UNITED STATES PATENT AND TRADEMARK OFFICE

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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 RAUL SANCHEZ

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Appeal 2018-004343
Application 14/185,602
Technology Center 2100

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Before JOSEPH L. DIXON, HUNG H. BUI, and JON M. JURGOVAN, *Administrative Patent Judges*.

DIXON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant[1] appeals under 35 U.S.C. § 134(a) from a non-final rejection of claims 1–7. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

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[1] We use the word "Appellant" to refer to "applicant(s)" as defined in 37 C.F.R. § 1.42. The real party in interest is Appcropolis LLC. (Appeal Br. 1.)

The claims are directed to a method for "organizing and classifying existing applications so as to enable users to create new applications using the one or more parts of existing applications" by "automatically generating a large number of template applications which are fully designed, coded, and ready-to-use" and "automatically expand[ing] . . . [a] catalog of template applications and screen components . . . categorized based on a specified purpose." (Abstract.)

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1.   A method for generating a set of ranked screens, the method comprising:
>
>   providing a computer server having a processor;
>
>   providing a client device under control of a human user;
>
>   providing a database accessible by said human user via said client device communicating with said computer server, comprising:
>
>   a plurality of application parts displayable on a computer display, each one of said application parts having an associated application part type;
>
>   a plurality of screen seeds, each screen seed in said plurality of screen seeds having a screen layout comprising a plurality of display positions, each of said display positions being associated with an application part type;
>
>   said human user creating a set of screens for a screen seed by:
>
>   selecting a screen seed from said database;
>
>   for each display position for said selected screen seed, populating said display position with an application part from said database having the same application part type as said application part type for said each display

position until all said display positions for said screen
seed have an application part populated thereon;

assigning a screen purpose; and

repeating said populating and assigning a plurality
of times to create a set of screens, each of said screens in
said set having said screen seed and said screen purpose;

said computer server processor:

accessing said set of screens and giving each of
said screens in said set of screens a lowest ranking;

making at least one new screen for said set of
screens, each of said at least one new screens comprising:

said selected screen seed populated with an
combination of application parts which application
parts have been previously populated on at least
one of said screens in said set of screens, but
which combination of application parts has not
been previously used to create a screen in said set
of screens;

associating each of said at least one new screens
with said assigned screen purpose;

increasing said ranking of said screens in said set
of screens;

giving each of said at least one new screens a
lowest ranking;

merging said at least one new screens into said set
of screens; and

storing said merged set of screens on said
database.

(Appeal Br. 30–32 (Claims Appendix).)

REJECTION

The Examiner made the following rejection:

Claims 1–7 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more.

ANALYSIS

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. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (brackets in original) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

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*. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217–18 (2014) (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 218–19 ("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.").

Concepts determined to be abstract ideas, and, thus, patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and

mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diehr*, 450 U.S. at 191); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 187; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

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 (internal citation

omitted). "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.* (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.*

The PTO recently published revised guidance on the application of § 101. USPTO's Memorandum, 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (January 7, 2019) ("Revised Guidance"). Under that guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
> (2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE (MPEP) § 2106.05(a)–(c), (e)–(h) (9th ed., Rev. 08.2017, 2018)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then 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 Revised Guidance.

STEP 1 of the Revised Guidance

Independent claim 1, as a "method" claim, recites one of the enumerated categories of statutory subject matter in 35 U.S.C. § 101,

namely, a process. The issue before us is whether this claim is directed to a judicial exception without significantly more.

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STEP 2A, Prong 1 of the Revised Guidance

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The first Prong of Step 2A under the Revised Guidance is to determine whether the claim recites a judicial exception including (a) mathematical concepts; (b) certain methods of organizing human activity; and (c) mental processes. Revised Guidance, 84 Fed. Reg. at 51–52. Here, the Examiner determines that claim 1 "is directed to the abstract idea of generating a set of ranked screens by a human user creating a set of screens for a screen seed" in steps that "describe the concept of organizing information (i.e., assigning a screen pu[r]pose, giving a lowest ranking to each screen and increasing the ranking as new screens are stored)" and are "similar to concepts that have been identified as abstract by the courts, such as using categories to organize, store and transmit information in Cybersource or comparing new and stored information and using rules to identify options in Electric Power Group." (Ans. 2–3, 10; Non-Final Act. 2–3 (citing *Electric Power Grp, LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011).) The Examiner further finds claim 1's steps describe "a mental process of organizing information and storing, similar to Cybersource" and "can be performed using pen and paper" because "a web designer can draw on a piece of paper a set of screens comprising different display positions, and assign application parts (e.g[.,] Header, Content, Footer) to the said display position." (Ans. 3–4, 9.)

We are not persuaded by the Examiner's findings, as we are unable to agree that the Examiner has adequately found the concept of claim 1 to be

similar to other concepts (e.g., data collection and organization, mental processes, and pen and paper actions) found to be abstract ideas by our reviewing courts. (*See* Appeal Br. 18–25; Reply Br. 2–4.) Appellant's claim 1 recites a method for generating a set of ranked screens that enable organizing and classifying existing software for creating new software applications using existing software parts. Here, we are unable to determine from the Examiner's analysis whether such technique for automatically generating computer software applications using graphic elements (such as visually ranked screens) describes subject matter that is a mathematical concept, a method of organizing human activity, or a mental process (i.e., one of the three types of abstract ideas identified by the Revised Guidance). For example, Appellant's method is not performable by a human being or by pen and paper (as the Examiner asserts) because the method requires accessing, marking, and ranking screens (pages or views of a computer software application) on a computer, creating a new graphical screen by populating a screen seed (a permutation of the display/non-display of each individual part of a particular screen layout) with a particular combination of application parts, and merging the new screen into a previously-created set of screens. (*See* Appeal Br. 20–21.) Claim 1 also does not merely recite collecting and organizing information (as the Examiner asserts); rather, claim 1 relates to a method for graphically-aided software development and automatic generation of computer applications. (*See* Appeal Br. 22–24.)

STEP 2A, Prong 2 of the Revised Guidance

Even if Appellant's claim 1 were considered to recite an abstract idea, we are persuaded by Appellant's arguments that the claim *integrates* an abstract idea *into a practical application*. (*See* Appeal Br. 22, 24–26; Reply

Br. 2–6.) Particularly, we agree with Appellant that claim 1 *integrates* an abstract idea *into a practical application* of "programmatically discovering new computer application interfaces" and creating and designing such interfaces, by "programmatically combining user-selected applications and using a ranking algorithm to 'discover' new applications and likely use cases for them." (Appeal Br. 25–26; Reply Br. 3, 5.)

Here, claim 1 recites a combination of additional elements including a computer server processor (i) "accessing said set of screens and giving each of said screens in said set of screens a lowest ranking," (ii) "making at least one new screen for said set of screens," the new screen including a "selected screen seed populated with an combination of application parts which application parts have been previously populated on at least one of said screens in said set of screens, but which combination of application parts has not been previously used to create a screen in said set of screens," (iii) "associating each of said at least one new screens with said assigned screen purpose," (iv) "increasing said ranking of said screens in said set of screens," (v) "giving each of said at least one new screens a lowest ranking," (vi) "merging said at least one new screens into said set of screens," and (vii) "storing said merged set of screens on said database." The claim's additional elements provide a practical application of "assisting users who may lack programming expertise to build new computer applications by using parts of existing applications through a 'discovery' based system" that programmatically discovers new computer application interfaces by combining discreet components of previously-defined interfaces. (*See* Reply Br. 2–3; Appeal Br. 26.)

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As the Specification explains, a *screen* is "a single state of the application, i.e., what the user sees any given moment," while *screen seeds* represent "different parts [within a screen layout] that comprise a screen [and] might or might not be visible within the screen" and "combinations resulting from creating variations of a single layout, by showing or hiding each part of the layout." (*See* Spec. ¶¶ 40, 42–43.) Appellant's method selects a screen seed and populates each of the parts of the seed with a specific application part from a database (of displayable application parts and screen seeds), repeats this process with the same screen seed to generate multiple logical screens for that screen seed, each logical screen having the same screen seed but different visual elements in each part. (Appeal Br. 9–10; Spec. ¶¶ 40–41, 47, 66–68, Figs. 1 and 3–5.) Visual elements may include a header area, a content area, a footer area, and a column where the header, content, and footer areas are stacked vertically. (*See* Spec. ¶¶ 42–43, 47, 54, 59, Figs. 1 and 4.)

Appellant's method enables application discovery by programmatically combining user-selected applications and using a ranking algorithm to discover new applications and likely use cases ("screen purposes") for them. (Appeal Br. 8, 10–12; Reply Br. 3; Spec. ¶¶ 67–68, 71, 78, Figs. 4–5.) For example, the method may create a new screen by combining two previously generated screens, or by combining application parts that have been previously populated, separately, in different screens. (Appeal Br. 10–11; Spec. ¶¶ 67–68, 78, Figs. 4–5.) Appellant's method further ranks new screens with respect to previously-generated screens, thereby enabling automatic discovery of applications based on a ranking algorithm and based on the "screen purpose" of those applications. (Reply

Br. 3; Spec. ¶¶ 23, 67–71, 75, 78, and 87.) The claimed method thus enables programmatic creation and identification of higher-ranked and lower-ranked screens for particular "screen purposes," thereby enabling users to create new software applications from existing software parts. (Appeal Br. 25–26; Reply Br. 2–3; Spec. ¶¶ 2, 22–24.) Claim 1's method improves a computer's ability to programmatically discover and generate new application interfaces. (Appeal Br. 25–26; Spec. ¶¶ 2, 22–24.) For example, the claimed method may

> make[] a system capable of automatically generating millions of combinations of application screens and computer applications for known purposes. The generated screens and applications are fully designed, coded, and ready-to-use. Such an embodiment eliminates the need of long development processes; reduces the number of technical people required to build an application; and helps discover and evaluate hundreds of thousands of design variations so users can start creating applications with an end in mind. . . . [T]he proposed method and system offer a large catalog of predefined, fully designed, ready-to-use applications. The system also provides a mechanism for browsing and searching for screens and applications of known purposes. In this way the users can simply specify what is the purpose of the screen or application that the user want[sic] to create, and the system will provide a ranked list of possible screens and applications that can fulfill the specific purpose.

(Spec. ¶¶ 23–24.)

Thus, Appellant's claim 1 integrates a visual manipulation technique for organizing, classifying, and developing software, into a process rooted in computer technology. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–58 (Fed. Cir. 2014) (holding patent-eligible a claim that "address[es] a business challenge (retaining website visitors)" by enabling visitors "to purchase products from the third-party merchant without actually

entering that merchant's website," thus providing a "claimed solution . . . necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks"); *see also Core Wireless Licensing, SARL v. LG Electronics, Inc.*, 880 F.3d 1356, 1362–63 (Fed. Cir. 2018) ("Although the generic idea of summarizing information certainly existed prior to the invention, these claims are directed to a particular manner of summarizing and presenting information in electronic devices" that "restrains the type of data that can be displayed in the summary window"; the claims are thus directed to "an improved user interface for electronic devices" and to "a specific manner of displaying a limited set of information to the user," improve "[t]he speed of a user's navigation through various views and windows . . . [by] 'sav[ing] the user from navigating to the required application, opening it up, and then navigating within that application to enable the data of interest to be seen,'" and "are not directed to an abstract idea").

Because claim 1 integrates the judicial exception into a practical application, we find claim 1, and its dependent claims 2–7, are not directed to a judicial exception (abstract idea), rather, they are directed to patent-eligible subject matter under § 101. Accordingly, we do not address Step 2B of the Revised Guidance (corresponding to step two of the *Alice/Mayo* test).

For these reasons, we do not sustain the Examiner's rejection of claims 1–7 as directed to non-statutory subject matter under 35 U.S.C. § 101.

CONCLUSIONS

The Examiner erred in rejecting claims 1–7 under 35 U.S.C. § 101.

DECISION

For the above reasons, we REVERSE the Examiner's rejection of claims 1–7 under 35 U.S.C. § 101.

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–7	101	Eligibility		1–7

REVERSED