

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAPTIONCALL, L.L.C.,
Petitioner,

v.

ULTRATEC, INC.,
Patent Owner.

Case IPR2013-00545
Patent 6,594,346 B2

Before WILLIAM V. SAINDON, BARBARA A. BENOIT, and
LYNNE E. PETTIGREW, *Administrative Patent Judges*.

BENOIT, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1 and 2 of U.S. Patent No. 6,594,346 B2 (Ex. 1001; “the ’346 patent”) are unpatentable.

A. Procedural History

CaptionCall, L.L.C. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1 and 2 of the ’346 patent pursuant to 35 U.S.C. §§ 311-319. Paper 1 (“Pet.”). Patent Owner, Ultratec, Inc., did not file a preliminary response. On March 5, 2014, pursuant to 35 U.S.C. § 314(a), we instituted an *inter partes* review for claims 1 and 2 of the ’346 patent as unpatentable under 35 U.S.C. § 103(a) for obviousness over Ryan¹ and Alshawi.² Paper 6 (“Inst. Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 19; “PO Resp.”), and Petitioner filed a Reply (Paper 32; “Reply”). Patent Owner also filed a Motion to Exclude Evidence. Paper 41 (“PO Mot. to Exc. Occhiogrosso”). Petitioner filed an Opposition (Paper 55; “Pet. Opp. to Mot. to Exc.”) to Patent Owner’s Motion, and Patent Owner filed a Reply to Petitioner’s Opposition (Paper 48; “PO Reply to Opp. to Mot. to Exc.”).

¹ U.S. Patent No. 5,809,112 (Ex. 1004) (“Ryan”).

² U.S. Patent No. 5,815,196 (Ex. 1010) (“Alshawi”).

An oral hearing was held on November 19, 2014.³

B. Related Proceedings

Petitioner represents that the '346 patent was asserted against its parent company in *Ultratec, Inc. v. Sorenson Communications, Inc.*, No. 13-CV-00346 (W.D. Wis.). Pet. 2. Petitioner also represents that the lawsuit included other patents related to the '346 patent and for which Petitioner also requested *inter partes* review— U.S. Patent No. 6,233,314 B1 (Case IPR2013-00540), U.S. Patent No. 5,909,482 (Case IPR2013-00541), U.S. Patent No. 7,319,740 (Case IPR2013-00542), U.S. Patent No. 7,555,104 (Case IPR2013-00543), U.S. Patent No. 8,213,578 (Case IPR2013-00544), U.S. Patent No. 6,603,835 (Case IPR2013-00549), and U.S. Patent No. 7,003,082 (Case IPR2013-00550).

C. The '346 Patent

The '346 patent describes a computer-assisted relay system to provide text translation of telephone conversation to assist a person who has hearing difficulties (referred to as an “assisted user”). Ex. 1001, 3:20-21, 35-40. A human intermediary (referred to as a “call assistant”) facilitates a telephone conversation between a hearing user and an assisted user by communicating by voice with the hearing user and repeating the hearing user’s words to a computer provided with voice recognition software trained to the voice of

³ This proceeding, as well as IPR2013-00540, IPR2013-00541, IPR2013-00542, IPR2013-00543, IPR2013-00544, IPR2013-00549, and IPR2013-00550 involve the same parties and some similar issues. The oral arguments for all eight reviews were merged and conducted at the same time. A transcript of the oral hearing is included in the record as Paper 64.

the call assistant. *See id.* at 1:62-2:11; 3:20-28, 35-39; 6:13-36. The computer of the call assistant sends the text transcription created by the voice recognition software to a display located adjacent to the assisted user. *See id.* at 6:13-44.

Figure 4 of the '346 patent shows a captioned telephone service supported by a relay. *See id.* at 3:15-16; 8:63-65. Figure 4 of the '346 patent is set forth below:

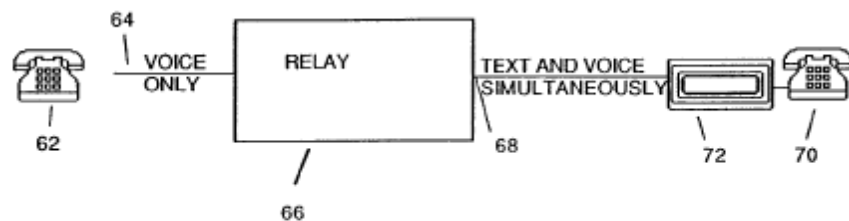


FIG. 4

Figure 4 illustrates a telephone call involving a captioned telephone.

As shown in Figure 4, a hearing user at telephone 62 communicates through telephone line 64 with relay 66. *See id.* at 8:63-66. The relay communicates both the voice of the hearing user and a transcription of the text of the conversation through telephone line 68 to captioned telephone device 72 and conventional telephone 70, both at the site of the assisted user. *See id.* at 8:66-9:7. The captioned telephone assists “the user to understand a greater portion of the conversation by providing a visually readable transcription of the text of the telephone conversation so that the assisted user can read any words that he or she cannot hear properly.” *Id.* at 9:9-13.

D. Claims of the '346 Patent

Petitioner challenges both claims of the '346 patent. Claims 1 and 2 are independent claims.

1. A method of operating a relay system using a call assistant to facilitate communication between a hearing user and an assisted user by telephone, the hearing user speaking words in voice, the method comprising the steps of
 - transmitting the voice of the hearing user when speaking to the ear of the call assistant;
 - the call assistant speaking in voice the same words that the call assistant hears spoken by the hearing user into a microphone connected to a digital computer;
 - the digital computer using voice recognition computer software trained to the voice of the call assistant to translate the words of the voice spoken by the call assistant into a digital text message stream containing the words spoken by the call assistant;
 - transmitting both the digital text message stream and the voice of the hearing user by telephone connection to the assisted user;
 - displaying the digital text message stream to a captioned telephone display device within sight of the assisted person; and
 - transmitting the voice of the hearing user to the assisted user.
2. A relay to facilitate communications between [a] hearing user, speaking words in voice, and an assisted user, the relay operated by a call assistant, the relay comprising
 - a speaker connected to receive the voice from the hearing user and to transmit that voice to the ear of the call assistant so that the call assistant may voice those words;
 - a microphone connected to pick up the voice of the call assistant;
 - a digital computer connected to the microphone, the computer programmed to use a voice recognition computer software package to translate the words spoken by the call

assistant into a digital text stream; and
a telephonic connection to transmit both the digital text stream and the voice of the hearing user over a telephonic connection to the assisted user.

Id. at 10:2-42.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, No. 2014-1301, slip op. at 11–19 (Fed. Cir. Feb. 4, 2015). Under the broadest reasonable construction standard, claim terms are presumed to be given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An inventor may provide a meaning for a term that is different from its ordinary meaning by defining the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

We construe the claim language below in accordance with these principles. No other terms require express construction.

1. “software trained to the voice of the call assistant”

Independent claim 1 recites “software trained to the voice of the call assistant,” whereas independent claim 2 does not. Patent Owner incorrectly asserts that, under our preliminary constructions of “voice recognition

computer software” and “voice recognition computer software package,” independent claim 2 also requires “software trained to the voice of the call assistant.” PO Resp. 12-13. As Petitioner recognizes (Reply 2), we did not import the limitation “trained to the voice of the call assistant” into claim 2. Rather, we expressly construed the recited software as “a separately compilable software component for voice recognition that is ready to be used on a computer.” Inst. Dec. 11-12 (“[W]e construe ‘voice recognition computer software package’ as ‘a separately compilable software component for voice recognition that is ready to be used on a computer.’ . . . [W]e also construe ‘voice recognition computer software’ as ‘a separately compilable software component for voice recognition that is ready to be used on a computer.’”).

In the parties’ dispute over the teachings of the asserted prior art, they articulate different views in how the term “software trained to the voice of the call assistant” should be construed. Patent Owner construes “trained to the voice of the call assistant” to require training to recognize individual voices (PO Resp. 23-24), presumably trained to the voice of one and only one call assistant and precluding training for a type of speech used by a group of people (such as a regional accent) that could apply to more than one call assistant. Patent Owner also seeks to construe “trained to the voice of the call assistant” as having a temporal constraint so as to preclude training at the time when the voice recognition computer software package is “*designed* in advance of implementation at the source code level.” PO Resp. 21. According to Patent Owner, “trained to the voice of the call

assistant” precludes software that is “built to” recognize the voice of a particular agent. PO Resp. 22. Petitioner disagrees. Reply 4-5.

The Specification of the ’346 patent does not set forth a special definition for “training.” The Specification, however, in its “Brief Summary of the Invention” indicates “a speech recognition computer program which has been trained to the voice *pattern* of the call assistant.” Ex. 1001, 2:51-54 (emphasis added). In the context of describing the relay shown in Figure 1, the Specification describes “the call assistant operat[ing] at a computer terminal which contains a copy of a voice recognition software package which is specifically trained to the voice of that *particular* call assistant.” *Id.* at 6:21-24 (emphasis added). The Specification, however, does not indicate expressly that the voice recognition software is trained to the voice of only that particular call assistant or otherwise indicate the voice recognition software is trained to the voice of only one call assistant. As such, the Specification contemplates software trained to “a voice pattern of the call assistant” as well as software “specifically trained to the voice of [a] *particular* call assistant.”

Further, the Specification indicates, in those passages, that the voice recognition software package is trained but does not indicate when or how the training occurs. *Id.* at 2:51-54, 6:21-24. Patent Owner, relying on its declarant Mr. Ludwick, asserts software “designed” is not software that is “trained to recognize individual voices.” PO Resp. 21 (citing Ex. 2001 ¶¶ 19-20). According to Mr. Ludwick, a person of ordinary skill in the art would not have understood “trained” software to include “designed” software because speech recognition technology was not used in

telecommunications relay service in 1994. Ex. 2001 ¶¶ 19-20. The use of speech recognition technology in 1994 has little probative value here because the date of invention is February 14, 2001 for the reasons discussed below.

We give claim language its broadest reasonable construction in light of the specification of the patent in which it appears. Thus, we will not limit “trained to the voice of the call assistant” to require training to the voice of only one particular call assistant, because the claim language encompasses the invention as disclosed in the Specification—software trained to a voice *pattern* of a call assistant. Ex. 1001, 2:41-49 (“Summary of the Invention”). Nor will we limit “trained to the voice of the call assistant” to a particular time in which the training must occur or to a particular manner of training that is not found in the claims nor the specification.

Accordingly, “trained to the voice of the call assistant” does not preclude voice recognition software that is designed or built in advance of implementation at the source code level to the voice pattern of a call assistant. Nor is “trained to the voice of the call assistant” limited to training to the voice of one and only one call assistant.

2. “*captioned telephone display device*”

Independent claim 1 recites “displaying the digital text message stream to a *captioned telephone display device* within sight of the assisted user.” Ex. 1001, 10:21-23 (emphasis added). The ordinary meaning of “telephone” is “[a]n instrument that converts voice and other sound signals into a form that can be transmitted to remote locations and that receives and

reconverts waves into sound signals.”⁴ In the context of voice communication, a “caption” is text that communicates dialogue.⁵ Thus, according to its ordinary meaning, a captioned telephone display device is a device that transmits and receives voice signals, and displays text.

The ’346 patent, however, uses a similar term “captioned telephone device” in a way that is consistent with the ordinary meaning of captioned telephone display device. Claim 1 recites “transmitting . . . the digital text message stream . . . by telephone connection to the assisted user” and “displaying the digital text message stream to a captioned telephone display device within sight of the assisted person.” Thus, claim 1 requires the digital text message stream, which is transmitted by telephone connection to the assisted user, to be received by the captioned telephone display device before the captioned telephone display device can display the digital text message stream.

Other than in claim 1, the ’346 patent does not use the precise term “captioned telephone *display* device.” The written description of the ’346 patent describes a captioned telephone device as a device that receives both voice signals and text information, and displays the text information to an

⁴ THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1846 (3d ed. 1992); THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1779 (4th ed. 2006).

⁵ THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 286 (3d ed. 1992) (defining “caption” in relevant part as “2. A subtitle in a motion picture.”); THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 278 (4th ed. 2006) (defining “caption” in relevant part as “2. A series of words . . . that communicate dialogue to the hearing-impaired or translate foreign dialogues.”).

assisted user. *Id.* at 9:3-9 (“The captioned telephone device 72 is constructed to accomplish two objectives. One objective is to filter, or separate, the digital signals carrying the text information from the voice signal. The other objective is to take the digital signals and create a visual display of the text information for the assisted user.”); *see also id.* at Fig. 4 (showing a simultaneous text and voice connection between captioned telephone device 72 and relay 66). Note that a captioned telephone device need not output any audio signals to the assisted user. *See id.* at 9:1-3 (describing a captioned telephone device and telephone at an assisted user’s location as two separate devices), Fig. 4 (illustrating captioned telephone device 72 and telephone 70 as two separate devices).

In light of the use of “captioned telephone display device” in claim 1, the use of “captioned telephone device” in the written description of the ’346 patent, and the ordinary meaning of the term, we construe “captioned telephone display device” as a device that transmits and receives voice signals, receives text information, and displays text to an assisted user.

B. Principles of Law

To prevail in challenging claims 1 and 2 of the ’346 patent, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

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KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). The level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

C. Effective Filing Date of Claims 1 and 2

The '346 patent was filed on February 14, 2001 and claims the benefit of earlier filing dates of applications that issued as the '314 and '482 patents. The '346 patent includes disclosure that is not included in the '314 and '482 patents, which share a common disclosure. For example, the '346 patent describes transmitting both text and voice over a telephone line. *See* Ex. 1001, 3:35-40, 8:61-9:39, Fig. 4. The references asserted here, Ryan and Alshaw, predate the earliest filing date claimed by the '346 patent, but obviousness is determined as of the time of the invention. *See* 35 U.S.C. § 103(a) (“A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious *at the time the invention was made* to a person having ordinary skill in the art to which said subject matter pertains.”) (emphasis added). Patent Owner asserts that the subject matter of the claimed invention would not have been obvious to one of skill

in the art in 1994 and 1995, and so seems to assert an effective filing date for the '346 patent earlier than its filing date, February 14, 2001. Accordingly, we now determine the effective filing date of the subject matter of independent claims 1 and 2. *Cf.* PO Resp. 32-35 (asserting that Ryan must be read narrowly in view of the state of the relevant art in 1994); *id.* at 18 (“Patent Owner does not concede that claims 1 and 2 of the '346 Patent are not entitled” to an earlier effective filing date).

For a claim in a later-filed application to be entitled to an earlier filing date, the earlier application must satisfy the written description requirement of 35 U.S.C. § 112, first paragraph. *See* 35 U.S.C. § 120; *In re Huston*, 308 F.3d 1267, 1276 (Fed. Cir. 2002). “[T]he purpose of the written description requirement is to ‘ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor's contribution to the field of art as described in the patent specification.’” *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1353-54 (Fed. Cir. 2010) (en banc) (quoting *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 920 (Fed. Cir. 2004)). The written description requirement is met if the specification shows that the inventor has invented what is claimed—that is, the inventor had possession of it. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991).

Independent claim 1 recites “transmitting both the digital text message stream and the voice of the hearing user by telephone connection to the assisted user,” and independent claim 2 recites “a telephonic connection to transmit both the digital text stream and the voice of the hearing user over a telephonic connection to the assisted user.” The earlier applications, which

issued as the '482 and '314 patents, do not disclose transmitting both text and voice over a telephone line, as claimed in independent claims 1 and 2 of the '346 patent. As such, the earlier applications do not meet the written description requirement for claims 1 and 2. Therefore, independent claims 1 and 2 only are entitled to a priority date of February 14, 2001, the filing date of the application that issued as the '346 patent.

D. Patent Owner's Motion to Exclude Testimony by Mr. Occhiogrosso

Patent Owner seeks to exclude the testimony of Mr. Benedict Occhiogrosso (Exs. 1019, 1037, 2006, 2007, and 2012) on the theory that he is not qualified as an expert under Federal Rule of Evidence 702 ("FRE 702").^{6,7} PO Mot. to Exc. Occhiogrosso; PO Resp. 4-8. FRE 702 provides that a witness qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion if (a) the expert's knowledge will help the trier of fact to understand the evidence or to determine a fact in issue, (b) the testimony is based upon sufficient facts or data, (c) the testimony is the product of reliable principles

⁶ Patent Owner also seeks to *exclude* Mr. Occhiogrosso's testimony under 37 C.F.R. § 42.65. PO Mot. to Exc. Occhiogrosso 1. Rule 42.65, however, addresses (a) the weight given to expert testimony that does not disclose underlying facts or data on which the opinion is based, (b) the showing required if a party seeks to rely on a technical test or data from such a test, and (c) the exclusion of expert testimony on United States patent law or patent examination practice. As such, Rule 42.65 does not apply to a determination whether to exclude Mr. Occhiogrosso's testimony.

⁷ With some enumerated exceptions, the Federal Rules of Evidence apply to an *inter partes* review. 37 C.F.R. § 42.62.

and methods, and (d) the witness has applied the principles and methods reliably to the facts of the case.

Testimony on the issue of unpatentability proffered by a witness who is not “qualified in the pertinent art” generally is not admissible under FRE 702. *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363–64 (Fed. Cir. 2008). In determining who is qualified in the pertinent art under FRE 702, we need not find a complete overlap between the witness’s technical qualifications and the problem confronting the inventor or the field of endeavor. *See SEB S.A. v. Montgomery Ward & Co., Inc.*, 594 F.3d 1360, 1372–73 (Fed. Cir. 2010) (upholding admission of the testimony of an expert who admittedly lacked expertise in the design of the patented invention, but had experience with materials selected for use in the invention); *Mytee Prods., Inc. v. Harris Research, Inc.*, 439 Fed. App’x 882, 886–87 (Fed. Cir. 2011) (non-precedential) (upholding admission of the testimony of an expert who “had experience relevant to the field of the invention,” despite admission that he was not a person of ordinary skill in the art).

Patent Owner contends that, to qualify as an expert under FRE 702, Mr. Occhiogrosso must be a person of ordinary skill in the art, and that Mr. Occhiogrosso is not a person of ordinary skill in the art because “he is an information technology (“IT”) generalist” and does not have “any specific experience in the context of [telecommunications relay systems] for the deal and the HOH [hear of hearing].” PO Mot. to Exc. Occhiogrosso 5; *see also id.* at 2-4 (discussing the definition of a person of ordinary skill in the art); 5-7 (discussing Mr. Occhiogrosso’s experience with respect to these

factors). Petitioner responds that Patent Owner's definition of the level of ordinary skill in the art conflates a requirement for skill in the relevant technical art ("telecommunications systems [having] voice-to-text transcription") with skill in one particular commercial sector that applies that technical art (telecommunications services for deaf or hard of hearing users). Pet. Opp. to Mot. to Exc. 1, 6-7.

Patent Owner's arguments are unpersuasive at the outset because, to testify as an expert under FRE 702, a person need not be a person of ordinary skill in the art, but rather "qualified in the pertinent art." *Sundance*, 550 F.3d at 1363-64; *SEB*, 594 F.3d at 1372-73; *Mytee*, 439 Fed. App'x at 886-87. Patent Owner's arguments are also unpersuasive because they attempt to constrict the "pertinent art," i.e., the pertinent technology, to a particular subset of individuals who use the pertinent technology, rather than the pertinent technology itself. See Pet. Opp. to Mot. to Exc. 4-5 (arguing that the problems in the pertinent art are not "uniquely related" to the deaf and hard-of-hearing).

We agree with Petitioner that the relevant field is telecommunication technologies. See Pet. Opp. to Mot. to Exc. 7 ("Mr. Occhiogrosso's qualifications should be analyzed with respect to the pertinent art of telecommunication technologies in which an intermediary facilitates voice-to-text transcription."). The '346 patent states that the "present invention relates to the general field of telephone communications." Ex. 1001, 1:16-17. Patent Owner correctly indicates that the '346 patent focuses on a particular application of that technology: people who need assistance in using telecommunications devices. PO Mot. to Exc. Occhiogrosso 4 (citing

Ex. 1001, 1:16-20). That focus, however, is not sufficient to dismiss the express statement of the '346 patent that the “invention relates to the general field of telephone communications.” Ex. 1001, 1:16-17. The '346 patent also summarizes the invention as the use of a speech recognition computer program trained to the voice of the call assistant to translate promptly the words spoken by an intermediary call assistant into a “high speed digital communication message [that] is then transmitted electronically promptly by telephone to a visual display accessible to the” hearing-assisted user. *Id.* at 2:51-58.

Thus, we determine the pertinent art to be telecommunications systems, because any communications technology would be pertinent art to the '346 patent. Although assistive technology may be more pertinent, and assistive technology for the deaf and hearing impaired, using voice-to-text relays, may be most pertinent, anything in the telecommunications technology field would be pertinent to the inventor when considering the problem.

The qualifications of Mr. Occhiogrosso, as summarized in his curriculum vitae (Ex. 1020), qualify him to give expert testimony on the subject of telecommunication technologies. He possesses a Bachelor of Science in Electrical Engineering and a Master of Science in Electrical Engineering. Ex. 1020, 2. Mr. Occhiogrosso testifies that he has more than thirty years of experience in the field of telecommunications and information technology, and he has planned, designed, implemented, and managed large scale projects involving wired and wireless communication systems, including transmission of voice and data. Ex. 1019 ¶ 6; *see also* Ex. 1020,

2-6 (detailing Mr. Occhiogrosso's enterprise consulting engagements, research and development, and wireless experience).

Moreover, to the extent Mr. Occhiogrosso is more familiar with general telecommunications technology and less familiar with voice-to-text or its application to the deaf or hearing-impaired, or to the extent that Mr. Occhiogrosso's testimony is inconsistent or unsupported, we weigh Mr. Occhiogrosso's testimony accordingly, taking into account the extent of his expertise in these areas. *See, e.g., Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another "unless no reasonable trier of fact could have done so"); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) ("[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.").

Patent Owner also contends that Mr. Occhiogrosso's testimony fails to identify the level of skill in the art in his declaration (Ex. 1019), fails to give any consideration to what one of ordinary skill in the art would have known or not known, is unsupported and unreliable, and does not consider secondary considerations. PO Mot. to Exc. Occhiogrosso 8; PO Resp. 7-9; PO Reply to Opp. to Mot. to Exc. 2-3. Petitioner counters that Mr. Occhiogrosso "consistently applied his definition of a [person of ordinary skill in the art] throughout his testimony" and, in a supplemental declaration, Mr. Occhiogrosso "made explicit the level of ordinary skill he applied" in Exhibit 1019. Pet. Opp. to Mot. to Exc. 15 (citing Ex. 1037 ¶ 12).

Patent Owner's argument goes more to the weight we should accord Mr. Occhiogrosso's testimony, rather than its admissibility. It is within our discretion to assign the appropriate weight to the testimony offered by Mr. Occhiogrosso. *See, e.g., Yorkey*, 601 F.3d at 1284. Moreover, Mr. Occhiogrosso provided a supplemental declaration identifying the level of skill in the art and confirming his opinion presented in the earlier declaration (Ex. 1019) in view of the level of skill in the art. *See* Ex. 1037 ¶¶ 12-17, 19. Mr. Occhiogrosso testimony also confirmed his legal understanding of obviousness, including secondary considerations. *See* Ex. 1037 ¶¶ 20-25.

Under the totality of these circumstances, we decline to exclude the testimony of Mr. Occhiogrosso. Accordingly, Patent Owner's Motion to Exclude Mr. Occhiogrosso's testimony (Paper 41) is *denied*.

E. Obviousness over Ryan and Alshawi

Petitioner asserts that claims 1 and 2 of the '346 patent are unpatentable under 35 U.S.C. § 103(a) for obviousness over Ryan and Alshawi. Pet. 52-57 (referring to Pet. 33-39, 50-52). Patent Owner challenges Petitioner's assertion. PO Resp. 18-47.

To support its contention that claims 1 and 2 would have been obvious over Ryan and Alshawi, Petitioner relies on analysis provided with respect to the references and declaration testimony by Mr. Occhiogrosso. Pet. 31-40, 50-57 (citing Ex. 1019). Patent Owner responds, relying on declaration testimony by Mr. Ludwick and others. PO Resp. 20-47 (citing Exs. 2001-2005, 2010). Having considered the parties' contentions and supporting

evidence, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1 and 2 are unpatentable for obviousness over Ryan and Alshawhi for the reasons set forth below.

1. Summary of Ryan

Ryan discloses a telecommunications relay system with a relay interface for communicating between a standard telephone set and a TDD for a hearing impaired person. Ex. 1005, Abstract. Figure 1 of Ryan is set forth below:

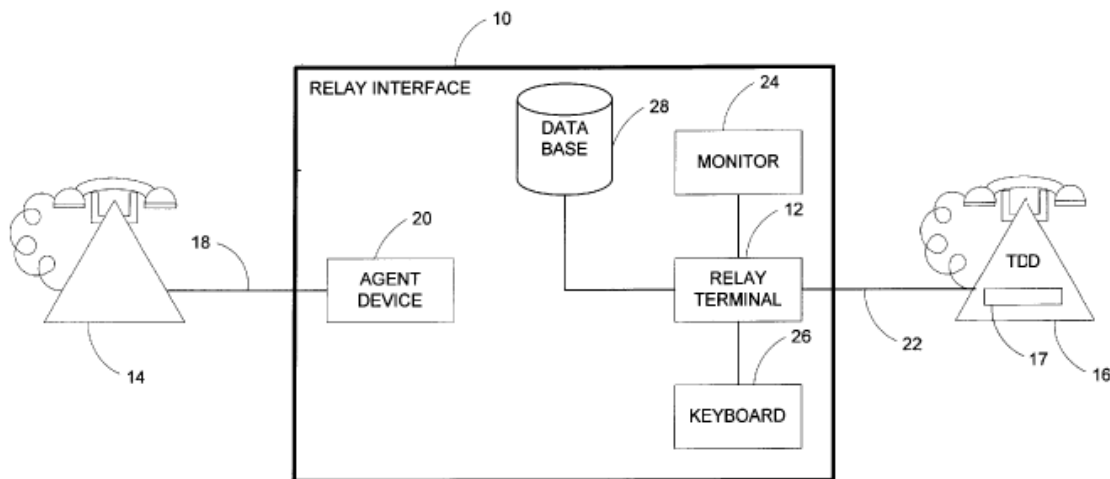


FIG. 1

Figure 1 is a diagram of the telecommunications relay system.

As shown in Figure 1, Ryan's telecommunications relay interface 10 includes operator/relay terminal 12 and couples standard telephone set 14 with TDD 16. Ex. 1005, 3:34-35, 43-51. An operator or relay agent typically is responsible for manipulating relay terminal 12 to relay messages between telephone 14 and TDD 16. Ryan indicates, however, that speech

recognition software could be used to automate the relay function so that an operator or relay agent would not be required. *Id.* at 4:19-24. Ryan specifically describes using speech recognition software at agent device 20 to interpret a voice message from a caller at telephone 14 and convert the message from a voice format to a data format. *Id.* at 4:24-27. Ryan further indicates:

If the software is specifically designed to recognize the voice of particular relay agents, the accuracy of the relay service may be improved by having one of these agents listen to the caller and repeat the voice message into a terminal adapted to convert the agent's voice message into a data message.

Id. at 4:33-38.

2. Summary of Alshawi

Alshawi describes a videophone providing “speech-to-subtitles translation for communication between people speaking different languages.” Ex. 1010, 1:6-9; Title. To address the problem of “delay between one party speaking and the other party hearing the synthesized translation which can make communication awkward and unnatural” (*id.* at 1:31-33), Alshawi's system continuously displays a translation of each user's speech in text form on the other user's videophone screen. “At the same time, the original, untranslated speech is played over a speaker.” *Id.* at 1:49-52. Alshawi indicates “[h]earing the original speech can also reduce misunderstanding because emotional clues are available to the listener.” *Id.* at 2:1-3.

Figure 3 of Alshawi is set forth below:

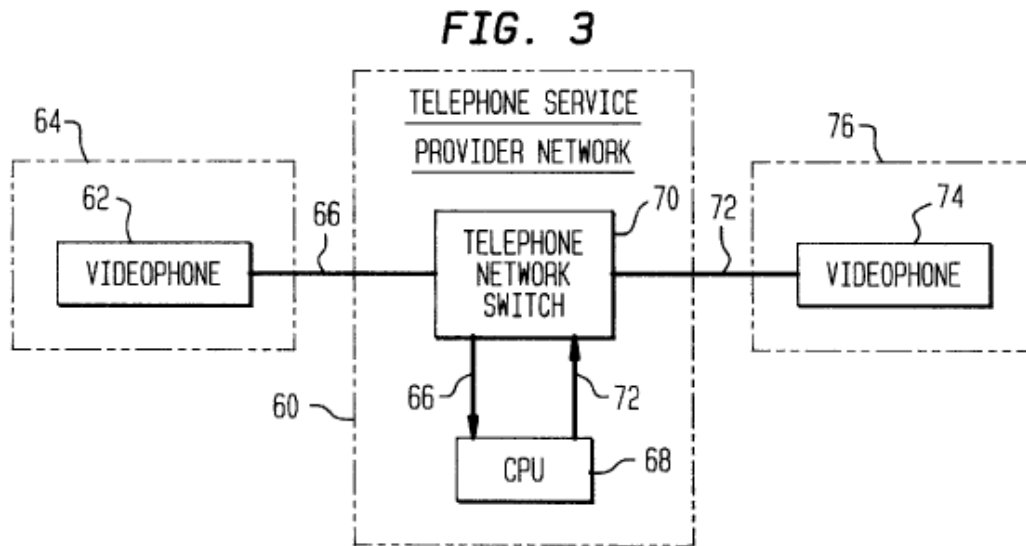


Figure 3 is a diagram illustrating subtitle generation being performed by a telephone service provider network.

Alshawi describes an embodiment, shown in Figure 3, in which continuous speech-to-subtitles translation is provided by a telephone service provider. *Id.* at 4:4-7. Videophone 62 outputs standard videophone signal 66, which is sent to telephone service provider network 60, which, in turn, generates translated subtitles corresponding to the original speech of the person using videophone 62. *Id.* at 3:58-65. Central processing unit (“CPU”) 68 at telephone service provider network 60 outputs signal 72, which consists of an audio signal containing the sending party’s original speech and a subtitled video portion. *Id.* at 3:65-4:1. Signal 72 is sent to videophone 74, where it can be viewed by the receiving party. *Id.* at 4:1-3.

3. Independent Claim 1

Petitioner has established that the combination of Ryan and Alshawi teaches or suggests each limitation of claim 1. We review each of

Petitioner's assertions and Patent Owner's arguments for each limitation of claim 1.

a. relay system “transmitting the voice of the hearing user when speaking to the ear of the call assistant”

Ryan teaches or suggests “operating a relay system using a call assistant to facilitate communication between a hearing user and an assisted user by telephone, the hearing user speaking words in voice.” Ex. 1005, 3:34-35, 43-51; Fig. 1 (Ryan's telecommunications relay interface 10 includes operator/relay terminal 12 and couples standard telephone set 14 with TDD 16); *see also id.* at 1:53-67 (describing a relay agent receiving a message over a voice channel from a standard telephone and transforming the voice message to be transmitted to a TDD for an assisted user); Pet. 33, 54.

Ryan, in this description, also teaches or suggests “transmitting the voice of the hearing user when speaking to the ear of the call assistant,” as recited in claim 1. Ex. 1005, 1:53-67 (describing a relay agent receiving a message over a voice channel from a standard telephone and transforming the voice message to be transmitted to a TDD for an assisted user).

b. “the call assistant speaking” and “digital computer” limitations

Ryan teaches or suggests “the call assistant speaking in voice the same words that the call assistant hears spoken by the hearing user into a microphone connected to a digital computer” and “digital computer using voice recognition computer software trained to the voice of the call assistant to translate the words of the voice spoken by the call

assistant into a digital text message stream containing the words spoken by the call assistant,” as recited in claim 1.

Ryan teaches or suggests “the call assistant speaking” and “digital computer” limitations in describing the use of speech recognition software at agent device 20 (1) to interpret a voice message from a caller at telephone 14 and convert the message from a voice format to a data format and (2) for improved accuracy of the relay service when the relay agent repeats the voice message from the caller and speech recognition software, designed to recognize the voice of a particular relay agent, is used for converting the relay agent’s voice message to a data message. *See* Ex. 1005, 4:24-27 (“[S]peech recognition software could be employed at device 20 to interpret a voice message from a caller at phone 14 and convert the message from a voice format to a data format.”); *id.* at 4:33-38 (“If the [voice recognition] software is specifically designed to recognize the voice of particular relay agents, the accuracy of the relay service may be improved by having one of these agents listen to the caller and repeat the voice message into a terminal adapted to convert the agent’s voice message into a data message.”); *see also* Pet. 34-36, 54-55 (Petitioner asserting the same).

We also credit the testimony of Petitioner’s declarant, Mr. Occhiogrosso, that “a microphone connected to a digital computer” is present necessarily in Ryan’s relay system to convert the relay agent’s voice message into a data message using speech recognition software. Ex. 1019 ¶ 27; *see* Pet. 34. Thus, we find that Ryan suggests the recited “microphone connected to a digital computer.”

Patent Owner argues that Ryan does not teach the recited digital computer. First, Patent Owner contends that Ryan does not teach the recited “voice recognition computer software trained to the voice of the call assistant.” PO Resp. 20-23. According to Patent Owner, Ryan’s software is not trained as required by Patent Owner’s interpretation of the required training. Rather, according to Patent Owner, Ryan discloses voice recognition software that is “designed,” which means the software is designed in advance of implementation at the source code level and, therefore, the software is not trained.

For the reasons noted previously, we do not agree the recited trained voice recognition software precludes training during software design, which Patent Owner acknowledges is disclosed by Ryan. PO Resp. 22 (“Ryan is disclosing software that has been construed to recognize the voice of particular relay agents.”). Thus, we do not agree with Patent Owner’s argument because it is not commensurate in scope with the claims.

Moreover, Patent Owner relies on Mr. Ludwick’s testimony asserting Ryan does not teach “voice recognition computer software trained to the voice of the call assistant.” PO Resp. 25-27 (citing Ex. 2001 ¶¶ 19-20). We do not find Mr. Ludwick’s testimony that Ryan’s voice recognition software is “designed to recognize the voice of particular relay agents” to be persuasive because Mr. Ludwick grounded his testimony in the state of the art in 1994, when the date of invention is 2001. See Ex. 2001 ¶ 19 (referring to the telecommunications relay service field in 1994), ¶ 20 (noting the needed technology “did not then exist”).

Second, Patent Owner, relying on Mr. Ludwick's testimony, contends that Ryan does not disclose the recited "voice recognition software trained to the voice of the call assistant," because Ryan's "voice recognition software is written specifically to recognize the voices of a collection or group of people, rather than a particular, individual call assistant." PO Resp. 23-24 (citing Ex. 2001 ¶ 21). For the reasons noted previously, we do not agree that the claims are limited to voice recognition software trained to one and only one call assistant. Thus, we do not agree with Patent Owner's argument because it is not commensurate in scope with the claims.

Moreover, we are not persuaded by Patent Owner that a person of ordinary skill in the art would interpret Ryan as only disclosing software written specifically for a group of people (PO Resp. 23-24). Patent Owner's argument is unpersuasive because it relies on the level of ordinary skill in the art as reflected in a prior art patent filed in 1994, when the invention date of the challenged claims is February 14, 2001. See PO Resp. 24 (citing Ex. 2008, U.S. Patent No. 5,553,119 ("McAllister") filed on July 7, 1994).

Third, Patent Owner argues that Ryan does not teach "translat[ing] the words . . . spoken by the call assistant into a digital text message stream containing the words spoken by the call assistant," as recited in claim 1. PO Resp. 24-32. According to Patent Owner, Ryan, at most, is ambiguous as to the disclosure of a call agent translating the words spoken in voice by the call assistant into a digital text stream. *Id.* at 25-26. Patent Owner contends, based on the goals of Ryan to correct errors before displaying words and the context of the passage, that Ryan discloses a relay agent using "revoicing" as

an error correction mechanism for individual, unrecognized letters of a word. PO Resp. 26-31.

We are not persuaded. Ryan’s technology is intended to “overcome[] the problem associated with existing telecommunications relay services by providing a system and method for correcting mistakes before the message is displayed at the end user’s TDD” (i.e., telecommunications device for the deaf). Ex. 1005, 2:35-38 (“Summary of the Invention”). In the above-quoted passage, Ryan describes ways to do so using speech recognition software. One way is automating the relay function so as to eliminate the need for a human operator. *Id.* at 4:19-24. To do so, Ryan describes using speech recognition software to convert the voice message from a caller to text “while providing an error correction feature for words not recognized by the software.” *Id.* at 4:24-28. Ryan further describes the error correction feature as having two forms—phonetic spelling of the unrecognized word by the speech recognition software or prompting the caller to spell the unrecognized word. *Id.* at 4:29-33. Ryan describes, in the passage, another way to improve the accuracy of a relay system before the text is displayed at the TDD—if the speech recognition software is designed specifically to recognize the voice of particular relay agents, a relay agent “listen[s] to the caller and repeat[s] the voice message into a terminal adapted to convert the agent’s voice message into a data message.” *Id.* at 4:33-38.

In contrast to Ryan’s description of the error correction by the *caller* spelling letters of an unrecognized word, Ryan unambiguously describes a *relay agent* repeating the voice message of the caller and having speech recognition software, designed specifically to recognize the voice of the

relay agent, convert the agent's voice message into a data message. Thus, we are not persuaded that Ryan is ambiguous as to its disclosure of translating the words spoken by the call assistant, and we are not persuaded that Ryan discloses only the translation of letters (rather than words).

Fourth, Patent Owner argues that Ryan must be read narrowly in view of the state of the art of speech recognition software used in telecommunications relay service in 1994. PO Resp. 32-35. Patent Owner's argument is unpersuasive because the state of the art of the relevant technology in 1994 has limited probative value. Rather, the state of the art of the relevant technology at the time of invention, which is February 14, 2001 for the reasons discussed previously, is of greater significance. *See* 35 U.S.C. § 103(a) ("A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious *at the time the invention was made* to a person having ordinary skill in the art to which said subject matter pertains.") (emphasis added). The '346 patent itself describes the state of voice recognition technology as being "capable of transcribing the words of the voice of the call assistant at the speed of a normal human communication" and identifies two commercially available software packages able to do that. Ex. 1001, 6:24-36.

For these reasons, we determine Ryan teaches or suggests a relay system that "transmit[s] the voice of the hearing user when speaking to the ear of the call assistant"; a relay system in which "the call assistant speak[s] in voice the same words that the call assistant hears spoken by the hearing

user into a microphone connected to a digital computer”; and the recited digital computer.

c. “transmitting” limitations and “displaying the digital text message to a captioned telephone device” limitation

For claim 1 as a whole, Petitioner relies on a relay service that combines Ryan’s relay service with the transmission of both voice and text as described in Alshawi. *See* Pet. 54 (“By combining the transmission of both voice and text as described in *Alshawi* with the relay service of *Ryan*, the relay service would improve clarity in communications for the hearing impaired.”). In addition to the limitations discussed above, claim 1 further requires transmitting to the assisted user (i) “the voice of the hearing user” and (ii) “both the digital text message stream and the voice of the hearing user by telephone connection.” Claim 1 also recites “displaying the digital text message stream to a captioned telephone display device within sight of the assisted person.”

Alshawi’s describes a continuous speech-to-subtitles translation service provided by a telephone service provider for videophones to facilitate communication between people speaking different languages. *Ex.* 1010, 1:6-9, 3:54-4:7. Alshawi describes a videophone sending a standard videophone signal to telephone service provider network 60, which, in turn, generates translated subtitles corresponding to the original speech of the person using videophone. *Id.* at 3:58-65. The signal sent to the receiving videophone consists of an audio portion, which contains the sending party’s original speech, and a subtitled video portion. *Id.* at 3:54-4:3. The translated text can be viewed by the receiving party. *Id.* As such, Alshawi

describes transmitting both the translated text and the audio of the sending party's original speech to a videophone, where the transcribed text is displayed.

Petitioner's proposed combination, which combines Ryan's relay service with the transmission of both voice and text as described in Alshawi (Pet. 54), teaches or suggests the required transmitting and displaying limitations recited in claim 1. Alshawi's signal sent from the service provider includes the original speech of the person, and the translated text is sent to a videophone where the text is displayed to the user being assisted with language translation. This teaches or suggests "transmitting both the digital text message stream and the voice of the hearing user by telephone connection to the assisted user" and "transmitting the voice of the hearing user to the assisted user," as recited in claim 1. Further, Alshawi describes a videophone that transmits and receives voice signals, receives text information, and displays text to an assisted user—a captioned telephone display device.

Patent Owner argues that Ryan alone does not disclose the transmitting or displaying limitations (PO Resp. 24-36) and argues that Alshawi alone does not disclose the transmitting or displaying limitations (PO Resp. 35-38). We are not persuaded that Ryan does not teach or suggest the displaying limitation for the reasons discussed previously.

Moreover, the pertinent question is whether the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art in view of the combined references, not whether the references in the asserted combination individually teach the subject matter of claims 1 and 2.

35 U.S.C. § 103(a); *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“the test [for obviousness] is what the combined teachings of the references would have suggested to those of ordinary skill in the art”). Thus, we find unpersuasive Patent Owner’s arguments that amount to attacks on Ryan and Alshawi individually, without sufficient consideration of the combination of Ryan and Alshawi.

Further, Patent Owner argues that Alshawi does not disclose the digital text test message stream because the words are translated and, therefore, are not the “same words that the call assistant hears spoken by the call assistant.” PO Resp. 37-38. We find this unpersuasive because Petitioner’s combination relies on Ryan as teaching or suggesting “the call assistant speaking in voice” limitation. Pet. 54.

Having reviewed the papers submitted by the parties and the evidence cited therein, we determine that Petitioner has shown by a preponderance of the evidence that the subject matter of claim 1 of the ’346 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Ryan and Alshawi.

4. *Independent Claim 2*

Petitioner’s treatment of independent claim 2 is similar substantially to its treatment of independent claim 1. *Compare* Pet. 33-37 (indicating portions of Ryan that teach or suggest claim 1) *with id.* at 37-40 (indicating portions of Ryan that teach or suggest claim 2); *compare id.* at 50-51 (indicating portions of Alshawi that teach or suggest claim 1) *with id.* at 52 (indicating portions of Alshawi that teach or suggest claim 2).

Patent Owner does not set forth separate arguments for claim 2. PO Resp. 20-37 (arguing the combination of Ryan and Alshawi fails to disclose all of the elements of claims 1 and 2). Having reviewed the papers submitted by the parties and the evidence cited therein, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claim 2 of the '346 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Ryan and Alshawi.

5. Reason to Combine Ryan and Alshawi

Petitioner, relying on testimony of its declarant, Mr. Occhiogrosso, contends that it would have been obvious to combine “the transmission of both voice and text as described in *Alshawi* with the relay service of *Ryan* [to] improve clarity in communications for the hearing impaired.” Pet. 54 (citing Ex. 1019 ¶ 43-44). According to Mr. Occhiogrosso, Ryan recognized that “the accuracy of the relay service” would be improved by having the relay agent repeat the voice message of the caller and use speech recognition software to convert the caller’s words to a data message to send to the assisted caller. Ex. 1019 ¶ 43 (citing Ex. 1005, 4:33-38); Pet. 53. Mr. Occhiogrosso further explains that, like Ryan, Alshawi “was also concerned with accuracy in communication, and recognized that misunderstandings could be reduced by providing both voice and text to a caller.” Ex. 1019 ¶ 43 (citing Ex. 1010, 2:1-10); Pet. 53. Thus, to improve clarity in communications for the hearing impaired, a person of ordinary skill in the art would combine the relay services of Ryan with the transmission of both voice and text in Alshawi to provide both voice of the

hearing user and text of the hearing user's words to the hearing impaired user of Ryan's relay. Ex. 1019 ¶¶ 43-44; Pet. 53-54.

Patent Owner argues there is insufficient reason to combine Ryan and Alshawi. First, Patent Owner contends that a person of skill in the art "would have no incentive to incorporate voice and text transmission from Alshawi since the system of Ryan is incompatible with voice and text transmission." PO Resp. 39. We find unpersuasive Patent Owner's arguments that seem to require bodily incorporation of Alshawi's parts into Ryan's system as of 1994 and 1995. PO Resp. 40-41. A determination of obviousness is based not on bodily incorporation of parts from one disclosed system into another, but what the combined teachings would have suggested to one with ordinary skill in the art. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012); *Keller*, 642 F.2d at 425.

Moreover, the relevant date is not the earliest effective filing date of Ryan (1994) or Alshawi (1995). Rather, the relevant date is the date of the invention of the '346 patent, February 2001. See 35 U.S.C. § 103(a) ("A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious *at the time the invention was made* to a person having ordinary skill in the art to which said subject matter pertains.") (emphasis added).

Further, we are not persuaded by Patent Owner's assertion that a person of ordinary skill would not combine Alshawi's video call with Ryan's relay system because video call "users could simply sign, rather than speak, which would make transcription of voice unnecessary." PO Resp. 42

(citing Ex. 2001 ¶ 35). We credit Mr. Occhiogrosso's explanation that improved accuracy would result by providing both voice and text (Ex. 1019 ¶ 44). The general principle of Mr. Occhiogrosso's testimony is additional channels of communication improve communication. This undercuts Mr. Ludwick's position that video call "users could simply sign, rather than speak, [in a] video relay service making transcription of voice unnecessary" (Ex. 1019 ¶ 44). It is within our discretion to assign the appropriate weight to the testimony offered by Mr. Occhiogrosso and Mr. Ludwick. *See, e.g., Yorkey*, 601 F.3d at 1284.

Second, Patent Owner argues Alshaw and Ryan each teach away from the proposed combination. PO Resp. 42-44. According to Patent Owner, Alshaw emphasizes that a voice signal and translated text must be presented simultaneously and continuously. PO Resp. 42-43. As such, Ryan's error correction techniques would delay the presentation of text, which "would result in precisely the sort of awkward and unnatural experience that Alshaw teaches against." PO Resp. 43.

We do not agree with Patent Owner that Alshaw teaches away from the claimed invention. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (prior art does not teach away from claimed subject matter merely by disclosing a different solution to a similar problem unless the prior art also criticizes, discredits, or otherwise discourages the solution claimed). Rather, as Petitioner notes (Reply 11), a person of ordinary skill in the art need not include the error correction of Ryan in the combination because the claims do not require error correction.

For a similar reason, we do not agree with Patent Owner's argument (PO Resp. 43-44) that, because Ryan "teaches the desirability of *delaying* transmission of text until the text has been checked and corrected," Ryan teaches away from the claimed invention. The combination need not include Ryan's error correction. Accordingly, Ryan does not teach away from the claimed invention.

Patent Owner then argues that the proposed modification would change the principle of operation of Ryan. PO Resp. 44-47. We disagree because we credit the testimony of Mr. Occhiogrosso that the principle of operation of the portion of Ryan used in the combination is having a relay agent repeat a hearing user's words to provide text to an assisted user and that principle of operation is unchanged in the combination. *See* Ex. 1037 ¶ 64; Reply 12. It is within our discretion to assign the appropriate weight to the testimony offered by Mr. Occhiogrosso. *See, e.g., Yorkey*, 601 F.3d at 1284.

In view of the foregoing, we are persuaded that Petitioner, with support of its declarant, has articulated a sufficient reason to support a conclusion of obviousness in view of Petitioner's combination of Ryan and Alshawi. *See KSR*, 550 U.S. at 418 ("[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.") (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

6. *Secondary Considerations*

Factual inquiries for an obviousness determination include secondary considerations based on evaluation and crediting of objective evidence of

nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

Notwithstanding what the teachings of the prior art would have suggested to one with ordinary skill in the art at the time of the '346 patent's invention, the totality of the evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the challenged claims would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). Secondary considerations may include any of the following: long-felt but unsolved need, failure of others, unexpected results, commercial success, copying, licensing, and praise. *See Graham*, 383 U.S. at 17; *Leapfrog Enters.*, 485 F.3d at 1162.

To be relevant, evidence of nonobviousness must be commensurate in scope with the claimed invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (citing *In re Tiffin*, 448 F.2d 791, 792 (CCPA 1971)); *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). Thus, to be accorded substantial weight, there must be a nexus between the merits of the claimed invention and the evidence of secondary considerations. *In re GPAC*, 57 F.3d at 1580. “Nexus” is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining nonobviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). The burden of showing that there is a nexus lies with the Patent Owner. *Id.*; *see Paulsen*, 30 F.3d at 1482.

Patent Owner alleges “substantial praise for the inventions claimed in [Patent Owner's] patents, including the '346 Patent, the long-felt but unresolved need of the deaf and hard of hearing community, the commercial

success of the products and services embodying the invention, and the failure of others to provide a relay service or other solution that provided the benefits of the claimed inventions.” PO Resp. 49-51. For support, Patent Owner proffers declarations by Ms. Brenda Battat (Ex. 2004) and Ms. Constance Phelps (Ex. 2005) describing general innovations of Patent Owner’s CapTel Service and its CapTel phone and describing their benefits to the deaf and hard of hearing community. PO Resp. 50-51; *see* Ex. 2004 ¶¶ 18-19, 25-41.

In an attempt to establish the requisite nexus, Patent Owner relies on a declaration of Mr. Ludwick (Ex. 2002) asserting that it “explain[s], on a feature by feature basis, the nexus between those secondary considerations and the claimed design” and “illustrates, in chart form, that the CapTel system and various models of CapTel phones embody the claims of the present invention.” PO Resp. 51.

Patent Owner’s Response contains no substantive arguments. *Id.* Instead, Patent Owner merely lists various common forms of secondary considerations evidence, without exposition. This does not provide sufficient analysis for us to determine whether Patent Owner has provided adequate evidence of secondary considerations and a nexus between any such evidence and the merits of the claimed invention. Thus, Patent Owner’s broad contentions regarding secondary considerations in its Patent Owner Response do not demonstrate nonobviousness.

Moreover, Patent Owner’s declarations fail to establish a nexus between the merits of the claimed invention and the evidence of secondary considerations. To show a nexus, Patent Owner relies on Mr. Ludwick’s

declaration, which describes his visit to CapTel, Inc.'s relay center in Madison, Wisconsin. Ex. 2002 ¶ 47. Mr. Ludwick's chart presents his conclusions based on personal observation that the CapTel Service meets each claim limitation of the '346 patent. Ex. 2002 ¶ 48 (pages 28-30). For example, regarding "a digital computer connected to the microphone, the computer programmed to use a voice recognition computer software package trained to the voice of the call assistant to translate the words spoken in voice by the call assistant into a digital text stream," recited in claims 1 and 2, Mr. Ludwick asserts:

I personally observed that the CapTel Service meets this claim element. I further confirmed this from my own knowledge of CapTel Service. This feature of the CapTel Service relay is present when the Service is used with each of the CapTel Phones and has always been included as part of the CapTel Service.

Ex. 2002 ¶ 48 (page 28).

Because Mr. Ludwick's conclusions are based on personal observations, without sufficient supporting facts or data, his testimony has little probative value. *See In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368 ("[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations."); *see also* Fed. R. Evid. 702 (providing one may testify in the form of an opinion if the testimony is based on sufficient facts or data). As such, Mr. Ludwick's conclusory assertions do not provide a sufficient connection between objective evidence and the claimed invention,

and so do not establish the requisite nexus between the merits of the claimed invention and the evidence of secondary considerations.

Accordingly, Patent Owner fails to provide sufficient credible evidence to support its allegations of nonobviousness based on secondary considerations. When we balance Petitioner's evidence of obviousness against Patent Owner's asserted objective evidence of nonobviousness, we determine that a preponderance of the evidence supports Petitioner's position that claims 1 and 2 would have been obvious over Ryan and Alshawi.

III. CONCLUSION

Petitioner has proven by a preponderance of the evidence that claims 1 and 2 of the '346 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Ryan and Alshawi.

Patent Owner's Motion to Exclude Evidence (Paper 41) is *denied*.

IV. ORDER

Accordingly, it is hereby:

ORDERED that Petitioner has demonstrated by a preponderance of the evidence that claims 1 and 2 of U.S. Patent No. 6,594,346 B2 are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence (Paper 41) is denied; and

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FURTHER ORDERED that, because this is a final written decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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