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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 ROBERT A. PORTER
_____

Appeal 2017-004248[1]
Application 13/476,796[2]
Technology Center 3700
_____

Before BRADLEY B. BAYAT, FREDERICK C. LANEY, and
PAUL J. KORNICZKY, *Administrative Patent Judges*.

BAYAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's final
rejection of claims 1, 4, 5, 7, and 10–12, which are all the claims pending in
the Application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED INVENTION

Appellant's invention "pertains generally to electronic gradebooks, and more particularly to a computer-implemented method for inputting grades to electronic gradebooks." Spec. ¶ 6.

Claim 1, the sole independent claim on appeal, is reproduced below with added formatting and bracketed matter:

1. A system for inputting data into an electronic gradebook, the system comprising:

[(a)] a sheet;

[(b)] a data rectangle with a pre-determined geometry located on the sheet and that contains a set of answer bubbles;

[(c)] a digital camera oriented to capture an image of the sheet and data rectangle on the sheet;

[(d)] a computer processor coupled to the digital camera and configured in an operating mode to perform the following operations according to a software program in a non-transitory computer readable medium, and without specification to an orientation of the sheet or data rectangle in the image:

[(i)] locate and identify a rectangle on the sheet as being the data rectangle by identifying for multiple rectangles in the image and, for each said rectangle, determining a geometry for the rectangle, comparing the geometry against the pre-determined geometry of the data rectangle, designating the rectangle as the data rectangle if the geometry matches the pre-determined geometry, and eliminating the rectangle from consideration as the data rectangle if the geometry does not match the pre-determined geometry;

[(ii)] calculate a location of the set of answer bubbles based on the pre-determined geometry of the data rectangle;

[(iii)] determine, from hand-markings in the data rectangle, which bubbles in the set of answer bubbles are to be considered marked answers by detecting for multiple said hand-markings in the set of answer bubbles, calculating an intensity of each said hand-marking in each said answer bubble, and designating individual bubbles in the set of answer bubbles as

marked answers when the intensity of the hand-marking in the respective bubble exceeds a predetermined intensity threshold;

[(iv)] identify a score or result based upon the marked answers;

[(v)] provide an output of the score or result; and

[(e)] wherein the sheet with the data rectangle containing the set of answer bubbles, digital camera, and processor thus cooperate to transform the multiple hand-markings within the set of answer bubbles into the designated marked answers and the output score or result, and further such that other rectangles on the sheet with geometries not matching the pre-determined geometry for the data rectangle, and other hand-marked answer bubbles not exceeding the intensity threshold for a designated marked answer, are excluded from consideration in the output score or result by the transformation.

Appeal Br. 35–36, Claims App.

<div align="center">REJECTIONS</div>

Claims 1, 4, 5, 7, and 10–12 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 1, 4, 5, 7, and 10–12 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 1, 4, 5, and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Knowles et al. (U.S. 6,810,232 B2, iss. Oct. 26, 2004) ("Knowles"), Kacandes et al. (U.S. 5,524,068, iss. Jun. 4, 1996) ("Kacandes"), and Grundy, Jr. (U.S. 5,711,673, iss. Jan. 27, 1998) ("Grundy").

Claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Knowles, Kacandes, Grundy, and Milligan, Jr. et al. (U.S. 6,853,751 B1, iss. Feb. 8, 2005) ("Milligan").

Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Knowles, Kacandes, Grundy, and Chi et al. (U.S. 2002/0085755 A1, pub. July 4, 2002) ("Chi").

Claim 12 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Knowles, Kacandes, Grundy, and Loiacono (U.S. 6,042,384, iss. Mar. 28, 2000).

ANALYSIS

35 U.S.C. § 112, first paragraph

In rejecting claims 1, 4, 5, 7, and 10–12 as failing to comply with the written description requirement, the Examiner finds the Specification fails to disclose (1) the limitation "**without specification to an orientation of the sheet or data rectangle in the** image," and (2) the limitation "**transform the multiple hand-markings within the set of answer bubbles into the designated marked answers and the output score or result.**" Final Act. 2–3.

Whether a specification complies with the written description requirement of 35 U.S.C. § 112, first paragraph, is a question of fact and is assessed on a case-by-case basis. *See, e.g.*, *Purdue Pharma L.P. v. Faulding, Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000) (citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991)). The disclosure, as originally filed, need not literally describe the claimed subject matter (i.e., using the same terms or *in haec verba*) in order to satisfy the written description requirement. But the Specification must convey with reasonable clarity to those skilled in the art that, as of the filing date, Appellant was in possession of the claimed invention. *See id.*

Regarding limitation (1), Appellant argues that the "Specification is actually replete with disclosure to identify and process the rotation angle of 'variably positionable data rectangles' in such captured images and in order to determine the data rectangle geometry regardless of such variable orientation of the rectangle (FIGS. 5-15, paragraphs [0053]-[0098]; Claims 1-3)." Appeal Br. 8; Reply Br. 5 ("[T]his disclosure specifically addresses accommodating the document and its data rectangle through variable orientations in the image by processing the variable positionable document, including for example through variable rotation angles.").

In response to Appellant's argument, the Examiner acknowledges that the disclosure supports "'reading an image of the document' for finding the data rectangle and finding completed input bubbles within the data rectangle" but contends "[t]here is no reference to how a sheet is placed under the camera apparatus." Ans. 25.

We are persuaded by Appellant's arguments because although the Specification does not explicitly refer to the phrase "without specification to an orientation of the sheet or data rectangle in the image," a person of ordinary skill in the art reviewing Appellant's disclosure, in particular paragraphs 54, 61, and original claim 3, would have known that Appellant was in possession of the claimed subject matter as of the filing date. Throughout the Specification, a data rectangle is described as being a part of and on the surface of a document. Spec. ¶¶ 12, 16, 17. The Specification also specifically addresses accommodating the data rectangle through variable orientations and rotation angels with respect to a set coordinate system by imaging the variably positionable data rectangle. *Id.* ¶ 54, orig. claim 3. The Examiner acknowledges that "[a]ny object inherently remains

the same regardless of how it is placed on a surface. The difference is in how information written onto the object is viewed. As the object is placed differently that information will inherently be displayed differently." Ans. 26. As such, the Examiner ostensibly concedes and agrees with Appellants that "geometry of the data rectangle" as recited in claim 1 and described "throughout the Specification - is inherently orientation-agnostic, in that the geometry of a rectangle remains the same regardless of, i.e. without specification to, its orientation in a field of view." Appeal Br. 9. Thus, we agree that the claimed geometry recognition-based approach to data rectangle recognition and related locating operations is agnostic and without specification to the orientation of that rectangle and the document (sheet) it is placed on. Reply Br. 5.

Accordingly, we do not sustain the written description rejection regarding limitation (1).

We also do not sustain the written description rejection as to limitation (2) because we disagree with the Examiner that "not all hand-markings are considered 'marked' and as such the disclosure as originally filed fails to provide sufficient support for the limitation" (Ans. 3), and that the claim language "is broad enough to cover transforming the answer sheet into a different answer sheet with the designated marked answers and scoring that transformed answer sheet and output score or result." Ans. 27. Instead, we agree with Appellants that when limitation (e) is read in conjunction with limitation (d)(iii) as described in paragraph 103 of the Specification, the claimed transformation "actually occurs by deriving the marked answers from only some of the hand markings (e.g. based on the output score representing the intensity of pixel darkness for each bubble that

has been marked." Appeal Br. 11 (quoting ¶ 103). We also agree that the Examiner appears to be misinterpreting the claim because the transformation recited in limitation (e) "relates to the functional inter-cooperation of all elements in the claim." Reply Br. 6.

35 U.S.C. § 101

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See id.* at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-

eligible application." *Alice*, 573 U.S. at 221. "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

Recently, the PTO published revised guidance on the application of § 101. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (USPTO Jan. 7, 2019) ("Guidance"). Revised Step 2A, Prong One, is an evaluation of whether the claim recites (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., (a) mathematical concepts, (b) certain methods of organizing human activity, and (c) mental processes). If so, Revised Step 2A, Prong Two, is an evaluation of whether (2) the judicial exception is integrated a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)). Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, we look to whether the claim (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* Guidance Step 2B, 84 Fed. Reg. at 56.

The Examiner determined that claim 1 is directed to a judicial exception, an abstract idea. Ans. 6. In particular, the Examiner determined that limitations (d)(i) through (d)(v) recite a mental process because

> [a] human may collect data (answer sheet information), locate
> and identify a rectangle on a bubble sheet as claimed. The
> human can then use the location of the rectangle to visually
> determine acceptable and unacceptable hand-markings and
> score the answer sheet based on the acceptable hand-markings.
> It is worth noting that the locating and identifying rectangle and
> hand-markings implies recognizing certain data and storing the
> recognized data. In this process the human scores marked
> answers by only taking into consideration the rectangle
> designated to receive answers and also only consider hand-
> markings meeting acceptance criteria base on the human's
> visual observation. It should further be noted that reviewing
> answer sheets, recognizing relevant data such as marked
> answers and storing that information is similar to CET[3] where
> the claims have been found to be abstract by the courts.

Id. at 7.

Does claim 1 recite a judicial exception?

The Examiner determines that claim 1 is "directed to a system which is a statutory category of invention." Ans. 4. As such, we first consider whether the claim recites a judicial exception. Guidance, 84 Fed. Reg. at 51. The Guidance synthesizes key concepts identified by the courts as abstract ideas into three primary subject-matter groupings: mathematical concepts, certain methods of organizing human activity, and mental processes. *Id.* at 52. The Guidance provides that "[m]ental processes–concepts performed in the human mind (including an observation, evaluation, judgment, opinion)" are abstract ideas. *Id.* We determine that the operations of the processor in steps (d)(i)–(d)(iv) of claim 1 recite a mental process, and, therefore, an abstract idea.

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[3] *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n,* 776 F.3d 1343 (Fed. Cir. 2014).

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Claim 1 recites, in part, "[a] system for inputting data into an electronic gradebook, the system comprising:" (d)(i) "locat[ing] and identify[ing] a rectangle on the sheet as being the data rectangle by identifying for multiple rectangles in the image and, for each said rectangle, determining a geometry for the rectangle, comparing the geometry against the pre-determined geometry of the data rectangle, designating the rectangle as the data rectangle if the geometry matches the pre-determined geometry, and eliminating the rectangle from consideration as the data rectangle if the geometry does not match the pre-determined geometry;" (d)(ii) "calculat[ing] a location of the set of answer bubbles based on the pre-determined geometry of the data rectangle;" (d)(iii) "determin[ing], from hand-markings in the data rectangle, which bubbles in the set of answer bubbles are to be considered marked answers by detecting for multiple said hand-markings in the set of answer bubbles, calculating an intensity of each said hand-marking in each said answer bubble, and designating individual bubbles in the set of answer bubbles as marked answers when the intensity of the hand-marking in the respective bubble exceeds a predetermined intensity threshold;" (d)(iv) "identify[ing] a score or result based upon the marked answers." *See* Claim 1 *supra*.

Under the broadest reasonable interpretation, steps (d)(i)–(d)(iv) of claim 1 describe activities that can be practically performed in the human mind. For example, locating and identifying a rectangle on a sheet of paper by comparing the shape of the rectangle to a pre-determined shape to identify a match (step (d)(i)) may be performed in the human mind by simple observation. Determining a location of the answer bubbles based on the pre-determined shape of the rectangle in step (d)(ii) may also be

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performed by observation. Determining which answer bubbles are to be considered marked answers based on the intensity of the hand-marking in each answer as recited in step (d)(iii) is performed by simply observing each answer bubble to determine which bubbles are answered or filled in. In step (d)(iv), a human can simply observe and identify a score based upon the marked answers. All together, limitations (d)(i) through (d)(iv) encompass mental steps for identifying a score or grade from a sheet. These limitations recite steps that, for example, a teacher would perform to ascertain grades from a student test. *See* Spec. ¶¶ 43–44.

Courts have used the phrase an idea of itself to describe an idea standing alone such as an uninstantiated 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." *CyberSource Corp. v. Retail Decisions, Inc.,* 654 F.3d 1366, 1372 (Fed. Cir. 2011) (noting that a recited step that utilized a map of credit card numbers to determine the validity of a credit card transaction could be performed entirely mentally by merely using *logical reasoning* to identify a likely instance of fraud by merely *observing* that numerous transactions using different credit cards all originated from the same IP address). As the Federal Circuit explained, "methods which can be performed mentally, or which are the equivalent of human mental work, are unpatentable abstract ideas–the 'basic tools of scientific and technological work' that are open to all.'" *Id.* at 1371 (citing *Gottschalk v. Benson,* 409 U.S. 63 (1972)). "Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper

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or in a person's mind." *Versata Dev. Grp., v. SAP Am., Inc.,* 793 F.3d 1306, 1335 (Fed. Cir. 2015).

We further note that these steps are similar to other concepts the courts have identified as abstract mental processes. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138 (Fed. Cir. 2016) (methods of logic circuit design, comprising converting a functional description of a level sensitive latch into a hardware component description of the latch); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014) (organizing information through mathematical correlations). In *Electric Power Group*, our reviewing court explained that concepts of collecting and analyzing information, when broadly claimed, fall within the "realm of abstract ideas":

> Information as such is an intangible. *See Microsoft Corp. v. AT & T Corp.*, 550 U.S. 437, 451 n.12, 127 S. Ct. 1746, 167 L.Ed.2d 737 (2007); *Bayer AG v. Housey Pharm., Inc.*, 340 F.3d 1367, 1372 (Fed. Cir. 2003). 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. *See, e.g., Internet Patents*, 790 F.3d at 1349; *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011). 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. *See, e.g., TLICommc'ns*, 823 F.3d at 613; *Digitech*, 758 F.3d at 1351; *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950, 955 (Fed. Cir. 2014); *Bancorp*

> *Servs., L.L.C. v. Sun Life Assurance Co. of Canada (U.S.)*, 687
> F.3d 1266, 1278 (Fed. Cir. 2012); *CyberSource Corp. v. Retail*
> *Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011); *SiRF*
> *Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1333 (Fed.
> Cir. 2010); *see also Mayo*, 132 S. Ct. at 1301; *Parker v. Flook*,
> 437 U.S. 584, 589-90, 98 S. Ct. 2522, 57 L.Ed. 2d 451
> (1978); *Gottschalk v. Benson*, 409 U.S. 63, 67, 93 S.Ct. 253, 34
> L.Ed. 273 (1972). And 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. *See, e.g., Content Extraction*,
> 776 F.3d at 1347; *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d
> 709, 715 (Fed. Cir. 2014).

Electric Power Group, LLC v. Alstom, S.A., 830 F.3d 1350, 1353–54 (Fed.

Cir. 2016).

 For all the above reasons, claim 1 recites an abstract idea.

Is claim 1 "directed to" the recited judicial exception?

Having determined that claim 1 recites a mental process, we next look

to whether the claim recites "additional elements that integrate the judicial

exception into a practical application." Guidance, 84 Fed. Reg. at 53–54. A

claim may integrate the judicial exception when, for example, it reflects an

improvement to technology or a technical field. *Id.* at 55. When a claim

recites a judicial exception and fails to integrate the exception into a

practical application, the claim is "directed to" the judicial exception. *Id.* at

51.

We find the additional elements which claim 1 recites do not integrate

the judicial exception into a practical application. Notably, the claim does

not recite, and the Specification does not describe, an improvement to the

functioning of a computer, or to any other technology or technical field. Nor are the additional elements directed to a particular machine or transformation. Appellant argues:

> Similar to the facts in *McRO*, the present Claims provide rules for determining where answers are located in an electronic test document image. One such claimed rule requires a rectangle on the test document to be identified as a data rectangle by determining that its geometry meets a pre-determined geometry for the data rectangle, and by distinguishing from other rectangles that may be in the document image but whose geometry does not meet that rule requirement. Another claimed rule requires using the rectangle's predetermined geometry in order to locate the answer bubbles within it.

Reply Br. 10. This argument is unpersuasive because, in essence, Appellant's invention automates the inputting of grades into an electronic gradebook because "the mundane, time consuming task of entering the grades into the electronic gradebook is not much different from a paper gradebook." Spec. ¶ 10.

> Where teachers once hand logged grades and scores for each piece of paper completed by students into a paper gradebook, they must now manually enter those grades and scores into an electronic gradebook using an input device such as a computer keyboard. Since most teachers need to track approximately two hundred (200) to six hundred (600) assignments per week, this task consumes a significant amount of time that could otherwise be spent on lesson plan preparation, etc.

Id. In order to solve this non-technical problem, claim 1 uses a document (sheet) with an image (data rectangle), a computer processor coupled to a digital camera and configured to perform operations stored on a non-transitory computer readable medium to automatically identify grades from the document. *Cf.* Spec. ¶ 11 ("[T]he present invention recognizes the need

for a system and method for automatically inputting grades to an electronic gradebook."). Although the Specification provides much detail as to how the operations recited in claim 1 are performed, claim 1 *as recited*, however, does not reflect a technological improvement, but rather, is "directed to a result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). Appellant has not offered any evidence or technical reasoning that the computer implementation improves the functioning of the computing system itself. In *Enfish*, for example, the court noted that "[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). The court put the question as "whether the focus of the claims is on [a] specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." *Id.* at 1335–36. The court found that the "plain focus of the claims" there was on "an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity." *Id.* at 1336. We find the focus of the claim as a whole here is on an administrative task, because the claimed system is merely invoked as a tool to automate the process of identifying and inputting student grades from a document.

We use the term "additional elements" for "claim features, limitations, and/or steps that are recited in the claim beyond the identified judicial exception." *See* Guidance, 84 Fed. Reg. at 55 n.24. Here, limitations (a), (b), (c), (d), (d)(v), and (e) are the additional elements. The presence of a

generic processor (*see* Spec., Fig. 1) does not necessarily indicate a technical solution. Using a digital camera in its ordinary capacity, without more, does not integrate the abstract idea. Spec. ¶ 42 ("In a preferred embodiment, the camera 12 utilizes complementary metal-oxide semiconductor (CMOS) technology, charge-coupled device (CCD) technology, or any other type of similar technology well known in the art."). The claimed system, which includes a document, processor, computer readable medium, and digital camera, merely executes the mental process described above. Particularly, the invention may be implemented on virtually any type of computer regardless of the platform being used. *See* Spec. ¶¶ 42–44, 50–51. And, "provid[ing] an output of the score or result" is an insignificant application that adds insignificant extra-solution activity to the judicial exception. *See Ameranth*, 842 F.3d at 1241–42.

Although a processor may perform comparison and calculations faster than a human could mentally, using a computer to achieve a solution more quickly may not be sufficient to show an improvement to computer technology. *See Versata*, 793 F.3d at 1335; *see also* MPEP § 2106.05(a)(II) (instructing examiners that a "commonplace business method being applied on a general purpose computer" may not be sufficient to show an improvement). Here, claim 1 broadly recites identifying a rectangle on a document, calculating a location of answer bubbles, and determining which bubbles are marked answer, and identifying a score without any particular technical improvement to how the system carries out these operations. *Cf.* Spec. ¶ 8 ("[S]ince computers have become ubiquitous, electronic gradebooks have also become extremely popular and the time-intensive task of calculating and tracking grades has been automated."). In other words,

the recited processor is merely used in its ordinary capacity to perform activities (i.e., observations, evaluations, calculations) that can practically be performed in the mind.

Thus, the claimed system does not use the recited operations in a way that indicates that the judicial exception has been integrated into a practical application.

Does claim 1 provide an inventive concept?

To determine whether a claim provides an inventive concept, the additional elements are considered—individually and in combination—to determine whether they (1) add a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field or (2) simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. Guidance, 84 Fed. Reg. at 56.

The Examiner found:

> There is no "inventive concept" in the use of a generic digitizing device and computer to perform well-understood, routine, and conventional activities commonly used in industry. See Alice, 134 S. Ct. at 2359. At most, the claims attempt to limit the abstract idea of collecting, recognizing and storing information from answer sheet documents using a digitizing device and a computer to a particular technological environment. Such a limitation has been held insufficient to save a claim in this context. See Alice, 134 S. Ct. at 2358; Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 715-16 (Fed Cir. 2014); buySAFE, 765 F.3d at 1355.
>
> When viewed either as individual limitations or as a combination, the claim as a whole does not add significantly more to the abstract idea. Moreover, the claim does not purport to improve the functioning of the computer itself, or to improve

any other technology or technical field. Use of an unspecified, generic computer does not transform an abstract idea into a patent-eligible invention. Thus, the claim does not amount to significantly more than the abstract idea itself (Step 2B: NO).

Final Act. 6–7.

Appellants argue:

Claim 1 recites a computer processor and software program in non-transitory computer-readable media form, it also relate[s] to document imaging modalities and related processing, and also offer significantly more than mere computer implementation of an abstract idea. The system of Claim 1 compares the geometries of multiple rectangles in a document image against a pre-determined geometry in order to distinguish a data rectangle matching that pre-determined geometry from those rectangles which do not, to then appropriately and automatically direct the processing to only the contents contained within that data rectangle. This feature ties the use of a computer processor to a data sheet providing the data rectangle, both inter-cooperating via the aid of a camera, to ultimately improve the technical field of test document image processing and electronic grade books.

Appeal Br. 20.

Appellant's argument is not persuasive because "a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept." *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018). The limitations on the mental process do not make claim 1 any less abstract. None of these limitations provide an inventive concept in the non-abstract application realm. Indeed, this type of activity has been found to be well-understood, routine, conventional activity when

they are claimed in a merely generic manner (*e.g.*, at a high level of generality). *Cf. OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (Determining an estimated outcome and setting a price).

Finally, Appellant's argument as to the lack of preemption (Appeal Br. 21) is also unpersuasive. *See OIP Techs.*, 788 F.3d at 1362–63 ("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."). Although "preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.,* 788 F.3d 1371, 1379 (Fed. Cir. 2015); Ans. 12. "Where a patent's claims are deemed only to disclose patent ineligible subject matter" under the *Alice* framework, "preemption concerns are fully addressed and made moot." *Id*.

Accordingly, we sustain the rejection of independent claim 1 under 35 U.S.C. § 101, including dependent claims 4, 5, 7, and 10–12, which are not argued separately.

35 U.S.C. § 103(a)

We are persuaded of error in the rejection of independent claim 1 because Knowles, on which the Examiner relies, fails to disclose "calculat[ing] a location of the set of answer bubbles based on the pre-determined geometry of the data rectangle," as recited in limitation (d)(ii).

In rejecting this disputed limitation, the Examiner finds Knowles's "client computers can also 'clip' areas of interest *(implies size/dimension)* from the electronic image. Clipping involves electronically removing, typically in software, a portion of the response item or scanned image.

These clipped areas may comprise any portion of a response item: e.g., a handwritten essay or selected response positions *(area of interest analogous to data rectangle).*" Final Act. 9. "[I]t is the Examiner's position that putting back the test together from clipped areas of interest according to a test template based on position coordinates and form identification ***requires or at least suggests a determination of a predetermined geometry (size/dimension) and location/position of response as claimed.***" Ans. 16. Even if we accept the Examiner's initial position, the remainder of limitation (d)(ii) requires that such calculation is "based on the pre-determined geometry of the data rectangle." But there is "no teaching [in Knowles] for determining the geometry of a rectangle on a sheet, at all, for any purpose - much less for a data rectangle for purpose of locating it or for purpose of locating answer bubbles within it." Appeal Br. 26. We agree with the Appellant that the Examiner's

> interpretations of the Knowles disclosure erroneously analogized rectangular 'areas' and clipping 'any portion of a response item' to the specific use of a data rectangle of pre-determined geometry on a test form as Applicant has claimed. It is similarly erroneous to leap from an implied exclusion of areas that are not of interest to clip, per the Knowles disclosure, to the specifically claimed exclusion of rectangles from processing of an image due to their geometry not meeting the specific pre-determined geometry rule as claimed. It is even still a more remarkable leap to analogize a reassembly of a clipped document, according to the erroneous interpretation of Knowles, to Applicant's "determination of pre-determined geometry (size/dimension) and location/position of response as claimed.

Reply Br. 21–22.

Accordingly, we do not sustain the rejection of independent claim 1 under 35 U.S.C. § 103(a), including dependent claims 4, 5, 7, and 10–12.

DECISION

The rejection under 35 U.S.C. § 112, first paragraph, is reversed.

The rejection under 35 U.S.C. § 101 is affirmed.

The rejections under 35 U.S.C. § 103(a) are reversed.

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).

<u>AFFIRMED</u>