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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JUGOSLAV BILIC, STEPHEN JOHN MICHAUD, MARTIN DAVID GOODENOUGH BAYLY, and RYAN CLAYTON OGG

Appeal 2020-001710
Application 14/729,526
Technology Center 3700

Before JILL D. HILL, LEE L. STEPINA, and ARTHUR M. PESLAK, *Administrative Patent Judges.*

HILL, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–18. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] 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 D2L Corporation. Appeal Br. 2.

BACKGROUND

Appellant's invention relates to a method for providing a learning path for an electronic learning system. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A method for providing a learning path for an electronic learning system, the electronic learning system including a processor and at least one memory in electronic communication with the processor, the at least one memory storing one or more learning objectives, the method comprising:
>
> retrieving, by the processor, from the one or more learning objectives, a set of learning objectives assigned to the learning path;
>
> for each learning objective of the set of learning objectives, selecting, by the processor, from a plurality of resources accessible to the electronic learning system, one or more resources assigned a relevance score at least satisfying a relevance threshold for that learning objective, the relevance score representing an estimated degree of correlation between that learning objective and a content of the respective resource, and the relevance threshold indicating a minimum relevance score required for a resource to be selected for a learning objective;
>
> generating, by the processor, an initial learning path using the selected one or more resources;
>
> identifying, by the processor, one or more evaluation type resources from the selected one or more resources, each evaluation type resource comprises an interaction for evaluating a proficiency of a user in relation to at least a subset of learning objectives of the set of learning objectives;
>
> monitoring, by the processor, a feedback usage indicator for each evaluation type resource of the selected one or more resources, the feedback usage indicator being stored in a storage component accessible to the electronic learning system and the feedback usage indicator representing an amount of user interactions with that evaluation type resource; and
>
> updating, by the processor, the initial learning path to generate the learning path based on, at least, the feedback usage

> indicator of each evaluation type resource of the selected one or more resources, the updating of the initial learning path comprising determining a system learn value for a resource associated with the feedback usage indicator, comparing the system learn value to a learn value threshold, and determining to update the initial learning path based on the comparison of the system learn value to the learn value threshold, wherein the system learn value comprises a representation of a likelihood that a corresponding resource will assist a user in achieving a corresponding learning objective.

REFERENCES

The prior art relied upon by the Examiner is:

Name	**Reference**	**Date**
Knutson	US 2004/0161734 A1	Aug. 19, 2004
Packard	US 2011/0039249 A1	Feb. 17, 2011
Supanc	US 2015/0006454 A1	Jan. 1, 2015

REJECTIONS[2]

I. Claims 1–18 stand rejected under 35 U.S.C. § 101 as being directed to an abstract idea without significantly more. Final Act. 3.

II. Claims 1–18 stand rejected under 35 U.S.C. § 103 as unpatentable over Packard, Knutson, and Supanc. Final Act. 5.

OPINION

Rejection I; 35 U.S.C. § 101

Appellant argues all of the claims together in contesting the rejection under 35 U.S.C. § 101. Appeal Br. 6–8. Accordingly, we decide the appeal

[2] A rejection of claims 1–18 under 35 U.S.C. § 112(b) as being indefinite is withdrawn. *See* Advisory Act. 1, mailed July 1, 2019; *see also* Final Act. 3.

of this rejection on the basis of claim 1, with claims 2–18 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (permitting the Board to select a single claim to decide the appeal as to a single ground of rejection of a group of claims argued together).

Under 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. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 573 U.S. at 217. The first step in that analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* If the claims are not directed to a patent-ineligible concept, e.g., an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered "individually and 'as an ordered combination' to determine whether there are additional elements [that] 'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo*, 566 U.S. at 79, 78).

In the Final Action, the Examiner determined that the claims, considering all elements both individually and in combination, do not amount to significantly more than the abstract idea of "collecting

information, analyzing it, and displaying certain results of the collection and analysis," similar to the concept found to be abstract in *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016). Final Act. 3–5. The Examiner further determined that any additional elements, or combinations thereof, amount to no more than a recitation of "generic, conventional, and well-known computing elements" (e.g., a processor and a memory) performing generic computer functions that are "well-known, routine, and conventional" activities previously known to the pertinent industry that fail to transform the abstract idea into a patent eligible application of the abstract idea. *Id.* at 5.

Appellant argues that, subsequent to the Final Action, the USPTO issued the 2019 Revised Patent Subject Matter Eligibility Guidance (2019 Subject Matter Guidance), which provides that a claim is not "directed to" a judicial exception if the judicial exception is integrated into a practical application. Appeal Br. 6. According to Appellant, even if the claims recite a judicial exception, they recite "a practical application of the judicial exception." *Id.* at 7. Specifically, Appellant asserts that generation of a learning path from an initial learning path "is a practical application of any judicial exception applied, relied on or used." *Id.* at 8.

The Examiner responds that "the 101 rejection is maintained" because the claims are "directed towards an abstract idea in the form of certain methods of organizing human activity: managing personal behavior or relationships or interactions between people (including social activities, **teaching**, and following rules or instructions)," which is consistent with the 2019 Subject Matter Guidance. Ans. 4. The Examiner contends that implementing "the learning path as an electronic learning system (i.e. on a

computer) is not a practical application because . . . the recitation is at a high level such that it amounts to no more than mere instructions to implement an abstract idea on a computer." *Id.* According to the Examiner, implementation of the learning path on an electronic learning system encompasses a generic and conventional implementation that is not a particular machine, and there is no indication that implementing a learning path would improve a computer itself. *Id.* The Examiner concludes that the method "merely uses a computer as a tool in a generic and conventional capacity to perform the judicial exception, which is not a practical application." *Id.*

Appellant replies that inclusion of "additional elements" beyond the abstract idea integrates the abstract idea into a practical application. Reply Br. 3. According to Appellant, when the claim is considered as a whole, "the additional elements recited in the claims in question (e.g. a processor and at least one memory in electronic communication with the processor) do not merely add generic computer activity to an abstract idea." *Id.* at 3. In particular, Appellant argues that the non-generic activity includes a processor that identifies resources, monitors a feedback usage indicator for each of the resources, and updates the initial learning path to generate the learning path based on the feedback usage indicator and type of resources. *Id.* at 4. Appellant asserts, moreover, that "the claims in question improve the performance of the recited computing system by providing for efficient creation of a learning path for an electronic learning system." *Id.* Specifically, Appellant asserts that by the electronic learning systems updating the initial learning path based on the feedback usage indicator, "the

processor's involvement is not merely a field of use and therefore integrates the abstract idea into a practical application." *Id.*

We have reviewed the eligibility of the pending claims through the lens of the 2019 Subject Matter Guidance, and we are not persuaded that the Examiner erred in concluding that the pending claims are directed to a judicial exception without significantly more.

Under that guidance, in conducting step one of the *Alice* framework, 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 interactions such as a fundamental economic practice, or mental processes); and

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)-(c), (e)(h)).

Step 1 -- Statutory Category

Claim 1 recites a method for providing a learning path and, therefore, is a process. *See* Appeal Br. 14 (Claims App.).

Step 2A, Prong 1

The 2019 Subject Matter Guidance identifies three key concepts identified as abstract ideas: (a) mathematical concepts including "mathematical relationships, mathematical formulas or equations, mathematical calculations"; (b) certain methods of organizing human activity, such as "fundamental economic principles or practices," "commercial or legal interactions," and "managing personal behavior or relationships or interactions between"; and (c) mental processes including "observation, evaluation, judgment, [and] opinion."

Here, claim 1 is directed to a method for "providing a learning path for an electronic learning system," where "users engage in education related activities using computers and other computing devices." Spec. ¶¶ 1, 2.

Claim 1 recites, *inter alia*, a processor" 1) generating an initial learning path, 2) identifying resources, 3) monitoring a feedback usage indicator of the resources, and 4) updating the initial learning path to generate the learning path based on the feedback usage indicator to assist a user in achieving a corresponding learning objective. According to the Specification, claim 1 recites an improved teaching method, because "teachers in traditional learning environments are unable to determine the effectiveness of the curriculum and are limited in their ability to adapt the curriculum to the different needs of the learners." Spec. ¶ 4.

An improved teaching method, as recited in claim 1, amounts to "managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions)," which is one of certain methods of organizing human activity. *See* 2019 Subject Matter Guidance at 52. Such methods of organizing human activity are abstract ideas. *Id.* Thus, claim 1 recites an abstract idea, one of the judicial exceptions. *See Alice*, 573 U.S. at 216. Accordingly, the outcome of our analysis under Step 2A, Prong 1, requires us to proceed to Step 2A, Prong 2. *See* 2019 Subject Matter Guidance.

Step 2A, Prong 2

We next consider whether the claimed method includes additional elements that integrate the judicial exception into a practical application. The Examiner finds that the claimed memory and processor perform generic computer functions, and the method "merely uses a computer as a tool in a

generic and conventional capacity to perform the judicial exception, which is not a practical application." Ans. 4.

We agree with the Examiner that the memory and processor are each recited in a generic manner. We find no indication in Appellant's Specification, nor does Appellant direct us to any indication, that the claimed invention is implemented using other than generic devices. The Specification discloses "a data storage component (including volatile memory or non-volatile memory or other data storage elements or a combination thereof), and lists various known data storage components including "RAM, ROM, one or more hard drives, one or more flash drives or some other suitable data storage elements such as disk drives … databases, such as a relational database (e.g., a SQL database)," which perform the known function of storing data. Spec. ¶¶ 45, 86. The Specification also discloses that the "processor may be any suitable processors, controllers or digital signal processors that can provide sufficient processing power depending on the configuration, purposes and requirements of the electronic learning system 30." *Id.* ¶ 84. The operations (generating an initial learning path, identifying resources, monitoring a feedback usage indicator of the resources, and updating) performed by the processor are generic computer functions of generating data (the resources can include text data, video data, image data, and one or more combinations thereof) (Spec. ¶ 107), monitoring the received data, and updating the data. Thus, the claimed invention does not improve the functioning of the computer (processor) or memory. "[A]n improvement to the information stored by a database is not equivalent to an improvement in the database's functionality." *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1287–88

(Fed. Cir. 2018). Nor does the claimed invention use a particular, or special, machine. In other words, the claims "are not tied to any particular novel machine or apparatus" capable of rescuing them from the realm of an abstract idea. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014).

In summary, we do not find anything of record, short of attorney argument, that attributes any improvement in computer technology and/or functionality to the claimed invention, or otherwise indicates that the claimed invention integrates the abstract idea into a "practical application," as that phrase is used in the USPTO's "2019 Revised Patent Subject Matter Eligibility Guidance," 84 Fed. Reg. 50, 55 (January 7, 2019).

Step 2B

In Step 2B, we determine whether the claim adds a specific limitation, beyond the judicial exception, that is not "well-understood, routine, conventional" in the field. *See* 2019 Subject Matter Guidance. The portions of claim 1 that Appellant asserts are directed to "additional elements recited in the claims in question (e.g. a processor and at least one memory in electronic communication with the processor)" (Reply Br. 3) are generic devices that do not perform other than well-known, routine, and conventional activity, as discussed above.

Although claim 1 specifically limits, in various ways, the recited update of the learning path, and, therefore, would seem to exclude certain other methods of assisting a user in achieving a corresponding learning objective, we do not agree that claim 1 recites anything significantly more than the abstract ideas discussed above in Step 2A. In particular, the various actions recited in claim 1 that differentiate the recited method from other

computer learning methods relate to the abstract idea, not to an innovation of the kind that benefits the claimed subject matter under a Step 2B analysis.

For the above reasons, the recited elements of claim 1, considered individually and as an ordered combination, do not constitute an "inventive concept" that transforms independent claim 1 into patent-eligible subject matter. *See Alice*, 573 U.S. at 217. On this record, we affirm the Examiner's § 101 rejection of claim 1. Claims 2–18 fall with claim 1.

Rejection II; 35 U.S.C. § 103

Similar to the rejection under 35 U.S.C. § 101, Appellant argues all of the claims together in contesting the rejection under 35 U.S.C. § 103. Appeal Br. 9–13. Accordingly, we decide the appeal of this rejection on the basis of claim 1, with claims 2–18 standing or falling with claim 1.

The Examiner finds that Packard discloses most of the steps of the method of claim 1, including selecting resources (*see* Final Act. 6), but does not disclose assigning the resources a relevance score that satisfies a relevance threshold. Final Act. 6–8. The Examiner finds that Knutson discloses this limitation, and reasons that it would have been obvious to have modified the method of Packard to have relevancy scores, "to save users significant time by focusing the user's attention only on documents considered relevant." *Id.* at 8. The Examiner also finds that, although Packard updates the learning path, Packard does not do so based on a comparison of the system learn value to a learn value threshold. *Id.* at 8–9. Nonetheless, the Examiner finds that Supanc discloses updating based on comparing a system learn value to a learn value threshold. *Id.* at 9. The Examiner concludes that it would have been obvious to have modified the method of Packard to recommend advancement based on comparison to a

recommendation threshold, "to provide the best educational path for the user." *Id.*

Appellant argues that the Examiner's reasons for combining the references are insufficient. Appeal Br. 10. Specifically, Appellant asserts that the Examiner's reason for combining each of Knutson and Supanc with Packard is not supported by evidence. *Id.* at 12. Moreover, Appellant asserts that the Examiner's rationale for the combination is no more than "a generic assertion" that Packard could be improved, without explaining why one of ordinary skill would combine the references. *Id.* Thus, according to Appellant, the rejection appears to be based on impermissible hindsight because "the Examiner has failed to articulate sufficient reasons *with a satisfactory rational underpinning* to support a legal conclusion of obviousness." *Id.* at 13.

The Examiner responds that the combination of Packard with each of Knutson and Supanc is legally sound and supported by evidence. Ans. 5. Specifically, the Examiner contends that for the combination of Packard and Knutson, the offered motivation, "to save users significant time by focusing the user's attention only on documents considered relevant," comes directly from Knutson. *Id.* (citing Knutson ¶ 63). Similarly, for the combination of Packard and Supanc, the Examiner contends that the offered motivation is supported by the disclosure of Supanc as well as the rationales identified by the Supreme Court in *KSR*. *Id.* (citing Supanc ¶ 48; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415–421 (2007)). In particular, the Examiner states that the offered motivation, "to provide the best educational path for the user," is based on Supanc's disclosure of connecting via different pathways and attaining a higher likelihood of success. *Id.* The Examiner notes that the

Supreme Court held in *KSR* that using a known technique, in the same way, with predictable results supports an obviousness conclusion. *Id.*

The Examiner has the better argument. Knutson and Supanc, not Appellant's own disclosure, support the Examiner's reasoning. Knutson discloses a significant time savings "by focusing the user's attention to only those paragraphs in a document or documents that are considered relevant." Knutson ¶ 63; *see also* Final Act. 8. Given this disclosure in Knutson, we disagree with Appellant's contention that impermissible hindsight was employed by the Examiner. Given that Knutson's method provides correlated electronic educational material to a user "in a manner to accommodate the learning preferences and/or proclivities of the user," the Examiner's reasoning is supported by a rational underpinning. In a similar manner, Supanc discloses selecting a node or learning objective (*see* Supanc ¶ 44) in which a user can meet or exceed the recommended threshold so that completion "will increase the likelihood of success sufficiently to allow the user to advance to the next node." Supanc ¶ 39; *see also* Final Act. 9. Given this disclosure in Supanc, we disagree with Appellant's contention that impermissible hindsight was employed by the Examiner in combining Packard and Supanc. In addition, Appellant has not persuaded us that the function of comparing a likelihood of success with a recommendation threshold, as taught by Supanc, was unknown in the art or that the Examiner's proposed modification of Packard would yield other than predictable results to the ordinary artisan.

For the reasons explained above, we sustain the rejection of independent claim 1. Claims 2–18 fall with claim 1.

CONCLUSION

The Examiner's rejections are affirmed.

More specifically,

DECISION SUMMARY

Claims Rejected	**35 U.S.C. §**	**Reference(s)/Basis**	**Affirmed**	**Reversed**
1–18	101	Eligibility	1–18	
1–18	103	Packard, Knutson, Supanc	1–18	
Overall Outcome			1–18	

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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED