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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

20/20 VISION CENTER, LLC
Petitioner

v.

DIGITALOPTOMETRICS LLC
Patent Owner

Case: To Be Assigned
U.S. Patent No. 9,980,644

PETITION FOR POST-GRANT REVIEW
PURSUANT TO 37 C.F.R. §42.200 *et seq*.

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EXHIBIT LIST

Exhibit No.	Exhibit Description
1001	U.S. Patent No. 9,980,644 ("'644 patent")
1002	File History of the '644 patent
1003	U.S. Patent 9,230,062 ("D1")
1004	U.S. Patent 6,499,843 ("D2")
1005	U.S. Patent Publication 2009/0228299 ("D3")
1006	Declaration of Dr. Michael Schuette
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20/20 Vision Center, LLC ("Petitioner") petitions the United States Patent & Trademark Office ("PTO") to institute a post-grant review ("PGR") of claims 1-20 ("challenged claims") of U.S. Patent No. 9,980,644 to Fried ("the '644 patent"). According to PTO records, the '644 patent is assigned to DigitalOptometrics LLC ("Patent Owner"). Post-grant review ("PGR") should be instituted because it is more likely than not that Petitioner will prevail on each of the challenged claims.

I. MANDATORY NOTICES (37 C.F.R. §42.8)

REAL PARTY IN INTEREST: The real party-in-interest of Petitioner is 20/20 Vision Center, LLC.

RELATED MATTERS: The '644 patent is not involved in any other matters.

LEAD AND BACKUP COUNSEL:

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Pursuant to 37 C.F.R. §42.10(b), a Power of Attorney for Petitioner 20/20 Vision Center, LLC has been filed herewith.

SERVICE INFORMATION: Petitioner consents to service by email at joe.richetti@bclplaw.com, kevin.paganini@bclplaw.com, and PTAB-NY@bclplaw.com.

II. GROUNDS FOR STANDING (37 C.F.R. §42.204(a))

The undersigned and Petitioner certify that the '644 patent is available for PGR and Petitioner is not barred or estopped from requesting PGR of the challenged claims of the '644 patent.

III. IDENTIFICATION OF CHALLENGE (37 C.F.R. §42.204(b))

Petitioner requests that claims 1-20 be found unpatentable and cancelled.

A. Claims for Which PGR Is Requested

Petitioner requests PGR of claims 1-20 of the '644 patent.

B. Priority Date of the '644 Patent

The '644 patent issued from U.S. Application No. 15/699,533 filed on September 8, 2017. Therefore, the provisions of post-AIA 35 U.S.C. §§102 and 103 apply. The '644 patent claims priority to U.S. Provisional Application No. 62/394,369, which was filed on September 14, 2016. Here, all of the cited references pre-date September 14, 2016 and, therefore, qualify as prior art even if the challenged claims were found to be entitled to the filing date of the '369 application. Thus, solely for purposes of this Petition, Petitioner has assumed that the '644 patent has an effective filing date and earliest possible priority date of September 14, 2016.[1]

[1] Petitioner expressly reserves the right to challenge these priority claims in any other proceeding involving the '644 patent.

C. The Specific Art on Which the Challenge Is Based

This Petition cites the following references, each of which is prior art to the '644 patent under 35 U.S.C. §102(a)(1) and/or (a)(2):

D1: U.S. Patent 9,230,062 to Joseph S. Seriani (Ex. 1003) issued on January 5, 2016 from an application filed on November 6, 2013;

D2: U.S. Patent 6,499,843 to Cox *et al.* (Ex. 1004) issued on December 31, 2002; and

D3: U.S. Patent Publication 2009/0228299 to Kangarloo *et al.* (Ex. 1005) published on September 10, 2009.

D. Grounds of Unpatentability

The following claims should be cancelled on the following grounds:

Ground	Statutory Basis for Challenge
1	Claims 1-11 are unpatentable under 35 U.S.C. §101 for being directed to patent ineligible subject matter.
2	Claims 2-20 are unpatentable under 35 U.S.C. §112 for being indefinite.
3	Claims 12-20 are unpatentable under 35 U.S.C. §112 for lacking enablement.
4	Claims 1-7, 10-14, and 17-20 are anticipated under 35 U.S.C. §102 by D1.
5	Claims 1-7, 10-14, and 17-20 are rendered obvious under 35 U.S.C. §103 by D1.
6	Claims 8, 9, 15, and 16 are rendered obvious under 35 U.S.C. §103 by D1 in view of D2.
7	Claim 20 is rendered obvious under 35 U.S.C. §103 by the D1 patent in view of D3.

IV. OVERVIEW OF THE '644 PATENT

A brief summary of the relevant technology and the state of the art at the time of the '644 patent (*i.e.*, 2016) is provided by Dr. Michael Schuette. Ex. 1006 ("Schuette Decl."), ¶¶44-47.[2] As explained in Dr. Schuette's declaration, vision and eye examinations have been administered to individuals by various practitioners (*e.g.*, ophthalmologists, optometrists, technicians and assistants) for centuries. *Id*., ¶¶44-45. This has included comprehensive eye examinations involving numerous tests related to eye health using a wide range of optical instruments, such as lensometers, refractors, phoropters, retinal cameras, and slit lamps. *Id*.

More recently, Petitioner, 20/20 Vision, was a pioneer in using telemedicine-based systems and techniques for enabling remotely-located eye-care practitioners to administer comprehensive eye examinations using video-conferencing systems and remotely-controlled optical equipment over a network (i.e., "tele-optometry" or "tele-ophthalmology"). *See generally* D1.

A. The '644 Patent Specification

The '644 patent describes mechanisms for performing an eye examination on a patient that involves three optical technicians/professionals, only one of whom is located in the examination room with the patient. *See also* 644' patent, Abstract, 1:64-2:17; Schuette Decl., ¶¶39-43. The '644 patent is directed to a "remote station

[2] A copy of Dr. Schuette's current curriculum vitae is attached hereto as Ex. 1007.

where an optometrist or ophthalmologist need not be required to be on site to perform a comprehensive eye examination." *Id*., 1:64-67. "Instead, an ophthalmic technician is present with the patient in the exam room to operate eye examination equipment and transmit patient information to [a] remote location." *Id*., 1:67-2:3. An optical prescription is determined for the patient "[u]sing video and/or teleconferencing equipment and a phoropter located in the patient examination room along with management software." *Id*., 2:6-9. A "skilled technician is present" at the remote location "to provide the necessary optical and/or medical care, and may operate [a] phoropter from the remote location." *Id*., 2:3-5. Additionally, "findings from other devices" at the patient's location "are reviewed by a remote based optometrist or ophthalmologist" who "may also operate the phoropter . . . and evaluate the patient for other ocular-related medical issues." *Id*., 2:7-18.

B. The Challenged Claims

The '644 patent includes two independent claims, 1 and 12, which recite markedly different limitations. Independent claim 1 recites a method in which three eyecare individuals, "a local eyecare technician," a "remote eyecare technician," and "an eyecare doctor," are involved in administering an eye test (*i.e.*, refraction) to a patient. Claim 1 is reproduced in the chart below. For ease of reference, labels have been assigned to each limitation, such as [Pre], which refers to the preamble, and [G], which refers to the final limitation.

	Claim 1
[Pre]	A method comprising:
[A]	assigning a patient to a local eyecare technician, wherein the patient and the local eyecare technician are located at a local diagnostic center;
[B]	assigning, by the local eyecare technician, the patient to a remote eyecare technician, wherein the remote eyecare technician is located at a remote diagnostic center;
[C]	collecting, by the local eyecare technician, medical history for the patient;
[D]	administering, by the local eyecare technician, pre-refraction tests on the patient to produce pre-refraction results for the patient;
[E]	transmitting the medical history for the patient and the pre-refraction results for the patient to the remote eyecare technician;
[F]	administering, by the remote eyecare technician, refraction tests on the patient to produce refraction results for the patient; and
[G]	transmitting to an eyecare doctor the medical history for the patient, the pre-refraction results for the patient and the refraction results for the patient.

By contrast, while independent claim 12 is also generally directed to three eyecare practitioners administering an eye examination, the claim language appears to have been directly copied from the independent claims of the prior art '062 Patent (*i.e.*, reference D1), as shown in the chart below:

	'644 Patent Claim 12	**D1, Claim 1 Excerpts[3]**
[Pre]	A system for providing eye health and vision examinations, comprising:	A system for providing eye health and vision examinations, comprising
[A]	a diagnostic center including ophthalmic equipment comprising a set of instruments that are utilized in administering eye examinations and	diagnostic centers including ophthalmic equipment comprising a set of instruments that are utilized in administering eye examinations and

[3] Relevant portions from claim 1 of D1 that correspond to the limitations of claim 12 have been included across the same row.

	'644 Patent Claim 12	D1, Claim 1 Excerpts[3]
	being coupled to an equipment controller that is configured to receive instructions for controlling the ophthalmic equipment, wherein the diagnostic center is configured to:	being coupled to an equipment controller that is configured to receive instructions for controlling the ophthalmic equipment, wherein the diagnostic center is configured to:
[B]	in response to receiving a first request from the diagnostic center, select a subset of remote technicians to administer an eye examination based, at least in part, on analyzing availability data to identify at least one remote technician who is logged into the web-based platform and not currently providing real-time eye examinations;	in response to receiving the requests from the diagnostic centers, select a subset of eye-care practitioners to administer the eye examinations based, at least in part, on analyzing the availability data to identify one or more eye-care practitioners who are logged into the web-based platform and not currently providing real-time eye examinations;
[C]	transmit a second request over a network to a select remote technician to administer the eye examination in real-time for a patient located at the diagnostic center;	transmit requests over a network to select eye-care practitioners to administer the eye examinations in real-time for customers located at the diagnostic center
[D]	receive first instructions over the network to permit the select remote technician to control operation of the ophthalmic equipment at the diagnostic center from a first remote location in order to administer at least one test pertaining to the eye examination;	receive instructions over the network to permit the eyecare practitioners to control operation of the ophthalmic equipment at the diagnostic centers from a remote location in order to administer one or more tests pertaining to the eye examinations;
[E]	generate patient examination data pertaining to the at least one test administered using the ophthalmic equipment;	generate customer examination data pertaining to the one or more tests administered using the ophthalmic equipment;
[F]	in response to receiving a third request from the diagnostic center, select a subset of eyecare doctors to review the eye examinations based, at least in part, on analyzing the availability data	in response to receiving requests from the diagnostic centers, select a subset of eye-care practitioners to administer the eye examinations based, at least in part, on analyzing

	'644 Patent Claim 12	D1, Claim 1 Excerpts[3]
	to identify at least one eyecare doctor who is logged into the web-based platform and not currently providing real-time eye examinations;	the availability data to identify one or more eye-care practitioners who are logged into the web-based platform and not currently providing real-time eye examinations;
[G]	transmit a fourth request over the network to a select eyecare doctor to review the eye examination in real-time for the patient located at the diagnostic center;	transmit the customer examination data to the practitioner devices associated with the selected eye-care practitioners
[H]	receive second instructions over the network to permit the select eyecare doctor to control operation of the ophthalmic equipment at the diagnostic center from a second remote location in order to review the at least one test pertaining to the eye examination; and	receive instructions over the network to permit the eyecare practitioners to control operation of the ophthalmic equipment at the diagnostic centers from a remote location in order to administer one or more tests pertaining to the eye examinations;
[I]	review the patient examination data pertaining to the at least one test administered using the ophthalmic equipment;	eye health reports based, at least in part, on the selected eye-care practitioners' review and evaluation of the customer examination data are provided to the customer
[J]	wherein the eyecare doctor, the remote technician and the patient are in different locations.	

Although independent claim 12 was copied largely verbatim from D1, Patent Owner neglected to inform the examiner of this fact during the prosecution of the '644 patent, thereby failing to comply with the requirements set forth by the Patent Office. *See generally* Ex. 1002; *see also* MPEP §2001.06(d). Moreover, other than a generic passage parroting the claim language, the specification of the '644 patent is virtually devoid of any mention, much less sufficient description, of many of the copied

elements and features recited in claim 12.

Dependent claims 2-11 and 13-20 of the '644 patent add nothing of significance to the claimed systems and methods. Rather, they merely specify the use of conventional equipment (*e.g.*, phoropters) and tests (*e.g.*, visual acuity) or recite additional well-known eye examination steps (*e.g.*, trying on contact lenses).

V. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art ("POSITA") for purposes of the '644 patent would have a bachelor's degree in ophthalmology, or a similar field, with approximately two years of industry experience relating to optometry or ophthalmology. Additional graduate education might substitute for experience, while significant experience in the field of optometry/ophthalmology might substitute for formal education. Such a person would have been capable of understanding the '644 patent and applying the prior art discussed herein. Schuette Decl., ¶¶15-20.

VI. CONSTRUCTION OF THE CHALLENGED CLAIMS

For unexpired patents, claims should be given the "broadest reasonable interpretation in light of the specification" ("BRI"). *See* 37 C.F.R. §42.200(b); *Cuozzo Speed Technologies, LLC v. Lee*, No. 15-446, slip-op at 17-18 (2016).[4]

A. "Different Locations"

[4] Petitioner submits that these proposed claim constructions are equally applicable whether the BRI or *Phillips* standard applies.

Claims 2 and 12 of the '644 patent recites that "the eyecare doctor, the remote technician and the [local technicians/patient] are in ***different locations***" (emphasis added). As demonstrated below, the term "different locations" is unclear, and, therefore, indefinite under §112. *Infra* at 26-27. But, to the extent the Board finds otherwise, Patent Owner submits that this term should be construed to mean that the eyecare doctor, remote technician, and local technician/patient utilize separate devices or network connections to communicate with each other over a network (*i.e.*, rather than all being in the same room).

Nothing in the '644 patent defines, much less restricts in any way, the specific locations of these three individuals. Instead, the specification merely explains that they utilize different devices to connect to a "central server" and interact over some form of network during the exam. '644 patent, 9:28-11:67 (describing the devices and software used by the eyecare individuals during the examination and the information passed between such devices); 17:51-31:67 (same); Schuette Decl., ¶¶49-53. A POSITA would have understood that, the fact that these individuals use different devices to connect to the system during the exam, means they can be in different locations. *Id*.

Moreover, the term "different location" only appears twice in the specification. In particular, column 17 of the specification explains that, in certain embodiments, the "patient and the local eyecare technician are located at a local

diagnostic center . . . the remote eyecare technician is located at a first remote diagnostic center . . . [and] the eyecare doctor is located at a second remote diagnostic center." '644 patent, 17:38-46. Importantly, the specification states that the second remote diagnostic center "***may or may not be the same*** remote diagnostic center as the first remote diagnostic center." *Id*., 17:46-48 (emphasis added). Based on this description, the specification explains that "the eyecare doctor, the remote technician and the local technicians are in different locations." *Id*., 17:48-50. [5] Accordingly, the specification makes clear that "different locations" merely means that the patients/local technicians are not in the same physical location (*e.g.*, not in the same room) as the remote technicians/doctors, but the remote technician and remote doctor can be at the same diagnostic center. Schuette Decl., ¶¶49-53.

B. "Eyecare Technician/Doctor"

The terms "[local/remote] eyecare technician" and "eyecare doctor" are recited throughout the challenged claims. The specification does not define either of these terms, nor provide any specific examples of the individuals who may qualify as an eyecare technician versus an eyecare doctor. Rather, the specification

[5] The term also appears in a background passage discussing concepts promulgated by the American Optometric Association's related to telemedicine. '644 patent, 4:22-27.

describes the "role of each participant in the . . . remote comprehensive eye examinations." '644 patent, 17:34-38; 17:51-31:67 (describing various eyecare tests and tasks that may be performed by the technicians/doctor during the exam). The specification also explains that these tasks may be performed by various eye doctors, providers, professionals, technicians, and clinicians. *Id*., 5:20-30 & 50-55, 6:50-57. Nothing in the specification, however, suggests that the claimed "eyecare [technicians/doctors]" are limited to any of these specific individuals. *See also id*., FIG. 1C (indicating that a doctor can act as a technician). Thus, these terms should be construed as covering any eyecare individual who is licensed, qualified, or otherwise capable of, performing the steps recited in the challenged claims. Schuette Decl., ¶¶54-56.

VII. OVERVIEW OF THE GROUNDS

As set forth in detail in Section VIII below, the instant petition challenges claims 1-20 of the '644 patent on seven different grounds.

Section 101: Ground 1 demonstrates that claims 1-11 are directed to nothing more than the abstract idea of three eyecare providers administering an eye examination to a patient and, therefore, are unpatentable under Section 101. These claims fail to include any additional elements other than well-known devices and routine steps associated with conventional eye exams at a doctor's office. Indeed, method claim 1 fails even to recite ***any*** devices (let alone special-purpose devices) needed to perform

the method, and explicitly requires that four of the seven steps be performed by a person (*i.e.*, the local/remote eyecare technician).

Section 112: Grounds 2 and 3 demonstrate that claims 2-20 are unpatentable under Section 112 for being indefinite and/or lacking enablement. Ground 2 sets forth that various terms in the challenged claims are vague and unclear, such that a POSITA would not be able to ascertain a clear meaning from the claim language. Ground 3 further demonstrates that claims 12-20 are also unpatentable because the specification fails to enable the limitation of "a diagnostic center…configured to:…review the patient examination data…." The lack of enabling disclosure is not surprising, given that this language of independent claim 12 was largely copied verbatim from the prior art '062 patent (D1).

Sections 102/103: Grounds 4-7 demonstrate that the methods and systems of claims 1-20 were well-known in the prior art and, therefore, are anticipated and/or rendered obvious under Sections 102 and 103. Ground 4 shows that D1 (*i.e.*, the patent from which claim 12 was copied) anticipates claims 1-7, 10-14 and 17-20. As explained in Ground 5, to the extent it is found that D1 does not explicitly disclose certain limitations in independent claims 1 and 12, they would, at a minimum, have been obvious to a POSITA based on D1. Lastly, grounds 6 and 7 demonstrate that dependent claims 8, 9, 15, 16, and 20 recite nothing more than routine, conventional elements and features associated with eye examinations that would have been obvious

to a POSITA, as shown by the teachings of D1 in combination with D2 or D3.

VIII. EXPLANATION OF GROUNDS OF UNPATENTABILITY

A. Ground 1: Claims 1-11 are ineligible under 35 U.S.C. §101

The Supreme Court decision in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014) set forth a two-step test for determining patent eligibility that has been used by the Board and courts alike to invalidate numerous patents directed to abstract ideas. Step One asks whether the claimed invention is directed to an abstract idea or other judicial exception. *Id*. at 2354-55. Step Two asks whether such a claim recites any significant limitations or an "inventive concept" that sufficiently transforms the abstract idea into a patent-eligible invention. *Alice*, 134 S. Ct. at 2357.

Here, application of the two-step *Alice* test leads to one conclusion: claims 1-11 of the '644 patent are not eligible for patent protection under 35 U.S.C. §101. The challenged claims clearly fall within the abstract idea exception under Step One because they are merely directed to the idea of multiple individuals administering an eye examination. *See id*. at 2347; *Bilski v. Kappos*, 561 U.S. 593, 130 S. Ct. 3218 (2010).

Under Step Two, the limitations in the challenged claims (like those in *Alice*), whether considered individually or as an ordered combination, do not disclose an inventive concept that amounts to significantly more than this abstract

idea. *Alice*, 134 S. Ct. at 2358-59. Rather, the claims are merely directed to patent ineligible mental processes and routine steps that can be—and, in fact, are—performed manually by individuals without the use of ***any*** computing components. Thus, not only do the claims fail under the two-step test set forth in *Alice*, they also fail to satisfy the machine-or-transformation test previously set forth in *Bilski*.

1. The challenged claims are directed to the abstract idea of multiple individuals administering an eye examination

The Supreme Court has confirmed that claims are directed to abstract ideas when they relate to "an idea of itself." *Alice*, 134 S. Ct. at 2350 (citing *Gottschalk v. Benson,* 409 U.S. 63, 67 (1972)). "The courts have used the phrase 'an idea 'of itself'' to describe an idea standing alone such as… a mental process (thinking) that 'can be performed in the human mind, or by a human using a pen and paper.'" MPEP §2106.04(a)(2) (citing *CyberSource Corp. v. Retail Decisions, Inc.,* 654 F.3d 1366, 1372 (Fed. Cir. 2011). "[M]ethods which can be performed mentally, or which are the equivalent of human mental work, are unpatentable abstract ideas--the 'basic tools of scientific and technological work' that are open to all.'" *CyberSource*, 654 F.3d at 1371 (citing *Gottschalk,* 409 U.S. 63); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016) ("[A]nalyzing information by steps people [can] go through in their minds, or by mathematical algorithms, without more ... [are] mental processes within the abstract-idea category.").

Here, claims 1-11 of the '644 patent are directed to an idea of itself—a mental process for having three individuals participate, and share information, in an eye examination—that can be performed in the human mind and/or by humans using a pen and paper. These claims recite a method for conducting an eye examination with the assistance of three individuals: a local eyecare technician, a remote eyecare technician, and an eye doctor. As discussed below, independent claim 1 merely recites which portions of the eye examination are performed by each of the individuals, and how the information is shared amongst these individuals during the examination.

Even assuming that the method was intended to be used in conjunction with computers or devices does nothing to save these claims. The Federal Circuit has explained that when the "[c]laims make no mention of employing a computer or any other physical device, they are so broad as to read on an individual performing the claimed steps mentally or with pencil and paper." *Synopsys*, 839 F.3d at 1149. Just like the patent in *Synopsis*, "[o]n their face," the claims here "do not call for any form of computer implementation of the claimed methods." *Id.* And the incorporation of routine telehealth equipment in certain dependent claims cannot save claims that lack any computer implementation at all. *See id.*

Claims may be abstract for more than one reason. Here, claims 1-11 are also directed to nothing more than an abstract "method of organizing human activities."

Alice, 134 S. Ct. at 2350 (citing *Parker v. Flook*, 437 U.S. 584, 584 (1978)); *see also* MPEP §2106.04(a)(2) (explaining that the phrase "certain methods of organizing human activity" is used to describe "concepts relating to managing human behavior," "concepts relating to managing relationships or transactions between people," and "concepts relating to tracking or organizing information."). As evidenced by the express language in claim 1, the limitations are all directed to methods of organizing activities of individuals (*i.e.*, the local and remote eyecare technicians and eye doctor) who are assisting with an eye examination and/or organizing/sharing information related to the eye examination. Indeed, four of the seven steps in claim 1 explicitly recite that they are performed by one of these individuals. *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 Fed. Appx. 998, 990-91 (2014) (invalidating claims after finding that they seek to protect nothing more than an abstract idea because "using categories to organize, store, and transmit information is well-established.").

Dependent claims 2-11 fare no better as they relate to other types of manual/mental activities, extra-solution activities, and/or well-understood, routine, conventional steps. For example, claims 3 and 6-11 merely describe steps for "reviewing" data collected during the examination, "instructing" a patient to try on contract lenses, "issuing" and "printing" prescriptions, and "collecting" and "transmitting" images of the patient's eye. Other dependent claims merely add

routine extra-solution activities which simply: (i) specify locations of the individuals performing the examinations (claim 2); (ii) specify types of tests that are provided during the examination (claims 4 and 5); and (iii) recite the use of a well-known optical device (phoropter) and conventional videoconferencing functionality during the examination (claims 3 and 7).

2. The claims do not disclose any inventive concept that amounts to "significantly more" than the abstract idea

a. The abstract idea is not implemented with specialized computing devices that render the claims patentable

It is well-settled that abstract ideas cannot be transformed into patentable subject matter simply by claiming that the idea be performed using conventional and well-known computer devices. *See, e.g., Alice*, 134 S. Ct. at 2357-2358 (citing *Mayo Collaborative v. Prometheus Labs.*, 132 S. Ct. 1289, 1297 (2012)); *Accenture Global Servs. GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013); *Meridianlink, Inc. v. DH Holdings*, LLC, CBM2013-00008, Paper No. 20 at 15 n.2 (June 24, 2013)("[A]ppending generic computer functionality to the performance of an otherwise abstract concept does not meaningfully limit the claim scope for purposes of patent eligibility.").

Here, claims 1-11 fail even to incorporate any generic computing devices. For example, independent claim 1 does not recite a single computing device, server or other piece hardware that is used in connection with the recited method for

providing an eye examination. Dependent claims 2, 4-6, and 8-11 likewise fail to recite the use of any hardware device. While the Supreme Court has held that the machine-or-transformation test is not the sole test governing §101 analyses, it also made clear that the test can provide a 'useful clue' in the second step of the *Alice* framework." *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) (citations omitted). Like the claims struck down as ineligible in *Ultramercial*, claims 1, 2, 4-6, and 8-11 are not tied to ***any***—let alone a novel—machine or apparatus.

The mere recitation of a "remotely-controlled phoropter" and "videoconferencing" in claims 3 and 7 does nothing to salvage these claims. There can be no dispute that phoropters and videoconferencing capabilities were well-known and have been in use for decades.[6] Schuette Decl., ¶¶44-47; *infra* Ground 4 (D1 disclosing remotely-controlled phoropters used during eye examinations). Neither claim recites any specialized uses or technological improvements of these conventional phoropters or videoconferencing capabilities and, therefore, fail to impose any meaningful limitations on these claims.

b. The claims are directed to patent ineligible mental

[6] Indeed, the specification admits that the use of videoconferencing is so prevalent, that the industry has developed standards governing its use in telehealth with which the claimed invention is "designed to comply." '644 patent, 4:9-27.

processes

The Supreme Court has held that processes that can be performed mentally, or which are the equivalent of human mental work, ("mental processes") are not patent eligible. *Gottschalk*, 409 U.S. at 66-67; *see also CyberSource*, 654 F.3d at 1372; *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017) ("Our prior cases have made clear that mere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology."); *Electric Power Group, LLC v. Alstom, S.A.,* 830 F.3d 1350, 1353-54 (Fed. Cir. 2016). This prohibition on patenting mental processes existed long before the *Alice* decision.

For example, in *In re Meyer*, the predecessor court to the Federal Circuit held: (1) the claims covered "the thinking processes of a neurologist"; and (2) the claims amounted to a patent ineligible "mental process that has not been applied to physical elements or process steps." *See*, 688 F.2d 789, 795–96 (C.C.P.A. 1982). Here, like *In re Meyer*, the claims 1-11 cover the thinking process of practitioners (*e.g.*, eye technicians/doctors) and amount to nothing more than a patent ineligible mental process that can be performed manually by such individuals.

Moreover, none of the claims are tied to physical elements or physical process steps. Indeed, many of the method steps explicitly recite that the step is performed manually by one of the three individuals assisting with the examination.

See supra at 6, claim 1[B]-[D] and 1[F]. The remaining steps merely involve "assigning" a patient to a technician and "transmitting" information to the individuals performing the examination, all of which are capable of being performed manually (*e.g.*, verbally or in writing). Likewise, dependent claims 3 and 6-11 also explicitly recite that the steps in these claims are performed manually by one of the three individuals assisting with the examination.[7] And, as explained above, the features dependent claims 2, 4 and 5 simply relate to extra-solution activities and/or well-understood, routine, conventional steps.

c. The challenged claims do not recite any inventive concept when viewed as an ordered combination

The *Alice* decision instructs that the search for an inventive concept should consider whether the claim limitations "as an ordered combination" are sufficient to "transform the nature of the claim" into a patent-eligible application. *Alice*, 134 S. Ct. at 2355(citing *Mayo,* 132 S. Ct. at 1289). "The transformation of an abstract idea into patent-eligible subject matter 'requires more than simply stat[ing] the [abstract idea] while adding the words apply it.'" *Ultramercial*, 772 F.3d at 715 (quotations omitted). Similarly, the use of networks, *e.g.*, the Internet, does not transform an otherwise abstract idea into patent-eligible subject matter. *Id.*

[7] Each of these claims explicitly state the corresponding step is performed "by the remote eyecare technician" or "eyecare doctor."

Here, claims 1-11, even when considered as an ordered combination, fail to add anything of significance sufficient to rescue these claims from being a patent-ineligible abstract idea. Like the claims in *Ultramercial*, claims 1-11 essentially amount to stating an abstract idea and adding the words "apply it." Indeed, the '644 patent even acknowledges that the problem it is allegedly addressing is the need to do eye examinations over the Internet. '644 patent, 1:56-60("[I]t is therefore desirable to combine the convenience of internet or remote based eye testing with the availability of skilled optometrists or ophthalmologists into an apparatus, method, and system for remote comprehensive eye examinations"); 1:32-50.

Additionally, claims 1-11 do not improve the functioning of any computing devices or any other technology. *See Alice*, 134 S. Ct. at 2351. Rather, the '644 patent explains that the purported advantages provided by its method are rooted in business concerns, such as allowing patients "obtain needed eye care at a time and location that is convenient to them," allowing an optometrist/ophthalmologist "to provide his or her services at times and places of his or her choosing," and to increase the "potential pool of patients for the optometrist or ophthalmologist." '644 patent, 2:32-40.

Accordingly, even when viewed as a whole, the claimed eye examination method does nothing more than (i) allocate conventional, manual activities-

performed during traditional eye examinations amongst three different individuals; and (ii) indicate that examination information is passed between these individuals.

d. The challenged claims are not rooted in computer technology

The Board should not entertain any argument that the challenged claims satisfy the second step of the *Alice* framework because they are "rooted in computer technology." *See*, *e.g.*, *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014). Unlike the claims in *DDR*, which "overcame a problem specifically arising in the realm of computers," claims 1-11 are not rooted in any technology at all. As explained above, claims 1-11 do not recite the use of any computing components whatsoever. Moreover, the recitation of a conventional phoropter device and routine videoconferencing functionality in claims 3 and 7 are used "only for [their] most basic function." *Bancorp Services v. Sun Life Assur. Co. of Canada*, 687 F.3d 1266, 1278 (Fed. Cir. 2012); *SiRF Tech., Inc. v. International Trade Com'n.*, 601 F.3d 1319, 1333 (Fed. Cir. 2010).

Accordingly, for at least the reasons above, claims 1-11 recite nothing more than an abstract idea of multiple individuals administering an eye examination and are, therefore, patent-ineligible under §101.

B. Ground 2: Claims 2-20 Are Indefinite Under 35 U.S.C. §112

1. Legal Standard

Section 112 mandates that the specification "shall conclude with one or

more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention." 35 U.S.C. §112(b). "[T]he test for indefiniteness approved by the Federal Circuit in Packard… should be applied in this post-grant review AIA proceeding." *See Telebrands Corp. v. Tinnus Enterprises LLC*, PGR2015-00018, Paper No. 75 at 16-19. Under the *Packard* standard, "a claim is indefinite when it contains words or phrases whose meaning is unclear."[8] *Id.* at 1313; *In re Packard,* 751 F.3d 1307, 1310, 1314 (Fed. Cir. 2014). "The test for indefiniteness approved in *Packard*… sets a threshold for indefiniteness that demands at least as much clarity, and potentially more clarity, than the *Nautilus* definiteness requirement." *Telebrands,* Paper No. 75 at 17 (citing MPEP §2173.02(I)).[9]

2. Claims 12-20 are indefinite because the phrase "a diagnostic center…configured to:… review the patient examination data" is unclear and vague

Independent claim 12, when read in light of the specification and

[8] *C.f. Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014) (requiring "that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty").

[9] Irrespective of whether the standard in *Nautilus* or *Packard* is applied, claims 2-20 are indefinite for at least the reasons explained below.

prosecution history of the '644 patent, is indefinite because the meaning of the limitation: "a diagnostic center…configured to:… review the patient examination data pertaining to the at least one test administered using the ophthalmic equipment" is unclear and vague. *See Ex Parte Kim*, 89 U.S.P.Q.2d 1633 (BPAI 2008) (informative) (holding claims indefinite where "both the Specification and claims are silent" as to the meaning of a claim limitation and, thus, failing to provide sufficient "guidance to the artisan").

As an initial matter, only a single paragraph in the specification even mentions the term "diagnostic center" and this passage in no way describes any corresponding structure or functions performed by the diagnostic center. '644 patent, 17:34-50.[10] This passage merely explains that the diagnostic center is a location where examinations are provided. Moreover, and more importantly, not a single passage even mentions the diagnostic center (or an exam site[11]) itself as having the ability to "review" patient examination data, or anything that is even

[10] As explained above (*supra* at 8), the insertion of this one paragraph appears to have been a half-hearted attempt to add description for the copied claims from D1.

[11] To the extent Patent Owner argues that the claimed diagnostic center was intended to correspond to the "exam site" described in the specification, the exam site is also merely described as a being a room or office location where examinations are provided. '644 patent, 1:64-2:14, 13:57-14:27; 22:31-35.

tangentially related to performing this function. It is entirely unclear how a location (*e.g.*, a room or office) could even be configured to review such data in light of the disclosure in the '644 patent. A POSITA attempting to make and use the invention would be left guessing as to how to do so. Schuette Decl., ¶¶57-63. Thus, claim 12 does not sufficiently clarify the subject matter which is being claimed in a manner that would "inform a person of ordinary skill in the art of the scope of the claim with reasonable certainty and is therefore indefinite." *SAP America Inc. v. Lakshmi Arunachalum*, CBM2013-00013, Paper No. 61 (holding claims indefinite).

Accordingly, claim 12 and dependent claims 13-20 are indefinite under §112.

3. Claims 2-20 are indefinite because the meaning of "different locations" is vague and unclear

Claims are also indefinite if they are "amenable to two or more plausible claim constructions." *Ex Parte Miyazaki*, 89 U.S.P.Q.2d 1207, 1211 (BPAI 2008) (precedential) ("the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim unpatentable under 35 U.S.C. §112, second paragraph, as indefinite"); *Apple Inc. v. Smartflash LLC*, CBM2015-00016, Paper No. 56 at 22-23.

Claims 2 and 12 recite "wherein the eyecare doctor, the remote technician and the [local technicians/patient] are in ***different locations***." (emphasis added).

This claim language is vague and lends itself to multiple equally plausible, but dissimilar meanings. A POSITA cannot determine with reasonable certainty what constitutes a "different location." For example, it is unclear whether the eyecare doctor, the remote technician and the patient/local technician are required to be located in different geographic areas, different buildings, different rooms, or even within the same room, but in different locations within the room or using different devices. On its face, the eyecare doctor, remote technician and patient/local technician could all be located in the same room, but at different locations within the room since the laws of physics (*i.e.*, the Pauli exclusion principle) state that no two objects can occupy the same space or location at the same time. Schuette Decl., ¶¶64-69.

As another example, it is unclear whether all three individuals must be in different locations or, rather, whether the limitation encompasses the remote eyecare doctor and remote technician being in the same location as long as the local technician is in a different location. Furthermore, because the specification of the '644 patent does not resolve the ambiguities associated with the meaning of this claim limitation (*see supra* at 9-11), it is impossible for a POSITA to reasonably determine the scope and meaning of this claim limitation. Schuette Decl., ¶¶64-69.

Accordingly, claims 2-20 are indefinite under §112.

4. Claims 12-20 are indefinite because "the remote technician" and the "the eyecare doctor" lack clear antecedent basis

The recitations of "the eyecare doctor" and "the remote technician" in claim 12 lack clear antecedent bases and, thus, render the claim indefinite. More specifically, claim 12 initially recites that "availability data [is analyzed]" "to identify *at least one remote technician*" and "to identify *at least one eyecare doctor*." Claim 12 then recites that the diagnostic center is configured to "transmit a second request over a network to a *select remote technician*" and "transmit a fourth request over the network to a *select eyecare doctor.*" In turn, claim 12 concludes with a wherein clause stating that "*the eyecare doctor*, *the remote technician* and the patient are in different locations."

Based on the language of claim 12, it is vague and unclear as to which of these antecedents "the eyecare doctor" and "the remote technician" refers. A POSITA would not be able to reasonably determine whether the use of the terms "the eye care doctor" and "the remote technician" in the ultimate wherein clause refer to either the "at least one [eyecare doctor/remote technician]" that is identified based on the availability data or whether the term refers to "a select [eyecare doctor/remote technician]" subsequently recited in the claim.[12] Schuette

[12] Dependent claims 16, 17 and 19 also recite "the eyecare doctor" and/or "the remote technician" and, therefore, are indefinite for the same reason.

Decl., ¶¶70-75. The Board has invalidated claims under similar circumstances where the proper antecedents of a specific claim term cannot be determined. *See, e.g., Google, Inc. & Apple Inc. v. Smartflash LLC*, CBM2015-00126, Paper No. 31; *Apple Inc. v. Smartflash LLC,* CBM2015-00123, Paper No. 31.

Thus, claims 12-20, are indefinite under §112.

5. Claims 4-5 and 13-14 are indefinite because the phrase "normal visual acuity test" is subjective and relative

Claims 4 and 13 state that the tests of claim 1 include a "*normal* visual acuity test." This phrase is vague and subjective because a POSITA would not understand what is meant by a "normal" visual acuity test, much less what tests fall within this term. Schuette Decl., ¶¶76-82. "Normal visual acuity test" is not a term of art. *Id*., ¶¶78-79. Nor does the specification of the '644 patent provide any guidance as to which tests constitute "normal" visual acuity tests, or provide any standard or basis that would enable a POSITA to make that determination. *Id*., ¶¶80-81. In fact, only one sentence in the '644 patent mentions the phrase "normal visual acuity," and merely refers to conditions under which tests are conducted, but does not explain which types of tests qualify as a normal visual acuity test. *Id*.; '644 patent, 26:59-65.

Accordingly, claims 4, 5, 13, and 14 are indefinite under §112.

C. Ground 3: Claims 12-20 Lack Enablement Under 35 U.S.C. §112

"Section 112 requires that the patent specification enable those skilled in the art to make and use the full scope of the claimed invention without undue

experimentation." *Invitrogen Corp. v. Clontech Labs. Inc.,* 429 F.3d 1052, 1070–71 (Fed. Cir. 2005); *National Recovery Techs. Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1195–96 (Fed Cir. 1999). "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). A"patentee who chooses broad claim language must make sure the broad claims are fully enabled." *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

As explained above, claims 12-20 are indefinite because the meaning of the phrase "a diagnostic center…configured to:… review the patient examination data pertaining to the at least one test administered using the ophthalmic equipment" is unclear. The '644 patent also fails to enable this limitation.

"An enablement analysis begins with the disclosure in the specification." *Sitrick,* 516 F.3d at 1000. Notably, not a single passage in the '644 patent discusses anything with respect to the diagnostic center (or the exam unit) being configured to review patient examination data associated with tests administered using the ophthalmic equipment. The specification provides no guidance to a POSITA as to how a diagnostic center itself (*i.e.*, a room or office) could be configured to review this data (*i.e.*, rather than a human being). Schuette Decl., ¶¶57-63.

Nor would configuring a diagnostic center in this manner be something that is readily understandable to a POSITA. *Id*., ¶¶59-62. Thus, the '644 patent does not enable a POSITA to "make and use the full scope of the claimed invention without undue experimentation." *Invitrogen*, 429 F.3d at 1070-71. Here, the patentee choose to broadly claim a function being performed by the diagnostic center, but failed to ensure this broad language was described—let alone fully enabled—in the specification. *See Sitrick*, 516 F.3d at 999.

Accordingly, claims 12-20 lack enablement under 35 U.S.C. §112.

D. Ground 4: Claims 1-7, 10-14 And 17-20 Are Anticipated By D1 Under 35 U.S.C. §102

1. D1 Anticipates Independent Claim 1

1[Pre]	**"A method comprising…"**

D1 discloses various methods and systems for providing an eye testing and evaluation system used to administer eye examinations. *See, e.g.,* D1: 1:16-29; 6:62-7:15; 4:36-57; 7:15-44; FIGS. 6-10; Schuette Decl., ¶84. Accordingly, D1 discloses the preamble of claim 1.

1[A]	**"assigning a patient to a local eyecare technician, wherein the patient and the local eyecare technician are located at a local diagnostic center"**

D1 explains that a customer (*i.e.*, patient)[13] located at a customer diagnostic center (*i.e.*, local diagnostic center) is assigned to an onsite technician (*i.e.*, a local eyecare technician)[14] who is also located at the local diagnostic centers. For example, D1 explains that customer diagnostic centers may be located at retail stores, offices (*e.g.*, for opticians, optometrists or ophthalmologists), eye clinics, and many other locations. D1: 9:10-52. On-site technicians are located "at the sites where the customer diagnostic centers are located," and they are assigned to customers to "facilitate and assist customers with one or more aspects of the vision examinations, eye-health examinations, and/or other services, features and functionality provided through the customer diagnostic centers." D1: 32:47-67; 20:56-21:15. The customer (*i.e.*, patient) is located at the customer diagnostic center with the local eye technician. D1: 7:16-44; 8:38-61; 20:56-21:15; 32:47-67; 44:9-29; 45:49-46:6; Schuette Decl., ¶¶85-88.

Accordingly, D1 discloses limitation 1[A].

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[13] D1 explains the term "customer" can refer to a patient or "any individual desiring eye health examinations and/or vision examinations." D1: 7:16-21; 1:53-1:60; 3:5-15; 11:32-45 (using "patient" interchangeably with "customer").

[14] D1 uses the terms "on-site operator" and "on-site technician" interchangeably throughout its disclosure to generally refer to an individual at the customer diagnostic center who assists the customer with obtaining an eye examination. For example, D1 explains that an on-site operator can be a "technician." D1: 32:47-67.

1[B]	**"assigning, by the local eyecare technician, the patient to a remote eyecare technician, wherein the remote eyecare technician is located at a remote diagnostic center"**

D1 explains that "the eye testing and evaluation system may be implemented using… different types of assistance from on-site and/or remote individuals." D1: 32:5-11. D1 discloses at least two different individuals, namely: (i) an "offsite technician"; and (ii) a "remote practitioner," that can perform the role of the remote eyecare technician as described and claimed in the '644 patent.[15]

For example, D1 explains that an offsite technician may represent an "equipment operator," "technician located at a remote call center," and/or practitioner's "assistant" who is assigned to the customer to administer tests during an eye examination. D1: 12:41-65 ("an offsite technician (*e.g.*, an equipment operator or the remote practitioner's assistant, etc.) [] monitor[s] and/or control[s] the equipment and the administration of the tests [to the customer]"); 33:1-16 (explaining that any tests capable of being performed by an onsite operator can be performed by an offsite technician). The offsite technician is located remotely with respect to the customer diagnostic center (*e.g.*, at a remote diagnostic center),

[15] The '644 patent explains that a "remote eyecare technician" is an individual "responsible for performing the subjective refraction part of the eye exam." '644 patent, 25:16-23. The '644 patent further explains that a doctor can act as a technician. *Id.*, FIG. 1C.

and communicates with the customer over a network connection (*e.g.*, using videoconferencing). D1: 13:38-61; 20:30-55; 10:36-53; 23:49-24:7; 34:18-35:15; Schuette Decl., ¶¶89-93.

The customer can alternatively (or additionally) be assigned to a remote practitioner that serves the role of the claimed "remote eyecare technician." For example, D1 explains that a remote practitioner can be any "individual who is . . . capable of administering or monitoring one or more eye health and visual acuity tests and procedures . . . ." D1: 10:65-11:16. Like the offsite technician, the remote practitioner is located remotely from the customer diagnostic center (*e.g.*, at a "remote diagnostic center"), and is assigned to the customer to administer tests during the eye examination. D1: 12:41-65; 41:65-46:21; FIG. 1 at 30; FIG. 2 at 30A-D. The remote practitioner communicates with the customer over a network connection (*e.g.*, using videoconferencing). D1: 13:38-61; 20:30-55; 10:36-53; 23:49-24:7; 34:18-35:15; 42:24-39; Schuette Decl., ¶¶94-95.

D1 also discloses that both the offsite technician and remote practitioner can be assigned to the patient "by the onsite technician." D1: 43:5-29("A remote practitioner associated with the remote practitioner device 30 may be selected by… an individual at the customer diagnostic center 10."); 44:30-45:16; 46:7-21; 17:4-24; 5:11-46. This may involve using an "on-site operator interface" that receives "selections and inputs from the on-site technician" during the eye examinations.

D1: 20:56-21:44; 21:56-22:18. For example, D1 explains that the onsite operator interface allows the onsite technician to control and assist with establishing connections with remote individuals (*e.g.*, the remote practitioner and/or offsite technician), as well as transmitting data to devices associated with these individuals. D1: 20:56-21:44; 12:41-65; 10:36-54; 23:49-24:7. D1 also discloses that assigning remote individuals to the customer involves transmitting requests to these individuals. D1: Claim 25 (55:19-23), 5:11-6:4, 22:6-18; 43:5-29; 44:58-45:16; Schuette Decl., ¶¶96-99.

Additionally, the '644 patent merely describes the "remote diagnostic center" as a location where a remote technician or doctor is located during the examinations that is situated remotely from the local diagnostic center. *See, e.g.,* '644 patent, 17:34-50; Abstract; 1:64-2:31("Embodiments of the present disclosure call for a remote station … At that remote location, a skilled technician is present to provide the necessary optical and/or medical care"). Likewise, D1 discloses that the offsite technician and remote practitioner are situated at a location that is remote from the customer diagnostic center. D1: 42:24-39("This permits a practitioner operating a practitioner device to review the customer examination data from a location that is located remotely from the customer diagnostic center..."); 33:17-33; 33:1-16 (the offsite technician and remote practitioner may represent "remote operators…. located at a remote call center."). Thus, D1

discloses that the offsite technician and remote practitioner are "located at a remote diagnostic center." Schuette Decl., ¶¶89-99.

Accordingly, D1 discloses limitation 1[B].

1[C]	**"collecting, by the local eyecare technician, medical history for the patient"**

D1 explains that "a wide range of data in connection with providing vision examinations and/or eye health examinations to customers" is collected and stored. D1: 39:9-29; 7:16-44; 11:17-12:40; 26:22-45. This includes "customer data" and/or "customer examination data," both of which can include medical history information for the customer (*i.e.*, patient). D1: 39:9-29 ("The eye testing and evaluation system may store and/or update various customer data (*e.g.*, background and demographical data, prior vision examination and/or eye examination results, ***individual and family medical history***, and other characteristics and preferences) associated with the customers.") (emphasis added); 11:17-45; 37:51-38:6; 12:1-21; Schuette Decl., ¶¶105.

D1 also discloses that the on-site technician can assist with collecting the customer data, which includes the customer's medical history. For example, the on-site technician may utilize an "on-site operator interface" that "enable[s] the on-site technician to… assist customers with creating an account… [and] ***accessing and updating… customer data***." D1: 20:56-21:15 (emphasis added); 21:16-44; 32:47-67; 39:9-29 (on-site technician assist customers with "stor[ing] and/or

update[ing] various customer data."); 15:13-33 (same for "customer examination data"); 12:1-21; 29:7-20. The customer's medical history and other data can be input by the on-site operator via input/output devices connected to an on-site operator interface. D1: 21:16-44; 21:56-22:18 (explaining that the on-site technician can also use a customer interface "to access, view, input, modify, and/or update various information associated with the customer" including "customer data"); 12:66-13:23; 8:38-61. In other words, the on-site technician assists with collecting, storing and updating data that includes the medical history for the patient. Schuette Decl., ¶¶105-108.

Accordingly, D1 discloses limitation 1[C].

1[D]	**"administering, by the local eyecare technician, pre-refraction tests on the patient to produce pre-refraction results for the patient"**

Numerous passages in D1 explain that the on-site technician can administer various tests to the patient to produce test results. For example, D1 explains that an "on-site operator interface 170 may allow the on-site technician to control and/or monitor some or all of the ophthalmic equipment and associated components included with vision examination system 140 and eye health examination system 150 and/or the tests and procedures administered to customers using the equipment." D1: 20:56-21:15; 32:47-33:16("[T]he on-site operators may monitor and/or control the ophthalmic equipment and devices (*e.g.*, through an on-

site operator interface), such as during one or more tests and procedures to ensure proper administration…"); 8:38-61; 25:30-43; 29:7-20; Schuette Decl., ¶¶109-112.

The '644 patent explains that "pre-refraction tests" "may include non-contact tonometry glaucoma test, color blindness test, autorefractors and aberrometers." '644 patent, 19:66-20:4; 21:55-61. Importantly, D1 discloses that the tests administered by the on-site technician can include precisely these types of pre-refraction tests (and others). For example, D1 describes (i) preliminary refractive error tests (D1: 44:9-29, 25:44-67; 43:30-60); (ii) auto-refractor tests (D1: 24:59-25:14, FIG. 4); (iii) tonometer tests (D1: 28:21-38, 31:31-32:3, 8:38-61, 19:33-53, FIG. 5); (iv) color blindness tests (D1: 31:41-50, 1:46-52, 2:24-40, 37:16-30); and (v) aberrometer and pinhole acuity tests (D1: 31:31-40). Schuette Decl., ¶111.

With respect to producing pre-refraction results, D1 explains that "customer examination data" including the results of these pre-refraction tests is generated by administering the tests. D1: 11:17-45; 41:65-42:23; 5:11-46. For example, D1 explains customer examination data may include "data associated with one or more of the tests administered to the customer (*e.g.*, responses, inputs and selections from the customer, instrument measurements and readings, test results, etc.)." D1: 41:65-42:24; 11:17-45; Schuette Decl., ¶¶113-114.

Accordingly, D1 discloses limitation 1[D].

1[E]	**"transmitting the medical history for the patient and the pre-refraction results for the patient to the remote eyecare technician"**

D1 explains that the pre-refraction results, medical history and other data collected at the customer diagnostic center (*e.g.*, customer data and customer examination data) is transmitted to the remote eyecare technician (*e.g.*, an offsite technician and/or remote practitioner).

For example, D1 explains that "the customer diagnostic centers [] capture and record various data associated with the administration of the tests and procedures to customers," and that, "where the customer diagnostic centers communicate with a remote practitioner and/or off-site technician, this data may be sent to these individuals along with… customer data and/or customer examination data." D1: 23:49-24:7. D1 makes clear that this data includes both the medical history for the customer and any collected test results. D1: 41:65-42:24 ("[T]he customer examination data may include data associated with the customer (*e.g.*, the customer's name, age, gender, race, medical history, prior test results, etc.) and data associated with one or more of the tests administered to the customer (*e.g.*, responses, inputs and selections from the customer, instrument measurements and readings, test results, etc.)."); 11:17-45; 13:38-61; 42:24-39; Schuette Decl., ¶¶115-116. As explained directly above, these tests results correspond to the results of the pre-fraction tests.

Accordingly, D1 discloses limitation 1[E].

1[F]	**"administering, by the remote eyecare technician, refraction tests on the patient to produce refraction results for the patient"**

D1 discloses various ophthalmic devices and related equipment for administering refraction tests to a patient. D1: 24:31-27:53. For example, the "vision examination system 140 may include auto-phoropter 141, lens houser 142, auto refractor 143, lensometer 144, eye chart 145" and other related equipment. D1: 24:31-45; FIG. 4; Schuette Decl., ¶¶117-120.

D1 explains that the offsite technician and/or remote practitioner can remotely control these (and other) ophthalmic devices, instruments and equipment to administer tests to the patient. D1: 12:41-65; 26:46-62("[T]he customer diagnostic center may establish a connection with the remote practitioner…, such as to allow the remote practitioner to monitor and control the tests, view and interact with the customer, review and analyze the examination data, and/or provide the evaluation data in real-time."); 32:47-33:16; 14:63-15:12 (explaining that any tests capable of being administered by the onsite operators can also be performed remotely by an offsite technician and/or remote practitioner); 20:1-55("Equipment controller 130" is used for "controlling some or all of the ophthalmic equipment and associated components in a number of ways [such as, by] receiv[ing] instructions or input from a remote practitioner and/or offsite technician."); Schuette Decl., ¶¶117-120.

In particular, D1 discloses that the tests administered to the patient include refraction tests. D1: 25:30-43 (explaining that the technicians/practitioners can "administer[] a variety of tests and procedures to customers, such as in order to measure, capture and/or record data pertaining to a customers' visual acuity and/or visual ability."); 43:5-44:57, FIGS. 7-8 (explaining the remote practitioner can remotely administer "vision examinations" and tests to a customer and determine a "refractive error" for the customer); 26:1-21 (discussing interactive refraction tests); 3:62-4:1; claims 3 and 16. As explained above (*supra* at 38), D1 discloses that "customer examination data" is generated based on "the tests administered to the customer," which can include "refraction results" for the customer, including "test results," "updated refractive errors," "optical prescriptions" and/or other related information associated with the tests. D1: 41:65-42:24; 11:17-45; 26:22-62; Schuette Decl., ¶¶117-120.

Accordingly, D1 discloses the limitation 1[F].

1[G]	**"transmitting to an eyecare doctor the medical history for the patient, the pre-refraction results for the patient and the refraction results for the patient."**

D1 further discloses that the customer data and/or customer examination data (which includes the patient's medical history and test results, including the pre-refraction results and the refraction results) may also be sent to a remote practitioner who is serving the role of an eyecare doctor, such as "a licensed

optometrist or ophthalmologist." D1: 10:65-11:45; 43:61-44:8; 44:30-57; 23:49-24:7; 33:1-16. For example, D1 explains that "when a customer receives a vision examination and/or eye health examination through a customer diagnostic center, various data associated with the customer and one or more of the tests and procedures administered to the customer is provided to a remote practitioner (*e.g.*, via a remote practitioner device) to allow the remote practitioner to confirm, evaluate and diagnose the customer's visual ability and/or eye health and/or create a vision and/or eye health report (or similar evaluation) to be provided to the customer." D1: 33:17-33; Schuette Decl., ¶¶121-127.

D1 also discloses that "the eye testing and evaluation system may be implemented using… different types of assistance from on-site and/or remote individuals." D1: 32:5-11. For example, D1 discloses embodiments where a remote practitioner (*e.g.*, serving the role of an eyecare doctor) works in conjunction with an offsite technician (*e.g.*, serving the role of the remote eyecare technician) to provide an eye examination. D1 also discloses embodiments where a remote practitioner (*e.g.*, serving the role of an eyecare doctor) works in conjunction with a second remote practitioner (*e.g.*, serving the role of the remote eyecare technician) to provide an eye examination. As described below, both embodiments satisfy limitation 1[G].

Numerous passages discuss a remote practitioner, who may represent an eye doctor, working in conjunction with an offsite technician to provide the eye examinations. D1: 13:38-61 ("customer diagnostic center 10 may establish a real-time connection with remote practitioner device 30 [which is operated by a remote practitioner] and/or a device associated with an off-site technician, and may manage the communication of data to and from various other systems and devices."); 7:16-44; 10:36-53; 12:12-65. In such embodiments, "the ophthalmic equipment and/or test administration can be monitored and controlled by various individuals (*e.g.*, a remote practitioner, off-site technician, and/or on-site operator)." D1: 20:30-55. The remote practitioner and offsite technician can receive "data associated with the administration of the tests and procedures to customers" along with "customer data and/or customer examination data." D1: 23:49-24:7; Schuette Decl., ¶¶124-126.

Likewise, numerous passages discuss two or more remote practitioners working together to provide the eye examinations. D1: Figure 2 at 30A-30D. For example, D1 explains that "one or more practitioners [may be selected] to receive the request" for administering an eye examination to customer. D1: 21:56-22:18. Customer examination data generated during an examination "is transmitted over a computer network… [and] [t]he diagnostic center server provides access to one or more practitioner devices" to enable multiple practitioners (*e.g.*, an eye doctor) to

access the customer examination data. D1: 42:24-39; 44:30-57("One or more remote practitioners may be provided with access to the stored examination data … [and] the remote practitioners may receive and accept a request for providing… vision examination[s]."); 46:7-21; 15:34-52(explaining that the customer diagnostic centers "may communicate with remote practitioners through remote practitioner devices 30A-30D"); 16:44-17:3. In such embodiments where multiple remote practitioners participate in an eye examination, one of the remote practitioners may represent an eye doctor (*e.g.*, "a licensed optometrist or ophthalmologist"), while another remote practitioner represents a remote eye technician (*e.g.*, an "individual who is qualified, licensed, or otherwise capable of administering or monitoring one or more eye health and visual acuity tests and procedures."). D1: 10:65-11:16; Schuette Decl., ¶¶124-127. Accordingly, D1 discloses limitation 1[G].

For at least the reasons above, D1 anticipates independent claim 1.

2. Dependent Claim 2

2	**"The method as in claim 1, wherein the eyecare doctor, the remote technician and the local technicians are in different locations."**

Petitioner respectfully submits that, as shown above, this limitation is indefinite under Section 112. *Supra* at 26-27. To the extent the Board finds otherwise, however, neither claim 2, nor the specification of the '644 patent, specifies or limits the scope of "different locations." Rather, based on the

disclosure of the '644 patent, a reasonable interpretation of this limitation is simply that the local technician, eyecare doctor, and remote technician utilize separate devices and/or network connections during the examinations. But, even if this limitation required all three individuals to be in different buildings or geographic locations, D1 expressly discloses that arrangement. Schuette Decl., ¶¶128-136.

D1 discloses that the onsite technician (*i.e.*, local technician) is located at a customer diagnostic center, such as a retail store, office building, or customer residence. D1: 32:47-67, 44:9-29 (onsite technicians are present "at the sites where the customer diagnostic centers are located."); 9:30-52 ("customer diagnostic center 10 may be provided as a fixed structure or device or may be designed to be portable or mobile."). The customer (*i.e.*, patient) is located at the diagnostic center with the onsite technician. D1: 45:49-46:6; 7:16-44; 8:38-61; 20:56-21:15; Schuette Decl., ¶131.

In turn, D1 discloses that both the eyecare doctor (*e.g.*, a remote practitioner) and the remote technician (*e.g.*, an offsite technician or second remote practitioner) are located remotely with respect to the onsite technician and patient at the customer diagnostic center.[16] For example, D1 explains that the remote

[16] Indeed, D1 uses the terms "remote" and "offsite" to describe individuals or components not located at the same physical location as the customer diagnostic center (*e.g.*, the remote practitioner, offsite technician, remote practitioner device).

practitioner is situated at "a location that is located remotely from the customer diagnostic center where the one or more tests are administered to the customer." D1: 42:24-39; 33:17-33. Similarly, D1 makes clear that the offsite technician is situated remotely from the onsite technician and patient, such as, located at a "remote call center." D1: 33:1-16. Moreover, D1 explains that both the remote practitioners and the offsite technician utilize computing devices (*e.g.*, a remote practitioner device 30) to communicate with the patient, customer diagnostic center, and other individuals over a network connection (*e.g.*, to facilitate videoconferencing and/or remote control of the equipment located at the customer diagnostic center). D1: 12:41-65; 13:38-61; 20:30-55; 10:36-53; 23:49-24:7; 34:18-35:14; 42:24-39. Likewise, the customer diagnostic center includes one or more devices and/or network interfaces for establishing connections with remote individuals (*e.g.*, the remote practitioner and offsite technician) over a network during eye examinations. *See, e.g.,* D1: 8:38-9:9; 10:36-11:25; 12:41-13:61; 20:55-23:34; FIG. 2; Schuette Decl., ¶¶132-136.

Additionally, D1 discloses that the "eyecare doctor" (*e.g.*, a remote practitioner) and the "remote technician" (*e.g.*, an offsite technician or a second

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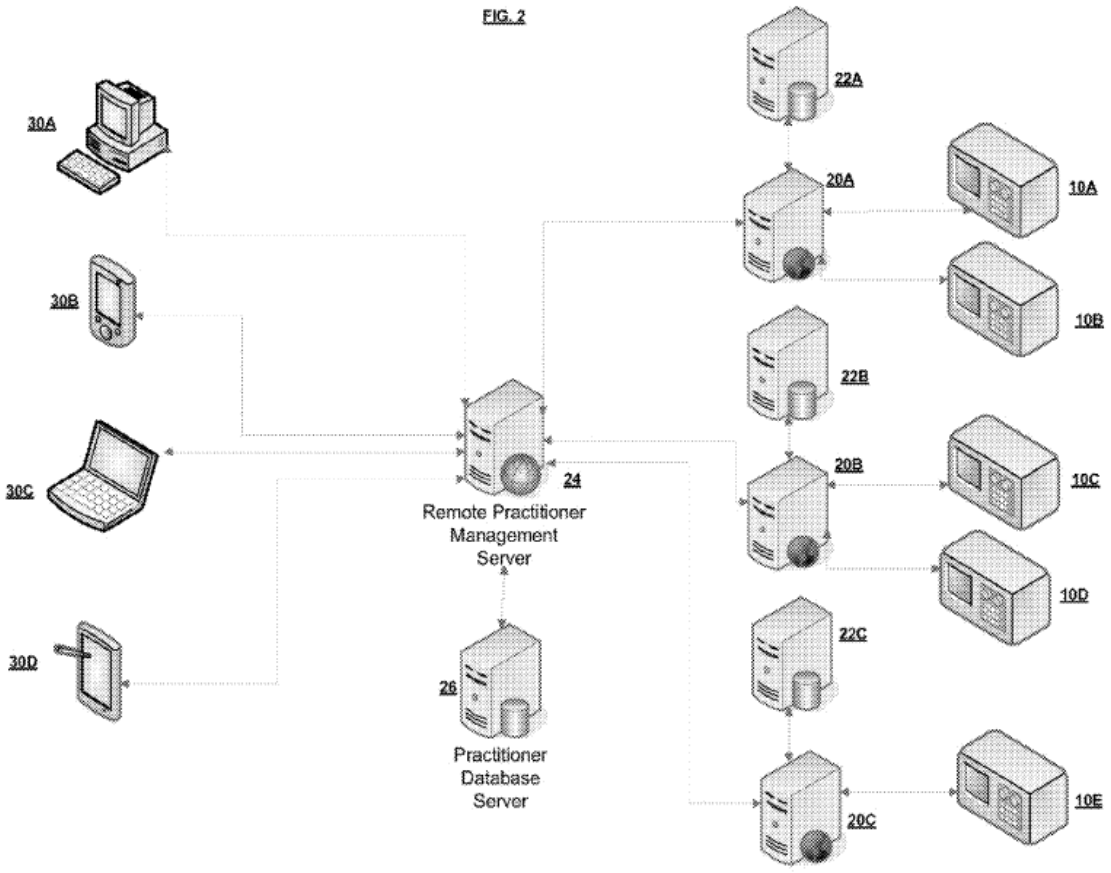
D1: 32:47-67; 20:56-21:15; 33:14-16; 7:39-44. Conversely, D1 uses "onsite" to signify individuals or components located at the customer diagnostic center (*e.g.*, onsite technician, onsite operator interface). D1: 12:41-65; 41:65-46:21.

remote practitioner) can also be in physically separate locations.[17] For example, in embodiments in which the offsite technician represents the remote technician and a remote practitioner represents the eyecare doctor, D1 explains that the offsite technician and remote practitioner can separately communicate with the customer diagnostic center using different devices (*e.g.*, an offsite technician's device and remote practitioner device 30) and over separate network connections. *See, e.g.*, D1: 12:41-65; 13:38-61; 23:49-24:7; 20:30-55. Similarly, for embodiments in which a first remote practitioner represents the remote technician and a second remote practitioner represents the eye doctor, the remote practitioners can be in different physical locations. As shown in Figure 2 of D1 (reproduced below), the remote practitioners can use separate devices (*e.g.*, remote practitioner devices 30A-D) that communicate with a customer diagnostic center over separate network connections.

[17] As explained above, the '644 patent makes clear that the "eyecare doctor" and "remote technician" can be at the ***same*** diagnostic center and still be considered to be in "different locations." *Supra* at 9-11.



D1: Figure 2; Schuette Decl., ¶¶134-136.

Importantly, D1 also discloses that the devices utilized by the remote practitioners and offsite technicians to connect and communicate with the customer diagnostic center can be mobile devices such as a "laptop, tablet, smartphone, or PDA." Thus, these devices (and their users) are not restricted to any particular physical locations, thus allowing the offsite technicians and remote practitioners to be situated in virtually any location, *e.g.*, different geographic locations from the other participants in the eye examinations. D1: 10:65-11:16; 16:44-17:3; FIG. 2 at

30B, 30C, 30D. Indeed, this is one of the explicit benefits of the inventions disclosed in D1. D1: 35:33-39; 3:62-4:11. Likewise, D1 discloses that the customer diagnostic center where the patient and onsite technician are located can also be mobile and/or portable and, thus, in virtually any location. D1: 9:49-52; 11:2-7; FIG. 2 at 30B, 30C, 30D. In other words, because both the remote practitioner and offsite technician devices and the customer diagnostic center can be "mobile" and/or "portable," D1 clearly discloses that the eyecare doctor, remote technician and patient/local technician can all be in different geographic locations. *Id*.; Schuette Decl., ¶¶135-136.

Accordingly, D1 anticipates claim 2.

3. Dependent Claim 3

3	**"The method as in claim 2, wherein the process of administering, by the remote eyecare technician, refraction tests on the patient to produce refraction results for the patient involves the use of a remotely-controlled phoropter and videoconferencing."**

As explained above (*supra* at 39-41), D1 discloses that a remote eyecare technician (*e.g.*, offsite technician or remote practitioner) can administer refraction tests on a patient to produce refraction results (*e.g.*, customer examination data that includes test results, updated refractive errors, optical prescriptions, etc.). D1: 25:30-26:62; 3:62-4:11; 41:65-42:24; 43:5-44:57; 11:17-45; FIGS. 7-8.

D1 also discloses that the refraction tests can involve use of a remotely-controlled phoropter that is controlled by the remote eyecare technician. For

example, D1 explains that an "[e]quipment controller 130 may be responsible for controlling . . . some or all of the ophthalmic equipment and associated components in a number of ways," such as "receiv[ing] instructions or input from a remote practitioner and/or offsite technician… via network interface 180." D1: 20:1-55. In particular, D1 discloses that this ophthalmic equipment can include "any suitable type of phoropter and/or other similar device (or a number of such phoropters and devices) that can be used to present powered lenses in front of a customer's eyes." D1: 24:46-59; 25:15-30; 43:37-60("[T]he remote practitioner may be permitted to control any equipment that is relevant to providing a vision examination including, but not limited to, an auto phoropter"); 12:41-65; 28:58-29:6; FIGS. 3-5; Schuette Decl., ¶¶143-147.

D1 further discloses that administering the refraction tests to the customer can involve use of videoconferencing. For example, the offsite technician and/or remote practitioner can receive "customer examination data" that includes a "real-time video stream," which enables viewing of, and interaction with, the customer as "tests, procedures and examinations are provided to the customer." D1: 11:17-45; 41:65-42:24("[T]he customer examination data may include a live video stream or video recording of the eye health examination and/or vision examination that was provided to a customer."); Schuette Decl., ¶146.

Additionally, D1 discloses that a "real-time connection" can be established between the customer diagnostic center and devices associated with the remote practitioners and/or offsite technicians "for monitoring… the administration of the tests." D1: 12:41-65. This real-time connection can be provided in conjunction with a "tele-presence system, which may be any suitable system for establishing a real-time connection with, and routing or streaming various data to and from a remote agent." D1: 34:18-36. "[T]he tele-presence system may enable real-time teleconferencing and video conferencing to be established." D1: 34:58-35:14, 23:49-24:7; 43:5-29; 18:11-40 (describing "facilitate[ing] the exchange of audio/video streams between remote practitioner devices 30 and customer diagnostic centers 10."); 44:58-45:16; Schuette Decl., ¶147.

Accordingly, D1 anticipates claim 3.

4. Dependent Claim 4

4	**"The method as in claim 3 wherein the refraction tests comprise a normal visual acuity test and a subjective distance vision refraction test."[18]**

As explained in D1, "comprehensive eye examinations may include some or all of the following tests and procedures (or tests and procedures of an equivalent nature): (i) ***objective and subjective refraction and/or other tests to check visual***

[18] As shown above, the term "normal visual acuity test" is unclear and, therefore, claim 3 is indefinite under Section 112. *Supra* at 29.

acuity…" D1: 2:17-45(emphasis added); 7:57-8:5; 24:31-27:53; 29:21-32:3 (describing various vision tests that can be administered and associated equipment that be used to conduct the tests). D1 also discloses that the "vision examination system 140 may include an electronic visual acuity monitor for allowing the system to perform various tests associated with measuring a ***customer's visual acuity at longer distances***." D1: 27:32-53 (emphasis added); 19:54-67; 25:30-43 (discussing standard visual acuity tests); 24:59-25:14 (explaining tests may involve use of an "[e]ye chart…to aid in determining the ***customer's visual acuity***.") (emphasis added); 26:63-27:14; 10:65-11:16; Schuette Decl., ¶¶148-153.

D1 further discloses that the "tests and procedures performed at the customer diagnostic center may include both objective and subjective components" and that "the electronic visual acuity monitor may be used to administer various tests to measure digital visual acuity data for a customer with and/or without lenses at ***various distances***, based on ***subjective responses and inputs received from the customer***, which can be compared to certain measurement standards." D1: 26:63-27:14. For example, "the electronic visual acuity monitor may be used to determine the size of objects at specific distances that are visually perceptible to a customer (*e.g.*, 20/20 or 20/30 size letters or other object)." D1: 27:32-53; 36:40-65; 36:66-37:15; Schuette Decl., ¶¶152-153.

Accordingly, D1 anticipates claim 4.

5. Dependent Claim 5

5	**"The method as in claim 4, wherein the refraction tests further comprises a subjective near vision refraction test."**

As explained directly above, the refraction tests conducted using the eye testing and evaluation system disclosed in D1 include subjective refraction tests and a wide array of other tests associated with providing a comprehensive eye examination. D1: 24:31-27:53; 29:21-32:3.

In particular, D1 explains that these tests "include both objective and subjective components" and that "the electronic visual acuity monitor may be used to administer various tests to measure digital visual acuity data for a customer with and/or without lenses at ***various distances***, based on ***subjective responses and inputs received from the customer***, which can be compared to certain measurement standards." D1: 26:63-27:53 (emphasis added); 27:32-53 ("the electronic visual acuity monitor may be used to determine the size of objects at specific distances that are visually perceptible to a customer (*e.g.*, 20/20 or 20/30 size letters or other object)."); 36:40-65; 36:66-37:15 (discussing tests for "simple myopia/nearsightedness"); 24:31-45, 24:59-25:14, 26:1-2; 26:63-27:14 (discussing the use of eye charts in administering the tests to the customer); Schuette Decl., ¶¶154-158.

Accordingly, D1 anticipates claim 5.

6. Dependent Claim 6

6	**"The method as in claim 2, further comprising: reviewing, by the eyecare doctor, the medical history for the patient, the pre-refraction results for the patient and the refraction results for the patient."**

As explained above (*supra* at 41-44), a remote practitioner (*e.g.*, eyecare doctor) can receive customer data and/or customer examination data, which includes the medical history, pre-refraction results, and refraction results for the patient. D1 discloses that the remote practitioner reviews this customer data and/or customer examination data. *See, e.g.,* D1: 42:24-39("[A] practitioner operating a practitioner device [is able] to review the customer examination data from a location that is located remotely from the customer diagnostic center.") 11:17-45; 15:34-52; 4:15-35. For example, D1 explains that the remote practitioner may review the customer data and/or customer examination data to produce customer evaluation data (*e.g.*, which may include prescriptions, diagnoses, recommendations and/or information related to the results of the eye examination). D1: 11:46-67; 12:22-40; 4:15-35; Schuette Decl., ¶¶159-161.

Accordingly, D1 anticipates claim 6.

7. Dependent Claim 7

7	**"The method as in claim 6, wherein the process of reviewing, by the eyecare doctor, the medical history for the patient, the pre-refraction results for the patient and the refraction results for the patient involves the use of a remotely-controlled phoropter and videoconferencing by the eyecare doctor."**

As explained above (*supra* 49-50, 53-54), D1 discloses that a remote practitioner (*e.g.*, eyecare doctor) is able to control and use a remotely-controlled phoropter and utilize videoconferencing during administration of the eye examinations to patients (*e.g.*, to review and analyze the customer data and customer examination data, interact with the patient, and update the preliminary refraction results). D1: 20:1-55; 12:41-65; 24:46-25:30; 43:37-60; Schuette Decl., ¶¶162-163.

Accordingly, D1 anticipates claim 7.

8. Dependent Claim 10

10	**"The method as in claim 7, further comprising: issuing, by the eyecare doctor, an eye-related prescription for the patient."**

D1 discloses that the eyecare doctor (*e.g.*, remote practitioner) can produce "customer evaluation data" based on the remote practitioner's review and evaluation of the customer examination data., which can include "optical prescriptions," "pharmaceutical prescriptions," and other information indicating the results of the tests and procedures administered to the customer; D1: 11:46-67; 36:25-37:15; 22:31-49; 26:22-62; 33:34-48; 34:37-57; 10:65-11:16; 7:16-44; 17:25-45. The remote practitioner can send the prescriptions and other customer evaluation data to the customer diagnostic center or directly to the customer in other ways (*e.g.*, via e-mail). D1: 36:25-39; 26:22-45; 26:46-62; 38:29-47; Schuette Decl., ¶¶164-165.

Accordingly, D1 anticipates claim 10.

9. Dependent Claim 11

11	**"The method as in claim 10, further comprising: printing the eye-related prescription for the patient at the local diagnostic center."**

D1 discloses that customer or onsite technician can "print out some or all of the customer evaluation data (*e.g.*, an optical prescription or referral) using one or more printers provided at the customer diagnostic center." D1: 38:29-47; 32:47-67 (on-site operators may "assist customers with… printing out an eye health or vision report" which can include eye-related prescriptions); 26:46-62; 24:8-20; 47:18-36; Schuette Decl., ¶166.

Accordingly, D1 anticipates claim 11.

10. Independent Claim 12

12[Pre]	**"A system for providing eye health and vision examinations, comprising:"**

D1 discloses "an eye testing and evaluation system" for providing "eye health and vision examinations." *Supra* at 31. Indeed, claim 1 of D1 recites an identical preamble: "[a] system for providing eye health and vision examinations." *Supra* at 6; D1: claim 1; Schuette Decl., ¶¶167-169. Accordingly, D1 discloses the preamble of claim 12.

12[A]	**"a diagnostic center including ophthalmic equipment comprising a set of instruments that are utilized in administering eye examinations and being coupled to an equipment controller that is configured to receive instructions for controlling the ophthalmic equipment, wherein the diagnostic center is configured to:"**

The eye testing and evaluation system of D1 includes a customer diagnostic center that enables a customer to obtain an eye examination. *Supra* at 31-32. For example, D1 discloses that "customers and other users [can] obtain eye health examinations and vision examinations through a customer diagnostic center that includes ophthalmic equipment and instruments for performing various tests and procedures pertaining to the customers' eye health and visual ability." D1: 1:16-29; 7:16-44; FIG. 1 at 10; FIG. 2 at 10A-10E. These diagnostic centers include a "vision examination system" and "eye health examination system" that comprise "various ophthalmic devices, equipment and instruments, and other general hardware, mechanical and electronic devices and/or computer software and hardware that is utilized by the customer diagnostic center to provide vision examinations to customers," including an auto-phoropter, eye chart, etc. D1: 24:31-45; 24:31-27:53; 27:55-31:40; FIGS. 4, 5; Schuette Decl., ¶¶170-174.

The ophthalmic equipment and instruments are coupled to an equipment controller. D1: 21:16-44; 25:15-30; 28:58-29:6; 43:37-60; 4:15-35; 19:8-32; FIGS. 3-5 at 130. The "[e]quipment controller 130 may be responsible for controlling … some or all of the ophthalmic equipment and associated components in a number of ways, such as turning equipment on and off, initializing and setting up the equipment, moving and positioning the equipment, and/or instructing the equipment to perform various operations and procedures." D1: 20:1-55. D1

further discloses that instructions for controlling the ophthalmic equipment via the equipment controller can be received from "a remote practitioner and/or offsite technician (*e.g.*, remote practitioner's assistant, remote equipment operator) via network interface 180, o[r] from an on-site operator or technician via on-site operator interface 170." *Id*.; Schuette Decl., ¶174.

Additionally, claim 1 of D1 includes virtually identical claim language to that of limitation 12[A]. *Supra* at 6-7; D1: claims 1 & 25. Accordingly, D1 discloses limitation 12[A].

12[B]	**"in response to receiving a first request from the diagnostic center, select a subset of remote technicians to administer an eye examination based, at least in part, on analyzing availability data to identify at least one remote technician who is logged into the web-based platform and not currently providing real-time eye examinations"**
12[C]	**"transmit a second request over a network to a select remote technician to administer the eye examination in real-time for a patient located at the diagnostic center"**

D1 discloses that a "remote practitioner" can represent either a remote eyecare doctor (*e.g.*, such as a "licensed optometrist or ophthalmologist") and/or a remote eyecare technician (*e.g.*, such as an "individual who is qualified, licensed, or otherwise capable of administering or monitoring one or more eye health and visual acuity tests and procedures"). D1: 10:65-11:16; *supra* at 32-34.[19] As explained above (*supra* at 42-44), D1 also discloses that two or more remote

[19] *See supra* at fn. 15.

practitioners can participate in an eye examination. In other words, one remote practitioner can perform the role of the claimed "remote eyecare technician," while another performs the role of the claimed "remote eyecare doctor." Schuette Decl., ¶¶175-177.

D1 discloses that remote practitioners can be selected using availability data in the same manner recited in limitations 12[C] and 12[D]. For example, D1 explains that the customer diagnostic center can receive "requests [for] a vision examination and/or eye health examination through [the] customer diagnostic center." D1: 33:49-64; 16:44-17:3; 21:45-55. In response to receiving such a request (*e.g.*, first request), "one or more remote practitioners" can be selected to administer the eye examinations. D1: 21:45-22:18; 16:44-17:3; 5:11-6:4; 43:5-29; 44:30-45:16; 25:44-67; 33:49-64. The requests can be submitted by customers via a customer interface 160 located at the customer diagnostic center (D1: 21:45-22:18; 16:44-17:3; FIG. 3 at 160), and/or by onsite technicians via an onsite operator interface 170 located at the customer diagnostic center (D1: 20:56-21:55; FIG. 3 at 170). Thus, D1 discloses that remote practitioners (*e.g.*, remote technicians or eyecare doctors) are selected to administer the eye examinations in response to receiving a request (*e.g.*, a first request) associated with the eye examination. Schuette Decl., ¶¶177-183.

D1 further discloses that a subset of remote practitioners (*e.g.*, remote

technicians or eyecare doctors) are selected to administer the eye examinations based on analyzing availability data for the remote practitioners. D1 explains that "the system for providing vision and/or eye health examinations may be provided, at least in part, by a centralized cloud-based system… [that is] accessible via a web browser (or other application) and may be compatible across all web platforms and devices." D1: 18:11-40; 12:1-40; 15:53-16:3; 17:46-18:10; 33:34-48; 38:48-39:8; 46:28-43 (describing the web-based platform). "Both remote practitioners and users at customer diagnostic center**…** may login to the cloud-based system when utilizing the system." D1: 18:11-40; Schuette Decl., ¶¶179-180.

D1 discloses that "[a]vailability data," which indicates "the availability and/or status of each remote practitioner", is tracked to identify remote practitioners who are available to assist with eye examinations. D1: 16:44-18:10. This availability data indicates "whether each remote practitioner[] is logged in to the system and/or currently connected to a customer diagnostic center." D1: 17:46-18:10; 17:4-24 ("In certain of these embodiments, such as where a real-time connection is established between customer diagnostic centers and remote practitioners, the availability data may include an indication of whether each remote practitioner is online and/or available for connecting to a customer diagnostic center (*e.g.*, is not already connected to a customer diagnostic center…)."). In turn, this availability data can be used to select a list or subset of

the remote practitioners who are available to administer the eye examination. *See, e.g.,* D1: 17:4-24("The availability data may be used in various ways to manage the communication of data to the remote practitioners, such as determining whether a particular remote practitioner is able to review customer examination data, and/or providing a list of the currently available remote practitioners to the CDC servers and/or customer diagnostic centers."); 16:4-29(explaining that the a listing of remote practitioners and associated devices is maintained to establish connection between remote practitioners and customer diagnostic centers); Schuette Decl., ¶¶180-182.

D1 further discloses that an individual and/or server located at the customer diagnostic center can select one or more remote practitioners (*e.g.*, from the list of available remote practitioners), and transmit a request (*e.g.*, "second request") to the selected remote practitioner(s) to administer the eye examination. D1: 21:56-22:18; 16:44-17:24; 43:5-29. For example, D1 explains that a "request transmitted from the customer diagnostic center may identify one or more practitioners" and the "request for a[] vision or eye health examination may be received at a server and the server may select one or more practitioners to receive the request." D1: 21:56-22:18; 10:54-64 (explaining CDC server may be integrated with or directly connected to the customer diagnostic center); 16:44-17:24; 18:41-54. D1 further explains that the request is transmitted to a practitioner device associated with the

remote practitioner. D1: 43:5-29 (the "remote practitioner associated with the remote practitioner device 30 may be selected by the server or an individual at the customer diagnostic center 10 and the remote practitioner may choose whether or not to accept the request."); 44:58-45:16; 5:11-6:4; claims 3, 5, 15 and 17; Schuette Decl., ¶¶181-183.

D1 makes clear that these requests (*e.g.*, second requests) are transmitted over a network (*e.g.*, such as network 50 which can include any "suitable type of wired and/or wireless network. such as an Internet network") to select one or more remote practitioners. D1: 9:53-67; 10:65-11:16; 8:62-9:9; 8:6-37; *supra* at 38-39, 41-44. For example, D1 explains that the eye examinations administered through the system can correspond to a "synchronous" eye examination that "allows the remote practitioner to review and evaluate the customer examination data and provide evaluations and reports to the customer in real-time or near real-time. *See, e.g.,* D1: 33:49-64; 12:41-65; 13:38-61; 17:4-24; 17:46-18:10; 23:49-24:7; 43:5-44:8; 44:58-45:48; FIGS. 7, 9; claims 3, 5, 15, 17; Schuette Decl., ¶¶181-183.

Additionally, as shown above, claim 1 of D1 recites virtually identical language to limitations 12[B] and 12[C]. *Supra* at 7; D1: claims 13, 25. The only differences between the claim language is that the '644 patent simply replaces "eye-care practitioners" with "remote technicians," and changes "requests" to "first request" and "second request." As explained above (*supra* 32-34, 42-44), D1 discloses that

remote eyecare practitioners can perform the same role as the remote technicians described in the '644 patent. And, as explained directly above, the "requests" referred to in claim 1 of D1 include a "first request" (*e.g.,* to identify a subset of available remote practitioners) and "second request" (*e.g.*, to select a particular remote practitioner).

Accordingly, D1 discloses limitations 12[B] and 12[C].

12[D]	**"receive first instructions over the network to permit the select remote technician to control operation of the ophthalmic equipment at the diagnostic center from a first remote location in order to administer at least one test pertaining to the eye examination"**

D1 discloses that a remote eyecare technician (*e.g.*, a remote practitioner) can administer tests pertaining to the eye examination for a patient from a remote location. This process of remotely administering the tests to the patient includes the use of a remotely-controlled phoropter and other remotely-controlled ophthalmic equipment. *Supra* at 38-41, 49-50.

In particular, D1 discloses that an equipment controller located at the customer diagnostic center can receive instructions over a network (*e.g.*, via network interface 180) from remote practitioners, offsite technicians and/or other individuals for controlling the ophthalmic equipment at the diagnostic center during the administration of the eye examination. D1: 20:1-55; 12:41-65; 24:46-25:30; 43:37-60; 28:58-29; Schuette Decl., ¶¶175-183.

Additionally, claim 1 of D1 recites virtually identical language as limitation

12[D]. *Supra* at 7; D1: claims 13, 25. Accordingly, D1 discloses limitation 12[E].

12[E]	**"generate patient examination data pertaining to the at least one test administered using the ophthalmic equipment"**

D1 discloses that customer examination data (*i.e.*, patient examination data) is generated by/at the diagnostic center. For example, D1 explains that "one or more tests may be administered at a customer diagnostic center" and "customer examination data relating to the eye health examination and/or vision examination is generated…[which] may include any data associated with the customer… and any data that enables or assists a remote practitioner to evaluate the customer's eye health and visual ability…" including "data associated with one or more of the tests administered to the customer"). D1: 41:65-42:23; 11:17-45; 23:49-24:7; 4:15-6:4; 39:9-45; Schuette Decl., ¶¶184-186.

Additionally, claim 1 of D1 recites virtually identical language to limitation 12[E]. *Supra* at 7; D1: claims 13, 25. Accordingly, D1 discloses limitation 12[E].

12[F]	**"in response to receiving a third request from the diagnostic center, select a subset of eyecare doctors to review the eye examinations based, at least in part, on analyzing the availability data to identify at least one eyecare doctor who is logged into the web-based platform and not currently providing real-time eye examinations"**
12[G]	**"transmit a fourth request over the network to a select eyecare doctor to review the eye examination in real-time for the patient located at the diagnostic center;"**

D1 makes clear that a remote practitioner can represent either a remote technician or an eyecare doctor, and that two or more remote practitioners can be

selected to participate in an eye examination (*e.g.*, one remote practitioner performing the role of the remote technician and another performing the role of the eye doctor). *Supra* at 41-44. As discussed above in connection with limitations 12[B] and 12[C], D1 discloses in detail how subsets of remote practitioners (*e.g.*, eyecare doctors) are identified based on availability data via a web-based platform, and particular remote practitioners are selected to administer an eye examination, in response to requests transmitted over networks. *Supra* at 57-62. Indeed, the only difference between limitations 12[F] and [G] and limitations 12[B] and [C] is that "eye care doctors" are being selected, rather than "eyecare technicians."[20] The manner in which such individuals are selected to participate in an eye examination as recited claim 12 is otherwise identical. Thus, D1 discloses that eye care doctors (and subsets thereof) are selected based on "third" and "fourth" requests over a network. Schuette Decl., ¶¶188-190.

Additionally, claim 1 of D1 includes virtually identical language to limitations 12[F] and 12[G]. *Supra* at 7-8; D1: claims 13, 25. Accordingly, D1 discloses limitations 12[F] and 12[G].

12[H]	**"receive second instructions over the network to permit the select**

[20] As explained above, the '644 patent makes no meaningful distinction between these two claimed individuals other than the tasks they perform during the examination. *Supra* at 11-12.

	eyecare doctor to control operation of the ophthalmic equipment at the diagnostic center from a second remote location in order to review the at least one test pertaining to the eye examination"

D1 discloses that an eyecare doctor (*e.g.*, a remote practitioner) can administer tests pertaining to the eye examination on a patient from various remote locations. The process of administering the tests to the patient can involve the use of a remotely-controlled phoropter and other remotely-controlled ophthalmic equipment to review the examination data and/or update the refraction results and other test results. *Supra* at 38-41, 49-50.

In particular, D1 discloses that the equipment controller located at the customer diagnostic center receives instructions over a network (*e.g.*, via network interface 180) from remote practitioners, offsite technicians and/or other individuals for controlling the ophthalmic equipment at the diagnostic center, while administering the examinations, reviewing the customer examination data, and generating customer evaluation data. *Supra* at 56-57, 62-63; D1: 20:1-55; 12:41-65; 24:46-25:30; 43:37-60; 28:58-29; D1 further discloses that the remote individuals who assist with the eye examinations can be located in different remote locations. *Supra* at 44-48; Schuette Decl., ¶¶188-190.

Additionally, claim 1 of D1 recites virtually identical language as limitation 12[H]. *Supra* at 8; claims 13 and 25. Accordingly, D1 discloses limitation 12[H].

12[I]	**"review the patient examination data pertaining to the at least one test administered using the ophthalmic equipment"** [21]

D1 discloses that customer examination data (*i.e.*, patient examination data) can be reviewed by the customer diagnostic center itself, as well as an onsite technician located at the customer diagnostic center. For example, D1 discloses that, in certain embodiments, the customer diagnostic center can execute an automated procedure that reviews the customer examination data and generates patient evaluation data (*e.g.*, test results, diagnoses, etc.) for the customer. D1: 22:31-49; 25:31-27:15 (explaining that an automated refraction process which may involve "making various calculations and applying one or more predefined algorithms to the examination data and/or other data (*e.g.*, customer data)."); 35:50-36:4; 32:5-46. Similarly, D1 explains that "after a customer has received an eye health examination and/or vision examination through customer diagnostic center… customer interface 160 may display various information pertaining to the tests, such as results, diagnoses, recommendations and other data that is automatically ***generated by customer diagnostic center 10 (and/or a CDC server associated therewith)***." D1: 22:31-49 (emphasis added); Schuette Decl., ¶¶191-195.

[21] As demonstrated above, the '644 patent lacks any disclosure regarding this limitation and, therefore, Petitioner respectfully submits that this limitation is indefinite and/or lacks enablement under 35 U.S.C. §112. *Supra* at 24-26, 29-31.

The onsite technician located at the customer diagnostic centers can also review the patient examination data pertaining to the at least one test administered using the ophthalmic equipment. D1: 20:56-21:44; 32:47-33:16; 43:5-29; 44:58-45:16. For example, the onsite technician can "monitor… the tests and procedures administered to customers using the equipment" and "may control, modify, and customize the equipment, tests and/or information output to customers during the tests for a particular customer, such as based on one or more responses or selections provided by the customer or in response to various data, measurements and results obtained through the tests." D1: 20:56-21:15; D1: 21:16-44 ("on-site operator interface 170 may provide one or more applications that allow on-site technicians… view information pertaining to certain components of the customer diagnostic center through a graphical user interface."). Similarly, D1 discloses in great detail how remote practitioners and offsite technicians review the customer examination data pertaining to the tests administered using the ophthalmic equipment. D1: 23:49-24:7; 41:65-42:43; 11:17-67; 15:34-52; 4:15-35; 12:41-65; 33:1-64; Schuette Decl., ¶¶196-197.[22]

[22] D1 also discloses that the offsite technicians and remote practitioners can receive and review the customer examination data (e.g., test results). *Supra* at 38-44.

Additionally, claim 1 of D1 includes very similar language to limitation 12[I]. *Supra* at 8; D1: claim 1 (reciting that "the selected eye-care practitioner[] review[s] and evaluat[es] the customer examination data"); claims 13, 25. Accordingly, D1 discloses limitation 12[I].

12[J]	**"wherein the eyecare doctor, the remote technician and the patient are in different locations."**

As shown above for claim 2 (*supra* 44-48), D1 discloses this limitation.[23] Accordingly, for at least the reasons discussed above, independent claim 12 is anticipated by D1. Schuette Decl., ¶¶198-198.

11. Dependent Claim 13

13	**"The system as in claim 12, wherein the at least one test pertaining to the eye examination comprise a pinhole visual acuity test, a normal visual acuity test, and a subjective distance vision refraction test."**

D1 discloses a wide array of tests can be administered through the eye testing

[23] Limitation 12[J] states that the eyecare doctor, the remote technician and the "patient" (*i.e.*, as opposed to the "local technician") are located in different locations. The '644 patent makes clear that the "patient" and "local technician" are both situated at the same location (*i.e.*, the local diagnostic center). D1 also discloses that the customer (*i.e.*, patient) and onsite technician (*i.e.*, local technician) are both located at the customer diagnostic center, remote from the remote practitioner and offsite technician. *Supra* at 9-11, 31-32.

and evaluation system, including a normal visual acuity test and a subjective distance vision refraction test. *Supra* at 51-53. D1 also discloses that these tests include a pinhole visual acuity test. D1: 31:31-40("the eye health examination system may include numerous… other types [of] tests and procedures… including... pin hole potential acuity testing"). Schuette Decl., ¶¶200-201. Accordingly, D1 anticipates claim 13.

12. Dependent Claim 14

14	**"The system as in claim 13, wherein the at least one test pertaining to the eye examination further comprises a subjective near vision refraction test."**

As shown above for claim 5 (*supra* at 52-53), D1 discloses this identical limitation, and, therefore, anticipates claim 14. Schuette Decl., ¶202.

13. Dependent Claim 17

17	**"The system as in claim 12, wherein the diagnostic center is further configured to: transmit an eye-related prescription from the eyecare doctor for the patient."**

As explained above for claim 10 (*supra* at 54-55), D1 discloses the remote practitioner (*i.e.*, eyecare doctor) issuing an eye-related prescription for the customer. The eye-related prescription can be transmitted from the remote practitioner to the patient (*e.g.*, with the customer evaluation data and/or eye health report). *See, e.g.,* D1: 7:35-39; 11:46-12:40; 18:24-40; 23:15-34; 26:22-62; 36:25-39; 38:29-39:7; 13:24-37; 20:56-21:15(describing the transmission of the customer's optical prescription to various third parties); 10:36-53; 22:31-49; 32:47-67; Schuette Decl.,

¶¶203-204. Accordingly, D1 anticipates claim 17.

14. Dependent Claim 18

18	**"The system as in claim 17, wherein the diagnostic center is further configured to: print the eye-related prescription for the patient at the diagnostic center."**

As explained above for claim 11 (*supra* at 55), D1 discloses this identical limitation, and, therefore, anticipates claim 18. Schuette Decl., ¶205.

15. Dependent Claim 19

19	**"The system as in claim 12, wherein the diagnostic center is further configured to: administer access to the network for the patient, the remote technician and the eyecare doctor."**

As explained above (*supra* at 60, 66-67), D1 discloses that the customer diagnostic center may include a server (*e.g.*, CDC servers, RPM servers, and/or other servers) that is integrated with, or connected to, the customer diagnostic center to facilitate administration of the remote eye examinations. D1: 10:54-64; 16:44-17:24; 18:41-54. These servers may host a web-based and/or cloud-based platform or service that administers access to the network. D1: 18:11-40; 12:1-40; 15:53-16:3; 17:46-18:10; 33:34-48; 38:48-39:8; 46:28-43. As a result, the customer and remote practitioners (*e.g.*, including remote technicians and remote eyecare doctors) can login to the platform to access the network. *Id*.; Schuette Decl., ¶¶206-211.

D1 also discloses that the customer diagnostic center includes a customer interface and on-site operator interface that administers access to the network (*e.g.*,

via network interface 180) for the individuals located at the customer diagnostic center. D1: 20:56-23:14; FIG. 3 at 160, 170. D1 explains that the customer diagnostic center can administer access to the remote practitioners by monitoring and tracking the statuses of devices used by the remote practitioners, and by establishing connections between devices used by remote practitioners and the customers at the customer diagnostic center. D1: 16:4-18:10; 10:36-53; 12:41-65; 13:38-61; 26:46-62; 43:5-29; 44:58-45:16; Schuette Decl., ¶¶208-211. Accordingly, D1 anticipates claim 19.

16. Dependent Claim 20

20	**"The system as in claim 19, wherein the diagnostic center is further configured to: store the patient examination data in an electronic medical records-based protocol."**

D1 discloses the diagnostic center can collect and generate customer examination data (*i.e.*, patient examination data) associated with the eye examinations conducted using the system. *Supra* at 36-41. This customer examination data can include, *inter alia*, electronic medical records (*e.g.*, corresponding to the customer's medical history information, test results and/or any other data associated with the eye examinations). D1: 18:24-40; 10:1-35; 11:17-45; 37:51-38:6; 39:9-29; 43:32-36. D1 further discloses that the customer examination data can be stored on a database server, such as one that is integrated with the customer diagnostic center. D1: 9:53-10:64. As explained in D1, the customer examination data can be stored in

accordance with an electronic medical records-based protocol that allows the records to be accessed by the diagnostic center or remote practitioner devices, and which allows the data to be exchanged using "one or more standard transfer mechanisms." D1: 15:53-67; 18:11-40. Schuette Decl., ¶¶212-218. Accordingly, D1 anticipates claim 20.

E. Ground 5: Claims 1-7, 10-14 And 17-20 Are Rendered Obvious By D1 Under 35 U.S.C. §103

As demonstrated in Ground 4, D1 discloses each and every limitation in, and, therefore, anticipates, claims 1-7, 10-14 and 17-20. In the event the Board finds that certain limitations in independent claims 1 and 12 (and dependent claim 2) are not explicitly disclosed by D1, however, Petitioner respectfully submits that, at a minimum, these features would have been obvious to a POSITA at the time of the '644 patent.

1. Independent Claim 1

Limitation 1[B] requires "assigning, by the local eyecare technician, the patient to a remote eyecare technician, wherein the remote eyecare technician is located at a remote diagnostic center." As discussed above, either a "remote practitioner" or "offsite technician" in D1 can perform the role of the claimed "remote eyecare technician," and D1 discloses that the onsite (*i.e.*, local) technician can assign the patient to a "remote practitioner" or "offsite technician" in various ways (*e.g.*, by transmitting requests to participate in the eye examination, using the

onsite operator interface to establish connections and send data to remote individuals, or assisting customers with making selections on the customer interface). *Supra* at 32-35, 41-44.

But, to the extent it is argued that D1 does not explicitly disclose that an offsite technician (*i.e.*, a "remote eyecare technician") is "***assigned by the local eyecare technician***," that feature would have be obvious in view of the disclosure in D1. D1 clearly discloses that an onsite technician can assign a remote practitioner to a patient (*e.g.*, by transmitting a request to the remote practitioner). D1 also clearly discloses that an offsite technician can be assigned to a patient to participate in administering an eye examination. *Supra* at 32-35. Thus, it would have been obvious to a POSITA that the offsite technician could also be assigned ***by the onsite technician*** in the same manner as the remote practitioner is assigned (*e.g.*, by the onsite technician selecting and transmitting a request, or assisting with the selection and transmission of a request, to an offsite technician). Schuette Decl., ¶¶100-104. For a POSITA, doing so would represent a mere design choice and/or trivial modification with regard to how the offsite technicians in D1 are assigned to patients and/or eye examinations. Schuette Decl., ¶101.

Indeed, there are only a finite number of ways the offsite technician can be assigned to the patient (*e.g.*, by the customer, server or onsite operator, or a combination thereof), and one obvious way to do so would be to allow the onsite

technician to participate in making the assignment. Schuette Decl., ¶102. This is especially true given that D1 explains that the onsite technician can control the operations of the customer diagnostic center (*e.g.*, which includes functions for connecting with remote individuals) and can perform various functions to assist the customers with requesting and initializing the eye examinations. Schuette Decl., ¶102.

A POSITA would have been motivated to assign an offsite technician in this manner for a number of reasons, such as to allow the onsite technician to select a specific offsite technician based on the wishes of the customer, and/or a technician who previously examined or interacted with the customer. D1: claims 1, 11, 13, 25; 5:54-60 16:61-17:3; 45:65-46:6 (each explaining remote practitioner can be selected based on whether the remote practitioner previously administered eye examinations to the customer). Schuette Decl., ¶103.

Accordingly, for at least these reasons, claim 1 (and dependent claims 2-7, 10, and 11) are rendered obvious by D1.

2. Independent Claim 12 and Dependent Claim 2

As explained above (*supra* at 44-48), D1 discloses the "different locations" feature and anticipates claims 2 and 12.[24] But, to the extent that the Board finds otherwise, at a minimum, such an arrangement would have be obvious based on

[24] *See also supra* at 9-11, 26-27.

the disclosure in D1. D1 explains that "the eye testing and evaluation system may be implemented using… different types of assistance from on-site and/or remote individuals." D1: 32:5-11. In fact, one of the major benefits provided by the system is that remote individuals (*e.g.*, the offsite technician and second remote practitioner) are able to provide customers situated at a customer diagnostic center with eye examinations services from virtually any locations that are different (*e.g.*, geographically separate) from the customer diagnostic center. D1: 35:33-39; 3:62-4:11. Moreover, the fact that these individuals use different devices and network connections implies that they are in different locations. *Supra* at 44-48. Schuette Decl., ¶138. Thus, a POSITA would have readily understood that the offsite technicians and remote practitioners could be in different locations from each other. Schuette Decl., ¶¶138-142. For a POSITA, this would have amounted to, at most, a trivial variation of the system disclosed in D1. Schuette Decl., ¶139.

It would also have been obvious to a POSITA that the architecture of D1's system could facilitate separate connections to enable the multiple remote individuals (*e.g.*, remote practitioners and offsite technicians) to provide assistance with the eye examination from different locations. For example, D1 explains that its system can facilitate connections with remote individuals by enabling the users to login into a "cloud-based" or "web-based" platform. D1: 18:11-40; 12:1-40; 15:53-16:3; 17:46-18:10; 33:34-48; 38:48-39:8; 46:28-43. D1 also explains that its

system can include a "tele-presence system" that uses a server framework to facilitate real-time videoconferencing connections with remote agents or network endpoints. D1: 34:18-35:32. Thus, a POSITA would understand that a system configured in this manner could facilitate multiple separate connections with the remote individuals who are located in a number different locations. Schuette Decl., ¶140.

A POSITA would have been be motivated to configure the system in this manner for a number of reasons, such as in order to provide greater flexibility (*e.g.*, to permit individuals to participate in the eye examinations at their convenience regardless of where they are located). Among other things, this would increase the number of individuals who can provide the eye examinations, increase the number of customers, and expand the hours of operation. Schuette Decl., ¶141. Doing so would also enable individuals who are situated in sparsely populated or isolated geographic regions to dedicate their services for administering eye examinations. Schuette Decl., ¶141.

Accordingly, for at least these reasons, claims 2 and 12 (and dependent claims 3-7, 10, 11, 13, 14, and 17-20) are rendered obvious by D1.

F. Ground 6: Claims 8-9 And 15-16 Are Rendered Obvious Under 35 U.S.C. §103 By D1 In View Of D2

1. Dependent Claims 8 and 15

8	**"The method as in claim 7 wherein if the process of reviewing, by the eyecare doctor, the medical history for the patient, the pre-refraction results for the patient and the refraction results for the patient by the eyecare doctor involves contact lenses, instructing the local eyecare technician and the patient to try on trial contact lenses."**
15	**"The system as in claim 12 wherein the diagnostic center is further configured to: if the patient examination data includes data related to contact lenses, instruct the patient to try on trial contact lenses."**

As explained above, D1 anticipates, or, at a minimum, renders obvious claims 7 and 12. In particular, D1 discloses that the remote practitioner (*e.g.*, eye doctor), onsite technician and/or customer diagnostic center can review customer examination data and/or customer data (*e.g.*, which can include the medical history, the pre-refraction results, and the refraction results for the patient). *Supra* at 54, 66-68.

D1 further discloses that the customer examination data can involve data related to contact lenses. D1: 36:25-39 (explaining that the vision examinations can provide prescriptions for contact lenses to customers); 25:3-67 (explaining that the eye examinations can include measuring the power of contact lenses); 46:28-43. D1 also discloses that the customer diagnostic center can facilitate "trying-on" of contact lenses both physically and virtually. D1: 9:10-29; 46:44-56. Furthermore, instructions can be provided to the customer (*e.g.*, by the remote practitioner, onsite technician and/or customer diagnostic center) during the eye examinations. D1: 22:19-30 (explaining that the diagnostic centers can display interfaces that include "testing instructions or directions"); 34:37-57 (explaining the remote practitioner can provide instructions during eye examinations); 32:47-

33:16.[25]

To the extent D1 does not explicitly disclose that instructions are provided to the local eyecare technician and the patient "to try on trial contact lenses" as recited in claims 8 and 15, such a feature would have been obvious. Schuette Decl., ¶¶219-227. Instructing patients to try on trial contacts was a routine part of eye examinations for customers who wear contact lenses. Schuette Decl., ¶223. Thus, it would have been obvious to a POSITA that the interfaces in D1 could be configured to instruct the patient to try on (and instruct the local technician assist the patient with trying on) trial contact lenses.

Moreover, D2 explicitly discloses trying on trial contact lenses in connection with eye examinations. D2 explains that "the invention for providing vision correction involves engaging a patient in a practitioner's facility where the patient is fitted with a trial contact lens." D2: 2:51-61; 6:61-64; 2:62-3:5; 10:1-7. Accordingly, it would have been obvious to modify the eye examinations offered by the system in D1 to incorporate "try[ing] on trial contact lenses" as taught by D2. Both D1 and D2 are directed to providing vision correction to customers (*e.g.*,

[25] As explained above (*supra* at 31-32), the onsite technicians are located at the customer diagnostic centers with the customer. Thus, any instructions output to the customer (*e.g.*, to try on contact lenses) would also be output to the onsite technician.

patients). D1: 1:16-30; Abstract; D2: 1:7-11; Abstract. For a POSITA, this would have been nothing more than a mere design choice and/or trivial variation pertaining to the type of instructions that are output to the customer and local technician. Schuette Decl., ¶¶223-227.

Furthermore, D1 explains that virtually any eyecare related tests and procedures can be administered using its platform "thereby providing customers with a wide range of the most up-to-date equipment, tests and procedures associated with examining eye health." D1: 29:21-43; 27:16-32. Given this explicit motivation in D1, a POSITA would have been motivated to incorporate the process of having the patient trying on trial contacts during an eye examination. Also, as mentioned above, a POSITA would have been motivated to provide these instructions to the patient and local technician during an eye examination for a number of reasons, such as to ensure that contact lenses being prescribed to a customer are comfortable and fit the customer's eyes appropriately, and/or to test the effectiveness of the contact lenses with respect to enhancing the customer's vision. Schuette Decl., ¶¶224-227.

Accordingly, D1 in view of D2 renders claims 8 and 15 obvious.

2. Dependent Claims 9 and 16

9	**"The method as in claim 8, further comprising: collecting, by the local eyecare technician, slit lamp images from the patient with the trial contact lenses in place; and transmitting the slit lamp images to the eyecare doctor."**

16	**"The system as in claim 15, wherein the diagnostic center is further configured to: obtain slit lamp images from the patient with the trial contact lenses in place and transmit the slit lamp images to the eyecare doctor."**

D1 discloses that the ophthalmic equipment utilized by the system can include a biomicroscope. D1: 8:38-61; 19:33-53; 27:55-28:20; 29:50-30:20; FIG. 5 at 152. The biomicroscope can be used to perform a "slit lamp biomicroscopy" or "slit lamp examination using biomicroscopy." D1: 7:57-8:5; 2:17-45; 5:47-6:4 (describing the use of hand-held slit lamp, the Seidel test with slit lamp, the Van Herick test with slit lamp, [and] Goldman tonometer with slit lamp.").

D1 also discloses that the ophthalmic equipment can include a digital imager that "may comprise any suitable type of digital imaging device, such as a camera, video-camera, sonar imager, infrared imager, or other similar digital imager (or a number of such devices) that can be used to capture, record and/or generate digital images of a customer… [including] images of the customer's eyes, pupils, face, or head." D1: 28:4-20; FIG. 5 at 151. In particular, D1 discloses that the "biomicroscope 152 and/or digital imager 151 may be used to detect, and capture images" of the customer during the eye examination. D1: 28:21-38. In turn, D1 discloses that these images (and other data collected with the ophthalmic equipment) is packaged with customer examination data and transmitted to a remote practitioner (*e.g.*, eyecare doctor). D1: 29:7-20; 28:4-38; Schuette Decl., ¶¶228-230.

Although D1 does not explicitly disclose that these slit lamp images are obtained "with the trial contact lenses in place," this feature would have been obvious in view of D2. As explained directly above, D1 in view of D2 discloses an eye examination during which trial contact lenses are placed in a customer's eyes. Collecting or obtaining slit lamp images from a patient while the trial contact lenses in place in the patient's eyes was a widely used technique. Schuette Decl., ¶231. Furthermore, D1 explains that these tests and procedures can be modified in various ways, "thereby providing customers with a wide range of the most up-to-date equipment, tests and procedures associated with examining eye health." D1: 29:21-43; 27:15-32.

Given the explicit motivation in D1, it would be obvious to a POSITA that the system in D1 could collect or obtain the slit lamp images while the trial contact lenses were in place, as taught by D2. Schuette Decl., ¶¶231-233. And in turn, these images would be transmitted to the remote practitioner along with the customer examination data, as taught by D1. *Id*., ¶232 For a POSITA, this would have amounted to nothing more than a trivial variation of the system in D1. *Id*., ¶232. A POSITA would have been motivated to do so for a number of reasons, including to better assess a patient's eyes during an examination (*e.g.*, to assess the eye for certain diseases). *Id*., ¶233.

Accordingly, D1 in view of D2 renders claims 9 and 16 obvious.

G. Ground 7: Claim 20 Is Rendered Obvious Under 35 U.S.C. §103 By D1 In View Of D3

1. Dependent Claim 20

20	**"The system as in claim 19, wherein the diagnostic center is further configured to: store the patient examination data in an electronic medical records-based protocol."**

Petitioner respectfully submits that D1 anticipates claim 20. But, to the extent the Board finds that D1 fails to disclose that the customer examination data (*i.e.*, patient examination data) is stored in an "electronic medical records-based protocol," such a feature would have been obvious. D1 discloses that its system stores and provides access to medical records. *See supra* at 36-37, 71-72. Moreover, it was well known that many different medical records-based protocols existed and that medical records were routinely stored using such protocols to permit the records to be easily exchanged among individuals or organizations. Schuette Decl., ¶¶234-235. Thus, it would have been readily apparent to a POSITA that medical records and other data included in the customer examination data of D1 could be stored in accordance with an electronic medical records-based protocol. Schuette Decl., ¶235.

Furthermore, D3 explicitly discloses storing patient examination data in an electronic medical records-based protocol. D3: ¶¶[0058]-[0059]; [0051]; [0098]-[0099]; [0125]-[0133]; [0144]; [0150]. For example, D3 teaches a telemedicine system for "automatically selecting and communicating medical information" and

explains that the system described therein can "store and retrieve medical images in the standard DICOM protocol and format."[26] D3: ¶¶[0058]; [0004].

It would have been obvious for a POSITA to modify D1 to enable the system to store the customer examination data in an electronic medical records-based protocol (*e.g.*, such as DICOM), as taught by D3. Both D1 and D3 are directed to telemedicine systems. D1: 33:34-64, Abstract, FIGS. 1-2; D3: Title; ¶[0025]. For a POSITA, this would have amounted to nothing more than a routine design choice and/or applying known data storage techniques to a known element (*e.g.*, patient data) to yield predictable results (*e.g.*, storing data in an electronic medical records-based format that facilitates the exchange of the data). Schuette Decl., ¶237. A POSITA would have been motivated to do so for a number of reasons, including to allow the data to provided easily to various individuals (*e.g.*, the customers) or organizations (*e.g.*, other eyecare practitioners or optical labs), and to allow the patient's records to be organized, maintained, and updated in a uniform manner. Schuette Decl., ¶238.

Accordingly, D1 in view of D3 renders dependent claim 20 obvious.

[26] The only electronic medical records-based protocol explicitly mentioned in the '644 patent is the DICOM (Digital Imaging and Communications in Medicine) protocol. '644 patent, 13:18-43; *see also* Schuette Decl., ¶¶236-237.

IX. CONCLUSION

Petitioner respectfully requests that Trial be instituted and that claims 1-20 be cancelled.

Date: September 14, 2018

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE PURSUANT TO 37 C.F.R. §42.24

Pursuant to 37 C.F.R. §42.24(d), the undersigned hereby certifies that the foregoing PETITION FOR POST GRANT REVIEW PURSUANT TO 37 C.F.R. §42.200 *et seq.*, contains 18,651 words, excluding the parts of the paper exempted by 37 C.F.R. §42.24(a), and complies with the typeface requirements of 37 C.F.R. §42.6(a)(ii) and the style requirements of 37 C.F.R. §§42.6(a)(iii) and (iv). The undersigned relies on the word count of the computer program used to prepare this brief.

Date: September 14, 2018

Respectfully submitted,

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CERTIFICATION OF SERVICE (37 C.F.R. 42.6(e), 42.205(a))

The undersigned hereby certifies that the above-captioned PETITION FOR POST GRANT REVIEW PURSUANT TO 37 C.F.R. §42.200 *et seq.*, the accompanying Power of Attorney, and all associated exhibits, were served in their entireties on September 14, 2018, upon the following parties via FedEx:

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