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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* VLADIMIR DUBSKY, MIROSLAV MALECHA,  
and PAVEL ZAVORA

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Appeal 2019-003650  
Application 14/266,531  
Technology Center 2100

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Before JOHN A. JEFFERY, JAMES R. HUGHES, and  
LINZY T. McCARTNEY, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Under 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1–6 and 8–20. Claim 7 was cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as EntIT Software LLC. Appeal Br. 3.

## STATEMENT OF THE CASE

Appellant's invention (1) collects data relating to identified shortcuts, including information relating to their associated applications, and (2) adds this collected data to a data model corresponding to an enterprise architecture (EA) tool. Spec. ¶ 10. Figures 3 and 4 show various component integration models, the latter of which can be a canonical model of application architecture from different perspectives. *See* Spec. ¶¶ 23–29. The invention also determines unknown intermediaries for each identified shortcut. Spec. ¶ 34, 44. To this end, imported information relating to the application architecture is used to determine applications and/or interactions that are executed when a particular shortcut is used. Spec. ¶ 44. Claim 1 is illustrative:

1. A system comprising:

at least one processor; and

a memory storing instructions that, when executed by the at least one processor, cause the at least one processor to:

generate a data model to represent information for an enterprise architecture tool associated with a plurality of user perspectives and receive a plurality of different data types to include within the data model;

define shortcut types;

identify a shortcut within the data model and categorize the identified shortcut into the defined shortcut types; and

determine unknown intermediaries of the identified shortcut based on the received plurality of different data types.

### THE REJECTIONS

The Examiner rejected claims 1–6 and 8–20<sup>2</sup> under 35 U.S.C. § 101 as ineligible. Final Act. 3–8.<sup>3</sup>

The Examiner rejected claims 1–6, 8–11,<sup>4</sup> and 16–18 under 35 U.S.C. § 102(a)(1) as anticipated by David Basten & Dorothea Brons, *EA Frameworks, Modelling and Tools*, in F. Ahlemann et al., STRATEGIC ENTERPRISE ARCHITECTURE MANAGEMENT: CHALLENGES, BEST PRACTICES AND FUTURE DEVELOPMENTS, 201–227 (2001) (“Basten”). Final Act. 9–15.

The Examiner rejected claims 12–15, 19, and 20 under 35 U.S.C. § 103 as unpatentable over Basten and J. Schekkerman, ENTERPRISE ARCHITECTURE TOOL SELECTION GUIDE, VER. 5.0 (2009) (“Schekkerman”). Final Act. 16–19.

### THE INELIGIBILITY REJECTION

The Examiner determines that the claimed invention is directed to an abstract idea conceptually similar to abstract ideas that merely collect and analyze information, and display results of that collection and analysis—

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<sup>2</sup> Although the Examiner’s rejection includes claim 7, that claim was later cancelled. *See* Ans. 3. We, therefore, present the corrected claim listing here.

<sup>3</sup> Throughout this opinion, we refer to (1) the Final Rejection mailed August 28, 2017 (“Final Act.”); (2) the Appeal Brief filed February 26, 2018 (“Appeal Br.”); (3) the Examiner’s Answer mailed June 19, 2018 (“Ans.”); and (4) the Reply Brief filed September 12, 2018 (“Reply Br.”).

<sup>4</sup> Although claims 8–11 were omitted from the statement of the rejection, they were nonetheless included in the corresponding discussion. *Compare* Final Act. 10 *with* Final Act. 12–14. Accordingly, we present the correct claim listing here for clarity, and treat the Examiner’s error in this regard as harmless.

processes that can be done mentally but for the recited computer components. *See* Final Act. 2–3; Ans. 3–6. According to the Examiner, the additional recited computer elements perform generic computer functions that do not add significantly more to the abstract idea. Final Act. 3–4; Ans. 5–6.

Appellant argues that the claims are eligible because, among other things, they solve a technical problem, namely how to construct a data model for an EA tool such that the tool can be used by potentially many different users with different perspectives. *See* Appeal Br. 8–13; Reply Br. 1–5. Appellant adds that the Examiner fails to provide evidence or reasoning to explain why the combination of purported generic computer functions do not amount to significantly more than the purported judicial exception. *See* Appeal Br. 12–13; Reply Br. 2–5. According to Appellant, the Examiner’s findings in this regard, including the reliance on Basten to show the identified additional elements, does not comply with the USPTO’s evidentiary requirements for elements that are said to be well-understood, routine, and conventional in the relevant field. Reply Br. 1–5.

#### ISSUE

Under § 101, has the Examiner erred in rejecting claims 1–6 and 8–20 as directed to ineligible subject matter? This issue turns on whether the claims are directed to an abstract idea and, if so, whether the recited elements—considered individually and as an ordered combination—

transform the nature of the claims into a patent-eligible application of that abstract idea.

#### PRINCIPLES OF LAW

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. *See, 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 Alice*, 573 U.S. 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.”).

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” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “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 (1854))); 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 176; *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.”). That said, 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 (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.* (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.*

In January 2019, the United States Patent and Trademark Office (“USPTO”) published revised guidance on the application of § 101. *See* USPTO’s 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”).<sup>5</sup> 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. 10.2019, June 2020)).

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, and conventional in the field (*see* MPEP § 2106.05(d)); or

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<sup>5</sup> *See also* October 2019 Update: Subject Matter Eligibility, [https://www.uspto.gov/sites/default/files/documents/peg\\_oct\\_2019\\_update.pdf](https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).



(4) simply appends well-understood, routine, and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

*See* Guidance, 84 Fed. Reg. at 56.

## ANALYSIS

### *Claims 1–6 and 8–20: Alice/Mayo Step One*

Representative independent claim 1 recites:

1. A system comprising:

at least one processor; and

a memory storing instructions that, when executed by the at least one processor, cause the at least one processor to:

generate a data model to represent information for an enterprise architecture tool associated with a plurality of user perspectives and receive a plurality of different data types to include within the data model;

define shortcut types;

identify a shortcut within the data model and categorize the identified shortcut into the defined shortcut types; and

determine unknown intermediaries of the identified shortcut based on the received plurality of different data types.

As the Specification explains, a cloud computing network can use various tools to automate deploying, arranging, coordinating, and managing computer systems, middleware, and associated services. Spec. ¶ 8. These tools include EA tools that collect and model information relating to business transactions as well as the applications and technology that

implement those transactions. *Id.* To this end, EA tools organize information via a data methodology, such as a canonical or non-canonical model, a tree-like representation, etc. *Id.*

EA tools can include information from different users' perspectives, such as business and information technology (IT) perspectives, and different users can add information from their perspective. *See* Spec. ¶¶ 9, 27–29. This added information can include “shortcuts,” such that the information may not fully describe the execution of various applications that perform the shortcut. Spec. ¶ 9. Moreover, shortcuts can include “intermediaries,” namely applications or processes that are executed from a single selection. *Id.* Shortcuts can also be categorized by their type, namely those that operate with the same or similar function. *Id.*

A key aspect of the disclosed invention is (1) collecting data relating to identified shortcuts, including information relating to their associated applications, and (2) adding this collected data to a data model corresponding to the EA tool. Spec. ¶ 10. Figures 3 and 4 show various component integration models, the latter of which can be a canonical model of application architecture from different perspectives. *See* Spec. ¶¶ 23–29.

Another key aspect of the invention is determining unknown intermediaries for each identified shortcut. Spec. ¶ 34, 44. To this end, imported information relating to the application architecture is used to determine applications and/or interactions that are executed when a particular shortcut is used. Spec. ¶ 44.

Turning to claim 1, we first note that the claim recites a system and, therefore, falls within the machine category of § 101. But despite falling within this statutory category, we must still determine whether the claim is

directed to a judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 217. To this end, we must determine whether the claim (1) recites a judicial exception, and (2) fails to integrate the exception into a practical application. *See Guidance*, 84 Fed. Reg. at 52–55. If both elements are satisfied, the claim is directed to a judicial exception under the first step of the *Alice/Mayo* test. *See id.*

The Examiner determines that claim 1 is directed to an abstract idea conceptually similar to abstract ideas that merely collect and analyze information, and display results of that collection and analysis. *See Final Act*. 3–4; *Ans.* 3–6. To determine whether a claim recites an abstract idea, we (1) identify the claim’s specific limitations that recite an abstract idea, and (2) determine whether the identified limitations fall within certain subject matter groupings, namely, (a) mathematical concepts<sup>6</sup>; (b) certain methods of organizing human activity<sup>7</sup>; or (c) mental processes.<sup>8</sup>

Here, apart from the recited (1) “processor”; and (2) “memory storing instructions,” all of claim 1’s recited limitations fit squarely within at least

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<sup>6</sup> Mathematical concepts include mathematical relationships, mathematical formulas or equations, and mathematical calculations. *See Guidance*, 84 Fed. Reg. at 52.

<sup>7</sup> Certain methods of organizing human activity include fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions). *See Guidance*, 84 Fed. Reg. at 52.

<sup>8</sup> Mental processes are concepts performed in the human mind including an observation, evaluation, judgment, or opinion. *See Guidance*, 84 Fed. Reg. at 52.

one of the above categories of the USPTO's guidelines. When read as a whole, the recited limitations are directed to representing information for an EA tool by determining processes associated with identified shortcuts.

That is, apart from the recited (1) "processor"; and (2) "memory storing instructions," the claimed limitations recite mental processes and certain methods of organizing human activity including business relations and managing personal relationships or interactions between people. *See* Guidance, 84 Fed. Reg. at 52.

First, the limitation calling for "generat[ing] a data model to represent information for an enterprise architecture tool associated with a plurality of user perspectives" can be done entirely mentally by merely *thinking* about this model or writing it down on a piece of paper. *Cf. CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (noting that a person could construct a map of credit card numbers by merely *writing down a list* of credit card transactions made from a particular IP address).

We reach this conclusion despite the Specification's paragraph 10 indicating that a data model includes data representations that can be in a canonical model and includes non-canonical model data types. Notwithstanding this description, the Specification does not define the term "data model," unlike other terms whose concrete definitions leave no doubt as to their meaning. *See, e.g.*, Spec. ¶¶ 14, 45 (defining "configuration file," "logic," "a," and "a number of something" explicitly).

The term "data model" is understood in the art as "[a]n abstract model of some real-world situation or domain of interest about which information is to be held in a database and for which the logical schema for that database encodes." OXFORD DICTIONARY OF COMPUTING 130 (6th ed. 2008) ("Oxford

Computing Dictionary”) (internal quotation marks omitted). That dictionary adds that “[t]he term data model . . . is also used for a set of logical abstractions employed in constructing such a model.” *Id.*

Another special-purpose dictionary defines the term “data model,” in pertinent part, as “[a] description of the organization of data in a manner that reflects the information structure of an enterprise.” IBM DICTIONARY OF COMPUTING 173 (10th ed. 1994) (“IBM Computing Dictionary”).

Given these broad definitions, a “data model,” namely (1) a set of logical abstractions employed in constructing an abstract model of some real-world situation or domain of interest, or (2) a description of the organization of data in a manner reflecting an enterprise’s information structure, can be generated entirely mentally or with pen and paper. Therefore, the recited data model generation function falls squarely within the mental processes category of the USPTO’s guidelines and, therefore, recites an abstract idea. *See* Guidance, 84 Fed. Reg. at 52 (listing exemplary mental processes including observation and evaluation). That the Oxford Computing Dictionary defines the term “data model” in terms of *abstractions*, namely a set of logical *abstractions* that are used to construct an *abstract* model only underscores that generating a data model as claimed is an abstract idea.

Second, the limitation calling for “receiv[ing] a plurality of different data types to include within the data model” can not only be done entirely mentally or with pen and paper, but the data types can also be received from others via oral or written communication. *Cf. Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1344 (Fed. Cir. 2018) (noting that a nontechnical human activity of passing a note to a person who is in a meeting or

conversation as illustrating the invention's focus, namely providing information to a person without interfering with the person's primary activity). In short, the recited receiving limitation fits squarely in the mental processes and certain methods of organizing human activity categories of the USPTO's guidelines and, therefore, recites an abstract idea. *See* Guidance, 84 Fed. Reg. at 52 (listing exemplary methods of organizing human activity, including personal interactions and following rules or instructions).

Lastly, the limitations calling for (1) “defin[ing] shortcut types”; (2) “identify[ing] a shortcut within the data model and categoriz[ing] the identified shortcut into the defined shortcut types”; and (3) “determin[ing] unknown intermediaries of the identified shortcut based on the received plurality of different data types” can be done entirely mentally by merely cognitively (1) identifying the shortcuts in the data model; (2) defining corresponding types of shortcuts, (3) categorizing the model's shortcuts into the defined shortcut types; and (4) determining unknown intermediaries of the identified shortcut based on the received data types —steps that involve involving mere observation and logical reasoning. *Cf. CyberSource*, 654 F.3d at 1372 (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); *Intellectual Ventures I LLC v. Erie Indemnity Company*, 850 F.3d 1315 (Fed. Cir. 2017) (holding ineligible claims reciting a system for storing and accessing user specific resources and information including a mobile interface including pointers that provided links to user specific resources and

stored information); *In re TLI Commc 'n LLC Pat. Litig.*, 823 F.3d 607, 610–14 (Fed. Cir. 2016) (holding ineligible claims reciting recording and administering digital images including (1) recording images using a digital pick-up unit in a telephone unit; (2) storing the recorded images; (3) transmitting data including the images and classification information to a server; (4) extracting the received classification information; and (5) storing the images in the server considering that information). Therefore, the recited shortcut type definition, shortcut identification and categorization, and unknown intermediary determination functions fall squarely within the mental processes category of the USPTO’s guidelines and, therefore, recite an abstract idea. *See* Guidance, 84 Fed. Reg. at 52 (listing exemplary mental processes including observation and evaluation).

Therefore, apart from the recited 1) “processor”; and (2) “memory storing instructions,” the recited limitations fall squarely within the mental processes and certain methods of organizing human activity categories of the USPTO’s guidelines and, therefore, recite an abstract idea. *See* Guidance, 84 Fed. Reg. at 52.

Notably, the two elements enumerated above are the only recited elements beyond the abstract idea, but these additional elements, considered individually and in combination, do not integrate the abstract idea into a practical application when reading claim 1 as a whole.

First, we are not persuaded that the claimed invention improves a computer or its components’ functionality or efficiency, or otherwise changes the way those devices function, at least in the sense contemplated by the Federal Circuit in *Enfish LLC v. Microsoft Corporation*, 822 F.3d 1327 (Fed. Cir. 2016) despite Appellant’s contentions to the contrary

(Appeal Br. 11). The claimed self-referential table in *Enfish* was a specific type of data structure designed to improve the way a computer stores and retrieves data in memory. *Enfish*, 822 F.3d at 1339. To the extent Appellant contends that the claimed invention uses such a data structure to improve a computer’s functionality or efficiency, or otherwise change the way that device functions, there is no persuasive evidence on this record to substantiate such a contention.

To the extent that Appellant contends that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution (*see* Appeal Br. 8–12), we disagree. Even assuming, without deciding, that the claimed invention can represent information for an EA tool by determining processes associated with identified shortcuts faster or more efficiently than doing so manually, any speed or efficiency increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (citing *Bancorp Services, LLC v. Sun Life Assurance Co.*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”)); *see also Intellectual Ventures I LLC v. Erie Indemnity Co.*, 711 F. App’x 1012, 1017 (Fed. Cir. 2017) (non-precedential) (“Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer do not materially alter the patent eligibility of the claimed subject matter.” (alteration, quotation marks, and citation omitted)). Like the claims in *FairWarning*, the focus of claim 1 is



not on an improvement in computer processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095.

Nor is this invention analogous to that which the court held eligible in *McRO, Inc. v. Bandai Namco Games America, Inc.*, 837 F.3d 1299 (Fed. Cir. 2016). There, the claimed process used a combined order of specific rules that rendered information in a specific format that was applied to create a sequence of synchronized, animated characters. *McRO*, 837 F.3d at 1315. Notably, the recited process *automatically animated characters* using particular information and techniques—an improvement over manual three-dimensional animation techniques that was not directed to an abstract idea. *Id.* at 1316.

But unlike the claimed invention in *McRO* that improved how the physical display operated to produce better quality images, the claimed invention here merely represents information for an EA tool by determining processes associated with identified shortcuts. This generic computer implementation is not only directed to mental processes and certain methods of organizing human activity, but also does not improve a display mechanism as was the case in *McRO*. *See SAP Am. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (distinguishing *McRO*).

This is not a case where the claimed invention is necessarily rooted in computer technology to overcome a problem arising specifically in computer networks as was the case in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014). There, instead of a computer network operating in its normal, expected manner by sending a website visitor to a third-party website apparently connected with a clicked advertisement, the

claimed invention in *DDR* generated and directed the visitor to a hybrid page that presented (1) product information from the third party and (2) visual “look and feel” elements from the host website. *DDR*, 773 F.3d at 1258–59. Given this particular Internet-based solution, the court held that the claimed invention did not merely use the Internet to perform a business practice known from the pre-Internet world, but rather was necessarily rooted in computer technology to overcome a problem specifically arising in computer networks. *Id.* at 1257.

That is not the case here. As noted previously, Appellant’s claimed invention, in essence, represents information for an EA tool by determining processes associated with identified shortcuts. To the extent Appellant contends that the claimed invention is necessarily rooted in computer technology to overcome a computer-network-based problem as was the case in *DDR*, we disagree.

On this record, the claimed invention does not recite additional elements that (1) improve a computer itself; (2) improve another technology or technical field; (3) implement the abstract idea in conjunction with a particular machine or manufacture that is integral to the claim; (4) transform or reduce a particular article to a different state or thing; or (5) apply or use the abstract idea in some other meaningful way beyond generally linking the abstract idea’s use to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception. *See* Guidance, 84 Fed. Reg. at 55 (citing MPEP §§ 2106.05(a)–(c), (e)). In short, the claim’s additional elements do not integrate the abstract idea into a practical application when reading claim 1 as a whole.

In conclusion, although the recited functions may be beneficial by representing information for an EA tool by determining processes associated with identified shortcuts, a claim for a useful or beneficial abstract idea is still an abstract idea. *See Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379–80 (Fed. Cir. 2015).

We, therefore, agree with the Examiner that claim 1 is directed to an abstract idea.

*Claims 1–6 and 8–20: Alice/Mayo Step Two*

Turning to *Alice/Mayo* step two, claim 1’s additional recited elements, namely the recited (1) “processor”; and (2) “memory storing instructions”—considered individually and as an ordered combination—do not provide an inventive concept that amounts to significantly more than the abstract idea when reading claim 1 as a whole. *See Alice*, 573 U.S. at 221; *see also* Guidance, 84 Fed. Reg. at 56. As noted above, the claimed invention merely uses generic computing components to implement the recited abstract idea.

To the extent Appellant contends that the recited limitations, including those detailed above in connection with *Alice* step one, add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two (*see* Appeal Br. 12–13; Reply Br. 1–5), these limitations are not *additional* elements *beyond* the abstract idea, but rather are directed to the abstract idea as noted previously. *See BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (explaining that the Supreme Court in *Alice* “only assessed whether the claim limitations *other than the invention’s use of the ineligible concept* to which it was directed were well-understood, routine and conventional”) (emphasis added); *see*

*also* Guidance, 84 Fed. Reg. at 56 (instructing that *additional* recited elements should be evaluated in *Alice/Mayo* step two to determine whether they (1) *add* specific limitations that are not well-understood, routine, and conventional in the field, or (2) simply *append* well-understood, routine, and conventional activities previously known to the industry (citing MPEP § 2106.05(d)).

Rather, the claimed (1) “processor”; and (2) “memory storing instructions” are the additional recited elements whose generic computing functionality is well-understood, routine, and conventional. *See Mortgage Grader Inc. v. First Choice Loan Services Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (noting that components such as an “interface,” “network,” and “database” are generic computer components that do not satisfy the inventive concept requirement); *accord* Spec. ¶¶ 79–90; Final Act. 5 (determining that the recited generic computer components, including the recited processor and memory, are additional elements that do not add significantly more than the abstract idea).

Appellant’s contention that the Examiner allegedly did not comply with the evidentiary requirements under the April 2018 USPTO memorandum mandating these requirements for ineligibility rejections after *Berkheimer v. HP, Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) (Reply Br. 2–5) is unavailing, at least regarding one of the Examiner’s alternative determinations in that regard. To be sure, the Examiner must show—with supporting facts—that certain claim elements are well-understood, routine, and conventional where such a finding is made. *See Berkheimer*, 881 F.3d at 1369 (noting that whether something is well-understood, routine, and conventional to a skilled artisan at the time of the invention is a factual

determination). In light of this factual determination, the USPTO issued a memorandum requiring that Examiners support a finding that an *additional element* of a claim is well-understood, routine, and conventional. Robert W. Bahr, *Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (Berkheimer v. HP, Inc.)*, USPTO, Apr. 19, 2018 (“*Berkheimer* Memo.”), at 2–3 (noting that the *Berkheimer* decision clarifies the inquiry whether an *additional element* (or combination of *additional elements*) represents well-understood, routine, and conventional activity).

As noted previously, the recited (1) “processor”; and (2) “memory storing instructions” are the additional recited elements whose *generic computing functionality* is well-understood, routine, and conventional.

To be sure, the Examiner’s finding that the recited functions of the abstract idea, including the data model generation, shortcut identification and categorization, and unknown intermediary determination functions were well-understood, routine, and conventional (Final Act. 4; Ans. 4–7) is not evidenced on this record sufficiently to comply with the *Berkheimer* memorandum as Appellant indicates. Reply Br. 2–5.

Nevertheless, we see no error in the Examiner’s *alternative* determination that the elements *beyond* the abstract idea, namely the processor and memory, are generic computer components whose *generic computer functionality* is well-understood, routine, and conventional. See Final Act. 5. Notably, in this alternative determination, the Examiner states clearly and unambiguously what elements constitute the *abstract idea*, namely (1) generating a data model to represent information for an enterprise architecture tool associated with a plurality of user perspectives;

(2) receiving different data types; (3) defining shortcut types; (4) identifying shortcut types within the data model; (5) categorizing the shortcut into the shortcut types; and (6) determining unknown intermediaries based on the data types. *See* Final Act. 5. The Examiner also articulates explicitly the *additional elements* under this alternative determination, namely the generic computer components, the first two of which are the processor and memory of claim 1. *See id.* Notably, this alternative articulation is consistent with our determination of the particular limitations of claim 1 that (1) recite the abstract idea, and (2) are additional elements beyond the abstract idea when applying the USPTO's Revised 101 Guidance detailed previously.

Although we are persuaded of error in the Examiner's ineligibility rejection to the extent that it is based on determining that the elements comprising the abstract idea are well-understood, routine, and conventional, we nonetheless see no error in the Examiner's *alternative* determination where the identified additional elements are the generic computing components whose *generic computing functionality* is well-understood, routine, and conventional. *See* Final Act. 5.

In short, Appellant's contention that the Examiner failed to provide evidence that elements *of the abstract idea* are well-understood, routine, and conventional (*see* Reply Br. 1–5) has merit for *one* of the Examiner's alternative determinations. Nevertheless, Appellant's arguments are not commensurate with the more limited scope of the Examiner's findings in connection with the Examiner's *other* alternative determination, namely that the elements *other than the abstract idea*, namely the *additional computer-based elements*, have *generic computing functionality* that is well-understood, routine, and conventional. *See* Final Act. 5.

As noted previously, there is ample evidence of this generic computing functionality in not only the cited case law, but also Appellant's own Specification. *See, e.g., Fair Warning*, 839 F.3d at 1096 (noting that using generic computing components like a *microprocessor* or *user interface* do not transform an otherwise abstract idea into eligible subject matter); Spec. ¶¶ 1, 11–22, 45 (describing generic computer components used to implement the invention). Therefore, the additional recited elements do not add significantly more than the abstract idea to render the claim patent-eligible.

In conclusion, the additional recited elements—considered individually and as an ordered combination—do not add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two when reading claim 1 as a whole. *See Alice*, 573 U.S. at 221; *see also* Guidance, 84 Fed. Reg. at 56.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 1, and claims 2–6 and 8–20 not argued separately with particularity.

#### THE ANTICIPATION REJECTION

The Examiner finds that Basten discloses every recited element of independent claim 1 including determining unknown intermediaries of an identified shortcut, namely the macros or scripts that automate common functions or actions or group several functions into one action. Final Act. 10–11. According to the Examiner, this functionality also determines unknown intermediaries of the identified shortcut based on the received data types as claimed. Final Act. 11; Ans. 8–9.

Appellant argues that Basten does not categorize an identified shortcut into defined shortcut types, let alone determine unknown intermediaries of the identified shortcut based on received data types as claimed. Appeal Br. 13–15; Reply Br. 6–7.

#### ISSUE

Under § 102, has the Examiner erred in rejecting claim 1 by finding that Basten determines unknown intermediaries of an identified shortcut based on received different data types?

#### ANALYSIS

We begin by construing the key disputed limitation of claim 1 that recites, in pertinent part, determining unknown intermediaries. The Specification does not define the term “unknown intermediaries,” unlike other terms whose concrete definitions leave no doubt as to their meaning. *See, e.g.*, Spec. ¶¶ 14, 45 (defining “configuration file,” “logic,” “a,” and “a number of something” explicitly).

The Specification does, however, explain that intermediaries include executed applications and/or executed processes, and that unknown intermediaries (*e.g.*, executed applications, executed processes, *etc.*) are determined by using information within received data types. Spec. ¶¶ 9, 16. Our emphasis on the exemplary and open-ended terms “*e.g.*” and “*etc.*” in paragraph 16 underscores that the term “unknown intermediaries” is not limited to executed applications and processes, but rather encompasses additional undisclosed “unknown intermediaries.” *See* Spec. ¶¶ 34–36, 44 (noting that determining unknown intermediaries uses imported information



to determine applications and/or interactions that are executed when a particular shortcut is used).

Notably, a key aspect of these determined intermediaries is that they are *unknown*. That is, the intermediaries were *unknown* before their determination. *See* Spec. 36 (noting that the generated data model can include *previously unknown* shortcut intermediaries).

In other words, claim 1 does not require merely determining an identified shortcut's intermediaries, but rather those that were previously *unknown*. Given this key qualification, we cannot say—nor has the Examiner shown—that Basten *necessarily* determines an identified shortcut's *unknown* intermediaries as claimed.

We reach this conclusion even assuming, without deciding, that (1) creating macros or scripts to automate common functions or actions, and (2) grouping several functions into one action on Basten's page 221 determines intermediaries of an identified shortcut based on received data types as the Examiner apparently finds. *See* Final Act. 11; Ans. 8–9. That is, even if these macros, scripts, and grouped functions result from determining a shortcut's intermediaries, namely associated executed processes and applications, that does not mean that these intermediaries were *necessarily unknown*—a key qualifier of the recited intermediary determination.

That the Examiner acknowledges that Basten's EA tool not only *knows* where imported information came from, but is also *aware* of functions that are grouped (Ans. 9) only further undermines the notion that this functionality necessarily determines *unknown* intermediaries as claimed. If anything, the intermediaries associated with Basten's functionality are

already known—not unknown. To the extent that the Examiner finds otherwise, there is no evidence on this record to substantiate such a finding.

We reach this conclusion even if it was *probable* that Basten determines unknown intermediaries by creating macros and scripts and grouping functions on page 221, for that is still insufficient for anticipation that requires that all claimed elements be necessarily present in the reference—which they are not. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (“Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” (quotation marks and citations omitted)).

Therefore, we are persuaded that the Examiner erred in rejecting (1) independent claim 1; (2) independent claim 8 that recites commensurate limitations; and (3) dependent claims 2–6, 9–11, and 16–18 for similar reasons. Because this issue is dispositive regarding our reversing the Examiner’s rejection of these claims, we need not address Appellant’s other associated arguments.

#### THE OBVIOUSNESS REJECTION

Because the Examiner has not shown that Schekkerman cures the deficiencies noted above regarding the anticipation rejection, we do not sustain the obviousness rejection of claims 12–15, 19, and 20 (Final Act. 16–19 ) for similar reasons.

#### CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/ Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
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1-6, 8-20	101	Eligibility	1-6, 8-20	
1-6, 8-11, 16-18	102(a)(1)	Basten		1-6, 8-11, 16-18
12-15, 19, 20	103	Basten, Schekkerman		12-15, 19, 20
<b>Overall Outcome</b>			<b>1-6, 8-20</b>	

TIME PERIOD FOR RESPONSE

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).

AFFIRMED