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Shutts & Bowen LLP  
STEVEN M. GREENBERG  
525 Okeechobee Blvd  
# 1100  
West Palm Beach, FL 33401

EXAMINER
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GRANT, MICHAEL CHRISTOPHER

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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* ELIZABETH VERA BAGLEY, BLAKE OSBORNE GOULETTE,  
PAMELA ANN NESBITT, ROBERT CHRISTOPHER PEPPER, and  
RONALD GARY SHAPIRO

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Appeal 2017-002635  
Application 10/853,298<sup>1</sup>  
Technology Center 3715

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Before STEVEN D.A. McCARTHY, KEVIN F. TURNER, and  
CARL M. DeFRANCO *Administrative Patent Judges*.

Opinion for the Board by TURNER, *Administrative Patent Judge*.

Opinion concurring by McCARTHY, *Administrative Patent Judge*.

TURNER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a Final Office action dated November 16, 2015 (“Final Act.”), rejecting claims 1, 3, 7–9, 12–14, and 17. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> According to Appellants, the real party in interest is IBM Corporation, the assignee of this application. (Appeal Br. 2).

### THE CLAIMED SUBJECT MATTER

The claims are directed to a method, an apparatus, and a computer program product for dynamically creating electronic learning games. Spec. ¶ 10. Claims 1, 8, and 13 are independent. Claim 1<sup>2</sup>, reproduced below, is illustrative of the claimed subject matter:

1. A data processing system for dynamic construction of e-learning games, comprising:

a computer with a processor and memory;

a learning object repository coupled to the computer and holding learning objects that provide instructions to a student;

a learning object assessment object repository coupled to the computer and holding learning object assessment objects;

a video repository coupled to the computer and storing a plurality of videos, each video of the plurality of videos including a start scene, one or more action scenes, and an end scene,

wherein the learning object repository, the learning object assessment object repository, and the video repository each conform to one of a Sharable Content Object Reference Model (SCORM) and a standard for Learning Object Metadata (LOM); and

a game generator executing on the processor of the computer and configured for

constructing a game list the constructing comprising determining a list of learning object identifiers (IDs) from the learning object assessment object repository, determining that

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<sup>2</sup> In response to a Notification of Non-Compliant Appeal Brief, mailed July 1, 2016, the Appellants refiled their Appeal Brief on August 1, 2016, to correct the defective Appeal Brief, dated March 16, 2016 (hereinafter "Appeal Br."). The responsive Appeal Brief contained an error in claim 1, whereby the claim did not recite the limitation beginning with "upon determining that the student's answer is *incorrect*" that was previously present. Thus, for purposes of this Appeal, we treat claim 1 as the generally correct version present in the first-filed Appeal Brief dated March 16, 2016 and reproduced herein.

there is a learning object of the learning objects in the learning object repository referenced on the list of learning object IDs to be processed, and processing the learning object to form the game list including retrieving both a catalog and also an entry value for the learning object from the learning object repository and also utilizing the catalog and the entry value to retrieve a learning object assessment object for the learning object from the learning object assessment object repository, the game list including a set of questions, associated multiple-choice responses to the set of questions, and corresponding answers to the set of questions;

presenting a question from the set of questions and the associated multiple-choice responses from the game list to the student;

comparing a student's answer with a corresponding correct answer;

upon determining that the student's answer is correct, displaying a positive version of a selected action scene from the one or more actions scenes indicating a positive outcome upon obtaining the positive version of the selected action scene indicating the positive outcome from the video repository; and

upon determining that the student's answer is incorrect, displaying a negative version of the selected action scene from the one or more actions scene indicating a negative outcome upon obtaining the negative version of the selected action scene indicating the negative outcome from the video repository.

Appeal Br. 21–23 (Claims Appendix).

### REJECTION

Claims 1, 3, 7–9, 12–14, and 17 are 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

### The § 101 rejection

Appellants argue claims 1, 3, 7–9, 12–14, and 17 together. We select claim 1 as representative. Thus, claims 3, 7–9, 12–14, and 17 will stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Patent eligibility is assessed under 35 U.S.C. § 101, which states that 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 U.S. Supreme Court has held that this statutory provision contains an important implicit exception: laws of nature, natural phenomena, and abstract ideas are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014). But claiming the practical application of these concepts may be deserving of patent protection. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293–94 (2012). In *Alice*, the Supreme Court reaffirmed the framework set forth previously in *Mayo* “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355.

The first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into patent-eligible application.” *Id.* (quoting *Mayo*, 132 S. Ct. at 1298, 1297). In other words, the second step is to “‘search for an inventive concept’—i.e., an element or combination of elements that is ‘sufficient to ensure that the patent in practice

amounts to significantly more than a patent upon the [ineligible concept] itself.”  
*Id.* (alteration in original) (quoting *Mayo*, 132 S. Ct. at 1294).

Under *Mayo* Step 1, the Examiner determined that claim 1 is directed to a judicial exception—an abstract idea in the form of a method of organizing human activity—because the claimed method can be performed by a human. Final Act. 3; Answer (hereinafter “Ans.”) 2, 5. In particular, the Examiner determined that claim 1 is directed to software that generates lists of questions based upon the scientific learning objective, and presents these questions to students in the form of a learning game, wherein the student’s answer dictates the type of subsequent reinforcement video. Ans. 4. The Examiner explained that Appellants’ claimed subject matter is analogous to the patent-ineligible subject matter that was claimed in *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014). In *Ultramercial*, the Examiner explained, the patent-ineligible claims were directed to a person completing a condition, and upon completing that condition, the person would receive media. *Id.* at 5 (explaining that the “CAFC held that claims directed to a method whereby after a person fulfilled a certain condition (watching a sponsor message) he/she was then provided with media via the internet, such as a video, to be abstract.”).

In responding to the rejection, Appellants analogize the claimed subject matter to a series of cases, and argued that the claimed subject matter is patent-eligible because it recites specific steps that depart from the routine and conventional sequence of events without foreclosing other ways to solve the problem. Appeal Br. 17 (explaining that the claimed subject matter is patent eligible because:

similar to [*DDR Holdings, LLC v. Hotels.com, LLC*, 773 F.3d 1245, 1258 (Fed. Cir. 2014)] and in contrast to the claims of [*Internet Patents Corporation v. Active Network, Inc.*, 790 F.3d 1343 (Fed. Cir.

2015)], and in accordance with the jurisprudence of [*Intellectual Ventures I LLC v. Capital One Bank*, 792 F.3d 1363 (Fed. Cir. 2015)], Appellants' claim language indicates how the innovative concept is achieved without foreclosing other ways of solving the problem solved by Appellants' claims, in reciting a specific series of steps that results in a departure from the routine and conventional sequence of events, and therefore, are statutory under the law).

Further, Appellants argue that the Examiner did not properly apply the analysis of *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016), as explained by the Deputy Commissioner for Patent Examination Policy. Reply<sup>3</sup> 5–10. Appellants argue that under a proper *Enfish* analysis, the claimed subject matter is directed to a “process driven improvement to the functionality of the computer” because the subject matter is claimed by performance of a specific combination of steps. *Id.* at 8–10.

We agree with the Examiner. More specifically, we agree that claim 1 is directed to the abstract idea of a method of organizing human activity because the claimed method can be performed by humans using a pencil and paper.

Claim 1 includes constructing a game list by: (1) processing the learning object; (2) retrieving the learning object assessment object associated with the learning object; (3) presenting a question to the student; (4) comparing the student's answer to the correct answer; and (5) showing a positive video when the answer is correct, or showing a negative video when the answer is incorrect.

This ordered combination of steps recites an abstract idea in the form of a method of organizing human activity because it can be performed by humans using a pencil and paper. The Examiner explains that the steps in claim 1

could be performed by, e.g., a first human being (either in his/her head and/or using pencil and paper) creating the claimed ‘game list’ by

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<sup>3</sup> Reply Brief filed December 5, 2016, hereinafter “Reply.”

following the claimed steps for doing so; the first human being could then ‘present[] a question . . . from the game list’ to a second human being, either verbally and/or using pencil and paper; the first human being could then compare the second human being’s answer with ‘a corresponding correct answer’; and then the first human being (using a VCR or DVD player and/or some other video player device) could then present either the claimed positive or negative version of a selected action scene based upon if the second human being’s answer was correct or incorrect.

Final Act. 3.

In *Cybersource*, the court held that claims may be patent-ineligible when they are drawn to an unpatentable mental process, which is a subcategory of unpatentable abstract ideas. *Cybersource Corporation v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011). More specifically, the court held that claims read on unpatentable mental processes when the method steps can be performed by the human mind. *Id.* at 1372 (explaining that the claim under review is directed to unpatentable mental processes because “[a]ll of [the] claim’s[] method steps can be performed in the human mind, or by a human using a pen and paper.”). The court reasoned that method steps that can be performed by the human mind are patent-ineligible subject matter because the “method . . . can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101.” *Id.* at 1373. The court further explained that methods that are performed entirely by the human mind are the “types of methods that embody the ‘basic tools of scientific and technological work’ that are free to all men and reserved exclusively to none.” *Id.* (citing *Gottschalk v. Benson*, 409 U.S. 63, 67, 93 (1972)).

We determine that the ordered combination of steps performed in claim 1 are a method of organizing human activity because it can be performed by humans using a pencil and paper. That the positive or negative feedback is displayed “from a video repository” does not affect whether the claims are directed to an abstract

idea. Our reviewing court has held that “the recitation of a database structure slightly more detailed than a generic database does not save the asserted claims at [Alice] step one.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1287 (Fed. Cir. 2018). In support, the *BSG* court noted *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014), in which the claims were held to be an abstract idea despite the claims’ recitation that part of the method be performed on a scanner, and *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611–13 (Fed. Cir. 2016), in which the claims were held to be an abstract idea despite the claims' recitation of telephone units and servers. The *BSG* court explained that while such recitations provide a “generic environment” in which to carry out the abstract idea, they cannot save the claims from abstraction. 899 F.3d at 1286. For these same reasons, the claimed subject matter here is patent-ineligible because it is directed to such an abstract idea.

By contrast, we are unpersuaded by the Appellants’ argument that recitation of a specific series of steps that depart from the routine and conventional sequence of events, without foreclosing other ways of solving the problem is enough to elevate the subject matter from patent-ineligible to patent-eligible. Appellants created this rationale by analogizing the claimed subject matter to *DDR*. We disagree with Appellants’ argument and concur with the Examiner’s analysis, discussed below.

First, we agree with the Examiner that the instant claims are distinguishable from the above referenced cases [*DDR, Internet Patents, Intellectual Ventures*] because the claimed methods are not exclusive to a computer, i.e., the method can be performed by a pencil and paper. Ans. 8–12; *see also DDR*, 773 F.3d at 1248 (explaining that the claimed subject matter “is directed to systems and methods of

generating a composite web page that combines certain visual elements of a ‘host’ website with content of a third-party merchant”).

Second, we agree with the Examiner that specifically claiming a unique process without foreclosing other methods to solve the problem is necessary but not sufficient for patent-eligibility. Ans. 10–12; *see also Ultramercial*, 772 F.3d at 715 (explaining that the court did not agree with *Ultramercial* “that the addition of merely novel or non-routine components to the claimed idea necessarily turns an abstraction into something concrete.”); *DDR*, 773 F.3d at 1256 (explaining that “[a]lthough the Supreme Court did not ‘delimit the precise contours of the ‘abstract ideas’ category” in resolving *Alice*, over the course of several cases the Court has provided some important principles). For these reasons, it is not enough that the claim language recites a specific series of steps, which do not foreclose other ways of solving the problem, without something more that would elevate the claimed subject matter from patent-ineligible to patent-eligible.

We are also unpersuaded by Appellants’ argument that the Examiner failed to perform the proper *Enfish* analysis as explained by the Deputy Commissioner for Patent Examination Policy. Reply 8–11. Rather, we agree with the Examiner’s analysis. *See* Final Act. 3; Ans. 2, 5. Appellant misconstrues the Examiner’s reason for disallowing the claims under *Enfish*. First, the Examiner did not “doom” the claims because the claimed subject matter can “run on a general purpose computer.” The Examiner rejected the claims because the claimed method is not exclusive to computers—the methods can be performed by humans using a pencil and paper. Because the claimed methods can be performed by humans using a pencil and paper, the claims are patent-ineligible for claiming an abstract idea. Second, simply claiming the subject matter in a manner that requires following a specific combination of steps does not elevate an ineligible abstract

idea to a patent-eligible subject matter. *See Ultramercial*, 772 F.3d at 715 (explaining that the court did not agree with Ultramercial “that the addition of merely novel or non-routine components to the claimed idea necessarily turns an abstraction into something concrete.”). For these reasons, we are unpersuaded by Appellants’ argument that the Examiner erred in its analysis under *Enfish* as explained by the Deputy Commissioner for Patent Examination Policy.

In view of all these reasons, we are unpersuaded by Appellants’ argument that the Examiner erred in its analysis under the first step of the *Mayo* framework.

With respect to the second step of the *Mayo* framework, the Examiner determined that (1) Appellants did not claim significantly more than the abstract idea (Ans. 6; *see also* Final Act. 4 (explaining that a “computer with a processor and a memory,” a “video repository,” and “a game generator executing on the processor of the computer” are “generic, well-known, and conventional and, thereby, not sufficient to amount to significantly more than the judicial exception.”)); (2) Appellants’ claimed abstract idea fails the machine or transformation test because it could be performed by human beings alone and without the necessary use of a particular machine (Ans. 6); and (3) Appellants’ claimed computer embodiment does not result in the improved functionality of the computer or databases (Ans. 7).

Appellants argue that the second step of the *Mayo* framework is concerned with preemption. Reply 13–15. Appellants further argue that because their claimed method avoids preemption, its claims are directed to patent eligible subject matter. We disagree with Appellants’ argument and concur with the Examiner.

More specifically, we agree that the Appellants did not claim more than the abstract idea. As the Examiner explained, there are no additional elements that amount to significantly more than the judicial exception—the computer devices are

generic, well-known, and conventional. Final Act. 3–4; Ans. 6. In *Alice*, the Court held that “[a]n instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer is not ‘enough’ to transform the abstract idea into a patent eligible invention.”) (citing *Mayo*, 132 S. Ct. at 1298, 1297).

Further, we are unpersuaded that preemption alone is sufficient for patent eligibility under step 2 of the *Mayo* framework. Preemption is a necessary clue for patent eligibility, but it is not sufficient for patent eligibility. See *DDR*, 773 F.3d at 1256 (explaining that “[a]lthough the Supreme Court did not ‘delimit the precise contours of the ‘abstract ideas’ category’” in resolving *Alice*, over the course of several cases the Court has provided some important principles); see also *Ultramercial*, 772 F.3d at 716 (explaining that claims which recite an ordered combination of steps can be an abstraction when they have no particular concrete or tangible form); *id.* at 716 (explaining that when the “steps merely instruct[] the practitioner to implement the abstract idea with ‘routine conventional activit[ies],’ it[] is insufficient to transform the patent-ineligible abstract idea into patent-eligible subject matter.”).

For these reasons, we are unpersuaded by Appellants’ argument that the Examiner erred in its analysis under the second step of the *Mayo* framework.

Appellants also argue that the Examiner presented new arguments when (1) the Examiner for the first time presented a legal basis in support of the Examiner’s conclusions regarding the two-part *Mayo* framework, and (2) the Examiner cited to *Enfish* for the first time in the Examiner’s Answer. We are unpersuaded by Appellants’ argument. As stated in the Manual of Patent Examining Procedure, “[t]here is no new ground of rejection when the basic thrust of the rejection remains the same such that an appellant has been given a fair opportunity to react to the rejection.” MPEP § 1207.03(a). Here, the basic thrust of the Examiner’s

rejection in the Answer is the same when compared to the Final Rejection. In the Final Rejection, the Examiner used the *Mayo* framework to argue the claimed invention was directed to an abstract idea, and the claims lacked additional elements that elevated the subject matter from patent-ineligible to patent-eligible. This argument did not change in the Examiner's Answer. The Examiner merely included more detail in the Answer by specifically referencing the two-part *Mayo* framework and citing to *Enfish*. Because the argument did not change from the Final Rejection to the Answer, the basic thrust of the rejection stayed the same.

For this reason, we are unpersuaded by Appellants' argument that the Examiner presented new arguments in the Examiner's Answer.

In view of the above, we are unpersuaded of error. For the above reasons, we affirm the rejection of claim 1 under 35 U.S.C. § 101 as patent-ineligible subject matter.

In addition, although we determine that claims 3, 7-9, 12-14, and 17 stand or fall with claim 1, we note that the Examiner has made similar determinations with respect to the other independent claims and also determined that the dependent claims do not recite limitations that "are sufficient to amount to significantly more than the judicial exception." Final Act. 3-5; Ans. 2.

#### DECISION

The Examiner's rejection of claims 1, 3, 7-9, 12-14, and 17 is affirmed.

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

AFFIRMED

UNITED STATES PATENT AND TRADEMARK OFFICE

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McCARTHY, *Administrative Patent Judge*, concurring.

I concur in the result.