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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* CRAIG ALEXANDER BURTON

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Appeal 2016-008663  
Application 12/597,717  
Technology Center 3600

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Before ST. JOHN COURTENAY III, CATHERINE SHIANG, and  
JOYCE CRAIG, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a non-final rejection of claims 1, 29–33, and 44–47, which are all the claims pending in this application. Claims 2–28 are cancelled. Claims 34–43 are withdrawn. We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

*Introduction*

Appellant’s invention relates to: “a supervised voting system and in particular an electronic voting system. It also relates to a method of operation of the voting system.” (Spec. 1, ll. 3–5).

*Exemplary Claim*

1. Supervised voting method for allowing *a voter* to vote under the supervision of *a supervisor* at a voting booth that includes **a voting terminal** at which *the voter* can vote, **the voting terminal** capable of securely communicating with **an electronic voting system, the voting terminal comprising a computer system** that includes **a media reader** capable of reading an immutable medium, the method comprising:

**the voting terminal** booting using instructions on an immutable medium;

**the voting terminal** *executing instructions on the immutable medium to disable peripheral inputs that would allow introduction of malicious software to the voting terminal;*

*the voter* providing identity information to the supervisor;

*the supervisor* verifying the identity of *the voter* and sending the identity information to *a remote polling administrator service* from **a presiding officer terminal**, *the remote polling administrator service* determining voter specific options to be presented to *the voter*;

*the polling administrator service* sending details of the voter-specific voting options to **the voting terminal** of the voting booth;

**the voting terminal** of the voting booth displaying the voting options to *the voter*;

**the voting terminal** of the voting booth receiving voting information from *the voter*; and

**the voting terminal** of the voting booth sending the voting information to **a vote processor**.

(Emphasis added in bold and in italics).

*Rejection*

Claims 1, 29–33, and 44–47 are rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. (Final Act. 2–4).

*Issue on Appeal*

Did the Examiner err in rejecting claims 1, 29–33, and 44–47 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter?

ANALYSIS

We have considered all of Appellant’s arguments and any evidence presented. We highlight and address specific findings and arguments for emphasis in our analysis below.

*Mayo/Alice Analysis under 35 U.S.C. § 101*

Under 35 U.S.C. § 101, a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” The Supreme Court has “long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)). The Supreme Court in *Alice* reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 82–84 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355.

The **first step** in that analysis is to determine whether the claims at issue are directed to one of those patent-ineligible concepts, such as an

**abstract idea.** Abstract ideas may include, but are not limited to, **fundamental economic practices, methods of organizing human activities, an idea of itself, and mathematical formulas or relationships.** *Id.* at 2355–57.

If the claims are **not directed** to a patent-ineligible concept, **the inquiry ends.** *See Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1262 (Fed. Cir. 2017).

Otherwise, the inquiry proceeds to the **second step** where the elements of the claims are considered “individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78–79). We consider the question of whether the claims are directed to a **specific improvement** in the capabilities of the computing devices, or, instead, “a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

We, therefore, decide under **step two** whether the claims: (a) set forth an **inventive concept** that provides a specific means or method that **improves** the relevant technology, or (b) are directed to a result or effect that itself is the abstract idea, in which the claims merely invoke generic processes and machinery. *See Enfish*, 822 F.3d at 1336.

*The Examiner's Rejection of Claims 1, 29–33, and 44–47 under §101*<sup>1</sup>

The Examiner set forth a rejection under 35 U.S.C. § 101 for claims 1, 29–33, and 44–47 in the Non-Final Action (2–4), mailed March 3, 2015.

Regarding the **first step** of the *Mayo/Alice* analysis, the Examiner concludes that claims 1, 29–33, and 44–47 are directed to an abstract idea: “the claims are directed towards *facilitating voting* by a voter after *authenticating the voter* and presenting voter specific voting options, which is considered to be an **abstract idea** inasmuch as such activity is considered [] a fundamental voting method using digital equipment.” (Non-Final Act. 3) (emphasis added).<sup>2</sup>

Regarding the **second step** of the *Mayo/Alice* analysis, the Examiner finds “the elements involved in the recited process perform the same activities according to their generic functionalities which are *well-understood, routine and conventional*” and “[t]he claims do not amount to significantly more than the abstract idea itself.”<sup>3</sup> (Non-Final Act. 4) (emphasis added).

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<sup>1</sup> We consider the claims as a whole and give the contested claim limitations the broadest reasonable interpretation (BRI) consistent with the Specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

<sup>2</sup> “Patent eligibility under § 101 presents an issue of law.” *Accenture Glob. Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1340 (Fed. Cir. 2013).

<sup>3</sup> The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016). In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

The Examiner also finds “the claims do not effect an *improvement* to another technology or technical field; the claims *do not amount to an improvement to the functioning of a computer itself*” and “merely amount to the application or instructions to *apply the abstract idea* (i.e. facilitating voting) using . . . generic computer system[] components.”

(Non-Final Act. 4) (emphasis added).

Thus, the Examiner concludes that all claims 1, 29–33, and 44–47 on appeal are not patent-eligible under 35 U.S.C. § 101.

#### *Mayo/Alice Analysis — Step 1*

Regarding *Alice* Step 1, Appellant contends, inter alia that “[f]acilitating supervised voting by voters at any polling station is not a mathematical algorithm, nor a *fundamental economic or longstanding commercial practice*” nor is the claim 1 feature of “[d]isabling peripheral devices that allow introduction of malicious software to the voting terminal.”

(App. Br. 14–15) (emphasis added).

We agree with Appellant (*id.*) that the *act of voting* itself is not an *economic* or *longstanding commercial* practice, particularly because in the United States it is against the law to knowingly or willfully pay another person to vote, or to accept payment from another in exchange for one’s vote in a federal election. *See* 52 U.S.C. § 10307(c). The various states have similar laws covering state and local elections.

However, we nevertheless find that voting is a *method of organizing human activity* that has long existed in the context of democratic governments formed at various times throughout history. For example, ancient Greece had a system of voting. We additionally conclude that

**voting is an abstract idea of decision making.** See *Ex Parte Pink et al.*, 2015 WL 3827160 at \* 5 (PTAB, June 18, 2015).

As indicated above, abstract ideas may include, *methods of organizing human activities, an idea of itself, and mathematical formulas or relationships.* *Alice*, 134 S. Ct at 2355–57. We additionally note that independent claim 47 recites “receiving an indication that the voting terminal is authenticated based on the *checksum*” (i.e., based upon a mathematical formula — a *checksum*). (emphasis added).

Therefore, under *Mayo/Alice* step one, we agree with the Examiner that the claimed supervised and authenticated methods of voting are directed to an abstract idea. (Non-Final Act. 3, claims 1, 29–33, and 44–47).

#### *Mayo/Alice Analysis – Step 2*

**Because we conclude all claims on appeal are directed to an abstract idea**, we proceed to the **second part** of the *Mayo/Alice* analysis. We further analyze the claims to determine if there are **additional limitations** that individually, or as an ordered combination, ensure the claims amount to “**significantly more**” than the abstract idea. *Alice*, 134 S. Ct. at 2357 (emphasis added).

Regarding *Alice* Step 2, Appellant urges, *inter alia*:

Independent claim 1 is distinguishable from the claims at issue in *Alice*, *Ultramercial*, *buySAFE*, *Accenture*, and *Bancorp* for **similar reasons** to the claims at issue in *DDR*. **Independent claim 1 does not "recite a common place business method aimed at processing business information, applying a known business process to the particular technological environment of the Internet, or creating or altering contractual relations using generic computer functions and conventional network**

operations." *See, DDR*, 773 F3d at 1259. Independent claim 1, does not, as the Office Action alleges, recite a fundamental voting method using digital equipment. *See, Office Action*, pg. 3. Independent claim 1 is directed to a solution for facilitating supervised voting by voters at any polling station, rather than the pol[l]ing station they are assigned. *See, pg. 3, 11. 12-14.* (App. Br. 14) (emphasis added).

We particularly note that the preamble of claim 1 recites “**the voting terminal comprising a computer system.**” (Emphasis added). Thus, we conclude under a broad but reasonable interpretation, that the recited “voting terminal” may be implemented on a *generic* “computer system,” with appropriate programming to implement the *portion* of the steps of the method that is positively recited as being performed by *the voting terminal*. (Claim 1). We note other steps or acts of method claim 1 are performed by persons, i.e., a *voter* and a *supervisor*.

Our reviewing court provides guidance regarding the use of a **generic computer** merely as a tool. *See Alice*, 134 S. Ct. at 2358 (holding that “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention”); *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1348 (Fed. Cir. 2016) (“An abstract idea on ‘an Internet computer network’ or on a generic computer is still an abstract idea.”) (citation omitted) (emphasis added); *Elec. Power Grp.*, 830 F.3d at 1355 (“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 idea.”) (citation omitted)); *Intellectual Ventures I LLC v. Capital One Financial Corporation*, 850 F.3d 1332, 1341 (Fed. Cir. 2017).

Appellant cites *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) (App. Br. 13). We note in *DDR*, the Federal Circuit applied the Supreme Court’s *Alice* two-step framework, and upheld the validity of *DDR*’s patent on its web-page display technology. *DDR*, 773 F.3d at 1255.

However, we find the problem addressed by Appellant’s claims is not similar or otherwise analogous to the specific technical problem addressed by the subject claims in *DDR*. In *DDR*, the claims were directed to retaining a website visitor when the visitor clicked on a third-party merchant’s advertisement on the host website. Instead of taking the visitor to the third-party merchant’s website (and thus losing the visitor to the third-party merchant), *DDR*’s claimed system generated **a hybrid web page** that: (1) displayed product information from the third-party merchant, but also, (2) **retained the host website’s “look and feel.”**

Here, Appellant’s claims 1, 29–33, and 44–47 are silent regarding any mention of a website or webpage, much less a website that **retains the host website’s “look and feel”** while displaying product information from the third-party merchant, as was the case in *DDR*, 773 F.3d at 1257 (emphasis added). More broadly, on this record, it is our view that Appellant has not established that the claims on appeal attempt to solve “a challenge particular to the Internet,” as considered by the court in *DDR*. *Id.* at 1256–57. Thus, we find Appellant’s claimed invention does not provide a solution “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* at 1257.

Therefore, we find the claims here do not address a similar problem and do not contain a similar inventive concept as the patent-eligible claims

in *DDR*. As emphasized by the Federal Circuit: “*DDR Holdings* does not apply when . . . the asserted claims do not ‘attempt to solve a challenge particular to the Internet.’” *Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1375 (Fed. Cir. 2017) (quoting *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016)).

Appellant additionally argues:

The instructions executed by the voting terminal disables peripheral inputs prohibiting the introduction of malicious software into the voting terminal that could surreptitiously affect the voting outcome. Providing solutions to **prohibit the introduction of malicious software into voting terminals** is an **improvement** to the both the **voting terminal** itself, and the technical field of electronic voting systems.

(App. Br. 17–18).

However, as noted above, we find the recited “voting terminal” may be implemented on a generic “computer system” with appropriate programming to implement the *portion* of the steps of the method that is positively recited as being performed by *the voting terminal*. (Claim 1). It is our view that preventing the introduction of malicious software by disabling unauthorized access to the voting terminal is conventional and known, as such isolation would be necessary to provide secure election results.

Although Appellant’s dependent claim 29 recites “updating an electoral roll **database** to indicate that the voter has voted,” we conclude claim 29 is not “directed to a specific improvement to the way computers[, networks, or databases] operate, [such as] the self-referential table” found by the court to be patent eligible in *Enfish*, 822 F.3d at 1336.

We further note that the Supreme Court emphasizes: “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of **no relevance** in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) (emphasis added). Our reviewing court further guides that “[e]ligibility and novelty are separate inquiries.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017); see also *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016) (holding that “[e]ven assuming” that a particular claimed feature was novel does not “avoid the problem of abstractness”).

Applying the aforementioned guidance here, we conclude that none of Appellant’s claims on appeal is directed to an **improvement** in a processor, computer system, database, memory, network, or the Internet. Thus, we conclude the additional elements recited in the claims beyond the abstract idea, such as *the voting terminal* comprising a *computer system*, the *vote processor*, and the *electoral roll database* (claim 29), **do not provide an inventive concept**. (Ans. 3) (emphasis added).

Therefore, we conclude that none of the claim limitations, viewed “both individually and as an ordered combination,” amount to significantly more than the judicial exception in order to sufficiently **transform** the nature of the claims into patent-eligible subject matter. See *Alice*, 134 S. Ct. at 2355 (internal quotations omitted) (quoting *Mayo*, 566 U.S. at 79).

Accordingly, we conclude, in our *Mayo/Alice* analysis, that each of Appellant’s claims 1, 29–33, and 44–47, considered as a whole, is directed to (under *step one*), **a patent-ineligible abstract idea**, and under *step two*,

**does not recite something “significantly more” to transform** the nature of the claim into a patent-eligible application.

For at least the reasons discussed above, we sustain the Examiner’s rejection under 35 U.S.C. § 101 of claims 1, 29–33, and 44–47, as being directed to patent-ineligible subject matter in light of *Alice* and its progeny.<sup>4</sup>

### *Reply Brief*

To the extent Appellant may advance new arguments in the Reply Brief not in response to a shift in the Examiner’s position in the Answer, we note arguments raised in a Reply Brief that were not raised in the Appeal Brief, or are not responsive to arguments raised in the Examiner’s Answer, will not be considered except for good cause. *See* 37 C.F.R. § 41.41(b)(2).

### *Conclusion*

The Examiner did not err in rejecting claims 1, 29–33, and 44–47 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

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<sup>4</sup> To the extent Appellant has not advanced separate, substantive arguments for particular claims, or other issues, such arguments are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appeal 2016-008663  
Application 12/597,717

DECISION

We affirm the Examiner's decision rejecting claims 1, 29–33, and 44–47 under 35 U.S.C. § 101.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED