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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FREDERICK W. KRON,
NOAH FALSTEIN, and STACY MARSELLA¹

Appeal 2017-009604
Application 13/924,205
Technology Center 3700

Before CHARLES N. GREENHUT, JAMES P. CALVE, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

CALVE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Final Office Action rejecting claims 2–19. Br. 4. Claim 1 is cancelled. *Id.* We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Medical Cyberworlds, Inc. is identified as the real party in interest. Br. 2.

CLAIMED SUBJECT MATTER

Claims 2 and 18 are independent. Claim 2 is reproduced below.

2. A method of interfacing with a computer system having a display device, the method comprising:

establishing a computer-controlled avatar within the computer system, wherein the computer-controlled avatar has a human appearance and is programmed to exhibit emotional behavior and cognitive behavior emulating a human in response to a user input received via an input device operably coupled to the computer, wherein the input device includes an audio input device to capture voice input and an imaging input device to capture body language input;

presenting the computer-controlled avatar to the user via the display device;

capturing the user input using the input device, wherein the user's input comprises a plurality of emotional components and a plurality of cognitive components; and

presenting a response to the user input via the avatar, wherein the response to the user input comprises a plurality of emotional components and a plurality of cognitive components.

Br. 14 (Claims App'x).

REJECTIONS²

Claims 2–19 are rejected as directed to patent-ineligible subject matter under the judicial exception to 35 U.S.C. § 101.

Claims 2–13, 15, 18, and 19 are rejected on the ground of non-statutory double patenting over claims 1, 2, 8–18, and 21 of Patent No. US 8,469,713 B2.

² The Examiner withdrew rejections of claims 2–19 under 35 U.S.C. § 102 and § 103 in response to Appellants' Response under 37 C.F.R. § 1.116, filed on June 21, 2016. *See* Adv. Action 1, mailed July 6, 2016; Ans. 7.

ANALYSIS

Appellants argue claims 2–19 as a group. Br. 8. We select claim 2 as representative, with claims 3–19 standing or falling with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Appellants created a computer simulation to train physicians to “form and maintain effective relationships with [their] patients.” Spec. ¶ 3. The system is for “teaching empathy, patient-centeredness, professionalism, interviewing micro-skills, and communications skills (e.g., bedside manner) through constructivist learning in a social, three-dimensional environment with emotionally expressive avatars.” *Id.* ¶ 2. The medical training system teaches “medical personnel how to effectively interact with patients through actual experience” in a medical simulation. *Id.* ¶¶ 7, 8.

We analyze the patent-eligibility of the claimed method of interfacing with a computer, as did the Examiner, under the two-step framework of *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) and *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012). First, we consider whether claim 2 is directed to a patent-ineligible concept such as a law of nature, natural phenomena, or abstract idea. *Alice*, 134 S. Ct. at 2355. If claim 2 is directed to a patent-ineligible concept, we consider the elements of claim 2 individually and as an ordered combination to determine whether there are additional elements that transform claim 2 into a patent-eligible application. *Id.* This search for an “inventive concept” in the second step of the *Alice/Mayo* two-step analysis involves a search for an element or combination of elements “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.* (quoting *Mayo*, 132 S. Ct. at 1294).

Alice Step One

We agree with the Examiner that claim 2 is directed to an abstract idea or concept of simulating personal interactions between a person and a computer-controlled avatar. As such, the claims are directed to organizing human activity and mental processes that people undertake in their daily interactions with one another as they convey cognitive information with emotional content in the form of non-verbal body language, expressions, posture, and other indicators. *See Spec.* ¶ 75 (describing avatar emotions that are conveyed by the computer simulation); Final Act. 4–5; Ans. 8–9.

Such mental processes, human interactions, and communications are abstract ideas under *Alice Step One* analysis. Indeed, as the Examiner points out, claim 2 is directed largely to receiving data input in the form of visual and audio content and outputting data in the form of audio and visual data of an avatar, which involve steps that people largely do in their minds during a conversation. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353, 1354 (Fed. Cir. 2016) (we treat collecting information even when limited to particular content that does not change its character as information as within the realm of abstract ideas as we also treat analyzing information by steps people go through in their minds or by mathematical algorithms as mental processes and presenting the results of these abstract processes); Ans. 9.

Even if we limited the scope of claim 2 to the medical field involving a user who is a physician and an avatar that represents a patient, the result is the same. Claim 2 is directed to an abstract idea of simulating or automating activities that physicians undertake in their daily routine and perform in their minds. *See SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950, 955 (Fed. Cir. 2014) (non-precedential); Final Act. 11.

The courts have treated claims to organizing human activity as an abstract idea consistent with the Examiner's determination (Final Act. 4–5). *Alice*, 134 S. Ct. at 2356 (hedging is method of organizing human activity); *Voter Verified, Inc. v. Election Sys. & Software LLC*, 887 F.3d 1376, 1385 (Fed. Cir. 2018) (fundamental human activity of voting); *Planet Bingo, LLC v. VKGS LLC*, 576 F. App'x 1005, 1008 (Fed. Cir. 2014) (non-precedential) (managing a game of bingo); *In re Salwan*, 681 F. App'x 938, 941 (Fed. Cir. 2017) (non-precedential) (organizing patient health information).

Indeed, claim 2 is analogous to computer role-playing games that are used to organize human activity and control human interactions as players represented by an avatar in a game environment interact with avatars of other users and/or with computer-controlled avatars. *See* Final Act. 11. In this regard, Appellants disclose that this role-playing simulation method can assign goals and characteristics to users and improve the status of the user within the medical simulation upon completion of a goal. Spec. ¶¶ 30–35.

Claim 2 captures information relating to the emotional and cognitive components of a user's mental processes and outputs information relating to emotional and cognitive components of a patient's mental processes via an avatar. Claim 2 recites a generic computer and display device with an avatar programmed to exhibit emotional and cognitive responses that emulates a human response to a user. A user inputs audio and video data and receives audio and video data back from an avatar. Claim 2 does not recite particular formats, innovative processes, or any effectiveness in the manner in which a user's data is input or processed or the way in which an avatar's response is output to a user. Claim 2 thus recites, at a very high level of generality, an abstract idea of human interactions, mental processes, and human activity.

Alice Step Two

We do not consider claim 2 to embody an inventive step when we consider the elements of claim 2 individually or as an ordered combination. Claim 2 recites individual generic computer components (computer system, display device, audio input device, imaging input device) that perform their standard functions of “capturing the user input using the input device” and presenting an avatar response to the user input. There is no requirement that the “emotional” or “cognitive” components of a user’s input are captured or processed in any particular or innovative way. Nor is there any limitation to describe how the emotional or cognitive components of an avatar’s response relate to the user input or processing of the user’s input.

In this regard, Appellants disclose that the system can be implemented by any programming method known to those of skill in the art and can use “massively multi-player on-line gaming (MMOG) structures, procedures, and methodologies” including taking place in a distributed, three-dimensional synthetic environment that may include game play design elements and simulated characters such as avatars. Spec. ¶ 21.

There is no improvement to computer structure or functionality. The Specification discloses that the claimed simulation method may be implemented on a medical training server 205 that “can be a computer including a memory, a processor, and input/out ports.” Spec. ¶ 25. Similarly, user devices 215, 220, 225 can be a desktop computer, a laptop computer, a cellular telephone, personal digital assistant, or any other electronic device of a user that can communicate with medical training server 205 through network 210, which “can be any network upon which information can be transmitted as known to those of skill in the art.” *Id.*

In addition to using generic computers, Appellants also disclose the performance of conventional computer functions by the generic computer components and network. For example, medical training server 205 can maintain one or more medical simulations in which the server 205 receives data from users within the simulation, sends data to users in the simulation, and stores data corresponding to users of a medical simulation. *Id.*

If there is any innovation in the data capture, processing, or avatar response, it does not reside in claim 2. Therefore, we are not persuaded by Appellants' argument that the instant claims are focused on improvements to computer functionality and, in particular, to improving how a user interfaces with a computer by reciting the use of a computer-controlled avatar that "has a human appearance and is programmed to exhibit emotional behavior and cognitive behavior emulating a human in response to a user input" Br. 10 (Claim 2 "specifies that the response includes 'a plurality of emotional components and a plurality of cognitive components.'").

Claim 2 is not directed an improvement in computer technology. Rather, claim 2 recites computers as tools to implement the abstract ideas of simulating and organizing human interactions and mental processes that may occur between a physician and a patient. In *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016), the claimed self-referential logical table improved conventional computer database technology with increased flexibility, faster search times, and less memory requirements. *Enfish*, 822 F.3d at 1336–37. In *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), the claimed ordered set of specific rules improved the ability of computers to produce accurate and realistic lip synchronization and facial expressions in animated characters. *McRO*, 837 F.3d at 1314–15.

Appellants' assertions regarding *Enfish* and *McRO* (Br. 10–11) are not persuasive because, claim 2 is not directed to improvements in computer functions or to how a user interfaces with a computer beyond the abstract idea of a human user interacting with a computer-controlled avatar. Claim 2 does not recite innovations or improvements in how the “audio input device” or the “imaging input device” captures user’s communications or the way in which a computer-controlled avatar responds to such user input. Appellants do not identify any claimed features, either individual limitations or ordered combinations of features, that improve the way a user’s voice or image data is captured and processed or the way an avatar’s response to user input is presented. The lack of any such innovation highlights the fact that claim 2 is directed to an abstract idea.³ *See Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1245 (Fed. Cir. 2016) (“Here, Ameranth claims no more than the use of existing handwriting and voice capture technologies using a computer system Appending these preexisting technologies onto those independent claims does not make them patentable.”); *see also* Ans. 8–12.

Even if the idea of a human interacting with a computer-controlled avatar via input of voice and image data in a simulation or training scenario is novel, it still is an abstract idea. *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (“But a claim for a *new* abstract idea is still an abstract idea.”).

³ For example, the Specification discloses that a speech analyzer can be used to analyze a user’s voice to “detect nervousness, stress, tone, or any other voice characteristics known to those of skill in the art” and “[t]hese voice characteristics can be used to condition the user/patient interaction.” Spec. ¶ 58. Similarly, a camera can capture user movements, expressions, and body language and this captured information can be attributed to the user’s avatar so the avatar behaves as the user is behaving. *Id.*

“The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981); *Versata Develop. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (claims improved abstract idea not a computer’s performance); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 88–90 (2012) (the patent eligibility of an abstract idea does not depend on its alleged novelty or non-obviousness); *Two-Way Media*, 874 F.3d at 1339–40 (“Eligibility and novelty are separate inquiries.”).

Nor are we persuaded by Appellants’ arguments that the “instant claims require specific characteristics – specific types of user inputs with specific sub-components that result in specific types of outputs with specific sub-components” and thus are directed to “a specific means or method that improves the relevant technology.” Br. 10; *see* Ans. 8–12.

The “computer-controlled avatar” merely simulates human behavior with emotional and cognitive components. Appellants do not assert that the avatar implements innovative hardware components or software functions or that an avatar displaying emotions and cognitive behavior is an improvement in the computer technology arts or even in the gaming arts or the simulation or modeling technologies. Avatar emotions can be conveyed through dialog choices or non-verbally through body language, expressions, posture, textural indicators, and other indicators. Spec. ¶ 75. Confidence level, self-esteem, mood, and emotion can be portrayed through facial expressions, gestures, posture and/or other body language of a physician avatar 445. *Id.*

The claimed user interface with a computer includes “an audio input device to capture voice input and an imaging input device to capture body language input.” Br. 14 (Claims App’x). Neither user interface device is alleged by Appellants to be novel or improvements over known computer user interface devices that receive audio or video inputs from a user. Nor do Appellants identify any aspects of the input or output of the emotional and cognitive components of the audio and visual data that is unconventional.

Appellants disclose that the medical simulation may occur in a three-dimensional world with three-dimensional avatars that possess an extensive amount of detail, expression, cognition, emotion, and realism and can be modeled after the real world (Spec. [84]), but claim 2 does not require such a three-dimensional simulation or avatar. Neither the individual limitations of claim 2, nor claim 2 considered as a whole, reflect an innovation or technical improvement sufficient to elevate the abstract idea to a patent-eligible status.

For all the foregoing reasons, we sustain the rejection of claims 2–19 as being directed to patent–ineligible subject matter under 35 U.S.C. § 101.

*Claims 2–13, 15, 18, and 19
Rejected For Non-Statutory Double Patenting*

The Examiner rejects claims 2–13, 15, 18, and 19 on the ground of non-statutory double patenting over claims 1, 2, 8–18, and 21 of Patent No. US 8,469,713 B2. Final Act. 3. Appellants do not respond to this rejection. *See* Br. 7–13; *see also* Response Under 37 C.F.R. § 1.116, filed June 21, 2016, at 2 (reserving the right to file a terminal disclaimer to the extent necessary upon receiving an indication that the case is otherwise in condition for allowance). Thus, we summarily sustain this rejection.

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DECISION

We affirm the rejection of claims 2–19 under 35 U.S.C. § 101.

We affirm the rejection of claims 2–13, 15, 18, and 19 for non-statutory double patenting.

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)(iv).

AFFIRMED