networked together. The other elements seemed more technical or technical-sounding, however. “[A] system which comprises distinct software modules wherein each of the distinct software modules are embodied on a non-transitory computer-readable storage medium, the distinct software modules comprising: a database module, a user interface module, a contract engine module, [and] an external program interface module” was more complex and demanded more careful analysis. Here, the examiner looked back into the specification to determine what was meant by the term “module” because it could be hardware, software, or a combination of the two. In this example, the examiner found that the term “module” was essentially a piece of software embodied on a hard drive or memory that performed an operation. The reason why these software modules were found to be generic was because they were performing generic functions—even if they were named confusingly or specially. The examiner’s thought process was that every modern computer has software installed that, for example, allows the computer to access a database over the Internet (i.e. a database module), display a user interface (i.e. a user interface module), process data (i.e. a contract engine module), and run or access programs remotely (i.e. an external program interface module). There was no information about these software modules doing anything other than what similar conventional software modules do, and thus the software modules, like the generic “one or more processors”, were found to be well-known, routine, and conventional elements.

The steps of *maintaining, obtaining, generating, and providing* were merely the “receiving, processing, and storing data” steps that had been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ultramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Again, these are merely the cases noted in the footnotes to the July 2015 Update. As such, the additional elements alone and in combination performed well-understood, routine, and conventional activity and were found to be ineligible. The other independent claims contained similar subject matter and the dependent claims added no additional elements that made the claimed invention patent-eligible, but only served to further narrow the abstract idea. The claimed invention was therefore found to be ineligible under § 101.

Turning now to the argument section concerning § 101, you will notice that more detail of the § 101 analysis was performed here, particularly in response to the Applicant’s arguments. The Applicant felt that the examiner had oversimplified the claims and urged him to consider the recitations “as a whole”, as they specifically require, “displaying a histogram of contract end dates corresponding to at least one and at least another of a database of contracts, and concurrently displaying a reliability status for each of said at least one and at least another of said contracts.” The examiner started by pointing out that the Supreme Court declined to define abstract ideas in such a manner, but instead considered what objective the claims were attempting to accomplish and directed their abstract ideas as such—i.e. “hedging” in *Bilski* and “mitigating settlement risk” in *Alice*, without delving very far into the details of each step of the claimed invention, or reciting them verbatim. The examiner applied the precedent in similar fashion, and even looked to the background of the invention in the Specification, which stated that the claimed invention was directed to “contract administration” and not to some improvement to the technical functioning of

a computer or other technical solution to a technical problem. The examiner viewed the claimed invention as similar to the *Electric Power Group v. Alstrom* case, as the claims were similarly “collecting information, analyzing it, and displaying the result,” wherein the result here was “**displaying** a histogram of contract end dates corresponding to at least one and at least another of a database of contracts, and concurrently displaying a reliability status for each of said at least one and at least another of said contracts”. To simplify, the examiner stated:

Claim 1 requires, (1) *maintaining a set of contracts wherein at least one record for each contract includes at least one field comprising a corresponding contract end date and at least a second field comprising review-based reliability status of the end date for the corresponding contract* (i.e., **maintaining records** for contracts wherein the records contain at least two data fields, one data field comprising the contract end date and the second data field comprising reliability status of the end date—this is merely maintaining two pieces of data for a contract file in a set of contracts); (2) *obtaining at least one user query* (i.e., this is merely **retrieving data** based on a user’s needs); and (3) *responsive to said at least one user query, generating a histogram of said corresponding contract end dates for at least one of said contracts and for at least another of said contracts, and concurrently displaying said reliability status for each of said at least one and at least another of said contracts* (i.e., this is merely **displaying the result of the user’s query**—displaying information for at least two contracts, the information containing a histogram for each contract end date so a user can more easily view how much time is left on the contract, and a reliability status for each contract allowing a user to view how reliable the data is based on a review of the data).

Next, under Step 2A, the examiner took the following steps (which I consistently attempted to do for each and every § 101 rejection that I examined on my docket): (1) cited guidance offered by the USPTO as most relevant to Step 2A, (2) looked to the Applicant’s Specification to determine what the Applicant stated was invented or directed to, and what problem and solution the claimed invention put forward, and (3) provided an analysis of the most relevant precedential court case with a step-by-step comparison of the claimed invention and the precedential case. While each examiner has his or her own method of analyzing claims under *Alice* § 101, this was the method that I, as an examiner, tended to adopt, as I felt it was a well-reasoned approach that took into account the USPTO guidance, the Applicant’s own statements of the claimed invention, and the relevant precedential case law. Additionally, this enabled the Applicant a true means of visualizing the examiner’s analysis in determining eligibility, as well as providing them with a means of amending the claims as necessary to overcome an ineligibility determination, and responding to the examiner’s arguments more concretely, as all examiners should strive for a well-documented written record.

At the time of the Final Rejection, the USPTO had identified and written memos pertaining to three cases involving Step 2A matters. Two of the memos, *McRO*³⁶ and *Enfish*,³⁷ were found to have allowable claims, whereas in the third case, *TLI Communications v. A.V. Automotive, LLC*,³⁸

³⁶ <https://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf>

³⁷ https://www.uspto.gov/sites/default/files/documents/ieg-may-2016_enfish_memo.pdf

³⁸ *Id.*

the court found the claims to be ineligible. As an examiner, I always attempted to include the USPTO guidance, emphasized as below, directly in my responses to an applicant's arguments, as a way of making the applicant aware of my thinking and position, and helping to streamline the amendment and/or argument process. The three memos are briefly discussed herein, with the most relevant sections emphasized:

- a. In *McRO*, citing the November 02, 2016 Memorandum issued by Robert W. Bahr, Deputy Commissioner for Patent Examination Policy, the basis for the court's decision was that the claims were directed to *an improvement in computer-related technology* and thus did not recite a concept similar to previously identified abstract ideas. The *McRO* court *examined the Specification* which described the claimed invention as improving computer animation through the use of specific rules, rather than human artists, to set morph weights and transition parameters between phonemes. As explained in the specification, human artists did not use the claimed rules, and instead relied on subjective determinations to set the morph weights and manipulate the animated face to match pronounced phonemes. The court thus relied on the Specification's explanation of how the claimed rules enabled the automation of specific animation tasks that previously *could not* be automated when determining that the claims were directed to improvements in computer animation instead of an abstract idea. The court indicated that it was the incorporation of the particular claimed rules in computer animation that "improved [the] existing technological process", unlike cases such as *Alice* where *a computer was merely used as a tool to perform an existing process*.
- b. In *Enfish*, citing the May 19, 2016 Memorandum issued by Robert W. Bahr, Deputy Commissioner for Patent Examination Policy, the court found that the invention was directed to *an improvement in the functioning of the computer*. The claims in *Enfish* describe the steps of configuring a computer memory in accordance with a self-referential table (in which both method claims and system claims seem to invoke 35 USC 112(f) which allow for elements of the specification to be brought into the claims). The court asked whether the focus of the claims is on *the specific asserted improvement in computer capabilities* (i.e., the self-referential table for a computer database), or instead on a process that qualifies as an "abstract idea" *for which computers are merely invoked as a tool*. The court *looked to the specification* to determine whether the claims were directed to an improvement in existing computer technology or an abstract idea. The court found that the claims were directed to *a specific implementation of a solution to a problem in the software arts*, and thus concluded that the claims were not directed to an abstract idea.
- c. The *Enfish* memo also discussed the *TLI Communications LLC v. A.V. Automotive, LLC* decision. Closing following *Enfish*, the Federal Circuit decided *TLI Communications* which provides a contrast between *non-abstract claims directed to an improvement to computer functionality* and *abstract claims that are directed to generalized steps to be performed on a computer using conventional computer activity*. Specifically, the court stated that the *TLI* claims describe steps of recording, administration, and archiving of digital images, and found them to be directed to the abstract idea of classifying and storing digital images in an organized manner (Step 2A). The court then found that the additional elements of performing these functions

using a telephone unit and a server did not add significantly more to the abstract idea because *they were well-understood, routine, conventional activities* (Step 2B).

After reciting the above guidance, the examiner looked to Applicant's Specification to determine the field of the invention, or what the Applicant stated as the invention, and the problem that Applicant was seeking the claimed invention to solve—the solution, hopefully, comprising the claimed invention. While I do not believe that the USPTO guidance explicitly instructs examiners to define a problem/solution approach to the claims, unofficially it was encouraged, and I do believe that it incorporates many of the above guidance points to help an examiner determine eligibility. The problem/solution approach has a number of benefits for the parties as it helps the examiner determine what the claims are directed to, why the claims exist, if there is technology that must be involved to perform the claim (i.e. Step 2B), etc. Typically, the claims embody the solution to some problem that the applicant is trying to solve. For example, if windshield wipers have a problem of streaking, a solution could be to invent intermittent windshield wipers which allow for more rain to build up before the wiping motion swipes again. Here, the problem is streaking windshield wipers. The solution is intermittent windshield wiper technology. The claim should define how the intermittent windshield wipers work, their structure, etc. (this could also be a potential 35 U.S.C. § 112 issue). As you will see in the following example cases, I attempted to identify some sort of problem and solution, as defined in the specification, which would help me to determine exactly what was being invented and whether technology was inherently involved.

Here, the Field and Background sections of the Specification state that the invention relates to “software and system components for contract administration” or “techniques for contract automation” (Specification, page 1). The problem stated by the Applicant was that “manual review of such contracts results in inefficient repetition when minor changes are made, as well as the inability to track projected obligations and/or revenues, for long-term forecasting or in case of mergers and acquisitions.” The techniques described allow a user to “more quickly and accurately visualize which contracts in a database of contracts will soon expire; which contracts in a database of contracts have data that can be considered reliable; and/or which contracts in a database of contracts have one or more orders not yet implemented and/or pending legal review.” This particular problem was not one of a technical nature or improvement in computer technology, but rather the examiner determined that instead these were business needs that merely implemented routine and traditional uses of a computer. It was evident from the Specification that humans performed this operation already, and that this was just a process in which computers were used as a tool to perform the operation faster. As noted in the rejection, these similar concepts had previously been identified by the courts as being abstract, such as “obtaining and comparing intangible data” (*CyberSource*), “collecting and comparing known information” (*Classen*), and “collecting information, analyzing it, and displaying certain results of the collection and analysis” (*Electric Power Group*) and the present claimed invention was understood to be simply adding conventional computer components to well-known business needs. This, as pointed out above, was simply “contract administration”. Utilizing the USPTO guidance, the examiner noted that the claims at issue did not provide for a specific process that *was not previously performable by a computer*, but rather merely performed steps that had been recognized by the courts as well-understood, routine, and conventional activity, such as “receiving, processing, and storing data,” “automating the mental task” of organizing and comparing data, and were similar to *Alice*, where a computer was merely used “as a tool” to perform an existing process.

The examiner next compared the claimed invention to claims of the most relevant precedential court case. The court in *Electric Power Group* found the “focus of the asserted claims...is on collecting information, analyzing it, and displaying certain results of the collection and analysis.” The court then further examined the claims in their Step 2A analysis. The examiner similarly compared the steps of the claimed invention to the analysis of Step 2A offered by the court, setting aside the technical elements, which were better suited to analysis in Step 2B, presented below:

- a. **Collecting Information:** The present claimed invention is “maintaining...contracts...having at least one record for each of said contracts, said at least one record for each of said contracts including at least one field comprising a corresponding contract end date and at least a second field comprising review-based reliability status of the end date for a corresponding one of said contracts” and “obtaining...at least one user query”. These elements are akin to “collecting information”—as the Federal Circuit stated: “Information as such is an intangible. Accordingly, we have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.” Here, a user *retrieves contract information* from a database. The information, for each contract, comprising a contract end date and a reliability status of the end dated based on a review is merely limiting that information to a particular content (which does not change its character as information).
- b. **Analyzing Said Information:** As the court goes on, “In a similar vein, we have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.” Here, the present claimed invention, at best, uses the information queried to create a histogram of the contract end dates for each of the contracts. This is a step which “can be performed mentally, or which are the equivalent of human mental work.” Humans can, indeed, given the data comprising the end dates, generate a histogram of said end dates. Like the court in *Electric Power Group*, the claims at issue here are merely analyzing the information that was first collected in order to generate a histogram of the data.
- c. **Displaying Certain Results of the Collection and Analysis:** Finally, the court posits, “we have recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.” Here, after obtaining the needed data and generating a histogram from the data, the histogram of the corresponding contract end dates for the contracts and the reliability status obtained from the database for each of the contracts is transmitted to be concurrently *displayed* on the display device. This, again, is similar to the court in *Electric Power Group* as merely displaying a result—the result being “a histogram of contract end dates corresponding to at least one and at least another of a database of contracts, and concurrently displaying a reliability status for each of said at least one and at least another of said contracts”.
- d. **Combination of the above Abstract Processes:** The court continues that, “the claims are clearly focused on the combination of those abstract-idea processes. The advance they purport to make is a process of gathering and analyzing information of a specified

content, then displaying the results, and not any particular assertedly inventive technology for performing those functions. They are therefore directed to an abstract idea.”

The *Electric Power Group* court also discussed the *Enfish* decision regarding Step 2A, which the examiner found to be relevant to the instant claims. The court states:

- a. **The Federal Circuit’s *Enfish* Discussion:** “The claims here are unlike the claims in *Enfish*. There, we relied on the distinction made in *Alice* **between, on the one hand, computer-functionality improvements and, on the other, uses of existing computers as tools in aid of processes focused on ‘abstract ideas’** (in *Alice*, as in so many other § 101 cases, the abstract ideas being the creation and manipulation of legal obligations such as contracts involved in fundamental economic practices). That distinction, the Supreme Court recognized, has common-sense force even if it may present line-drawing challenges because of the programmable nature of ordinary existing computers. In *Enfish*, we applied the distinction to reject the § 101 challenge at stage one because the claims at issue focused not on asserted advances in uses to which existing computer capabilities could be put, but on a specific improvement—a particular database technique—in how computers could carry out one of their basic functions of storage and retrieval of data (noting basic storage function of generic computers). **The present case is different: the focus of the claims is not on such an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools.**” (*Emphasis added.*)
- b. The examiner felt the discussion was relevant to the claimed invention. The court made the distinction between “computer-functionality improvements” and “uses of existing computers as tools in aid of processes focused on ‘abstract ideas’”. Like *Electric Power Group*, the claimed invention in this case was merely using a computer “as a tool” to collect, analyze, and display the queried data. The Applicant argued in their Remarks that, “the invention is a series of concrete steps that are taken to obtain contract end dates from a database and display a histogram of the contract end dates. For example, in Claim 1 a database module executes on a computer processor to maintain a database of contracts on a persistent storage device, which a user interface module executes on the computer processor to obtain at least one user query and, responsive to said user query, generate a signal to cause a display device to display a histogram of contract end dates for at least one of the contracts and at least another of the contracts.” The examiner answered the argument by stating that “obtaining contract end dates (or other stored data) from a database and displaying a histogram of the contract end dates is an abstract idea. There is nothing [in the claims] that has improved the field of computer technology. This is merely an abstract idea. Furthermore, a computer processor that executes software to operate a user interface to receive a user’s query, and a signal sent to a display device to display the queried data is the basic, most conventional, well-known, and routine operation that a modern computer performs.” Thus, the examiner did not find any improvements to computer functionality that might improve computer functionality outside of the present claimed invention and merely found the claimed invention using “existing computers as tools in aid of processes focused on ‘abstract ideas’”.

The Applicant advanced two further related arguments. The first centered on comparing the claimed invention to a hypothetical example offered by the USPTO that was ruled patent-eligible. The second centered on the Applicant believing that the claimed invention “significantly improves the functioning of a particular computer technology.” In the first argument, the examiner disagreed with the Applicant because the patent-eligible claim example referenced focused on a technological improvement that allowed the claimed invention to operate in a way that was not previously possible using conventional computers and, hypothetically, did not previously exist. The USPTO felt the hypothetical example was an improvement in computer technology and thus found the claimed invention patent-eligible. In the Applicant’s claimed invention, however, there was no improvement to the field of computer technology, as merely obtaining data from a database and displaying the information concurrently on a display device is not a technological improvement. Rather, this is how conventional computers operate. The second argument was that the claimed invention “significantly improves the functioning of a particular computer technology.” This argument is put forth herein:

- a. The Examiner disagrees [with Applicant’s argument]. Applicant argues that the invention improves the process of “obtaining contract end dates from a database and displaying the contract end dates to a user”; “displaying a field comprising a review-based reliability status for at least one contract”; and “displaying a list comprising at least a portion of a database of contracts for which an implementation date field is blank”. Applicant believes that the invention accomplishes the improved process by way of a computer processor generating a signal to cause a display device to display the various information and that a processor is relied upon because the volume of data being handled exceeds human pen and paper capacity. The Examiner disagrees, and as the Federal Court stated above, collecting information, including when limited to particular content (i.e. contract end dates, reliability status, etc.) is within the realm of abstract ideas. Likewise, “merely presenting the results of abstract processes of collecting and analyzing information...is abstract as an ancillary part of such collection and analysis.” Furthermore, using a computer processor to generate a signal to cause a display device to display “various information” is exactly how computers operate now. The Examiner fails to see any improvement in computer technology. In the same vein, Applicant has not improved or solved a problem that specifically arises in the realm of computer networks. Here, a computer is merely networked and is communicating with a database. There are no further improvements nor any discussed in the Specification. The steps of the current claims “can be performed mentally, or which are the equivalent of human mental work” and Applicant is merely using an existing computer “as a tool” to perform an existing process.

Here, the examiner read the claims as presented, noting that, as claimed, the claims do no more than “collect information, analyze it, and present the collected and analyzed information”, much like in the *Electric Power Group* decision. The examiner found no improvement in computer technology, but instead a process that merely uses a computer “as a tool” to accomplish a task. While the Applicant argued “significantly improving the functioning of a particular computer technology” under Step 2A, this argument may have found more relevance under Step 2B. It is important to note here how difficult it can be to properly argue the elements pertaining to each

step. In my opinion, there is overlap between the steps. Even the courts have not always seemed to be consistent as to what falls under Step 2A and Step 2B, and there is often some overlap involved. In the end, the claims were found to be directed to an abstract idea, and we now move on to Step 2B.

Again, the examiner looked to *Electric Power Group* for the court's Step 2B analysis. Here, as in the above example, examiners are instructed to remove the technical elements from the claims and analyze them, both individually and as a whole, to determine if the claims contain "something more" to overcome the abstract idea identified in Step 2B. The court's Step 2B is not a very long analysis, but this particular case involved some very pertinent statements that helped the examiner to analyze the claims under Step 2B. In the argument section, the examiner again provided the entire Step 2B language from *Electric Power Group* and bolded parts that seemed most relevant to the case at hand. For brevity, these bolded statements, and not the entire Step 2B analysis, are reproduced herein and will help guide the arguments related to Step 2B:

- a. **[M]erely selecting information, by content or source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes**, whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas.
- b. **Merely requiring the selection and manipulation of information—to provide a “humanly comprehensible” amount of information useful for users—by itself does not transform the otherwise-abstract processes of information collection and analysis.**
- c. **But in this case the claims’ invocation of computers, networks, and displays does not transform the claimed subject matter into patent-eligible applications.** The claims at issue do not require any nonconventional computer, network, or display components, or even a “non-conventional and non-generic arrangement of known, conventional pieces,” but merely call for performance of the claimed information collection, analysis, and display functions “on a set of generic computer components” and display devices.
- d. **Nothing in the claims, understood in light of the specification, requires anything other than off-the-shelf, conventional computer, network, and display technology for gathering, sending, and presenting the desired information.** That is so even as the claim requirement of “**displaying concurrent visualization” of two or more types of information** even if understood to require time-synchronized display: nothing in the patent contains any suggestion that the displays needed for that purpose are anything but readily available. We have repeatedly held that such invocations of computers and networks that are not even arguably inventive are “insufficient to pass the test of an inventive concept in the application” of an abstract invention.
- e. **The claims in this case specify what information...is desirable to gather, analyze and display, including in “real time”; but they do not include any requirement for performing the claimed functions of gathering, analyzing, and displaying in real time by use of anything but entirely conventional, generic technology.** The claims therefore do not state an arguably inventive concept in the realm of application of the information-based abstract ideas.

Applicant contended that the claims were allowable under Step 2B, even if considered to be an abstract idea, as the claimed invention recites “significantly more” than any abstract idea. Furthermore, Applicant advanced several arguments in support of the claimed invention being “significantly more”. First, Applicant reminded the examiner that the claims should be looked at as an ordered combination, without ignoring the requirements of the individual steps, noting that the claim scope in each independent claim was limited by particular features and that the claim scope was limited to practical applications of responding to a user query according to a process that did not exclude competitors from all possible implementation of displaying contract end dates—or as the courts put it, the invention did not seek to “tie up” the entire field of invention. This will be explored at the end of this example, as the USPTO has issued guidance on preemption. Next, Applicant argued that the steps of displaying at a display device, connected in communication with a computer processor via the Internet, was accomplished by a user interface module, which executed on the computer processor that was collocated with a persistent storage device on which the database of contracts was maintained, was an example of an improvement in computer technology, and thus constituted “significantly more”. Applicant advanced two cases, *Amdocs* and *BASCOM*, to overcome the Step 2B rejection. Applicant argued that in *Amdocs*, patent eligibility could be found in an inventive concept that rested on the particular arrangement of networked components to accomplish a task with minimal data flow through the network, and that in *BASCOM*, patent eligibility could be found in an inventive concept that rested on the particular location of filtering software. Based on these cases, Applicant argued that in the claimed invention, the arrangement permitted the server to carry most of the processing load for displaying the histogram while the display device at the client computer needed only to display the image generated at the server, and as such, this particular arrangement of software module locations advantageously permitted efficient use of computational resources. The examiner took several issues with this line of arguments and referred to *BASCOM* (*BASCOM* has in most circumstances tended to supersede *Amdocs* in the Step 2B analysis, plus more weight has been placed on *BASCOM* through the USPTO’s *BASCOM* memorandum) as offered by the USPTO as Step 2B guidance.³⁹

In *BASCOM*, referring to the November 02, 2016, memo issued by Robert W. Bahr, Deputy Commissioner for Patent Examination Policy, the court found the software-related claims patent eligible because the “claims do not merely recite the abstract idea of filtering content.” The court agreed that the additional elements were generic components that did not amount to significantly more when considered individually, but found that when combined, an *inventive concept may be found in the non-conventional and non-generic arrangement of the additional elements* (i.e. the installation of a filtering tool at a specific location, remote from end-users, with customizable filtering features specific to each end-user).

The examiner found the present claimed invention to be distinguishable from *BASCOM*, however. After review of Applicant’s Specification, the examiner did not find any indication that Applicant was concerned with, let alone did the Specification even mention, “processing load” or “efficient use of computational resources,” and it appeared to the examiner that this line of argument was merely an afterthought. The arguments did not point out a technical solution that could be found or adequately described as a concern, or a solution to any problem, in Applicant’s Specification. As Applicant’s Specification made clear, the concern, and ultimately the abstract idea, had to do

³⁹ <https://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf>

with “contract administration,” not with alleviating concerns of “processing load” or “efficient use of computational resources.” In contrast, the court in *BASCOM* clearly acknowledged that the Specification was, indeed, concerned with and adequately described the solution to a technical problem that was directly related to how the invention was structured. To be clear, the Specification should adequately describe and make known the technical solution to a problem at the time of filing, particularly if it is in the business methods area. The solution to a problem that is not addressed in the Specification, nor even mentioned, should not be advanced merely as a means to overcome a § 101 rejection. As the courts have made clear in their analysis of § 101 issues, specifications are important. Disclosure is important. It is difficult to argue technical solutions to problems when the issue was never raised as a concern in the specification. In the present case, the examiner disagreed that the conventional elements, taken as a whole, amounted to an inventive concept based on their particular arrangement. These individual components were arranged in a merely conventional and generic manner.

It should also be clear at this point how interwoven 35 U.S.C. § 101 can be with other requirements for patentability, such as written description under 35 U.S.C. § 112 or evidence issues—i.e. prior art—under 35 U.S.C. §§ 102 and 103 (*Berkheimer* memo). In this case, Applicant wished to make an argument regarding information that was not located nor described in the Specification. It is difficult, if not impossible, to determine *how* a claimed invention is implemented if the structure or process is not detailed in the specification. I, like many others, am aware of—and concerned with—the various ways that § 101 interacts with the other patentability requirements. For instance, if there is not adequate disclosure in the specification as to how, precisely and particularly, to perform or enable the details of the claimed invention to operate—but they are not claimed because the invention is at a level too broad or general in the claims—should this application be rejected under § 101 or under § 112? Likewise, when an examiner reviews the additional elements and must provide proof of their being well-understood, routine, and/or conventional, should this be under a § 101 standard, or should it instead be confined to a §§ 102 or 103 standard? The point I am trying to make is that § 101 is broad, in that it has elements that could be considered to reach into §§ 112, 102, and 103. In this case, I could not give the applicant a § 112 rejection because the argument the applicant was making was, itself, not related to claim language—even though the material being argued was not in the specification. At a minimum, I find this § 101 “creep” to be particularly interesting and it should be examined more closely.

When looking at the components individually, the examiner found the claims to recite the additional elements of: *a persistent storage device, a database, a computer processor in communication with and collocated with said persistent storage device, a display device connected in communication with said computer processor via the Internet, a system which comprises distinct software modules wherein each of the distinct software modules are embodied on a non-transitory computer-readable storage medium, distinct software modules comprising: a database module, a user interface module, a contract engine module, an external program interface module, and a memory.* The examiner found these components to be “well-known, routine, and conventional” computer components, as explained above. As in the case at issue in *Electric Power Group*, the examiner found that the present claims were not new computer technology, but rather use existing computer technology to collect information, analyze it, and display certain results of the collection and analysis. The examiner further pointed out that memory and storage devices, processors, servers, databases, and software designed to carry out basic computing tasks (such as the claimed

accessing a database, operating a display, interfacing with external programs, etc.) are common in modern computing systems. Every modern computer is able to use basic computing software to access databases, display information on a user interface on a display, interact with external software programs, and obtain user inputs through queries. Looking at whether the invention as a whole is arranged in a non-conventional or non-generic manner, the examiner found that nothing was arranged differently than it would be in a conventional computer system. The examiner disagreed with Applicant's assertion that it was arranged in a non-conventional or non-generic manner and offered the following as proof. Many computer systems do, indeed, utilize servers as the powerhouse when personal computers cannot handle the load. Many servers crunch numbers or allow databases to be accessed remotely and merely forward that information to the personal computer accessing the information. Even more dated are master/slave systems, or "dummy terminals", that merely display information that was processed elsewhere. Furthermore, as pointed out above, after review of the Specification, it appeared that Applicant was not concerned with solving this technical problem. There was no mention of "processing load" or "efficient use of computational resources" in the Specification and, as such, the examiner did not find the thrust of the application to contain such a non-conventional or non-generic arrangement of the conventional computer components. The examiner thus determined that the technical elements were merely arranged in a generic manner performing in a conventional way (i.e. computers/servers/terminals networked together to send/receive/store and display data). Additionally, these elements were determined as being recited at a high level of generality and represented well-understood, routine, and conventional functions as performed by a generic computer (i.e. storing data on a database, retrieving data in response to a query, generating a histogram or other visual aid, and displaying such information to a user). As the courts have stated, generic computers performing generic computer functions, alone, do not amount to "significantly more" than the abstract idea. The claims did not provide improvements to another technology or technical field, improvements to the functioning of the computer itself, and did not provide meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment. The examiner found that the claims were merely using a generic computer as a tool to solve a business need and abstract idea, as opposed to solving a technical problem with a technical solution that is not well-known, routine, or conventional in the area of the relevant technology, nor an improvement in a computer-related technology not previously performable by a computer. As such, the examiner did not find the claims to contain "significantly more" under Step 2B.

As noted above, the Applicant additionally argued that the claimed invention did not "preempt" or "tie up" the entire field of invention so that others could not practice in the relevant field of technology. The USPTO provided information on this issue by way of the July 2015 Update: Subject Matter Eligibility, point VI, The Role Of Preemption, And The Streamlined Analysis, on pages 8-9. Essentially, at the examiner level, the examiner does not, or maybe cannot, determine whether each and every claimed invention would, indeed, preempt an entire field of technology. The examiner is not in a position to know. As such, the USPTO believes that the current analysis as set forth in Steps 2A and 2B already remedies this, since it incorporates many aspects of preemption at a level which is consistent with the case law precedent. The USPTO notes that the Supreme Court has described the concern driving the judicial exceptions as preemption, however, the courts do not use preemption as the stand-alone test for eligibility and, as such, questions of preemption are inherent in the two-part framework. This framework resolves these questions by

distinguishing between preemptive claims and “those that integrate the building blocks into something more...the latter pose no comparable risk of pre-emption, and therefore remain eligible.” The USPTO further notes that while a preemptive claim may be ineligible, the absence of complete preemption does not guarantee that a claim is eligible. The guidance offered by the USPTO under Steps 2A and 2B thus steps in and helps examiners to determine whether a claimed invention is preemptive or not in an environment suitable for examination. As such, in the present claimed invention, since the claims did not overcome Steps 2A and 2B, the claim was found to be ineligible. A final rejection was sent out to this effect and the application, whether for § 101 or other reasons, was abandoned.

5.3 Example 3—U.S. Application No. 14/951,798 (Status: Allowed)

The third case is U.S. Patent No. 9,972,054 B1 (U.S. App. No. 14/951,798), issued to State Farm Mutual Automobile Insurance Company. The application was originally filed in the U.S. as a continuation-in-part of U.S. Application No. 14/713,261 and, additionally, claimed priority to various other U.S. provisional applications. This is an application that was originally rejected under 35 U.S.C. § 101, but ultimately was found eligible after agreed upon amendments resulted in a Notice of Allowance being mailed on February 09, 2018. The reasons for the allowance, as well as the most recent rejection, will be discussed below.

In the Final Rejection mailed July 26, 2017, the examiner rejected claims 1-3, 5-12, 14-19, and 21-23 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework described above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). Of the examined claims, representative independent claim 10, a method claim, is reproduced herein (independent claim 1, a method claim, and independent claim 19, a system claim, are similar to claim 10):

10. (Currently Amended) A computer-implemented method of determining fault for a vehicle crash, the method comprising:

receiving, at one or more processors or transceivers, an indication of the vehicle crash involving a vehicle having one or more autonomous vehicle technologies, the indication being transmitted from an on-board computer or mobile device via wireless communication or data transmission;

receiving (a) vehicle-mounted sensor data, and (b) autonomous feature data regarding the use, configuration, or settings of one or more autonomous features before and during the vehicle crash, at the one or more processors or transceivers, the (a) vehicle-mounted sensor data, and (b) autonomous feature data being transmitted from the on-board computer or mobile device via wireless communication or data transmission;

analyzing (a) the vehicle-mounted sensor data, and (b) autonomous feature data regarding the use, configuration, or settings of the one or more autonomous features before and during the vehicle crash, at the one or more processors, to determine an operating control status of the vehicle at the time of the accident;

determining, at the one or more processors, whether or not the vehicle crash was an unavoidable accident that was the fault of a third party based upon the determined operating control status; ~~and~~

when the vehicle was operating in an autonomous mode before and during the vehicle crash, and the vehicle crash was not the fault of any third party, assigning a percentage of fault for the vehicle crash to the one or more autonomous features that were in control of the vehicle at the time of the vehicle crash by determining whether (i) the one or more autonomous features failed to generate control signals to control the vehicle to avoid the accident or (ii) one

or more hardware components of the vehicle failed to implement the control signals generated by the one or more autonomous features; and perform one or more of the following actions based upon the assigned percentage of fault: adjust an insurance policy associated with the vehicle, determine a coverage level associated with the insurance policy, present the determination to a reviewer to verify the assigned percentage of fault, or present the determination to a customer for review of the assigned percentage of fault.

Under Step 2A, the examiner first broke the claims apart to analyze them claims without the additional elements. The claim language directed to the abstract idea was found to be: **receiving**...*an indication of the vehicle crash involving a vehicle, the indication being transmitted; receiving*...(a) vehicle-mounted sensor data, and (b) feature data regarding the use, configuration, or settings of one or more features before and during the vehicle crash, the (a) vehicle-mounted sensor data, and (b) feature data being transmitted; **analyzing**...(a) the vehicle-mounted sensor data, and (b) feature data regarding the user, configuration, or settings of the one or more features before and during the vehicle crash to determine an operating control status of the vehicle at the time of the accident; **determining**...whether or not the vehicle crash was an unavoidable accident that was the fault of a third party based upon the determined operating control status; when the vehicle was operating in a mode before and during the vehicle crash, and the vehicle crash was not the fault of any third party, **assigning**...a percentage of fault for the vehicle crash to the one or more features that were in control of the vehicle at the time of the vehicle crash by determining whether (i) the one or more features failed to generate control signals to control the vehicle to avoid the accident or (ii) one or more components of the vehicle failed to implement the control signals generated by the one or more features; and **performing**...one or more of the following actions based upon the assigned percentage of fault: adjust an insurance policy associated with the vehicle, determine a coverage level associated with the insurance policy, present the determination to a reviewer to verify the assigned percentage of fault, or present the determination to a customer for review of the assigned percentage of fault. The examiner determined that the claims were directed toward the concept of “determining fault for a vehicle crash,” as recited in the preamble of the independent claims, which was found to be simply the organization and comparison of data which could be performed mentally and was “an idea ‘of itself’”. Here, the examiner was viewing the claim language as a process to determine fault for a vehicle crash for an insurance policy. The subject matter here—finance and insurance-related matter—often gives rise to § 101 issues, as such claims are most often directed to determining risk, adjusting a premium, determining an interest rate, or other such financial or economic concepts, rather than being directed to some improvement in computer technology, for example. The examiner viewed the claims as being within the capabilities of a human, say an insurance agent or claims adjuster, on getting an accident reconstruction report containing data about what happened during the accident, assigning fault to one or both parties, and adjusting the driver’s insurance accordingly. The interesting element of this particular application is that there was a great deal of technology recited in the claims, in fact “new” autonomous technology (even if not invented by Applicant), which was implemented across a wide variety of systems to perform the invention. This is a good example from which to draw a distinction. I often had practitioners think all hope was lost if there was an abstract idea identified in the claims. That need not invalidate the application. Particularly in business methods, due to the subject matter, most applications overcome the § 101 rejection at Step 2B by citing one of the 2017 IEG “significantly more” factors. I think, correctly, the aim of

this claimed invention was, indeed, to “determine fault for a vehicle crash”, as was identified to be the abstract idea. Not all hope was lost, however, and this example illustrates this very clearly.

A noteworthy aspect of this particular application was that the Applicant’s attorney took every opportunity to set up examiner interviews and discuss the claimed invention with the examiner. I rarely, if ever, issued an allowance without discussing § 101 issues with Applicant’s attorney. The attorney in this case was always helpful, courteous, prepared, and took the examiner’s suggestions to heart. If the examiner and the applicant’s representative have a good working relationship, it can help both parties to identify pitfalls and advance prosecution much faster. For instance, I had a large number of applications related to the present claims—all with the same attorney. During one of our many interviews, we discussed the fact that *Electric Power Group* could be a pitfall for some of the claims. As with the above claim, it could be construed as being too similar to the concept of “collecting information, analyzing it, and presenting the collected and analyzed data” as in *Electric Power Group*. The examiner and the attorney explored ways of distinguishing the application’s claims from those of *Electric Power Group*. Rather than receiving various data, analyzing the data, assigning fault, and presenting the data to the customer, the final action in the claim was amended to something similar to what is found above: “performing...one or more of the following actions based upon the assigned percentage of fault: adjust an insurance policy associated with the vehicle, determine a coverage level associated with the insurance policy, present the determination to a reviewer to verify the assigned percentage of fault, or present the determination to a customer for review of the assigned percentage of fault.” While this is not drastically different, we felt this helped to move the application in the right direction, as there was more than just a passive “presentation” step—there was some concrete action being performed. I often thought of § 101 as a pair of scales on which you continually weighed the eligibility and ineligibility of the application until the scales tipped in favor of eligible. These cases are not black and white, and you rarely have all the information you need to make a certain determination. These steps proved pivotal to advancing prosecution and finding a set of claims that both the examiner and the applicant were satisfied with. While this alone did not weigh enough to ultimately escape Step 2A’s grasp, it certainly did help to move the claims in the right direction.

Returning to Step 2A in the rejection, the examiner found the concept similar to other concepts identified by the courts as being abstract, such as obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)), collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)), and collecting information, analyzing it, and displaying certain results of the collection and analysis (*Electric Power Group, LLC, v. Alstrom*, 830 F.3d 1350, 119 U.S.P.Q.2d 1739 (Fed. Cir. 2016)).

Under Step 2B in the rejection section, the examiner found that the claims did not include additional elements that were sufficient to amount to significantly more than the judicial exception. The claims recited the additional elements of: “*one or more processors or transceivers, a vehicle having one or more autonomous vehicle technologies, one or more hardware components of the vehicle, and an on-board computer or mobile device able to communicate via wireless communication or data transmission.*” The additional elements as recited were surmised to be a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of

“determining fault for a vehicle crash” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers. As will be explored in the following arguments section, these are existing elements that were not improved upon by the Applicant. The Applicant was merely using these to implement the claimed invention.

The steps of *receiving* and *receiving* are merely the “receiving, processing, and storing data” steps that have been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ultramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Furthermore, the steps of *analyzing*, *determining*, *assigning*, and *performing* are merely automating the mental task of organizing and comparing data which could be done by a human by hand or by thinking (*See Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.4d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). As such, the additional elements alone and in combination performed well-understood, routine, and conventional activity and were found ineligible. The dependent claims did not remedy the deficiencies of the independent claims and were likewise considered to be ineligible.

Turning now to the argument section, many parallels can be drawn from the above example and, for brevity, not all of the arguments will be discussed in such detail. Applicant contended that the independent claims were not directed to a judicial exception under Step 2A because claim 1, as amended, is not directed to “determining fault in a vehicle crash” as determined by the examiner, but rather the claim is directed to a system that “improves fault determination in some circumstances for vehicle crashes involving vehicles having autonomous vehicle technologies.” Applicant believed this system “effects an improvement over existing techniques of determining fault for vehicle crashes by enabling accurate determination of a new source of fault based upon data from the vehicle itself, rather than less accurate conventional techniques...[c]onventional techniques for determining fault for a vehicle crash typically may include a claims adjuster reviewing statements made by drivers or other witnesses, reviewing police reports, and visually inspecting physical damage to vehicles...the computer system of claim 1 is configured to use data generated by an on-board computer or mobile device to distinguish between faulty control signals generated by autonomous features and faulty implementation of control signals caused by hardware component failures.” The examiner did not disagree that the claimed invention may, indeed, confer such benefits or features. However, the examiner pointed out that the claims as written were still similar to *Electric Power Group* as merely “collecting data, analyzing it, and presenting the collected and analyzed data” to a customer or reviewer, or adjusting an insurance policy based on the collected and analyzed data. To be sure, performing a further task such as adjusting an insurance policy is a step in the right direction beyond merely presenting it, but merely adjusting an insurance policy is something that a human being could do, given the analyzed data, and is not normally considered to be of a technical nature. Furthermore, the examiner noted that Applicant had not invented any new technology—such as autonomous technology—but rather was merely using existing autonomous technology—such as the on-board computer installed by an automobile manufacturer—to collect the data, analyze it, and present the analyzed data or determine the insurance policy. This can be viewed as merely using a computer “as a tool”, rather than improving a technical feature such as the underlying computer or software technology therein.

As in the examples above, the examiner next cited the cases and guidance offered by the USPTO—*McRO*, *Enfish*, and *TLI*—to put the Applicant on notice as to what cases were deemed relevant in the analysis. Subsequently, the examiner again looked to the Specification for clues and began to apply the USPTO’s guidance to the claims at hand. The examiner noted that the claimed invention was simply adding conventional computer components to well-known business needs—such as determining fault to calculate insurance. Citing *Enfish*, the examiner found the claims did not provide a specific process that *was not previously performable by a computer* and was more similar to “determining risk” in *Alice* and using a computer “as a tool” to perform a process that is traditionally performed mentally or with pen and paper by a human. The examiner found that the claims merely used “existing technology (i.e. technology already incorporated in the vehicle), performed on a generic computer (i.e. a vehicle or insurance computer), to solve a business need rather than advanc[e] a technical field by solving a technical problem with a technical solution.”

Here again, *Electric Power Group* is the precedential case that seemed most relevant to the present case. The examiner compared the steps of the claimed invention to the language of the Step 2A analysis made by the court, setting aside the technical elements which are better suited to analysis in Step 2B:

- a. **Collecting Information:** The present claimed invention is “receiving...an indication of the vehicle crash...receiving...vehicle-mounted sensor data, and feature data regarding the use, configuration, or settings of one or more features before and during the vehicle crash...”. These elements are akin to “collecting information”—as the Federal Circuit stated: “*Information as such is an intangible. Accordingly, we have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.*” Here, the claimed invention is merely receiving information from the vehicle including that it was involved in a crash and additionally receiving information including vehicle sensor data and feature data regarding use, configuration, and settings before and during the crash. While the information includes particular content (i.e., vehicle-mounted sensor data; use configuration, and settings data), it does not change its character as information—collecting information is within the realm of abstract ideas.
- b. **Analyzing Said Information:** As the court goes on, “*In a similar vein, we have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.*” Here, the present claimed invention is “analyzing...[the data collected above]...to determine an operating control status of the vehicle at the time of the accident...determining...whether or not the vehicle crash was an unavoidable accident that was the fault of a third party based upon the determined operating control status...assigning a percentage of fault for the vehicle crash...by determining whether...the features failed to generate control signals...or components failed to implement the control signals...”. This is a step which “can be performed mentally, or which are the equivalent of human mental work.” While the claim explicitly calls for doing this “at one or more processors”, a human could, indeed, look at the data output by the vehicle computer to determine an operating control status of the vehicle at the time of the accident (i.e., was the vehicle operating autonomously or not), determine whether the accident was the fault of a third party (i.e., as has been done

- conventionally), and assign a percentage of fault to the vehicle features based on a malfunction of the software or hardware components. Alternatively, as Applicant's Specification and the above arguments point out, assigning fault in an accident was traditionally performed by humans. Given data from black boxes, witnesses, reports, and visual inspection, humans have traditionally performed the process of allocation of fault—including in cases, for example, a single car accident where a manufacturer or an installer of parts may be responsible for an accident—and not (solely) the driver of the vehicle. Like the court in *Electric Power Group*, the claims at issue here are merely analyzing the received data in order to determine an allocation of fault between parties.
- c. **Displaying Certain Results of the Collection and Analysis:** Finally, the court posits, “*we have recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.*” Here, “performing...present the determination to a reviewer to verify the assigned percentage of fault, or present the determination to a customer for review of the assigned percentage of fault” can be viewed as merely presenting the results of the collected and analyzed information.
 - d. **Combination of the above Abstract Processes:** The court continues that, “the claims are clearly focused on the combination of those abstract-idea processes. The advance they purport to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions. They are therefore directed to an abstract idea.”
 - e. **The Federal Circuit's *Enfish* Discussion:** The Federal Circuit made the distinction between “*computer-functionality improvements*” and “*uses of existing computers as tools in aid of processes focused on 'abstract ideas'*”. As the Federal Circuit recites, “*In Enfish, we applied the distinction to reject the § 101 challenge at stage one because the claims at issue focused not on asserted advances in uses to which existing computer capabilities could be put, but on a specific improvement—a particular database technique—in how computers could carry out one of their basic functions of storage and retrieval of data (noting basic storage function of generic computer). The present case is different: the focus of the claims is not on such an improvement in computers as tools, but on a certain independently abstract idea that use computers as tools.*” Like *Electric Power Group*, the present claimed invention is merely using a computer “as a tool” to determine and present an allocation of fault based on data received from the vehicle's computer regarding an accident to ultimately (i) adjust an insurance policy, (ii) determine a coverage level of an insurance policy, (iii) present the determination to a reviewer, or (iv) present the determination to a customer. There is nothing in the present claim that has improved the field of computer technology, nor advanced the software arts. The examiner failed to find any improvements to computer functionality and merely found the claimed invention to use “existing computers as tools in aid of processes focused on ‘abstract ideas’”.
 - f. For these reasons, the examiner found the claims to be directed to an abstract idea under Step 2A.

Turning now to Step 2B, the examiner noted the relevant language of *Electric Power Group*'s Step 2B determination and the *BASCOM* guidance offered by the USPTO, as in the previous example. The Applicant next contended that amended claim 1 would be allowable under Step 2B because it recited “significantly more” than any abstract idea, specifically noting that “using data generated by an on-board computer or mobile device to distinguish between faulty control signals generated by autonomous features and faulty implementation of control signals caused by hardware component failures” was an example of a limitation that, when taken as a whole, overcomes a Step 2B rejection.

The examiner, using the guidance offered by the Office, first looked at the individual elements and noted that “*one or more processors or transceivers, a vehicle having one or more autonomous vehicle technologies, one or more hardware components of the vehicle, and an on-board computer or mobile device able to communicate via wireless communication or data transmission*” were additional elements that were well-known, routine, and conventional in the relevant field. The examiner noted that the Applicant had not invented new autonomous technology but, as above, was merely using existing autonomous technology to collect, analyze, and present data. Furthermore, the examiner again noted that vehicles containing a “black box” are routinely used after an accident to determine what happened in the accident, who was at fault, and if something—both hardware and software—failed, causing the accident. The examiner additionally noted that sensors, processors, displays, and communication modules are all common in modern computing and automobile systems. Looking at the claims as a whole, the examiner did not find the claims to comprise an “inventive concept” that might be found in the non-conventional and non-generic arrangement of the additional elements. Much as in the previous example, the examiner again found that the elements were arranged in a generic manner and performed in a conventional way, recited at a high level of generality. The additional elements represented well-understood, routine, and conventional functions as performed by a generic computer in the relevant field of invention (i.e. such as, receiving data, obtaining data from sensors, processing and analyzing collected data, calculating fault, or presenting data to a human or adjusting an insurance policy). Such generic computers performing generic computer functions, alone, do not amount to significantly more than the abstract idea. The claims did not provide improvements to another technology or technical field, improvements to the functioning of the computer itself, nor meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment. Hence, the examiner did not find the invention to contain “significantly more”, and the examiner maintained the § 101 rejection.

An amended set of claims accompanied an After-Final Response, which became the claims under RCE, and are reproduced herein:

10. (Currently Amended) A computer-implemented method of determining fault for a vehicle crash, the method comprising:

receiving, at one or more processors or transceivers, an indication of the vehicle crash involving a vehicle having one or more autonomous vehicle technologies, the indication being transmitted from an on-board computer or mobile device via wireless communication or data transmission;

receiving (a) vehicle-mounted sensor data, and (b) autonomous feature data regarding the use, configuration, or settings of one or more autonomous

features before and during the vehicle crash, at the one or more processors or transceivers, the autonomous feature data including a plurality of control signals generated by the one or more autonomous vehicle technologies to control the vehicle, and the (a) vehicle-mounted sensor data, and (b) autonomous feature data being transmitted from the on-board computer or mobile device via wireless communication or data transmission;

analyzing (a) the vehicle-mounted sensor data, and (b) autonomous feature data regarding the use, configuration, or settings of the one or more autonomous features before and during the vehicle crash, at the one or more processors, to determine an operating control status of the vehicle at the time of the accident;

determining, at the one or more processors, whether or not the vehicle crash was an unavoidable accident that was the fault of a third party based upon the determined operating control status; and

when the vehicle was operating in an autonomous mode before and during the vehicle crash, and the vehicle crash was not the fault of any third party: [[,]]

evaluating, by the one or more processors, the plurality of control signals to identify control actions attempted by the one or more autonomous vehicle technologies;

determining, by the one or more processors and based upon the identified control actions, fault contributions of each of the following as a cause of the accident: (i) the one or more autonomous features failed to generate control signals to control the vehicle to avoid the accident and (ii) one or more hardware components of the vehicle failed to implement the control signals generated by the one or more autonomous features;

determining and assigning, by the one or more processors, a percentage of fault for the vehicle crash to the one or more autonomous features that were in control of the vehicle at the time of the vehicle crash based upon the determined fault contributions; ~~by determining whether (i) the one or more autonomous features failed to generate control signals to control the vehicle to avoid the accident or (ii) one or more hardware components of the vehicle failed to implement the control signals generated by the one or more autonomous features;~~ and

performing, by the one or more processors, ~~perform~~ one or more of the following actions based upon the assigned percentage of fault: adjust an insurance policy associated with the vehicle, determine a coverage level associated with the insurance policy, present the determination to a reviewer to verify the assigned percentage of fault, or present the determination to a customer for review of the assigned percentage of fault.

Upon review of the After-Final Response, the examiner and the Applicant's attorney held an interview to discuss the claims. Due to time constraints, it was agreed that the Applicant would file an RCE, with the claim noted above, to afford the examiner additional time to consider the § 101 issues and other issues raised by the amendments. Examiners are not given any additional time for After-Final material and therefore issues such as § 101 usually need additional consideration time. Once the application was again at the top of the docket and the examiner had sufficient time to review the case, another interview took place which allowed for further amendments to overcome the § 101 rejection. The Examiner's Amendment appears below:

10. (Currently Amended) A computer-implemented method of determining fault for a vehicle crash, the method comprising:

receiving, at one or more processors or transceivers of a server via a communication network, an indication of the vehicle crash involving a vehicle having one or more autonomous vehicle technologies, the indication being transmitted from an on-board computer or mobile device via wireless communication or data transmission;

receiving, at the one or more processors or transceivers of the server via the communication network, a vehicle data log including (a) vehicle-mounted sensor data generated by one or more sensors of the vehicle, and (b) autonomous feature data regarding [[the]] use, configuration, or settings of one or more autonomous features before and during the vehicle crash, at the one or more processors or transceivers, the autonomous feature data including a plurality of control signals generated by the one or more autonomous vehicle technologies to control the vehicle, and the (a) vehicle-mounted sensor data, and (b) autonomous feature data being transmitted from the on-board computer or mobile device via wireless communication or data transmission;

analyzing, by the one or more processors of the server, entries in the vehicle data log regarding the (a) [[the]] vehicle-mounted sensor data, and (b) autonomous feature data regarding the use, configuration, or settings of the one or more autonomous features before and during the vehicle crash, at the one or more processors, to determine an operating control status of the vehicle at the time of the ~~accident~~ vehicle crash;

determining, [[at]] by the one or more processors of the server, whether or not the vehicle crash was an unavoidable accident that was the fault of a third party based upon the determined operating control status, wherein the third party includes a pedestrian, an operator of another vehicle, or another autonomous vehicle; and

when the vehicle was operating in an autonomous mode before and during the vehicle crash, and the vehicle crash was not the fault of any third party:

evaluating, by the one or more processors of the server, the plurality of control signals indicated by the entries of the vehicle data log to identify control actions attempted by the one or more autonomous vehicle technologies;

determining, by the one or more processors of the server and based upon the identified control actions, fault contributions of each of the following as a cause of the ~~accident~~ vehicle crash: (i) the one or more autonomous features failed to generate control signals to control the vehicle to avoid the ~~accident~~ vehicle crash and (ii) one or more hardware components of the vehicle failed to implement the control signals generated by the one or more autonomous features;

determining and assigning, by the one or more processors of the server, a percentage of fault for the vehicle crash to the one or more autonomous features that were in control of the vehicle at the time of the vehicle crash based upon the determined fault contributions; [[and]]

performing, by the one or more processors of the server, one or more of the following actions based upon the assigned percentage of fault: adjust an insurance policy associated with the vehicle, determine a coverage level associated with the insurance policy, present the determination to a reviewer to verify the assigned percentage of fault, or present the determination to a customer for review of the assigned percentage of fault; and

causing, by communication from the server to a user computing device, an indication of the one or more actions performed to be presented to a user associated with the user computing device via a display of the user computing device.

The examiner found the amended claims of the application to “meaningfully...add a specific limitation other than what is well-understood, routine, conventional activity in the field or unconventional steps that confine the claim to a particular useful application.” (citing the May 2016 Memorandum on 35 U.S.C. § 101, Section III.) The examiner found that the claimed invention, confined to the field of *determining fault for a vehicle crash wherein the vehicle crash involves a vehicle operating in an autonomous mode*, added unconventional steps to a particular useful application, and was thus directed toward eligible subject matter. Here, the examiner found that the claims were still directed to an abstract idea, “determining fault for a vehicle crash,” but found that the claims under Step 2B contained “significantly more.”

Turning to the Specification, the examiner noted that paragraphs [0003]-[0004] defined a problem or need for the claimed invention, namely: “Vehicle or automobile insurance exists to provide financial protection against physical damage and/or bodily injury resulting from traffic accidents and against liability that could arise therefrom...[p]ast and current premium determination methods do not account for the use of autonomous vehicle technology. The present embodiments may, *inter alia*, alleviate this and/or other drawbacks associated with conventional techniques.” The examiner noted this as the problem that needed a technical solution in the particular application. The examiner found it to be unconventional to determine fault for an accident based on autonomous features failing to generate proper control signals to control a vehicle to avoid an accident, or hardware components of the vehicle which fail to implement the autonomous control signals generated by the autonomous features of the vehicle. The Applicant’s Specification, paragraph [0004], pointed out that insurance policies are typically based upon “a selected level of

insurance coverage, location of vehicle operation, vehicle model, and characteristics of the vehicle operator” (conventional insurance data), and thus, conventional automobile insurance policies do not base fault, or insurance properties, on the technology incorporated in an autonomous vehicle and its failure to avoid a vehicle accident. The examiner found this rationale to be an unconventional departure from and improvement to the prior art methods and systems.

It is important to note here that the application had shifted over time due to evolving § 101 case law, and the claims had reflected this shift. This shift is apparent in the Applicant’s September 26, 2017 arguments, which state that the claims had been amended to further clarify that the method is directed to “a system configured to determine and assign fault for a vehicle crash by identifying control action attempted by autonomous vehicle technologies and determining fault contributions of control signal generation failures and hardware implementation failures.” The Applicant pointed out that the claims solved “the technological problem of distinguishing between control and implementation defects causing a collision. Control defects may arise from inadequate algorithms selected to control the vehicle or programming errors. In contrast, implementation defects may arise from manufacturing defects in physical components of a vehicle (e.g., electromechanical brake actuators or wiring within the vehicle) or from damage to such components occurring during vehicle use or maintenance.” Many of Applicant’s arguments stemmed from a well-written and well-documented specification which allowed for arguments to be made for the claims under examination from shifting case law and Office policy.

The Office, too, noted the shifting § 101 requirements and it became apparent that evidence of a problem or need in the relevant field of invention should not be confined to an Applicant’s Specification. Third-party documentation, while not mandatory on the examiner, can help support the examiner’s conclusion that a particular claimed invention overcomes a § 101 rejection and thus “tips the scales” toward eligibility. During the most recent examiner interview, the examiner discussed this approach with the Applicant’s attorney and the Applicant was, indeed, able to locate sections of non-patent, third-party literature which identified the problem that Applicant’s claimed invention sought to solve. The Applicant cited such non-patent literature (“NPL”), which noted the difficulty of distinguishing between control defects and implementation defects that were recognized at the time of the invention. The non-patent literature stated that, “[t]he various components and their respective roles in causing a malfunction may be hard to discern and separate for the purpose of assigning responsibility...[i]t is extremely difficult to discover whether software, as opposed to hardware, is responsible for the glitch that led to an accident.” This certainly weighs in favor of eligibility when the examiner is considering whether there was, indeed, a problem in the area that needed a solution. In this case, the Applicant provided proof that there was a technological need for the claimed invention, and that the Applicant’s claimed invention would help to remedy the need with a technological solution. While not directly tackling the issue of preemption, the Applicant noted that there might be other approaches to solving the same problem, but that the Applicant’s claimed invention provided a particular way, rather than the mere idea of having a solution to the problem (claiming merely the result of a problem). The Applicant also provided particular support from the Specification, which was reproduced in their arguments and which further defined the Applicant’s particular technical solution. An excerpt of paragraph [0208] of the Specification is included herein:

[0208] At block 1306, the server 140 may further receive information regarding the operation of the autonomous (and/or semi-autonomous) operation features in the vehicle 108. This information may include information regarding use, configuration, and settings of the features concurrent with the accident. In some embodiments, **the information may further include information regarding control signals or outputs from the autonomous operation features to control the vehicle 108.** This may be useful, for example, in **determining whether the autonomous operation feature failed to take appropriate control actions or whether the control signals were not implemented or were ineffective in controlling the vehicle 108** (e.g., such as may occur when on ice or when a defect prevents an electromechanical control from properly functioning). In some embodiments, autonomous operation feature data may be available for additional vehicles involved in the accident, which may be accessed or obtained by the server 140. As above, the autonomous operation feature data may be recorded during ordinary operation of the vehicle 108 and accessed or obtained by the server 140 upon receipt of the indication of the accident.

The Applicant therefore presented a well-reasoned argument which provided evidence that the system was directed to a technological solution to a technological problem. The Applicant stated that the claims were “an improvement in prior art techniques to solve a particular technological problem, rather than a mere recitation of an existing technique implemented using a computer or similar technology...[in which] the improvement is the specific system configured to determine and assign fault for a vehicle crash by identifying control actions attempted by autonomous vehicle technologies and determining fault contributions of control signal generation failures and hardware implementation failures.” The claims, as amended, recited a system “configured to obtain control signals generated by autonomous vehicle technologies to control a vehicle, obtain sensor data regarding actual vehicle operation, evaluate the control signals to identify attempted control actions, and determine fault contributions of both signal generation and signal implementation to determine fault for a vehicle crash. Such techniques for distinguishing fault between control defects and implementation defects were not well-understood, routine or conventional in the field at the effective filing date of the application.”

The examiner found the Applicant’s arguments persuasive, well-reasoned, and well-supported by evidence. In his determination, the examiner found that the claims did recite a particular and specific way of solving a technological problem, as opposed to merely claiming the idea of a solution or outcome. The examiner, through the Step 2A and 2B analysis, found that the claimed invention did not preempt the entire class of methods and systems of evaluating autonomous or semi-autonomous vehicle technologies, and that the specificity of the recited method and system was directed to an improvement in prior art processes and systems, rather than a mere recitation of an existing process or system implemented merely using a computer or similar technology. The argument was found to be persuasive as a particular and specific way of solving a technological problem with a technological solution—which was implemented into the claims and “considered in light of the specification” and supporting evidence—that was not well-understood, routine, and/or conventional activity in the relevant field at the time the application was filed. As such, the examiner found the claims directed toward eligible subject matter and a Notice of Allowance was issued to that effect.

5.4 Example 4—U.S. Application No. 12/062,373 (Status: Abandoned)

The fourth case to be discussed is U.S. App. No. 12/062,373, which was originally assigned to Intellisist, Inc. The application was originally filed in the U.S. and claimed priority to a U.S. provisional application. The application was rejected under 35 U.S.C. § 101 in the most recent Final rejection and ultimately abandoned. The reasons for the most recent § 101 rejection will be discussed below.

In the Final Rejection mailed October 28, 2016, the examiner rejected claims 1, 4, 7, 10, 13, 17, 21, and 22 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework described above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). Of the examined claims, representative independent claim 1, a system claim, is reproduced herein (independent claims 7 and 17, process claims, and independent claim 13, a system claim, are at least moderately similar to claim 1 and will not be explored in this discussion):

1. (Currently amended) A system for managing customer queuing, comprising:
 - a kiosk positioned in a drive-through to provide one or more services and comprising a two-way speaker;
 - a sensor located prior to the kiosk in the drive-through;
 - a computer interfaced to the kiosk and configured to send an alert to an attendant of the drive-through service of an approaching user, to receive a new request from [[a]] the user on a computer of a call center, to assign the new request to a queue, to count placed requests waiting in the queue ahead of the new request, to compare the placed requests to a request threshold, to generate via the computer an upsell that is customized for the user when the placed requests exceed the request threshold by determining a duration of the upsell based on the placed requests and by determining a speed of presentation for the upsell comprising at least one of playing the upsell slower and faster based on the placed requests, to select content of the upsell based on factors comprising one or more of queue length, the request, time of day, day of week, season, and holiday factors, wherein the upsell is at least one of unique to the user and generic to a class of users, to determine a margin of deviation from the request threshold when the placed requests fall below the request threshold, to provide the upsell to the user at the speed of presentation determined as a function of the margin of deviation to ensure a flexible and consistent upsell determination for all users during one of an interaction with the attendant and during a wait period, to release the new request from the queue, and to satisfy the new request by providing a response to the user.

Under Step 2A in the rejection section, the examiner first broke the claims apart to analyze them without the additional elements. The claim language directed to the abstract idea was found to be: **transmitting**...an alert to an attendant of the drive-through service of an approaching user, wherein the user is identified; **providing**...a greeting to the user; **receiving**...a new request from the user and assigning the new request to a queue; **counting**...the placed requests waiting in the

queue ahead of the new request and **comparing** the placed requests to a request threshold; **generating**...an upsell that is customized for the user when the placed requests exceed the request threshold, comprising: **determining**...a duration of the upsell based on the placed requests; and **determining**...a speed of presentation for the upsell comprising at least one of playing the upsell slower and faster based on the placed requests; **selecting**...content of the upsell based on factors comprising one or more of queue length, the request, time of day, day of week, season, and holiday factors, wherein the upsell is at least one of unique to the user and generic to a class of users; when the placed requests fall below the request threshold, **determining**...a margin of deviation from the request threshold; **providing**...the upsell to the user at the speed of presentation determined as a function of the margin of deviation to ensure a flexible and consistent upsell determination for all users during one of an interaction with the attendant and during a waiting period; **releasing**...the new request from the queue; and **satisfying**...the new request by **providing** a response to the user. The examiner determined that the claims were directed toward “managing customer queuing,” as recited in the preamble, which is simply the organization and comparison of data which can be performed mentally and is “an idea ‘of itself’”, and the use of advertising as an exchange, which is a “certain method of organizing human activity”. Here, if the normal drive-through elements of the above claims are removed, the crux of the claims is really on determining how long an advertisement or upsell can be displayed to a user, selecting a relevant advertisement or upsell, and presenting the advertisement or upsell to them in the allotted time. The examiner found this to be an abstract idea, because this is not a technological improvement so much as a way of maximizing the ability to advertise to a consumer. This is a situation where the abstract idea might have varied from applicant’s language. The abstract idea could have been something like, “maximizing upsell opportunities to a customer waiting in a drive-through”. However, “managing customer queuing” was the language advanced by the Applicant and seems to be a slightly broader version of the abstract idea.

The examiner found the concept to be similar to other concepts identified by the courts as being abstract, such as using advertising as an exchange or currency (*Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 112 U.S.P.Q.2d 1750 (Fed. Cir. 2014)), obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)), collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)), comparing new and stored information and using rules to identify options (*SmartGene, Inc. v. Advanced Biological Labs.*, 555 Fed. Appx. 950 (Fed. Cir. 2014)) (non-precedential), and using categories to organize, store and transmit information (*Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988 (Fed. Cir. 2014)) (non-precedential).

Under Step 2B in the rejection, the examiner found that the claims did not include additional elements sufficient to amount to significantly more than the judicial exception. The claims recited the additional elements of “a kiosk comprising a two-way speaker, a sensor in a drive-through, a computer interfaced to the kiosk and a suitably-programmed computer” that performed the abstract idea identified above. The additional elements as recited were surmised to be a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of “managing customer queuing” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers. In the relevant industry concerned—a fast food restaurant

with a drive-through or “drive-thru”—most drive-throughs would have the above elements. Looking at them individually or as a whole, you would still arrive at the same result.

The steps of *transmitting, providing, receiving, assigning, counting, providing, and releasing* are merely the “receiving, processing, and storing data” steps that have been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ultramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Furthermore, the steps of *maintaining, monitoring, comparing, generating, determining, determining, selecting, determining, and satisfying* are merely automating the mental task of organizing and comparing data, which could be done by a human by hand or by thinking (*See Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.4d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). As such, the additional elements alone and in combination performed well-understood, routine, and conventional activity and were found ineligible. The other independent claims contained similar subject matter and the dependent claims added no additional elements that made the claimed invention patent-eligible, but only served to further narrow the abstract idea. The claimed invention was thus found to be ineligible under § 101.

Turning now to the argument section concerning § 101, Applicant had amended the claims to incorporate more tangible and technological elements in an effort to overcome the § 101 rejection. Claims 1, 7, 13, and 17 were amended to incorporate a kiosk and a sensor with a computer and Applicant’s only argument was that, due to these technical elements, the claims were now statutory. At the time when this patent application was amended, there was very little guidance available from the USPTO or the courts as to how, precisely, one could amend the claims to put the application in a better position for allowance. Both examiners and applicants were equally confused as to what made something allowable, but the trend at the time was to do exactly what was done in this application—add tangible and technical elements to the claims and hope to overcome the rejection at Step 2B. However, by the time this application rose to the top of the examiner’s docket, this trend, in and of itself, was not enough to overcome the § 101 rejection. As the examiner stated in his response to arguments, the claims were still directed to a method and system that could be readily understood as simply adding conventional computer components to well-known business practices—i.e., managing customer queuing or attempting to upsell by advertising to a customer forced to wait in a drive-through. Looking at Applicant’s Specification at page 2, lines 6-9, the examiner determined that the claimed invention was not directed to a technical solution, but rather to a business need, citing the Specification, “there is a need for providing an opportunistic and consistent approach to presenting flexible ‘upsells’ and other information, while effectively managing customer wait queue during order fulfillment, customer service, and similar activities.” The need here was to provide flexible upselling, which is a business need and abstract idea, in an effort to make additional profits from someone waiting in a fast food drive-through. As the customer waits, the computer determines the length of time an advertisement may be presented to the waiting customer, along with other factors, in an effort to best advertise to the waiting customer in the hope that the customer will purchase additional products. As the Applicant’s preamble to the claim plainly states, this is not directed to some technical improvement, but rather it is merely directed to “managing customer queuing.”

Under Step 2B, the individual elements of the claims were “*a kiosk comprising a two-way speaker, a sensor in a drive-through, a computer interfaced to the kiosk, and a suitably-programmed computer*” that performed the abstract idea. These elements are exactly what you would expect to find in any modern drive-through at a fast food restaurant. These are well-understood, routine, and conventional elements in the relevant field of invention—here, fast food drive-throughs. The claims did not provide improvements to another technology or technical field, improvements to the functioning of the computer itself, nor any meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment. The claimed invention was directed to a business need and abstract idea, and merely used generic computers as a tool to accomplish the task. Looking at the invention as a whole, the examiner still did not find “significantly more”. Here, as with any normal fast food drive-through, the drive-through would have a kiosk with a two-way speaker allowing the customer and the restaurant employee to communicate and place/receive an order. The sensor would enable the computer to identify that a vehicle was present and alert personnel to its presence. Once the sensor was tripped, the kiosk would provide a greeting and perform other routine operations, as one would expect from such a drive-through. On the backend, the computer would assign the vehicle to a queue and, based on the number of vehicles preceding the vehicle (i.e. a simple “counting” operation) or the average wait time, the computer would approximate how long the vehicle might be in queue. Once the approximate wait time was determined, an advertisement would be selected to “fill the gap” between order and pick-up. The selection of the advertisement might be based on several factors, such as the length of the queue, the season, the items ordered, etc. The advertisement would then be displayed in an attempt to upsell to the customer, given the parameters of the queue, until the customer had reached the pick-up. As a whole, there was no technical improvement here, as the claimed invention merely required conventional drive-through technology incorporating a computer that could count vehicles in a queue and select an appropriate advertisement. Selecting an advertisement is not of a technical nature, but rather more of a marketing and advertising nature. The claims did not go into such depth as to specify the precise algorithm used to select advertisements suited to a particular customer, but were generic to the workings of a standard drive-through situation. For instance, if during autumn, a restaurant decided to base its upsell on the season and wanted to push “pumpkin spice lattes”, the only remaining factor would be how long an advertisement should be shown to customers in the queue. Therefore, performing a count to determine the length of time a customer would spend in a queue and selecting the appropriately timed advertisement was the substance of this claim. Humans could count the number of cars in a queue at a drive-through (there is only a finite amount of space) and select an appropriate advertisement based on a very limited set of factors, such as season, length of the queue, etc. Therefore, the examiner did not find the claims to contain “significantly more” and the § 101 rejection was maintained.

5.5 Example 5—U.S. Application No. 14/239,485 (Status: Abandoned)

The fifth case to be discussed is U.S. App. No. 14/239,485, originally assigned to Wincor Nixdorf International GMBH. The application was originally filed in Germany with the U.S. counterpart claiming priority to German and PCT applications. This is an application that was rejected under 35 U.S.C. § 101 in the most recent Final rejection and ultimately abandoned. The reasons for the most recent § 101 rejection will be discussed below.

In the Final Rejection mailed January 11, 2018, the examiner rejected claims 37-58 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Previously examined claims 1-36, which were similar to claims 37-58, were cancelled in the most recent amendment. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework described above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). Of the examined claims, representative independent claim 37, a method claim, is reproduced herein (independent claim 49, a system claim, is at least moderately similar to claim 37 and will not be explored in this discussion):

37. (New) A method for authorizing check deposits, the method comprising the steps of:

- capturing and digitally recording an image of a check to be deposited at a financial institution, the check displaying check data including at least an issuer of the check, a recipient of the check, and an amount of the check;
- using a digital image recognition procedure to extract the check data from the digitally recorded image of the check;
- digitally transmitting the check data to a digital communication address associated with the issuer of the check to request clearance of the check from the issuer of the check; and
- upon receiving digital clearance of the check from the issuer of the check in response to the request for clearance, authorizing a check-depositing procedure for depositing the check into the financial institution.

Under Step 2A in the rejection, the examiner first broke the claims apart to analyze them without the additional elements. The claim language directed to the abstract idea was found to be: ***capturing and recording*** ...*an image of a check to be deposited at a financial institution, the check displaying check data including at least an issuer of the check, a recipient of the check, and an amount of the check; using* ...*an image recognition procedure to extract the check data from the recorded image of the check; transmitting* ...*the check data to a communication address associated with the issuer of the check to request clearance of the check from the issuer of the check; and upon receiving clearance of the check from the issuer of the check in response to the request for clearance, authorizing* ...*a check-depositing procedure for depositing the check into the financial institution.* The examiner determined that the claims were directed toward “authorizing check deposits,” as recited in the preamble of the independent claims, which is simply the organization and comparison of data, which can be performed mentally and is “an idea ‘of itself’”. Here, the examiner found that the crux of the claims was, indeed, authorizing a check for deposit. For this

particular claim, it is best to allow the court in the *Content Extraction* case to describe their analysis of why a similar claim was found abstract under Step 2A. This will be detailed below.

The examiner found the concept similar to other concepts identified by the courts as being abstract, such as obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)), collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)), and, particularly, data recognition and storage (*Content Extraction and Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1358, 113 U.S.P.Q.2d 1354 (Fed. Cir. 2014)).

In this particular rejection, the examiner found the *Content Extraction* decision to be of particular relevance and explained the court's decision in the rejection itself as it applied to the claims at hand. In *Content Extraction*, the Federal Circuit applied the two-step framework that was passed down in *Mayo* and *Alice*. The court found, when applying Step 2A, that the claims of the patent at issue were drawn to the abstract idea of: 1) collecting data, 2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory. The court ruled that the concept of data collection, recognition, and storage was undisputedly well-known, and that banks had, for some time, reviewed checks, recognized relevant data such as the amount, account number, and identity of an account holder, and stored that information in their records. Furthermore, the court found that the claims were still abstract, even though they required the use of not only a computer, but a scanner as well. In this case, the court found that the claims were drawn to the basic concept of data recognition and storage, and further refuted the argument from the patent holder that the claims were not abstract because human minds were unable to process and recognize the stream of bits output by a scanner. In the present case, the examiner compared the present claims to *Content Extraction* and found that both sets of claims provided for a means of collecting data, recognizing certain data within the collected data set, and storing the recognized data in a memory. Because the claimed invention and the court case were so similar, the examiner surmised that the claims were directed to an abstract idea under Step 2A.

Turning now to Step 2B in the rejection, the examiner found that the claims did not include additional elements sufficient to amount to significantly more than the judicial exception. Claim 37 recited the additional elements of: “*digitally*” recording an image, digital image recognition (i.e., OCR), “*digitally*” transmitting data, “*digital*” clearance, and “*digital*” communication addresses. The other independent claim, claim 49, while similar, recited the additional elements of: a recording unit configured to scan and digitally record an image, an image recognition unit configured to extract check data, and an authorization unit having a digital processing unit and a network interface and configured to digitally transmit data to a digital communication address. It is important to note that while the structure was evident in the system claim, it was essentially the same structure and process as in claim 37—only different statutory categories. While the claim language differed slightly between the method and system claims, they were found to be essentially the same. As such, the above additional elements were found to be conventional elements, such as scanners, memory, OCR software, processors, network interfaces, and digital addresses such as email. These were not found to be “significantly more”. Again, the *Content Extraction* decision was on-point and it was important to incorporate the analysis and let the court do the talking in this application.

Returning to the Step 2B analysis in *Content Extraction*, the court found that the use of existing scanning and processing technology to recognize and store data from specific data fields, such as amounts, addresses, and dates, did not amount to an “inventive concept”, but rather that the use of a generic scanner and computer to perform well-understood, routine, and conventional activities, in the relevant field of invention, were common in the industry. The court ruled that the claims at issue only attempted to limit the abstract idea of recognizing and storing information from hard copy documents using a scanner and a computer to a particular environment. The court concluded that the claims at issue did not amount to “significantly more” than the abstract idea of extracting and storing data from hard copy documents using generic scanning and processing technology. Applying the court’s Step 2B to the instant claims, the examiner found the two to be similar in that the additional elements as recited were a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of “authorizing check deposits” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers. As the court in *Content Extraction* determined, using OCR to remove data from an image of a check is well-known, routine, and conventional activity. The additional step not discussed in the court’s analysis of merely sending the data to receive clearance was found to be not enough to account for “significantly more”. Thus, the examiner found the claims to fail Step 2B.

The examiner also pointed out that, as in court cases before the claimed invention, the steps of *capturing and recording, using [OCR to extract], and transmitting* were merely the “receiving processing, and storing data” steps that had been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ultramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Furthermore, the *authorizing* step was merely automating the mental task of organizing and comparing data, which could be done by a human by hand or by thinking (*See Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.4d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). The additional elements alone and in combination were found to perform well-understood, routine, and conventional activity. As such, independent claims 37 and 49 were considered ineligible. The dependent claims were found to add no additional elements that made the claimed invention patent eligible, but only served to further narrow the abstract idea. Dependent claims 38-48 and 50-58 therefore did not remedy the deficiencies of claims 37 and 49 and were found ineligible. All of the claims were reviewed and found to be substantially similar and linked to the same abstract idea (*Content Extraction*). Therefore, all the claims were rejected under § 101.

In this application, I should have again cited the July 2015 Update because this set of claims fell into one of the stated ineligible Step 2B categories. The July 2015 Update stated that the court found the following computer function to be well-understood, routine, and conventional: “electronically scanning or extracting data from a physical document” (from the footnotes: *Content Extraction*, 776 F.3d at 1358, (optical character recognition)). While the case was correctly selected and discussed, it was oversight on my part not to include the citation from the July 2015 Update in the above point and insist on its relevance.

Turning now to the argument section concerning § 101, Applicant argued that the claimed invention was not subject to the abstract idea identified, nor were the claims similar to *Content*

Extraction. Applicant argued that the claimed invention went a step further than *Content Extraction* by “digitally transmitting the check data to a digital communication address associated with the issuer of the check to request clearance of the check from the issuer of the check; and upon receiving digital clearance of the check from the issuer of the check in response to the request for clearance, authorizing a check-depositing procedure for depositing the check into the financial institution.” Thus, Applicant argued that because *Content Extraction* did not include steps similar to the steps of the pending claims, the *Content Extraction* case was irrelevant to the prosecution of the pending claims, as were any and all the cases cited in the § 101 rejection itself. The examiner, however, disagreed that the additional step was enough to distance the claimed invention from *Content Extraction*. While the court in *Content Extraction* clearly articulated that capturing and digitally recording, and using digital image recognition to extract check data was, indeed, an abstract idea, the examiner found that merely sending and receiving messages did not remove the claimed invention from being directed to an abstract idea. As recited in the rejection, “receiving, processing, and storing data” steps had been recognized by the courts as a well-understood, routine, and conventional activity, and the examiner found those decisions relevant to the claims at hand. As discussed above, the combination approach applied to “collecting information (here, capturing and digitally recording an image...), analyzing it (here, using a digital image recognition procedure to extract the check data...), and displaying certain results of the collection and analysis (here, digitally transmitting the check data to a digital communication address associated with the issuer of the check to request clearance...)” in the *Electric Power Group* case was similar to the claimed invention. The examiner also posited that the claims here did not even go so far as to perform any final function, but instead merely “authorize[d]” that the check *could* be deposited—not that it actually was.

Applicant next argued that the Office failed to evaluate the claims as a whole, but instead only focused on the recording and image recognition steps. As with the similar argument made above, the examiner again disagreed. He pointed out that this was a process that could be performed by a human and, in this instance, it was merely being performed by generic computers (similar to *Content Extraction*). The examiner attempted to offer an easier-to-comprehend example. He pointed out that a human being, such as a bank teller, could receive a check to be deposited, recognize certain fields on the check, such as the amount and the issuer, and notify the issuer (via telephone, for example) to request authorization to deposit the check. The reasoning was thus clearer in a more conventional setting and not merely automated by a computer process. Turning to the Specification, paragraphs [0001]-[0005] pointed out that Applicant was concerned with solving problems related to forged checks and fraudulent purposes. Applicant was concerned with finding a better way to thwart fraudulent check depositing practices, which the examiner viewed as business needs, and not a technical solution to a technical problem, nor some improvement in computer technology. Applicant was merely using existing technology, performed with generic computers, to solve a business need. The examiner looked to the Office’s guidance in *McRO*, *Enfish*, and *TLI* to further clarify the issue. The examiner stated that there was not an improvement in the functioning of the computer, as in *Enfish*, nor was there an improvement in the field of computer-related technology that would allow tasks to be performed that previously could not be automated, as in *McRO*—but, instead, the claims were directed to generalized steps to be performed on a computer using conventional computer activity, like *TLI*. The examiner still viewed (1) capturing and recording an image of a check, (2) using image recognition to extract data from the image, and (3) transmitting a message to receive clearance from the issuer before

merely authorizing a check-depositing procedure as being directed to an abstract idea. Applicant argued that since these precise claims had not been found ineligible by a court, they should remain eligible for patenting. The examiner answered that “[w]hile not every single set of claims can be found verbatim in the case law, certain parallels can be drawn from the case law that is available. As stated above, capturing, recording, and performing OCR was, indeed, found ineligible in *Content Extraction*. Additionally, merely sending, receiving, and processing data is widely accepted to be well-known, routine, and conventional activity as found by the court decisions listed in the above 101 rejection. As, such, the Examiner finds the present claims in line with the 101 case decisions and Applicant’s argument relating to Step 2A is unpersuasive.” The examiner found the claims to be abstract under Step 2A.

Under Step 2B of the arguments, Applicant contended that the claims would be further allowable under Step 2B because they recited “significantly more” than any abstract idea. The examiner looked first to the guidance offered by the Office and cited the *BASCOM* decision. He then recited the additional elements identified in the above rejection and found that, individually, these additional elements were well-known, routine, and conventional. The examiner stated that Applicant had not invented new computer technology, but rather was merely using existing computer technology to thwart fraudulent check depositing practices. As the courts had already held, receiving and storing data or an image, using OCR to extract data from an image, using text- or email-based banking, and digitally clearing via sending/receiving SMS/MMS/e-mail messages were well-known, routine, and conventional activities in the finance industry. Processors, memory, digital communication addresses, scanners, and network interfaces for sending/receiving/storing data are common throughout modern computing systems. Individually, this would not overcome a Step 2B rejection.

Under *BASCOM*, the examiner found the claims, taken as a whole, failed to comprise an inventive concept that was found in the non-conventional and non-generic arrangement of the additional elements. Here, the additional elements were arranged in a generic manner and performed in a conventional way. The examiner did give additional thought to the possibility of an unconventional arrangement, as will be explored in the next paragraph, but ultimately found them to be conventional. Since these additional elements were recited at a high level of generality and represented well-understood, routine, and conventional functions, and because the claims did not provide improvements to another technology or technical field, improvements to the functioning of the computer itself, nor meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment, the examiner did not find the invention to contain “significantly more” and maintained the § 101 rejection.

Applicant also argued that since one of the references cited as § 103 prior art did not represent a well-documented practice known in the art of check-depositing, the claimed invention was not well-known, routine, or conventional. There is an interesting parallel to be drawn here that was raised in the art rejection arguments and might have some influence in the § 101 arguments as well. The examiner cited art that was similar to the claimed invention but, instead of checks, as in the present claims, it has to do with the confirmation of credit card transactions. It was stated in the art rejection response to arguments that since the reference relied upon taught “sending a message to a digital communication address to request approval for a transaction, and upon approval given, moving forward with the transaction” (along with the other cited references), this

combination of references, as a whole, taught the entire invention. The examiner reasoned that since both credit card transactions and check depositing procedures (both financial instruments) are in the financial arts and fall within the same classification, USPC Class-705/CPC-G06Q, one of ordinary skill in the art would be expected to search the relevant banking fields related to banking technology and be apprised to substitute payment card transactions for check transactions. This is an interesting argument. However, since then *Berkheimer* has held that the examiner may need to provide proof of something that is “well-known, routine, and conventional”. Since this rejection pre-dated *Berkheimer*, the Office’s guidance at the time was merely that rejections under 35 U.S.C. § 101 and 35 U.S.C. §§ 102 and 103 were separate rejections. These determinations were not linked when determining whether a claimed invention was patent-eligible. The examiner thus stated that, while the prior art might help an examiner determine the state of the art at the time of the invention, arguing prior art references was better served under its respective rejection. I think this particular situation could, potentially, be argued by both the examiner in terms of checks and payment cards being equivalent, as well as by the applicant in terms of these being two separate procedures. Even now, I think I would still proceed with the same rejection, in the hope of at least getting my analysis on the record and inviting a response from the applicant. The application was ultimately abandoned at this point.

5.6 Example 6—U.S. Application No. 13/555,753 (Status: Abandoned)

The sixth case to be discussed is U.S. App. No. 13/555,753, originally assigned to Apple, Inc. The application was originally filed in the U.S. and claimed priority to a U.S. provisional application. This is an application that was rejected under 35 U.S.C. § 101 in the most recent Non-Final rejection and ultimately abandoned. The reasons for the most recent § 101 rejection will be discussed below.

In the Non-Final Rejection mailed November 03, 2016, the examiner rejected claims 1-7 and 22-40 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework described above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). Of the examined claims, representative independent claim 1, a method claim, is reproduced herein (independent claim 22, an article of manufacture claim, and independent claim 29, a system claim, are at least moderately similar to claim 1 and will not be explored in this discussion):

1. (Currently Amended) A method for purchasing a product by a customer operating a customer mobile device, the method comprising:
 - obtaining, by the customer mobile device, a product identifier for a product offered for sale in a store;
 - receiving, by the customer mobile device, product information from a the store server, the product information including a price of the product;
 - presenting to the customer, by the customer mobile device in a graphical user interface, at least some of the received product information, including the price of the product;
 - receiving, within the graphical user interface by of the customer mobile device, an input for requesting for employee assistance with a purchase, the request for employee assistance including a digital credential for the customer, the digital credential being usable to access a user account record that stores financial account information for a financial account of the customer, the user account record being maintained at an account data server;
 - in response to the request for employee assistance, receiving transaction details by the customer mobile device from a the store server, the transaction details being at least partially created by an employee device in response to the request for employee assistance;
 - transmitting, by the customer mobile device, a purchase request to the store server in accordance with the transaction details;
 - receiving, by the customer mobile device, a purchase confirmation from the store server, the purchase confirmation indicating that the product has been purchased by the customer; and
 - presenting to the customer, by the customer mobile device in the graphical user interface, a confirmation message confirming that the purchase transaction for the product has successfully completed.

Under Step 2A in the rejection, the examiner first broke the claims apart in order to analyze them without the additional elements. The claim language directed to the abstract idea was found to be: **obtaining**...*a product identifier for a product offered for sale in a store*; **receiving**...*product information, the product information including a price of the product*; **presenting**...*to the customer at least some of the received product information, including the price of the product*; **receiving**...*an input requesting employee assistance with a purchase, the request for employee assistance including a credential for the customer, the credential being usable to access a user account record that stores financial account information for a financial account of the customer*; *in response to the request for employee assistance*, **receiving**...*transaction details, the transaction details being at least partially created by an employee*; **transmitting**...*a purchase request in accordance with the transaction details*; **receiving**...*a purchase confirmation, the purchase confirmation indicating that the product has been purchased by the customer*; and **presenting**...*to the customer a confirmation message confirming that the purchase transaction for the product has successfully completed*. The examiner determined that the claims were directed toward “purchasing a product (in a store) by a customer,” as recited in the preamble, which is simply the organization and comparison of data, which can be performed mentally and is “an idea ‘of itself’”. Here, the claims were amended during prosecution to attempt to allow an employee to assist a customer purchasing a product in a store, rather than the customer doing it by himself or herself. Essentially, the customer uses their own mobile device camera to scan a bar code and information is retrieved about the product, including the price, and presented to the customer via their mobile device. An input is displayed on the customer’s mobile device which allows the customer to request assistance with the purchase from a store employee and, when the input is activated, account information and transaction details are received by a server, and the transaction details are partially created by an employee device. The transaction is then completed and confirmation of the transaction is presented to the customer. While, here, the customer is using their own device to complete a transaction, this is not unlike the way in which normal purchase transactions are handled. A customer, instead of using his or her own device, must go to a checkout, where an employee assists them with their transaction and provides confirmation of their purchase. A digital credential could be a username or financial information, such as a credit card number, in a normal transaction. The claims did not discuss technological improvements thereof, but rather a method of performing a transaction. Here, the claims were directed to the abstract idea of “purchasing a product (in a store) by a customer.”

The examiner found the concept similar to other concepts identified by the courts as being abstract, such as obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)), collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)), comparing new and stored information and using rules to identify options (*SmartGene, Inc. v. Advanced Biological Labs.*, 555 Fed. Appx. 950 (Fed. Cir. 2014)) (non-precedential), and using categories to organize, store and transmit information (*Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988 (Fed. Cir. 2014)) (non-precedential).

Under Step 2B of the rejection, the examiner found that the claims did not include additional elements sufficient to amount to significantly more than the judicial exception. The claims recited the additional elements of “*a customer mobile device comprising a graphical user interface, a store server, a digital credential used for accessing an account data server, and an employee*

device” that performed the abstract idea identified above. The additional elements as recited were surmised to be a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of “purchasing a product (in a store) by a customer” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers. Again, these additional elements were routine and conventional elements that most people carry around with them on a daily basis. Here, the normal “cash register” was substituted for by mobile devices. In both cases, employee assistance was involved—traditionally, by purchasing the product with the assistance of an employee at a register, and here, purchasing the product with the assistance of an employee using mobile devices. With hindsight, the *BASCOM* argument would have been beneficial here, but the test of elements arranged in a non-conventional and non-generic manner was not yet available. Nevertheless, the claims were more focused on substituting a cash register with a mobile device in order to purchase a product in a store. Purchase transactions are the kind of subject matter that is ripe for finding an abstract idea and, without strong Step 2B support, it remains difficult to overcome a finding of ineligibility under § 101.

The steps of *obtaining*, *receiving*, *receiving*, *receiving*, *transmitting*, and *receiving* were found to be merely the “receiving, processing, and storing data” steps that had been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ulramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Furthermore, the steps of *presenting* and *presenting* were merely automating the mental task of organizing and comparing data which could be done by a human by hand or by thinking (*See Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.4d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). As such, the additional elements alone and in combination performed well-understood, routine, and conventional activity and were found ineligible. The other independent claims contained similar subject matter and the dependent claims added no further additional elements that made the claimed invention patent-eligible, but only served to further narrow the abstract idea. The claimed invention was thus ineligible under § 101.

Turning now to the argument section concerning § 101, Applicant had amended the claims to incorporate more tangible and technological elements in an effort to overcome the § 101 rejection, as was standard practice at the time of the amendments. Claims 1, 22, and 29 were amended to incorporate a graphical user interface on the mobile device. At the time when this patent application was amended, there was very little guidance available from the USPTO or the courts as to how, precisely, one could amend the claims to put the application in a better position for allowance. Examiners and applicants were equally confused as to what made something allowable, but the trend at the time was to do exactly what was done in this application—add tangible and technical elements to the claims and hope to overcome the rejection at Step 2B. However, by the time this application rose to the top of the examiner’s docket, this trend, in and of itself, was not enough to overcome the § 101 rejection. Applicant argued that the Office Action failed to establish a *prima facie* rejection, that the claims were not drawn to an abstract idea, and that the claims included “significantly more” than an abstract idea. The examiner noted that the rejection, as stated, was not conclusory, nor was it an incomplete analysis, as it mirrored the guidance given by the Office at the time, and thus, was a *prima facie* rejection. The examiner

rebutted the contention that the § 101 rejection failed to provide meaningful analysis and drew a connection to court decisions that identified the abstract idea without significantly more.

Under Step 2A, the examiner determined that the claimed invention was directed to “purchasing a product (in a store) by a customer”, as recited in the preamble, and that the claims were directed to a method, system, and computer-readable medium that was readily understood as simply adding conventional computer components to well-known business practices. The examiner provided support for the determination by looking at Applicant’s own Remarks on the written record and in the Applicant’s Specification. The assertions were as follows: “providing customers a level of self service in a purchase transaction” (Remarks, page 13), “purchasing systems and methods that provide increased convenience”, “purchase[s that] can be facilitated by an employee”, “methods for purchasing a product”, “methods for selling a product to a customer at a store”, “methods for selling a product to a customer in a store in an employee-assisted transaction”, and “methods for selling a product to a customer in a store using an employee mobile device operated by an employee of the store” (all of which can be found in the Summary of Applicant’s Specification). The examiner determined the abstract idea by ascertaining that Applicant was concerned with solving a business need—purchasing a product in a store—rather than solving a technical problem where the technical solution was implemented into the claims. As stated in the rejection above, “receiving, processing, and storing” of data is an abstract idea similar to other concepts identified by the courts as being abstract, and therefore the claimed invention was determined to be an abstract idea under Step 2A.

Under Step 2B, the examiner determined that the claimed invention did not include limitations that were “significantly more” than the abstract idea. As noted above, the additional elements of a customer mobile device comprising a graphical user interface, a store server, a digital credential used for accessing an account data server (i.e. a username and password), and an employee device were noted as reciting a high level of generality and represented routine functions as performed by a generic computer. The examiner pointed out that a mobile device comprising a graphical user interface and servers used to relay data were precisely the type of routine elements which comprise conventional activities. Thus, the claimed invention failed to overcome Step 2B and the claimed invention was found to be ineligible.

It is worth noting here that this application was prosecuted before many court decisions found their way into USPTO guidance, or before courts had ruled on many cases involving *Alice* decisions, and the amount of information available to both the examiner and applicant was sparse. There were a number of related cases that were, indeed, patented in this area, even to the same applicant-assignee, prior to § 101 becoming such a hurdle. Also of note in this case was a prior art reference that was, until the most recent rejection, not cited as pertinent to the claims at hand. While the reference dealt with retail business (i.e. restaurants), it was not firmly within the computer retail spectrum, and was overlooked during prior prosecution of the application. The reference may have had substantial weight when Applicant decided to abandon the application.

5.7 Example 7—U.S. Application No. 14/202,839 (Status: Abandoned)

The seventh case to be discussed is U.S. App. No. 14/202,839, assigned to Zoot Enterprises, Inc. The application was filed in the U.S. and claimed priority to a U.S. provisional application. This is an application that was rejected under 35 U.S.C. § 101 in the most recent Final rejection and ultimately abandoned. The reasons for the most recent § 101 rejection will be discussed below.

In the Final Rejection mailed January 19, 2017, the examiner rejected claims 1, 2, 4-8, 10-17, and 19 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework described above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). Of the claims examined, representative independent claim 2, a method claim, is reproduced herein (independent claim 1, a system claim, is at least moderately similar to claim 2 and will not be explored in this discussion):

2. (Currently Amended) A method for using a plurality of computer accessible data repository systems associated with credit risk in determining a credit decision associated with a credit applicant, said method comprising the steps of:

receiving, at a computing device, a credit product associated with the credit applicant;

identifying a data module with the computing device containing a set of criteria for evaluating the credit decision based, at least in part, on at least one of the credit product and the credit applicant;

determining, based at least in part on the set of criteria, a set of data repository systems to be used in connection with the data module to evaluate the credit decision, wherein each data repository system in the set of data repository systems is communicably coupled to the computing device via one or more networks, based, at least in part, on the set of criteria; wherein each data repository system in the set of data repository systems includes repository data and an access cost associated with accessing the data repository system;

determining a first subset of the set of data repository systems based, at least in part, on the access cost of each data repository system in the set of data repository systems, wherein the first subset comprises one or more data repository systems from the set of data repository systems, and wherein the first subset comprises the data repository system having a lowest said access cost;

issuing to the first subset, by the computing device via the one or more networks, one or more requests for a first subset repository data from the first subset;

receiving, by the computing device via the one or more networks, response first subset repository data from the first subset;

determining, by the data module and the computing device, if the credit decision can be made based on the response first subset repository data, and upon determining that the credit decision can be made based on the response first subset repository data, determining the credit decision associated with the credit applicant and notifying a user of the computing device; and

upon determining that the credit decision cannot be made based on the response first subset repository data, determining a second subset of the set of data repository systems based, at least in part, on the access cost of each data repository system in the set of data repository systems, wherein the second subset comprises one or more data repository systems from the set of data repository systems, and wherein the second subset comprises the data repository system having a second lowest said access cost; and

issuing to the second subset, by the computing device via the one or more networks, one or more requests for second subset repository data to the second subset.

Under Step 2A in the rejection, the examiner first broke the claims apart in order to analyze them without the additional elements. The claim language directed to the abstract idea was found to be: **receiving**...*a credit product associated with the credit applicant; identifying*...*a set of criteria for evaluating the credit decision based, at least in part, on at least one of the credit product and the credit applicant; determining*...*based at least in part on the set of criteria, a set of repository systems to be used to evaluate the credit decision, wherein each repository system in the set of repository systems includes repository data and an access cost associated with accessing the repository system; determining*...*a first subset of the set of repository systems based on the access cost of each repository system in the set of repository systems, wherein the first subset comprises one or more repository systems from the set of repository systems, and wherein the first subset comprises the repository system having a lowest said access cost; issuing*...*to the first subset one or more requests for a first subset repository data from the first subset; receiving*...*response first subset repository data from the first subset; determining*...*if the credit decision can be made based on the response first subset repository data, determining*...*the credit decision associated with the cred applicant and notifying a user; upon determining that the credit decision cannot be made based on the response first subset data, determining*...*a second subset of the set of repository systems on the access cost of each repository system in the set of repository systems, wherein the second subset comprises one or more repository systems from the set of repository systems, wherein the second subset comprises one or more repository systems from the set of repository systems, and wherein the second subset comprises the repository system having a second lowest said access cost; issuing*...*to the second subset one or more requests for second subset repository data to the second subset.* The examiner determined that the claims were directed toward “‘determining a credit decision,’ (as recited in the preamble) in a least cost manner”, which is simply the organization and comparison of data, which can be performed mentally and is “an idea ‘of itself’”. Here, the claimed invention was directed to determining a credit decision in the least costly manner possible. Essentially, the claimed invention was directed to a credit decisioning process that was designed, first, to access the lowest cost data repository and, second, only if a credit determination could not be made, access the second lowest cost data repository, and so on. The crux of the claims was not something technological; rather, it was merely an attempt to achieve the lowest cost of information when making a credit determination (i.e. ordering data by cost).

The examiner found the concept similar to other concepts identified by the courts as being abstract, such as obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)), collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)),

and processing loan information (*Dealertrack Inc. v. Huber*, 674 F.3d 1315, 101 U.S.P.Q.2d 1325 (Fed. Cir. 2012)).

Under Step 2B in the rejection, the examiner found that the claims did not include additional elements sufficient to amount to significantly more than the judicial exception. The claims recited the additional elements of *a hosted computer system or computing device, one or more processors, data repository systems (i.e., databases), a machine readable storage medium containing a set of data modules having workflow instructions (i.e., software), and data repository systems communicably coupled to the computing device via one or more networks, wherein the processors are configured to perform the abstract idea identified above.* The additional elements as recited were surmised to be a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of “‘determining a credit decision’ in a least cost manner” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers. Here, again, the examiner found that computers, processors, databases, memory with software, and communication networks were all recited at a very high level of generality and denoted routine and conventional elements. Even if viewed as a whole, the additional elements were operating in a routine and conventional manner.

The steps of *receiving, issuing, receiving, and issuing* were merely the “receiving, processing, and storing data” steps that had been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ulramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Furthermore, the steps of *identifying, determining, determining, determining, and determining* were merely automating the mental task of organizing and comparing data, which could be done by a human by hand or by thinking (*See Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.4d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). As such, the additional elements alone and in combination performed well-understood, routine, and conventional activity and were found ineligible. The other independent claim contained similar subject matter and the dependent claims added no additional elements that made the claimed invention patent-eligible, but only served to further narrow the abstract idea. The claimed invention was thus ineligible under § 101.

Turning now to the argument section concerning § 101, it appeared that the Applicant mostly advanced arguments concerning overcoming the § 101 rejection under Step 2B, but in a way merged the various arguments of Steps 2A and 2B. There does seem to be overlap in Steps 2A and 2B, but this also shows how convoluted and confusing § 101 can be to those forced to apply it. Applicant argued that the claims of the application were not directed only to the abstract idea of “determining credit decisions,” but to specific means and methods that improved the functionality of the credit decision determination software. Applicant also argued that the claims recited limitations for specific computer components or method steps that limit the claims to a specific type of credit-decision-based structure of credit decision determination software. More specifically, the claims were directed to improving the functionality associated with credit decision determination technology by incorporating least-cost specific rules not previously incorporated. The examiner considered this to be a bold statement, i.e. that there was no software which took into account cost-saving measures, to be proffered without proof. Nevertheless, Applicant

believed such specific implementation and recited limitations prevented the claims of the present application from preempting the entire field or contained the use of the abstract idea.

Following the same structure as adopted in previous examples, the examiner first looked to the Specification. Paragraph [0006] pointed out that, “[a] long felt need in this art relates to a *cost effective approach* for selecting and reviewing data from a variety of sources to provide an efficient and consistent credit or policy decision which reflects the institution’s business goals yet also supports compliance to various laws and regulations that pertain to the industry.” Paragraph [0005] also states that, “[t]he basic approach for credit decisioning, or execution of a decision policy, is well known and has been disclosed and used...for well over a decade. Interestingly, though, none of the existing approaches allow for a variety of data sources...to be combined in a *cost-effective manner*.” Finally, paragraph [0008] posits the solution by, “allowing an institution to first check lower cost data sources...and perhaps make an early decision before subsequently checking higher cost data sources.” While I acknowledge that examiners are instructed to take Applicant’s specification at their word regarding § 101 issues, such as the statement that there was no software that incorporated cost savings measures, this is not always the case if such assertions seem too grandiose or audacious. If such assertions are truly important, and the material is being claimed, most of the time §§ 102 and 103 will determine the accuracy of the assertions. And, now, after *Berkheimer*, there is an element of evidence that may be required in the § 101 analysis.

In his analysis, the examiner noted that the claimed invention was being performed merely by adding conventional computer components to well-known business practices. Here, the claimed invention was not directed toward a technical solution to a technical problem, but rather to a business need—a cost effective approach for selecting and reviewing data from a variety of data sources in order to provide a credit decision determination *in a least cost manner*. As Applicant’s Specification pointed out, the basic approach for credit decisioning and the execution of a decision policy was well-known and had been used for decades. Applicant’s claimed invention, therefore, merely sought to further a business need and abstract idea by allowing the decisioning process to be pursued in a more cost-effective manner—i.e. by checking lower-cost data sources prior to checking higher-cost data sources, if at all.

The examiner next returned to the statement made in the rejection, that, “the claimed invention is simply the organization and comparison of data which can be performed mentally or by hand and is ‘an idea of itself’.” The examiner pointed to the cases found ineligible under § 101, as in the rejection, and then made the point that human beings do aim to save money by comparing and prioritizing the costs of different products or services. Humans can choose to save money by purchasing the least expensive product or service that will accomplish the goal then, if more information is needed, progress up the chain until the most expensive product or service is required. Likewise, human beings can determine when they have enough information to make a decision and so stop purchasing additional information they no longer need in order to make a decision. In this situation, it seemed like common sense to purchase only the data that is needed and to start with the cheapest option. Furthermore, in an effort to solidify the abstractness of the claims, the examiner pointed out that, as in precedential decisions found ineligible, the information being sought was intangible in nature (i.e. credit scores or information), and was readily available to a purchaser if he or she should decide to obtain it.

Applicant next argued two cases—*McRO* and *Enfish*. Applicant felt the claimed invention to be similar to these cases and argued that the claims should be eligible under § 101. The examiner disagreed with Applicant’s assertions and found that, when analyzed in relation to *McRO*, the claims of the application were not directed to an improvement in computer-related technology. Rather, the claimed invention used a software program to implement a credit decisioning process, which, as mentioned above, Applicant stated was well-known and had been used for decades. The novel portion of the claimed invention merely allowed the program to incorporate rules to rank the data repository access from least cost to highest cost, and subsequently, access each of them sequentially and without regard to cost. The examiner determined that, while the claimed invention might indeed use rules, as in the case of *McRO*, it did not improve computer-related technology (i.e. a field of computer technology) by allowing computer performance *of a function not previously performable* by a computer, rather than simply not previously implemented (as suggested by Applicant). Determining the lowest cost database was not in itself an improvement in software.

In *Enfish*, the examiner pointed out that the court had found that the invention was directed to an improvement in the functioning of the computer—not merely for one task, such as ordering costs from least to most expensive, but for the computer itself. The examiner disagreed that the claimed invention would apply to other computer technology. Since the court in *Enfish* examined the specification, the examiner noted that, in the present case, the specification did not define the problem as one related to any kind of computer or software technology, but rather as one related to a business need—an abstract idea—in which a cost-effective approach for selecting and reviewing data from a variety of sources was needed in order to provide a credit decision determination in a least-cost manner. And, as in *Alice*, here the examiner found that the claimed invention merely used a computer “as a tool” to implement the abstract idea. Returning to the Step 2B argument, the examiner noted that computer-related technology had not been improved. The claimed invention was simply using well-known technology, such as receiving/sending/accessing data, ranking a set of values, and performing if/then operations. The examiner found the invention to be an abstract idea under Step 2A.

Under Step 2B, the examiner determined that the claimed invention did not include limitations that were “significantly more” than the abstract idea. As noted above, the additional elements of *a hosted computer system or computing device, one or more processors, data repository systems (i.e., databases), a machine readable storage medium containing a set of data modules having workflow instructions (i.e., software stored on a memory), and data repository systems communicably coupled to the computing device via one or more networks* were recited with a high level of generality and represented routine functions as performed by a generic computer. Here, these generic computer systems merely carried out the abstract idea. As argued above, the claims did not provide improvements to another technology or technical field, improvements to the functioning of the computer itself, nor meaningful limitations beyond generally linking the use of an abstract idea to a particular environment. The examiner did not find the claims to contain “significantly more” (along with the Step 2B-like analysis under Step 2A) and therefore the invention was found ineligible under § 101.

5.8 Example 8—U.S. Application No. 14/094,000 (Status: Abandoned)

The eighth case to be discussed is U.S. App. No. 14/094,000, originally assigned to Cardlink Services Ltd. The application was originally filed in Australia with the U.S. counterpart claiming priority to Australian and PCT applications. This is an application that was rejected under 35 U.S.C. § 101 in the most recent Final rejection and ultimately abandoned. The reasons for the most recent § 101 rejection will be discussed below.

In the Final Rejection mailed December 27, 2016, the examiner rejected claims 1, 2, 4, 6-11, 13, and 15-19 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claimed invention was directed to a judicial exception (*i.e.* an abstract idea) without “significantly more.” Following the two-step framework described above, Step 1 was satisfied as the claims were directed to a process, a machine, and an article of manufacture (*i.e.* computer-readable media). In this application, there were 7 independent claims. Claims 1, 9, 10, and 19 were concerned with associating a user identifier with a gaining financial institution, whereas independent claims 11, 17, and 18 were concerned with disassociating a user identifier from an original financial institution. These claims were to some extent mirrors of one another, or worked in tandem, as a user was essentially moving his or her identifier or account number, which remained the same, from one financial institution to another by associating and disassociating the user identifier. For this example, both the associating method claim and the disassociating method claim will be reproduced below (independent claims 9, 10, and 17-19, are similar to claims 1 and 11):

1. (Currently Amended) A computer implemented method performed by a central financial management system for associating a user identifier with a gaining financial institution (FI), wherein the user identifier is associated with an original FI, the method comprising:

(a) receiving at the central financial management system from the gaining FI a request to associate the user identifier with the gaining FI, the request including a user identifier and an authorization code as provided by the original FI and as entered by a user logged into an online banking facility of the gaining FI, the central financial management system comprising a processor and a memory that stores multiple user identifiers in association with multiple original FIs, wherein the processor:

(b1) determines one of the multiple original FIs associated with the received user identifier by using the user identifier as a look up key in the memory, and

(b2) sending to the original FI the request including the authorization code over a wide area network to a computer system of the one of the multiple original FIs associated with the received user identifier;

(c) receiving from the original FI a confirmation of the request; and

(d) storing in computer storage a change in the association of the user identifier from the original to the gaining FI.

11. (Currently Amended) A computer implemented method for disassociating a user identifier from an original financial institution (FI), the method comprising:

- (a) receiving from a central financial management system a request for confirmation to disassociate the user identifier from the original financial institution (FI);
- (b1) determining authorization authorisation to disassociate the user identifier from the original FI;
- (b2) sending to a user associated with the user identified a first authorization code;
- (b3) receiving from the central financial management system a second authorization code as entered by the user logged into an online banking facility of a gaining FI;
- (b4) determining whether the first and second authorization code matches and if so; and
- (c) sending confirmation to the central financial management system to disassociate the user identifier.

Under Step 2A in the rejection, the examiner first broke the claims apart to analyze them without the additional elements. The claim language in claim 1 directed to the abstract idea was found to be: (a) **receiving** ...from the gaining FI a request to associated the user identifier with the gaining FI, the request including a user identifier and an authorization code as provided by the original FI and as entered by a user of the gaining FI; (b1) **determines** one of the multiple FIs associated with the received user identifier by using the user identifier as a look up key, and (b2) **sends** the request including the authorization code of the one of the multiple original FIs associated with the received user identifier; (c) **receiving** from the original FI a confirmation of the request; and (d) **storing** a change in the association of the user identifier from the original FI to the gaining FI. The claim language in claim 11 directed to the abstract idea was found to be: (a) **receiving** ...a request for confirmation to disassociate the user identifier from the original FI; (b1) **determining** ...authorization to disassociate the user identifier from the original FI; (b2) **sending** ...to a user associated with the user identifier a first authorization code; (b3) **receiving** ...a second authorization code as entered by the user of a gaining FI; (b4) **determining** ...whether the first and second authorization code matches and if so; (c) **sending** ...confirmation to disassociate the user identifier. The examiner determined that the claims were directed toward “associating or disassociating a user identifier with financial institutions,” as recited in the preambles of the independent claims. The association or disassociation of a user identifier with financial institutions was found to be simply the organization and comparison of data which can be performed mentally and is “an idea ‘of itself’”. Here, the abstract idea is not one of a technical nature, but has do to with the transfer of a user identifier among financial institutions. This is a matter that does not have to be performed by a computer, and a human being could well perform this action as explained at length below.

The examiner found the concept similar to other concepts identified by the courts as being abstract, such as obtaining and comparing intangible data (*CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)) and collecting and comparing known information (*Classen Immunotherapies Inc. v. Biogen IDEC*, 659 F.3d 1057, 100 U.S.P.Q. 2d 1492 (Fed. Cir. 2011)).

Under Step 2B in the rejection, the examiner found that the claims did not include additional elements sufficient to amount to significantly more than the judicial exception. The claims recited

the additional elements of: *a central financial management system, logging into an online banking facility, computer storage or a memory that stores data, a wide area network connected to a computer system, an executable program, one or more communication ports, and one or more processors to perform the abstract idea identified above.* The additional elements as recited were surmised to be a generic computer system that performed well-understood, routine, and conventional activities previously known to the industry, which did not add meaningful limitations to the idea of “associating or disassociating a user identifier with financial institutions” beyond generally linking the computer system to a particular technological environment, that is, implementation via computers. Again, the above elements were merely computer systems or integral parts of computer systems that perform routine and conventional operations. These elements were operating exactly as one would expect a computer system to operate in order to perform the abstract idea of associating and disassociating a user identifier amongst institutions.

The steps of *receiving, sending, receiving, storing, receiving, sending, receiving,* and *sending* were found to be merely the “receiving, processing, and storing data” steps that had been recognized by the courts as a well-understood, routine and conventional activity (*See Alice Corp.*, 134 S. Ct. at 2360; *Ultramercial*, 772 F.3d at 716-17; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014)). Furthermore, the steps of *determining, determining,* and *determining* were found to be merely automating the mental task of organizing and comparing data, which could be done by a human by hand or by thinking (*See Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.4d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). As such, the additional elements alone and in combination performed well-understood, routine, and conventional activity and were found ineligible. The other independent claim contained similar subject matter and the dependent claims added no additional elements that made the claimed invention patent-eligible, but only served to further narrow the abstract idea. The claimed invention was thus determined to be ineligible under § 101.

Turning now to the argument section concerning § 101, Applicant traversed the examiner’s § 101 rejection, stating that there was not a proper *prima facie* rejection, that the claims were not directed to an abstract idea, and that there was “significantly more” recited in the claims. The examiner disagreed with Applicant’s assertions and began to answer these arguments by referring to Applicant’s own material, the USPTO guidance, and the relevant court decisions. The examiner first looked to Applicant’s Specification to determine the scope and intent of the claims. Paragraph [0013] provided that it was convenient for a user to have a user identifier that was portable between accounts and different financial institutions. Paragraph [0015] stated that it improved user experience by making changing financial institutions less complicated, and that it encouraged users to change financial institutions, resulting in increased competition and therefore falling prices and better quality of banking services. While these are advantageous results of the invention, the invention itself did not further computer technology. The abstract idea of “associating or disassociating a user identifier with financial institutions” or, more plainly stated, the portability of a user identifier of an account from one financial institution to another, is convenient and provides increased market competition, but there was nothing inherently technical that improved technology—this was a process of merely organizing and comparing data, and it could be performed mentally or by a human with pen and paper. A permanent user identifier—such as a social security number as used in the United States—could be used to identify a user. All accounts,

if not already having a portable identifier such as a Social Security number, could be pinned to an account and travel with the identifier itself. Financial institutions could then merely associate or disassociate accounts with the identifier. The examiner explained that the data and information already present in one financial institution could be transferred to another through the use of such an identifier, and this could, indeed, be performed by a human being. Humans could receive a request to associate a user identifier that was first associated with a first financial institution and subsequently associate the identifier with a second financial institution. Humans could look up a financial institution, given an identifier or key associated with the institution, and could further send a request, receive confirmation, and change the association of the user identifier from a first financial institution to a second financial institution. Additionally, the data or information was intangible (i.e. identifiers, codes, and request messages) and was being compared in order to associate an identifier with a new institution. As such, the selection of *CyberSource* and *Classen* as dealing with similar concepts seemed appropriate. For these reasons, the examiner relied on the assertion of the cited cases in the rejection.

Applicant additionally argued *Enfish*. Applicant asserted that the claimed invention was similar to *Enfish* in that the claimed invention “improve[d] the functioning of the computer itself” or “improve[d] an existing technological process.” The examiner disagreed that porting a user identifier from one financial institution to another through use of a computer was “improving the computer itself”. The examiner did not find the claimed invention to be similar to the claimed invention in *Enfish*, but instead found the claims more similar to those made in *Alice*, in that the claims were directed to something that could readily be understood as simply adding conventional computer components to be used “as a tool” in the furtherance of an abstract idea. The examiner also asserted an example of this situation already occurring. Porting an identifier from an account at one financial institution to a different financial institution is not a technical improvement because, for example, phone companies, particularly mobile phone providers, have been porting phone numbers across a myriad of phone companies for years (e.g. an AT&T mobile phone number can be ported to a Verizon account if the customer decides to switch service from AT&T to Verizon, so as not to lose their phone number). This is a routine and conventional method for associating and disassociating a user identifier between two institutions. Therefore, the examiner found the claimed invention subject to an abstract idea under Step 2A.

Applicant did not make a detailed Step 2B argument, and the examiner maintained that the claimed invention did not constitute “significantly more,” both individually and as a whole, under Step 2B. Consequently, the claimed invention was held to be ineligible under § 101.

5.9 *Final Comments*

I hope that, after reading and digesting the above examples, you can see how difficult it is for an examiner to determine whether a particular claimed invention is eligible for patenting or not under § 101. There is a lot to juggle when making a determination and there is not an infinite amount of time to do it. The material is not black and white; many of the applications are in a “gray” zone that is right on the cusp. There is a great deal of ambiguity. There are not always adequate resources for making a precise determination. Determination of an abstract idea, if there is one, is not a certain process. Selection of the court case most relevant to the abstract idea is difficult, at best. And that is only when there is a court case dealing with something similar to what the examiner believes to be an abstract idea. Determining whether the claims contain “significantly more,” either individually or as a whole, is a very subjective analysis. Each and every application has to be looked at on an application-by-application basis, which makes consistency very difficult to achieve. Even applicants’ arguments vary wildly, and it takes in-depth knowledge of the case law and guidance, as well as a significant amount of time, to adequately prepare a response. Furthermore, while examiners often do not completely understand the nuances of § 101, practitioners often do not have a clear grasp of § 101 either (while business method examiners deal with § 101 on a daily basis, many practitioners are working on a mechanical case one day, electrical the next, and business methods twice a year), leading to a blind-leading-the-blind scenario. As I stated above, reasonable minds can, and do, differ. Two examiners—or their supervisors—may come to different conclusions based on a variety of factors—their familiarity with the case law, their familiarity with the application in front of them, the way in which the invention is claimed, their own personal feelings or experiences on what constitutes an “abstract idea” or what constitutes “significantly more” in the relevant field, to name just a few. While I believe the courts are correct that some business method subject matter is problematic, it is a demanding job to actually apply the § 101 rules to individual cases. And, furthermore, given the number of parties that must attempt to apply them—examiners, often from different technology areas and art units, practitioners, the courts, etc.—it leads to a very uneven application of the rules, which in turn leads to uncertainty and unpredictability in the § 101 environment.

I would be remiss not to state also the various constraints that examiners face when applying § 101. First, many examiners are not attorneys. They are not trained in the law and they are not comfortable analyzing, interpreting, and applying case law. In the § 101 environment, a heavy emphasis is placed on comparing the claims in front of the examiner with the claims or concepts contained in the case law. Merely reading the decisions and extracting the relevant information is difficult for many examiners—attorneys and non-attorneys alike. There are now in excess of 100 cases listed on the July 2018: Eligibility Quick Reference Sheet, ruling various claimed inventions to be patent-eligible or patent-ineligible, for a variety of different reasons. Even a skilled attorney would find it difficult to recall with any precision the various concepts and facts of the cases that may help or harm an application. Most of the applicant-attorneys I interacted with as an examiner had a difficult time recalling each and every case we spoke about, save for a number of the most well-known decisions. Even as a business method examiner who daily worked in this space, I was routinely referring to the list of eligible and ineligible cases, and trying to read up on each decision during examination. This is very time-consuming during examination.

A second, very real constraint placed on examiners is their production requirements. Every minute of their day is accounted for under the “count” system. The applications on their docket are worth a certain amount of “counts”, which determine the amount of time that the examiner can spend on a particular application. Every two weeks, the examiner must fulfil his or her minimum number of counts. For most examiners in business methods, the amount of time allotted for a final action is 3-4 hours (For reference, each type of action has a particular number of counts, for instance a non-final action plus a final action plus disposal credit is 2.0 counts, whereas a first-action “new” non-final is 1.25 counts, a final action is 0.25 counts, and disposal is 0.5 counts. However, RCEs vary between 0.75 counts and 1.0 count, and other actions, such as After-Finals, are zero counts. Thus, if you need 5 counts per bi-week, you have to do a variety of the above actions over 80 hours to get to 5 counts). This 3-4 hour time slot includes everything pertaining to examination—not just the § 101 analysis. This means analyzing the claims and the amendments, reviewing the specification, updating of searching and locating prior art, analyzing the prior art, checking the claims for clarity and written description requirements, drafting an office action, making the appropriate rejections, applying the prior art, reviewing any necessary court decisions, answering any and all of the applicant’s arguments, and a number of other administrative tasks, such as formatting the office action, typing out the claims, recording prior art references, discussing the case with supervisors or colleagues, and other various paperwork before submission for mailing. Examiners were not afforded additional time after the *Alice* decision was handed down. It added a great deal of work and consideration to each and every application, but examiners were expected to perform this very difficult task in the same amount of time as before *Alice* was decided. This means that much of the § 112 review (checking for claim clarity or support in the specification) and the §§ 102 and 103 review (searching for prior art) must be performed in a shorter time window to make room for the § 101 analysis. Many examiners simply do not have the time needed to adequately and completely analyze the claims under all the various patentability requirements—and to truly determine all of the nuances of eligibility under § 101. Nor do they have the time to review the most recent case law or really, truly learn the correct way of analyzing the claims under § 101. While the USPTO does offer training in this area, the environment is fluid and changing quickly. The training, in my opinion, does not often reflect the many obstacles an examiner must consider under § 101.

Third, particularly for examiners who are not primary examiners, § 101 may also be at the mercy of the way the § 101 wind is blowing at the USPTO and how that examiner’s manager views eligibility, particularly for business methods. When “on the fence” about a § 101 issue, most examiners consult other examiners, quality sessions, managers, and § 101 experts before deciding what to do. These various parties do not always come to the same conclusions. Particularly after the *Alice* decision, as the USPTO was trying to decide what to do, each application was newly subject to a § 101 analysis, but the guidance was thin. Many applications were held up because no one wanted to issue an allowance on a set of claims, or even mail out an office action without a § 101 analysis, and have it subject to quality review or discipline. Different directors and supervisors have different understandings and policies directed to claims on the cusp of eligibility, and these directives are then handed down to the examiners, who must follow the instructions. Additionally, while managers are trained on § 101, they do not apply § 101 on a daily basis like the examining corps. This results in often uneven application of § 101 on an art unit-to-art unit basis, or even on an examiner-to-examiner basis. Although I do not think that § 101 is being applied in a manner inconsistent with the guidance, there is a lot of “wiggle room” for the various

parties to put their own spin on the matter. These are difficult rules to apply consistently, and no examiner wants to get it wrong and be subject to disciplinary process. While I think the Office does an excellent job of providing training, they are always facing an uphill battle. In addition to the various hurdles placed on examiners by § 101 itself, there are various administrative constraints placed on the examiner that are outside the scope of § 101.

I hope it is clear from the above examples just how much time, effort, and complexity is involved in each and every application that is examined. While some cases are “more eligible” or “less eligible,” I hope it is clear how often the examiner is faced with a truly difficult decision regarding § 101. In each of the above examples, I remember thinking: “Is there really an abstract idea?” “If there is, did I identify it correctly?” “Did I adequately cite similar court decisions?” “Is there any way to find ‘significantly more’ in this claimed invention?” “If I cannot find ‘significantly more’ by looking at the additional elements individually, can I find it as an ordered combination?” “Did I really apply the case law clearly, consistently, and correctly?” “Did I fully adhere to the spirit of the USPTO’s guidance?” And most importantly, “Given all of the information about this case, did I come to the best conclusion?” I took a lot of pride in my work, and I always asked myself if I was, indeed, doing it correctly and coming to the right conclusion. There were often really innovative ideas that simply did not pass muster under § 101. This is a difficult and ambiguous process for an examiner to undertake.

As I stated in the Introduction, working on § 101 allowed me to “spread my wings” and perform analyses in a less mechanical area of patentability. However, it is the mechanical process that aids in achieving certainty and predictability in the patentability process. Wherever possible, we should strive to reduce the amount of time, effort, and complexity involved in this process to ensure consistency and predictability. In the next section, we will briefly look at some potential “fixes”, or changes to § 101, that may enhance certainty and predictability.

6.0 POTENTIAL FIXES TO § 101

As stated above, I think there should be fixes or adjustments in the way that subject matter eligibility is determined in the business method environment. In my opinion, there is simply too much uncertainty and unpredictability in the environment. That being said, I think this is an area where policy should drive the discussion. We need to determine, as a society, the types of inventions that we would like held patentable, and how we can do so in a certain and predictable manner. The Supreme Court has reiterated in its § 101 decisions that Congress intended that “anything under the sun made by man” should be held patentable, and this is reflected in the language in § 101 stating that “Whoever invents or discovers, and claims as an invention *any* new and useful process, machine, manufacture, or composition of matter, or *any* new and useful improvement thereof may obtain a patent therefor”. However, I do not think that Congress anticipated many of the technologies on the horizon—nor how they might be applied in the business method environment. Technologies such as “big data,” artificial intelligence, and block chain, to name a few, are different in nature than the mechanical, electrical, and chemical technologies that existed at the time many of the patent laws were written. Even computer, software, and Internet technologies have, as business methods make clear, proved to be problematic. Although the courts have complicated these issues, I do not think they are wrong. They have raised issues that warrant discussion, and I think they have operated as best they can within the constraints of the current law. But, this has not made this environment easy to operate in. And therefore I think there needs to be Congressional intervention on this issue that moves things in the direction of greater certainty and predictability.

While precisely what needs to be done in this area is a topic for further research and outside the scope of this paper, I think it important to present at least some of the current potential solutions as offered by (1) the European approach, (2) a Joint IPO-AIPLA proposal, and (3) an American Bar Association Section of Intellectual Property Law (ABA-IP) proposal. Afterwards, I will share some of my own opinions on this topic. Three potential solutions are as follows:

European Patent Convention, Article 52—Patentable Inventions ⁴⁰

Article 52 of the European Patent Convention states:

- (1) European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.
- (2) The following in particular shall not be regarded as inventions within the meaning of paragraph 1:
 - a. Discoveries, scientific theories and mathematical methods;
 - b. Aesthetic creations;
 - c. Schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
 - d. Presentations of information.
- (3) Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.

⁴⁰ <https://www.epo.org/law-practice/legal-texts/html/epc/2016/e/ar52.html>

Joint IPO-AIPLA Proposal Concerning Legislative Amendment of 35 U.S.C. § 101 ⁴¹

Eligible Subject Matter

- a) Whoever invents or discovers, and claims as an invention, any useful process, machine, manufacture, composition of matter, or any useful improvement thereof, shall be entitled to a patent therefor, subject only to the conditions and requirements set forth in this title.

Sole Exceptions to Subject Matter Eligibility

- b) A claimed invention is ineligible under subsection (a) if and only if the claimed invention as a whole (i) exists in nature independently of and prior to any human activity or (ii) is performed solely in the human mind.

Sole Eligibility Standard

- c) The eligibility of a claimed invention under subsections (a) and (b) shall be determined without regard to:
- a. The requirements or conditions of sections 102, 103, and 112 of this title;
 - b. The manner in which the claimed invention was made or discovered; or
 - c. Whether the claimed invention includes an inventive concept.

American Bar Association Section of Intellectual Property Law Proposal ⁴²

§ 101. Conditions for patentability: eligible subject matter.

(a) **Eligible Subject Matter.** —Whoever invents or discovers any useful process, machine, manufacture, or composition of matter, or any useful improvement thereof, shall be entitled to obtain a patent on such invention or discovery, absent a finding that one or more conditions or requirements under this title have not been met.

(b) **Exception.** —A claim for a useful process, machine, manufacture, or composition of matter, or any useful improvement thereof, may be denied eligibility under this section 101 on the ground that the scope of the exclusive rights under such a claim would preempt the use by others of all practical applications of a law of nature, natural phenomenon, or abstract idea. Patent eligibility under this section shall not be negated when a practical application of a law of nature, natural phenomenon, or abstract idea is the subject matter of the claims upon consideration of those claims as a whole, whereby each and every limitation of the claims shall be fully considered and none ignored. Eligibility under this section 101 shall not be negated based on considerations of patentability as defined in Sections 102, 103 and 112, including whether the claims in whole or in part define an inventive concept.

⁴¹ https://www.aipla.org/docs/default-source/uploadedfiles/documents/advocacy/congress/documents/aipla-ipo-joint-proposal.pdf?sfvrsn=a4067549_0

⁴² https://www.americanbar.org/content/dam/aba/administrative/intellectual_property_law/advocacy/Goodlatte_Nadler.pdf

Article 52(1) of the European Patent Convention begins in similar fashion to § 101, in that *any* inventions are eligible for patenting, provided they meet the patentability requirements. However, Article 52(2)(c) specifically states that “schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers” are not to be regarded as inventions within the meaning of paragraph 1. This seems to bar much of what business methods are directed to in the U.S. At least, paragraph 52(2) gives some indication of the subject matter that is not eligible for patenting directly in the statute. While I am aware that there has been a great deal of interpretation as to what subject matter falls into this paragraph, which is largely beyond the scope of this paper, I intend to show that at least some direction is given as to what subject matter may be excluded, on the face of it, when determining patentability. Europe tackles business methods in a different manner than the U.S. In a world that is becoming increasingly smaller, and where technology is becoming increasingly more prevalent, there may be a need to ensure harmonization among the various jurisdictions across the world in order to maintain the same level of protection for the same technology. This increasingly means that we must have a standard that can be consistently implemented internationally. The point I am trying to make here is that the European Patent Convention does provide a greater degree of certainty to examiners and others when determining patent-eligible or patent-ineligible subject matter than the present § 101 statute.

The U.S. proposals seem to take the opposite stance and attempt to provide patentability to business method applications *except* in a very limited number of situations. The Joint IPO-AIPLA uses language such as, “**any** useful process, machine, manufacture, composition of matter, or **any** useful improvement thereof, **shall be entitled** to a patent therefor, **subject only** to the conditions and requirements set forth in this title...A claimed invention is ineligible under subsection (a) **if and only if** the claimed invention **as a whole**...” (emphasis added). This is strong language which would certainly confer patentability to a much greater extent than at present. Nevertheless, it does seem to add more certainty and predictability.

The ABA-IP approach is not quite as patent-friendly as the IPO-AIPLA approach, but it appears to take at least some of the framework handed down by *Alice* into consideration. In this situation too, however, patentability would be easier to achieve than under the current structure. The language of the ABA-IP approach states that claimed inventions “may be **denied eligibility** under this section 101 on the ground that the scope of the exclusive rights under such a claim **would preempt the use by others of all practical applications** of a law of nature, natural phenomenon, or abstract idea. Patent eligibility under this section **shall not be negated when a practical application** of a law of nature, natural phenomenon, or abstract idea is the subject matter of the claims upon consideration of those **claims as a whole, whereby each and every limitation of the claims shall be fully considered and none ignored.**” (emphasis added) Here, it appears that, while the patent examiner might still be on the hook in having to determine whether there is an abstract idea, the Step 2B analysis might be replaced with a “practical application” test. Again, this proposal seems to add at least some additional certainty and predictability to the process.

One further example I can provide is based on my personal knowledge. Years ago, I was attending a yearly intellectual property continuing legal education conference. This was during the time when there was very little guidance concerning § 101, but a session was devoted to attempting to educate patent attorneys on § 101 issues. During discussion, there was a strong opinion amongst

the crowd of attorneys that it would be best to simply get rid of § 101 altogether. The consensus was that since, prior to this time, § 101 was rarely a hurdle to patentability, why should it be now? While there are various issues involved in striking down an entire law, there was obviously frustration with the process and the crowd was aware that something needed to be done. While I do not advocate complete eradication of § 101, I do think this opinion is a valid contribution to the discussion.

In any case, I think the above proposals are deserving of discussion because they help to increase certainty and predictability in the environment of § 101. In my opinion, we should not abolish the eligibility of business methods altogether, nor should we go to the other extreme of granting patents for *any* business method. I share the Supreme Court's concern that "monopolizing these tools by granting patent rights may impede innovation rather than promote it."⁴³ I believe there are often innovative applications of technology or technology improvements in business methods that could lead to patent-eligible inventions and spur innovation in the field. Furthermore, I view patent applications as a way of providing the public with a means of exploring technology through detailed, written publications. If business methods were excluded, the public would not be able to take advantage of the technology within that could be considered patent-eligible. A happy medium is the best result, but there have to be changes to the process in order to introduce certainty into the system. But what should § 101 look like, and what factors might help to increase the certainty of business method applications? In addition to the lessons gleaned from the above examples, here are a few of my own opinions:

First, ultimately it will be up to Congress to fix the problem by drafting new or amended statutes which explicitly state, as far as possible, what is and what is not eligible. Inventors, examiners, and practitioners all need to be on the same page and understand what is eligible and what is not.

Second, the changes should be driven by policy discussions, with real evidence offered as to the pros and cons of what types of subject matter are eligible, and not just those that represent special interests in industry. The revisions to § 101 must incorporate forms of technology that, until recently, were not considered. We are now living in an information-driven economy, where more intangible and far-reaching inventions will be the norm. Society as a whole should have a say, and we should attempt to harmonize with the rest of the world, hopefully somewhere in between abolishing business methods altogether and allowing *any* invention without regard to the impact it may have on innovation and the economy as a whole.

Third, if business methods continue to be eligible for patenting, there should be explicit rules placed on the applications that encourage innovation rather than impede it. This may result in a higher bar for business method applications as compared with strictly technological applications. Thanks to the other patentability requirements, this structure may already be in place, but not adequately enforced. The reason for this is multifaceted. In my experience, business method applications have a tendency to disclose and claim at an extremely high level of generality, with very low requirements as to how to technically achieve the invention stated in the disclosure. It is unacceptable to allow one applicant to potentially monopolize an entire field, particularly if they do not have the know-how to do it, nor have disclosed such know-how to the public. As I

⁴³ *Alice Corp.*, 134 S. Ct. at 2354, 110 USPQ2d at 1980; *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71, 101 USPQ2d 1961, 1965 (2012).

mentioned in the above examples, disclosure is important. It really should be held to a higher standard to ensure that the technology within the specification is adequate and fully disclosed. I often read through specifications and found very little detail on how, particularly, an invention could be implemented beyond merely, for example, collecting data via the Internet, analyzing it (without disclosing a formula or algorithm for doing so), and displaying it (sometimes without even a means for display). These factors therefore need to be taken into account when considering an update to § 101 that would help increase certainty. Here are some examples to help clarify this point:

- a. I remember one application in which the claims were merely determining an insurance premium and the only technology mentioned, in passing, in exactly ONE instance in the specification, was that the process could be performed on a “computer.” No further technical details were disclosed. Besides the lack of technology disclosed in the specification, I find business methods unique in the patent world because they do not have to operate within the laws of physics. The determination of an insurance premium is a good example. Anything is fair game. Business methods are not constrained by the laws of thermodynamics or the laws governing electricity, for example. They often operate within a subjective or abstract field, where business processes or human interaction are at play. It is therefore often very difficult to find good prior art, even though there may be huge ripples in the field if the invention is patented. Oftentimes, when searching for prior art, these processes are kept as trade secrets or insider information at a company and so are not available to the patent examiner in the form of publications he or she can cite. Although a patent, if granted, could have real consequences to every player in that field, the patent examiner cannot reject the application under §§ 102 or 103 because the relevant information is not available. Therefore, because of the difficulty in locating prior art, we must require more detailed disclosure. As noted above, the courts in *State Street* and *Enfish* also found disclosure to be important, noting the “means” language which allowed parts of the specification to be brought into the claims. This is but one way of ensuring that disclosure is adequate. Sufficient disclosure should be key to future proposals.
- b. In another application, I remember very lengthy claims, without much “meat” at all, merely claiming the normal use of a device, invented by another company, in which no further technology was implemented by the applicant. The claims were construed in such a fashion as to prevent competitors from using the third-party device, and the claims were drafted in a way that made applying prior art very difficult. Since the device was invented by another company, there were almost no technological details described in the specification. This was a case of a company, which filed a very large series of applications in this area, attempting to prevent any of its competitors from using a third-party device in their own operations. I find this troubling, particularly for the third-party company which invented the device, because, had the patent(s) been issued, the inventing third-party company would no longer have been able to capitalize on their investment in their device throughout an entire industry. Furthermore, the applicant did not invest any of their own time and money in improving the technology, but were merely using it, as it was designed to be used and in the way it was designed to be used, as a tool to implement the features in a particular field in the way the inventing third-party company had intended. Since the claimed invention, which was

- very abstract indeed, was claimed at such a high level, the applicant needed to put very little input into the application, or make any improvements to the device, beyond merely stating that it was to be implemented in a particular environment with particular rules as to how it would operate in that environment. This allowed for a specification with no real technical disclosure, apart from a method for using a device invented by another party. While numerous prior art references were cited in the application, it was difficult to apply the prior art effectively under §§ 102 and 103 due to the applicant's early adoption of the technology and the way in which the claims were drafted. Additionally, while the specification fulfilled the written description requirements necessary to satisfy the claim language (there was disclosure for the high level of generality they claimed, even if it was essentially a copy/paste of the original claims throughout the Specification), there was not what I would consider adequate disclosure to justify monopolizing a very in-demand device over an entire industry, even if the applicant did satisfy the § 112 requirements at the surface. While not a patentability issue, I also felt that the true inventor of the technology, who did spend significant time and money realizing the invention, which would have been ripe for adoption, was being blocked from recouping their investment across an entire industry. This is a good example of how cases such as *Alice* are important in the patent world. They help to weed out inventions that are merely claimed at such a high level as to preempt an entire field or identify abstract ideas that are merely being implemented on a computer “as a tool”. I do therefore believe that the case law has made very important contributions that should not be dismissed in future proposals, even if the current structure is difficult to implement.
- c. In a further example, I often dealt with applications that were claimed at a very high level, incorporating “new” technology, but again applied to a particular field. To be sure, § 103 helps mitigate this issue if there is an obviousness determination. But, this is not always plausible. For example, I had applications that were merely receiving data from somewhere, often from a social media account or a mobile device contact list, where the information was used to fill in data on, say, a bank or auto loan form. Although prior art arguments can often be made, the technical disclosure or algorithm required for performing such operations is lacking. In most cases, the specification merely states that *it will be done*—but provides zero disclosure on how this technical autofill process works. There is no disclosure of the technical elements or software processes that enable the invention to work. So, sure, the process may be novel or non-obvious, but if one of ordinary skill in the art were attempting to build such a process or system, would the one of ordinary skill in the art be able to reproduce the process or system without any of the technical elements disclosed? This raises a lot of issues. At what level does an examiner apply § 112? For example, “receiving data from a mobile device contact list, formatting the received data, ordering the formatted and received data, auto-filling an auto loan form online using the ordered data, presenting the auto-filled form to a user to enable correction, and sending the auto-filled and corrected form to a bank for processing” is, indeed, a process, satisfying § 101's *any* process requirement. But, could one of ordinary skill in the art actually reproduce this process without any technical disclosure as to how this could, or the best mode for doing so, be performed? Would a PHOSITA *actually* be able to *build* this system? If the process—but not the technical elements—is described in depth (satisfying § 112 requirements

for disclosure of *that* process), but with no technical details other than the specification stating it could be performed on a computer, is there really enough disclosure to enable one of ordinary skill in the art to reproduce the claimed invention? This is but one example, and there may very well be solid prior art on the issue, but this sheds light on the interplay that § 101 has with other patentability requirements, and why the court felt it necessary to create the two-step framework. I often wonder if § 112 had been applied more strictly, would we have even have had to deal with the *Alice* structure? Maybe the same applies to §§ 102 and 103? This would be difficult to apply as it is very subjective, but what level of technical disclosure should be required in an application? I do not have an answer to this, but I feel there needs to be a discussion in future proposals on just how high a level of generality should be allowed, because it does affect §§ 112, 102, and 103.

These examples are important because many of them already incorporate some of the patentability requirements that examiners are accustomed to reviewing, requirements that may not be as uncertain as § 101 is at present. Obviously, the courts have brought real issues to light—however messy—but if they are difficult to apply, we should be discussing the ways of fixing the problem. In my opinion, the statute needs to be amended to explicitly state at least some ways in which claimed inventions could be held eligible and ineligible. Of course, technology does not fit nicely into boxes, so some analysis will need to be performed on each claimed invention. However, it must be possible to find a solution that is better than the convoluted process we currently implement. Furthermore, there are examples that we can take into consideration, e.g. the European Patent Convention, and the two U.S.-based proposals. While each of them has strengths and weaknesses, they are a good starting point for discussion. They all seem to increase the amount of certainty involved by removing some of the complex analysis that U.S. examiners perform.

Additionally, we should not look at § 101 in a U.S. vacuum. Technology is worldwide. If we invent something here in the U.S., it is invented everywhere. Companies and inventors want to ensure that their inventions are protected everywhere—not just in one or two jurisdictions. The international community therefore needs to be consulted on this issue and we should be working toward harmonization. As we move forward, technologically speaking, new inventions push the boundaries of the patent system. We should be working to remove inefficiencies and uncertainty internationally, not just here in the U.S.

While I am not sure that any of the proposals are perfect, I view them as an incredibly important step in the right direction. They offer, at a minimum, more certainty and predictability than we currently have, and provide a starting point for discussion. Even in their current form, they can save examiners—and others—time, effort, and complexity, and make for greater consistency. The main problem I have with the present proposals is that I do not see them fixing other issues that may introduce further uncertainty into the process, particularly downstream. While I do not have all the answers on how to fix § 101 (nor was this the object of this paper), I think we should be identifying elements in the process that cause the most uncertainty and attempting to find ways of solving solve them.

7.0 CONCLUSION

I hope that this paper has given you an idea of just how complex and time-consuming it is to determine patent eligibility under the current structure of § 101 in business methods. The examples that I have chosen are meant to provide a small sample of the kinds of problems the examiner is up against when working in this uncertain environment. To be sure, the courts have identified the need for change, but the current structure needs to be revisited. While this paper is not intended to provide a blueprint for change, hopefully it will demonstrate just how complex the present application of § 101 can be, as well as providing a brief introduction to some of the proposals for § 101 reform.

In closing, I believe we must make the effort to achieve more certain and predictable § 101 results. I hope it is apparent from the examples I have given that it is necessary to amend the § 101 law and determine more clearly what is and what is not eligible subject matter for patenting. While the intent of this paper is to allow readers a “peek behind the curtains,” so to speak, of how an examiner applies *Alice* § 101 to real life examples, the author hopes to have the opportunity in the coming years to continue this research into the next phase of how to make § 101 more certain and predictable.

8.0 BIBLIOGRAPHY

1. AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION, *AIPLA Legislative Proposal and Report On Patent Eligible Subject Matter*, found at the following link: https://www.aipla.org/docs/default-source/advocacy/aipla-legislative-proposal---patent-eligible-subject-matter.pdf?sfvrsn=7e208efe_2, 2017
2. D. CROUCH, *Patent Grant Rate by Technology Area*, found at the following link: <https://patentlyo.com/patent/2015/08/patent-grant-technology-area.html>, 2015
3. EUROPEAN PATENT CONVENTION, Article 52, *Patentable Inventions* Microsite—the EPO supplies Guidance concerning Article 52 at the following link: <https://www.epo.org/law-practice/legal-texts/guidelines.html>
4. H. BUI, *A Common Sense Approach to Implement the Supreme Court’s Alice Two-Step Framework to Provide Certainty and Predictability*, 100 J. Pat. & Trademark Off. Soc’y 165, 2018
5. M. HROZENCHIK, *Legislative Action – Not Further Judicial Action – is Required to Correct the Determination of Patentable Subject Matter in Regard to 35 U.S.C. § 101*, Thesis Submitted to The George Washington University Law School, 2018
6. INTELLECTUAL PROPERTY OWNERS ASSOCIATION SECTION 101 LEGISLATION TASK FORCE, *Proposed Amendments to Patent Eligible Subject Matter Under 35 U.S.C. § 101*, found at the following link: https://ipo.org/wp-content/uploads/2017/02/20170224_IPO-101-TF-Proposed-Amendments-and-Report_final.pdf, 2017
7. M. LAUROESCH and L. JORGENSON, Letter to The Honorable Andrei Iancu, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office, regarding *Joint IPO-AIPLA Proposal Concerning Legislative Amendment of 35 U.S.C. § 101*, Intellectual Property Owners Association and the American Intellectual Property Law Association, found at the following link: <https://ipo.org/wp-content/uploads/2018/06/IPO-AIPLA-Ltr-to-Iancu-re-Joint-101-Proposal.pdf>, 2018
8. A. STROWEL et al., *The trends and current practices in the area of patentability of computer implemented inventions within the EU and the U.S.*, Final Report submitted to the European Commission, https://ec.europa.eu/newsroom/document.cfm?doc_id=41192, 2016
9. D. SUCHY, Letter to The Honorable Michelle K. Lee, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office, regarding “*Supplemental Comments Related to Patent Subject Matter Eligibility*”, American Bar Association Section of Intellectual Property Law, <https://patentdocs.typepad.com/files/letter-5.pdf>, 2017
10. USPTO’S 35 U.S.C. § 101 MICROSITE—Examination Guidance, Examples, Other Materials, and pertinent case law memos regarding issues of § 101 drafted by the USPTO with the most up to date interpretation and guidance can be found at the following link: <https://www.uspto.gov/patent/laws-and-regulations/examination-policy/subject-matter-eligibility>. Specific links are provided in the footnotes above.
11. WORLD INTELLECTUAL PROPERTY ORGANIZATION, *Certain Aspects of National/Regional Patent Laws – (6) Exclusions from Patentable Subject Matter*, Revised Annex II of document SCP/12/3 Rev.2: Report on the International Patent System, https://www.wipo.int/export/sites/www/scp/en/national_laws/exclusions.pdf, 2018