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WSGR / Align Technology , Inc. 650 Page Mill Road Palo Alto, CA 94304			NAJARIAN, LENA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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Art Unit: 3626

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Notice to Applicant

1. A Patent Trial and Appeal Board decision was issued 11/3/15, reversing examiner's action on the claims. In response to this decision, prosecution is being reopened. The Technology Center (TC) Director has authorized the reopening of prosecution under 37 CFR 1.198 for the purpose of entering a new rejection, as indicated by signing below. See MPEP § 1002.02(c) and MPEP § 1214.04.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-14 and 25-31 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. Claims 1-14 and 25-31 are directed to the abstract idea of comparing new and stored information and using rules to identify options. The steps of generating an assessment based on information received about a condition of a patient and one or more treatment goals, generating a treatment plan for a patient, providing one or more recommendations, and comparing a representation of an actual arrangement of the patient's teeth following administration of a set of

Art Unit: 3626

appliances to a planned arrangement describe the concept of comparing new and stored information and using rules to identify options.

The claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the computer as recited is a generic computer component (see paragraphs 83-85 of Applicant's Specification) that performs functions (*i.e.*, generating information and comparing information). These are generic computer functions (*i.e.*, generating information and comparing information) that are well-understood, routine, and conventional activities previously known to the industry. The claims also recite a computing device, computer, server, processor, and computer readable medium, which do not add meaningful limitations to the idea of comparing new and stored information and using rules to identify options beyond generally linking the system to a particular technological environment, that is, implementation via computers. The claims do not amount to significantly more than the underlying abstract idea of comparing new and stored information and using rules to identify options. Accordingly, claims 1-14 and 25-31 are ineligible.

Claim Objections

3. Claim 25 is objected to because of the following informalities: change "at teach" at line 13 to "at each". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 9-14 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al. (US 6,315,553 B1) in view of Richmond et al. (“A 2-Center Comparison of Orthodontist’s Perceptions of Orthodontic Treatment Difficulty”; 2001).

(A) Referring to claim 1, Sachdeva discloses a method of managing delivery of an orthodontic treatment plan, comprising (abstract of Sachdeva):

generating, using a computing device, a treatment plan for a patient, the plan comprising a plurality of successive tooth arrangements for moving teeth along a treatment path from an initial arrangement toward a selected final arrangement, the plan further comprising a series of one or more treatment phases to move teeth along the treatment path, at least one phase comprising an individual set of appliances (col. 4, lines 18-36 of Sachdeva discloses generating a treatment plan that includes a series of steps (i.e. treatment phases), wherein for each step, a corresponding orthodontic apparatus (i.e. appliance) will be designed.);

Art Unit: 3626

providing a customized set of treatment guidelines corresponding to a phase of the treatment plan, the guidelines comprising one or more appointment planning recommendations, the guidelines embodied in a tangible medium (Fig. 11; col. 13, lines 39-59; col. 16, line 53-Col. 17, line 3 of Sachdeva discloses the treatment plan including scheduled visits of the patient (i.e. appointment planning recommendations));

tracking progression of the patient's teeth along the treatment path, the tracking comprising comparing a digital representation of an actual arrangement of the patient's teeth following administration of a set of appliances to a planned arrangement to determine if the actual arrangement of the teeth substantially matches the planned tooth arrangement (col. 4, lines 37-59 and col. 14, lines 11-21 of Sachdeva discloses tracking progression via using updated electronic patient records, the orthodontic server determines whether the actual movement of the patient's teeth is as predicted. Sachdeva also discloses determining of the actual orthodontic structure matches an estimated orthodontic structure.).

Sachdeva does not disclose generating, using a computing device, a case difficulty assessment based on information received about a dental condition of a patient and one or more treatment goals.

However, generating a case difficulty assessment based on information received about a condition of a patient and one or more treatment goals is old and well-known, as evidenced by Richmond (see "Introduction" and "Appendix 1" sections of Richmond wherein Richmond discloses the concept of generating a orthodontic treatment difficulty assessment).

Art Unit: 3626

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the aforementioned feature of Richmond within Sachdeva. The motivation for doing so would have been to make clear exactly what defines a case as easy or difficult (see page 404 of Richmond).

(B) Referring to claim 2, Sachdeva discloses wherein the information received comprises an impression of the patient's teeth or a digital model thereof (col.3, line 63 – col. 4, line 4 of Sachdeva).

(C) Referring to claims 3 and 4, Sachdeva does not disclose wherein the case difficulty assessment comprises identifying a pre-determined level of difficulty associated with the corresponding one or more treatment goals and wherein the treatment plan is generated based on an outcome of the case difficulty assessment.

Richmond discloses wherein the case difficulty assessment comprises identifying a pre-determined level of difficulty associated with the corresponding one or more treatment goals and wherein the treatment plan is generated based on an outcome of the case difficulty assessment (see "Introduction" and "Appendix 1" sections of Richmond).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the aforementioned feature of Richmond within Sachdeva. The motivation for doing so would have been to make clear exactly what defines a case as easy or difficult (see page 404 of Richmond).

(D) Referring to claim 5, Sachdeva discloses wherein the treatment plan is based on an initial model of the patient's teeth generated prior to starting the treatment plan (col. 12, lines 33-45 of Sachdeva)

(E) Referring to claim 6, Sachdeva discloses wherein the plurality of planned successive tooth arrangements are generated prior to providing the set of orthodontic appliances to the patient (col. 4, lines 18-36 of Sachdeva).

(F) Referring to claim 9, Sachdeva discloses wherein the set of customized treatment guidelines comprise electronic data embedded on a computer readable medium (Fig. 1 and col. 5, lines 46-67 of Sachdeva).

(G) Referring to claim 10, Sachdeva discloses generating a customized set of treatment guidelines corresponding to each phase of treatment according to the treatment plan (Fig. 11 and col. 13, lines 39-59 of Sachdeva).

(H) Referring to claim 11, Sachdeva discloses wherein the tracking comparison comprises matching teeth from a previously segmented model to a surface of an unsegmented representation of the actual arrangement and calculating one or more positional differences between the actual and planned arrangements of at least some of

Art Unit: 3626

the corresponding teeth (col. 14, lines 11-21, col. 4, lines 37-60, and col. 8, line 63 – col. 9, line 9 of Sachdeva).

(I) Referring to claim 12, Sachdeva discloses generating a revised treatment plan where it is determined that the actual tooth arrangement deviates from the planned arrangement, the revised treatment plan comprising a plurality of successive tooth arrangements to move the teeth along a revised treatment path from the actual position directly toward the selected final arrangement (col. 14, lines 11-22 of Sachdeva).

(J) Referring to claim 13, Sachdeva discloses generating a customized set of treatment guidelines corresponding to at least a portion of the revised treatment plan (col. 13, lines 39-59 and Fig. 11 of Sachdeva).

(K) Referring to claim 14, Sachdeva discloses wherein the plurality of planned successive tooth arrangements are generated prior to providing the set of orthodontic appliances to the patient (col. 4, lines 18-36 of Sachdeva).

6. Claims 7, 8, and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al. (US 6,315,553 B1) in view of Richmond et al. (“A 2-Center Comparison of Orthodontist’s Perceptions of Orthodontic Treatment Difficulty”), and further in view of Kenneth et al. (US 2006/0004609 A1).

(A) Referring to claim 7, Sachdeva and Richmond do not disclose wherein the appointment planning recommendations comprise one or more recommended

Art Unit: 3626

patient/practitioner appointments and a list of recommended tasks to be completed at each of the one or more appointments.

Kenneth discloses wherein the appointment planning recommendations comprise one or more recommended patient/practitioner appointments and a list of recommended tasks to be completed at each of the one or more appointments (para. 40 of Kenneth).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the aforementioned feature of Kenneth within Sachdeva and Richmond. The motivation for doing so would have been to manage future visits (para. 40 of Kenneth).

(B) Referring to claim 8, Sachdeva discloses wherein the set of customized treatment guidelines comprise instructions for administering treatment to the patient using the set of appliances (col. 4, lines 18-36 of Sachdeva).

(C) Referring to claim 25, Sachdeva discloses a system for managing delivery of an orthodontic treatment plan, the system comprising a computer coupled to a server, the computer comprising a processor and a computer readable medium comprising instructions which, if executed, cause the computer to (Fig. 1 and col. 5, lines 3-27 of Sachdeva):

generate a treatment plan for a patient, the plan comprising a plurality of successive tooth arrangements for moving teeth along a treatment path from an initial arrangement toward a selected final arrangement, the plan further comprising a series of one or more treatment phases to move teeth along the treatment path, at least one phase comprising an individual set of appliances (col. 14, lines 18-36 of Sachdeva);

Art Unit: 3626

generate a customized set of treatment guidelines corresponding to a phase of the treatment plan (Fig. 11 and col. 13, lines 39-59 of Sachdeva);

compare a digital representation of an actual arrangement of the patient's teeth following administration of a set of appliances to a planned arrangement so as to determine if the actual arrangement deviates from the planned tooth arrangement (col. 4, lines 37-59 and col. 14, lines 11-21 of Sachdeva).

Sachdeva does not disclose: generate a case difficulty assessment based on information received about a dental condition of a patient and one or more treatment goals and the guidelines comprising one or more recommended patient/practitioner appointments and a list of recommended tasks to be completed at each of the one or more appointments.

Richmond discloses: generate a case difficulty assessment based on information received about a condition of a patient and one or more treatment goals (see "Introduction" and "Appendix 1" sections of Richmond).

Kenneth discloses: the guidelines comprising one or more recommended patient/practitioner appointments and a list of recommended tasks to be completed at each of the one or more appointments (para. 40 of Kenneth).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the aforementioned features of Richmond and Kenneth within Sachdeva. The motivation for doing so would have been to make clear exactly what defines a case as easy or difficult (see page 404 of Richmond) and manage future visits (para. 40 of Kenneth).

Art Unit: 3626

(D) Claims 26-31 repeat the same limitations as claims 3-6, 8, and 12, and are therefore rejected for the same reasons given above.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LENA NAJARIAN whose telephone number is (571)272-7072. The examiner can normally be reached on Monday - Friday, 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fonya Long can be reached on (571) 270-5096. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner, Art Unit 3626

Application/Control Number: 11/760,701

Page 12

Art Unit: 3626

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