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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* EBBE ALTBURG, SCOTT FABER,  
RON HIRSON, BEN HARRIS LYON, PAUL G. MANCA,  
SEAN VAN DER LINDEN, and VIRGINIA HONG-JIA YANG

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Appeal 2017-011751  
Application 11/738,300<sup>1</sup>  
Technology Center 3600

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Before JEAN R. HOMERE, JASON V. MORGAN, and  
JOHN R. KENNY, *Administrative Patent Judges*.

MORGAN, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

*Introduction*

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–5 and 7–20. Claim 6 is canceled. Appeal Br. 35. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> Appellants identify YELLOWPAGES.COM LLC as the real party in interest. Appeal Br. 1.

*Summary of disclosure*

Appellants' claimed subject matter relates to a method of determining that an advertiser in a virtual world is available for real time communications based on the virtual world advertiser's schedule and the location of the advertiser's avatar counterpart in the virtual world. Abstract.

*Representative claim (formatting added)*

1. A method for establishing a voice over internet protocol connection in a virtual reality environment using a customer avatar and an advertiser avatar, the method comprising:
  - processing, by a connection server system, a first transmission received from a virtual reality server;
  - determining, based at least in part on processing the first transmission, a context of an advertising opportunity in a virtual reality world provided by the virtual reality server, wherein
    - (a) the context is based at least in part on an action of a customer avatar of a customer and
    - (b) the action of the customer avatar is controlled by the customer interacting with and navigating the virtual reality world via a customer computing device;
  - deriving one or more parameters, by the connection server system, from the context to classify the context according to an economic level to associate with the customer;
  - accessing a database, by the connection server system, to retrieve an advertisement for an advertiser from a plurality of advertisements stored in the database, wherein the advertisement is selected based at least in part on the economic level and a set of rules for selecting advertisements based on the one or more parameters derived from the context;
  - associating, by the connection server system,
    - (a) an advertiser avatar for the advertisement with the advertisement and

(b) a reference embedded in the advertisement to facilitate a connection for real time communications with the advertiser;

causing, by the connection server system via the virtual reality server, presentation of the advertisement in the virtual reality world;

processing, by the connection server system, location information acquired via a virtual object coupled with the advertiser avatar to determine a virtual location of the advertiser avatar in the virtual reality world;

determining, by the connection server system, whether the advertiser is available for real time communications

(a) based at least in part on a schedule of the advertiser, and

(b) based at least in part on determining whether the virtual location of the advertiser avatar in the virtual reality world corresponds to a predetermined virtual location;

processing, by the connection server system, a second transmission corresponding to a request for the connection via the reference embedded in the advertisement, wherein the request for the connection via the reference is generated by the customer via the customer computing device navigating in the virtual reality world; and

in response to processing the second transmission corresponding to the request for the connection, establishing, by the connection server system, the voice over internet protocol connection between the customer computing device and an advertiser computing device of the advertiser for real time communications based at least in part on determining that the advertiser is available for real time communications, the connection between the customer computing device and the advertiser computing device established using a voice over internet protocol application.

*Rejection*

The Examiner rejects claims 1–5 and 7–20 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–4.

PRINCIPLES OF LAW

To be statutorily patentable, the subject matter of an invention must be a “new and useful process, machine, manufacture, or composition of matter, or [a] new and useful improvement thereof.” 35 U.S.C. § 101. There are implicit exceptions to the categories of patentable subject matter identified in § 101, including: (1) laws of nature; (2) natural phenomena; and (3) abstract ideas. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014). The Supreme Court has set forth a framework for distinguishing patents with claims directed to these implicit exceptions “from those that claim patent-eligible applications of those concepts.” *Id.* at 217 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012)). The evaluation follows a two-part analysis: (1) determine whether the claim is *directed to* a patent-ineligible concept, e.g., an abstract idea; and (2) if so, then determine whether any element, or combination of elements, in the claim is sufficient to ensure that the claim amounts to *significantly more* than the patent-ineligible concept itself. *See id.* at 217–18.

Although the second step in the *Alice/Mayo* framework is termed a search for an “inventive concept,” the analysis is not an evaluation of novelty or non-obviousness, but rather a search for “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.* (citation omitted). A novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See*

*Mayo*, 566 U.S. at 90; *see also Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013) (“Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry”).

If a claim proves to be unpatentable as a result of the two-part analysis, no additional determination regarding preemption is necessary. “While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility,” as “questions on preemption are inherent in and resolved by the § 101 analysis.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (internal quotation marks and citation omitted).

The U.S. Patent and Trademark Office (USPTO) recently published revised guidance on the application of the two-part analysis. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (“Memorandum”). 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) (*see id.* at 54 (Step 2A – Prong One)); and
- (2) additional elements that integrate the judicial exception into a practical application (*see id.* at 54–55 (Step 2A – Prong Two); MPEP § 2106.05(a)–(c), (e)–(h)).

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 are 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* Memorandum, 84 Fed. Reg. at 56 (Step 2B).

## ANALYSIS

### *Memorandum step 2A—prong one*

The Examiner determines that “[c]laim 1 is directed to the abstract idea of presenting advertisements based on the availability of the advertiser to communicate with the customer in order to establish communication between customer and advertiser.” Final Act. 2. More specifically, claim 1 recites “retriev[ing] an advertisement for an advertiser”; “present[ing] the advertisement in [a] virtual reality world”; “determining . . . whether the advertiser is available . . . based . . . on a schedule of the advertiser [and] on determining whether the virtual location of the advertiser avatar . . . corresponds to a predetermined virtual location”; and “establishing . . . [a] voice over internet protocol connection between the customer computing device and the advertiser computing device based . . . on determining that the advertiser is available for real time communications.” Thus, claim 1 is directed to: (1) selecting and presenting an advertisement; (2) determining that an advertiser is available based on the advertiser’s schedule and location; and (3) establishing a connection between a customer and the advertiser. Therefore, claim 1 is directed to the fundamental economic practice of referring a customer to an available advertiser, a certain method

of organizing human activity that represents an abstract idea. *Cf.* *LendingTree, LLC v. Zillow, Inc.*, 656 F. App'x 991, 996 (Fed. Cir. 2016) (citing *Bilski v. Kappos*, 561 U.S. 593, 611; *Alice*, 573 U.S. at 219) (like *Bilski*'s risk hedging and *Alice*'s intermediated settlement, "the concept of applying for loans and receiving offers is also long prevalent in our financial system").

Although the claimed method takes place in a virtual reality world and the connection is a voice over internet protocol connection, the particular recitations involving these aspects of the claim are best considered in the "practical application" and the "inventive concept" analyses addressed below as part of the Memorandum step 2A—prong two and step 2B. Moreover, although Appellants contend the Examiner over-generalizes the subject matter of claim 1 in a manner "untethered from the actual language of the claims" (Appeal Br. 11; *see also* Reply Br. 5–12), the above characterizations of claim 1 are properly tethered to the claim recitations and accurately identify the ideas set forth in claim 1 to ensure that the exceptions to patent-eligible subject matter do not swallow all of patent law. *See, e.g., Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016) (citing *Alice*, 573 U.S. at 217; *Diamond v. Diehr*, 450 U.S. 175, 189 n. 12 (1981)); *also compare Alice*, 573 U.S. at 212 ("the claims at issue are drawn to the abstract idea of intermediated settlement") *with id.* n. 2 (reproducing the 198-word claim).

Appellants further argue that, similar to the patent-eligible invention in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), the method of claim 1 "addresses a business challenge (establishing a real-time communication between a customer and an advertiser in a virtual

reality world) that is particular to the Internet.” Appeal Br. 21; *see also id.* at 28–29. The claimed *DDR* invention, however, “address[ed] the problem of retaining website visitors that, if adhering to the routine, conventional functioning of Internet hyperlink protocol, would be instantly transported away from a host’s website after ‘clicking’ on an advertisement and activating a hyperlink.” *DDR Holdings*, 773 F.3d at 1257. The *DDR* problem did not have a pre-internet analogue because there was “no possibility that by walking up to [a third-party store-in-store] kiosk, the customer w[ould] be suddenly and completely transported outside the warehouse store and relocated to a separate physical venue associated with the third-party.” *Id.* at 1258.

In contrast, the problem addressed by the method of claim 1—helping a customer reach someone who is both scheduled to be available and is available in fact—is not “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* at 1257. Nor does the problem addressed by the method of claim 1 specifically arise in the realms of virtual reality worlds and voice over internet protocol connection establishment. Rather, the problem that a provider of goods or services may be scheduled to be available, but may not actually be available, arises in numerous other contexts where providers of goods or services have been both scheduled and have actual availability.

For example, taxi drivers conducting business as independent contractors may enter a contract providing access to a dispatch service. *See Yellow Taxi Co. of Minneapolis v. N.L.R.B.*, 721 F.2d 366, 369 (D.C. Cir. 1983). With arrangements in which such drivers choose their own hours (*id.* at 376) and can refuse dispatch calls (*id.* at 377), the dispatch service is

faced with a similar problem to the one addressed by claim 1: helping a customer obtain service from a provider (i.e., a taxi driver) who is both scheduled to be available (during the taxi driver's chosen hours) and is available in fact (where the taxi driver accepts the dispatch call). The location of the taxi driver is also relevant to whether the taxi driver is available-in-fact to provide service to a customer. *Cf. id.* at 372 (taxi drivers warned against falsifying cab locations when reporting positions). The problem facing taxi dispatchers arises from the need to take into account both the schedule and actual availability of drivers, not from technologies that may be involved in providing the service (e.g., automobiles, radios, and phones).

Similarly, despite Appellants' arguments, we determine that the problem addressed by claim 1 (scheduled and actual availability of an advertiser) does not arise from the virtual reality world and voice over internet protocol connection technologies, but arises from the need to take into account both the schedule and actual availability of advertisers.

For these reasons, claim 1 is directed to a fundamental economic practice (connecting a customer to an available advertiser), a certain method of organizing human activity that represents an abstract idea.

*Memorandum step 2A—prong two*

Appellants contend the Examiner erred because claim 1 pertains “to technical improvements in telecommunications pertaining to real-time communications in virtual reality environments.” Appeal Br. 20. Specifically, Appellants argue claim 1 relates “to establishing a real-time communication between a customer and an advertiser in a virtual reality world.” *Id.*; *see also id.* at 29 (citing *Enfish*, 822 F.3d 1327). Appellants

characterize claim 1 as relating “to a unique and complex way for *establishing a voice over internet protocol (VoIP) connection in a virtual reality environment*” (Reply Br. 2) and argue the claimed features “improve the virtual reality technical field by making the virtual world more real-world like by permitting such real-time communications based on the context” (*id.* at 5).

Appellants’ arguments are unpersuasive because the claimed method does not improve the virtual world or voice over internet protocol technologies, but rather generally links the abstract idea of connecting a customer to an available advertiser to the technological fields of voice over internet protocol (as a means for forming a connection) and virtual worlds (as a platform for advertising and as a tool for determining an advertiser’s availability). Memorandum, 84 Fed. Reg. at 55 (citing, e.g., *DDR Holdings*, 773 F.3d at 1258–59; *Bilski*, 561 U.S. at 612; *Parker v. Flook*, 437 U.S. 584, 588–90 (1978)).

The Specification provides evidence that the claimed method is not directed to improvements in virtual reality technologies because the virtual reality environment is given as just one example of a number of varied mechanisms for presenting a reference that can be embedded in an advertisement. *See* Spec. ¶ 109 (examples include “newspaper, magazine, telephone directory, web search results, VoIP user terminals, interactive maps, banners, directory assistance service, online marketplace, mobile communications devices, radio, cable/satellite television, interactive television, web television, voice portal, web portal, online auction site, blog, email, bulletin board, refrigerator magnet, brochure”). Similarly, the Specification identifies using the location of the advertiser’s avatar as an

alternative to the online status of the advertiser for purposes of determining availability of the advertiser (*see id.* ¶ 430), further showing the claimed invention makes *use* of virtual reality technology, but is not directed to an improvement in virtual reality technology. The Specification further provides evidence that the claimed method is not directed to improvements in voice over internet protocol technologies because voice over internet protocol is just one of several disparate examples of real time communications technologies that can be used to connect a customer with an advertiser. *See* Spec. ¶ 63 (examples include “telephone calls made via a circuit switched network, . . . calls for a text-based chat session, calls for an instant messaging session . . . , calls for an application sharing session”).

Appellants further compare the invention of claim 1 to the patent-eligible invention of *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), arguing “there is a difference between merely automating a known manual process and automating a process that is not known to have been previously performed manually.” Appeal Br. 30. In particular, Appellants argue claim 1 adds “specific limitations other than what is well-understood, routine and conventional in the field, or add unconventional steps that confine the claim to a particular useful application.” *Id.* at 31. The claimed invention of *McRO*, however, included limited rules with a structure reflecting “a specific implementation not demonstrated as that which ‘any [animator] engaged in the search for [an automation process] would likely have utilized.’” *McRO*, 837 F.3d at 1316 (citing *Myriad*, 569 U.S. at 595–96) (alterations in original). In contrast, the method of claim 1, recites steps worded broadly enough to mirror the processes a human would go through in referring a customer to an available

advertiser. *See* Ans. 3 (“[t]he claim steps do not recite a specialized algorithm that could move the claims from the abstract to the concrete”).

For these reasons, despite Appellants’ arguments, we determine that the additional elements of claim 1 do not integrate the underlying abstract idea into a practical exception. *See* Memorandum, 84 Fed. Reg. at 54–55.

*Memorandum step 2B*

We agree with the Examiner that the additional elements of claim 1 do not make claim 1 amount to substantially more than the underlying abstract idea. Final Act. 3. Rather, as the Examiner determines, “[t]he use of voice over internet protocol (VoIP) and virtual reality for communicating between customer and advertiser is nothing more than programming conventional software or hardware—a routine, conventional practice.” Ans. 3. The Examiner also correctly determines the additional recitations merely introduce generic elements, “such as a device or computer (processor) or storage medium (database), into” the claimed method. *Id.*

The Examiner’s determinations are supported by acknowledgments in the Specification’s background section that: (1) virtual reality environments were known technologies for providing visual experiences (Spec. ¶ 3); (2) virtual reality environments supporting economic activity were known (*id.* ¶ 8); (3) voice over internet protocol technologies were a known alternative to traditional circuit-committed protocols (*id.* ¶ 10); and (4) “[t]elephone systems [were] frequently used in conducting business” (*id.* ¶ 12). The Specification further provides a generic description of a data processing system (Spec ¶ 553–59, Fig. 39) with little more than block diagrams and high-level references to illustrate the claimed use of a database (*see, e.g.*, Spec. ¶ 363, Fig. 20). The Specification’s lack of detailed support for any of

these technologies, either through direct disclosure or through incorporation by reference, evinces that Appellants relied on artisans of ordinary skill already being familiar with these technologies (i.e., on these technologies being well-understood, routine, and conventional).

Appellants identify several non-exclusive considerations relevant to determining whether a claim's additional recitations make the claim significantly more than an underlying abstract idea. *See* Appeal Br. 23. Appellants' enumeration of such considerations does not, however, show that that the additional recitations of claim 1, when evaluated either individually or in combination, provide an inventive concept. *See* Memorandum, 84 Fed. Reg. 56.

Appellants note that "virtual reality is a computer-simulated environment that does not exist outside of computer technology" (Appeal Br. 24), and thus contend claim 1 improves the technology or technical field of virtual reality (*id.*). The use of well-understood, routine, and conventional virtual reality technology, however, is claimed at a high level of generality that does not amount to substantially more than the underlying abstract idea. *See* Memorandum, 84 Fed. Reg. 56.

Similarly, Appellants' arguments that claim 1 recites "some form of accessing a database" (Appeal Br. 25), displaying an advertisement in a virtual world (*id.* at 26), and permitting real-time communications based on context (*id.* at 27) do not show that claim 1 improves a technology or technical field in a manner that evinces an inventive concept.

Appellants point, for example, to *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), to support the proposition that claim 1 is directed to a patent-eligible "non-conventional

and non-generic arrangement of features for enhancing virtual reality environments.” Appeal. Br. 30. The claims in *Bascom*, however, did “not merely recite the abstract idea of filtering content along with the requirement to perform it on the Internet, or to perform it on a set of generic computer components.” *Bascom*, 827 F.3d at 1350. Rather, the claims in *Bascom* recited “a specific, discrete implementation of the abstract idea of filtering content” with a design that gave the claimed “filtering tool both the benefits of a filter on a local computer and the benefits of a filter on the ISP server.” *Id.* This provided “a technical improvement over prior art ways of filtering such content . . . [that] were either susceptible to hacking and dependent on local hardware and software, or confined to an inflexible one-size-fits-all scheme.” *Id.*

Despite Appellants’ arguments, we do not identify any comparable improvement in the recited technologies of claim 1 (e.g., a virtual reality world, database, connection server system, voice over internet protocol connection). Instead, the recited technologies are invoked merely as tools. *See Enfish*, 822 F.3d at 1335–36. Therefore, claim 1 does not have additional recitations that make claim 1 significantly more than the underlying abstract idea.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 101 rejection of claim 1, and claims 2–5 and 7–20, which Appellants do not argue separately.

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DECISION

We affirm the Examiner's decision rejecting claims 1–5 and 7–20.

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. § 41.50(f).

AFFIRMED