

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MMODAL LLC,
Petitioner,

v.

NUANCE COMMUNICATIONS, INC.,
Patent Owner.

Case IPR2019-00306
Patent 8,738,403 B2

Before KEN B. BARRETT, NEIL T. POWELL, and CHRISTA P.
ZADO, *Administrative Patent Judges*.

POWELL, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
35 U.S.C. § 318(a)

I. INTRODUCTION

MModal LLC (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1, 2, 4, 5, 6, 9, 11, 13, 16, 17, 19–21, 24, 26, 28, 31, 32, 34–36, 39, 41, and 43 of U.S. Patent No. 8,738,403 B2 (Ex. 1001, “the ’403 patent”). Nuance Communications, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). In view of those submissions, we instituted an *inter partes* review of claims 1, 2, 4, 5, 6, 9, 11, 13, 16, 17, 19–21, 24, 26, 28, 31, 32, 34–36, 39, 41, and 43 of the ’403 patent. Paper 9. Subsequent filings include a Patent Owner Response (Paper 19, “PO Resp.”), a Petitioner Reply (Paper 29, “Pet. Reply”), and a Patent Owner Sur-reply (Paper 34, “Sur-reply”). An oral hearing was held on February 27, 2019, and a copy of the transcript was entered into the record. Paper 40.

We have jurisdiction over this proceeding under 35 U.S.C. § 6(b). After considering the evidence and arguments of the parties, we determine that Petitioner has proven by a preponderance of the evidence that claims 1, 2, 4, 5, 6, 13, 16, 17, 19–21, 28, 31, 32, 34–36, and 43 of the ’403 patent are unpatentable. *See* 35 U.S.C. § 316(e) (2018). We also determine that Petitioner has not proven by a preponderance of the evidence that claims 9, 11, 24, 26, 39, 41 are unpatentable. We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a).

II. BACKGROUND

A. Related Matters

According to the parties, the ’403 patent is asserted in *MModal Services Ltd. v. Nuance Communications, Inc.*, Case No. 1:18-cv-00901-SCJ (N.D. Ga. 2018). Pet. 2–3; Paper 5, 2.

B. The Asserted Grounds of Unpatentability

Petitioner contends that claims 1, 2, 4, 5, 6, 9, 11, 13, 16, 17, 19–21, 24, 26, 28, 31, 32, 34–36, 39, 41, and 43 of the '403 patent are unpatentable based on the following grounds:

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1, 2, 5, 6, 9, 11, 13, 16, 17, 20, 21, 24, 26, 28, 31, 32, 35, 36, 39, 41, 43	103(a) ¹	Koll ² , Fritsch ³
4, 19, 34	103(a)	Koll, Fritsch, Allard ⁴
1, 2, 5, 6, 9, 11, 13, 16, 17, 20, 21, 24, 26, 28, 31, 32, 35, 36, 39, 41, 43	103(a)	Koll, Ceusters ⁵
4, 19, 34	103(a)	Koll, Ceusters, Allard

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287 (2011), amended 35 U.S.C. § 103. Because the application from which the '403 patent issued was filed before March 16, 2013, the effective date of the relevant amendment, the pre-AIA version of § 103 applies.

² U.S. Patent Application No. 2007/0299651 A1, pub. Dec. 27, 2007 (Ex. 1005).

³ U.S. Patent Application No. 2006/0041428 A1, pub. Feb. 23, 2006 (Ex. 1006).

⁴ U.S. Patent Application No. 2007/0260977 A1, pub. Nov. 8, 2007 (Ex. 1008).

⁵ U.S. Patent No. 7,493,253 B1, iss. Feb. 17, 2009 (Ex. 1007).

Petitioner also relies on the Declaration of Homayoon Beigi, Ph.D. Ex. 1003. Patent Owner relies on the Declaration of Bryan P. Bergeron, MD, FACMI.⁶ Ex. 2005.

C. The '403 Patent

The '403 patent relates to creating and using patient records in clinical environments. Ex. 1001, 1:8–11. The '403 patent notes that a transition from paper medical records to electronic medical records provides certain benefits. *Id.* at 1:50–2:2. Figure 1 of the '403 patent is reproduced below.

⁶ Petitioner and Patent Owner dispute how much weight we should give Dr. Bergeron's testimony. Pet. Reply 19–22; Sur-reply 21–24. Having fully considered the parties' arguments, our analysis below gives appropriate weight to Dr. Bergeron's testimony.

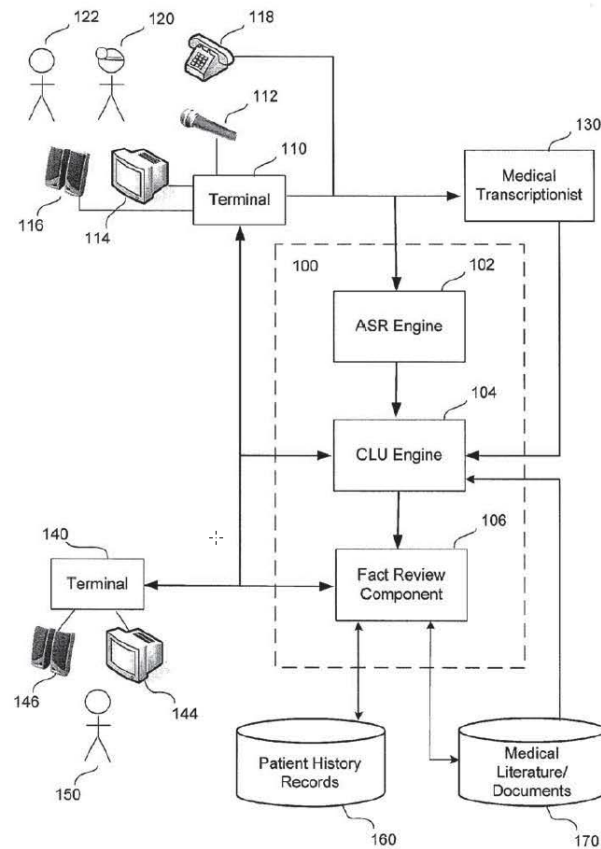


FIG. 1

Figure 1 shows an operating environment for improving clinical documentation processes. *Id.* at 16:7–10.

The example operating environment has server 100 communicatively linked to terminals 110 and 140. *Id.* at 16:10–14. Server 100 includes ASR engine 102, CLU engine 104, and fact review component 106. *Id.* at 16:32–33.

Clinician 120 operates terminal 110. *Id.* at 16:50–51. Clinician 120 may document an encounter with patient 122, using various processes. *Id.* at 16:50–17:48. For example, clinician 120 may speak a free-form narration of a patient encounter into microphone 112. *Id.* at 17:34–36.

ASR engine 102 may receive an audio recording of the spoken free-form narration. *Id.* at 18:4–7. ASR engine 102 may process the information to identify what clinician 120 said. *Id.* at 18:7–8.

CLU engine 104 may receive a text narrative from ASR engine 102. *Id.* at 19:66–20:3. CLU engine 104 may extract clinical facts from the text narrative. *Id.*

A user may “monitor, control and/or otherwise interact with the fact extraction and/or fact review process through a user interface provided in connection with server 100.” *Id.* at 20:11–14. An example of such a user interface is shown in Figure 3A, which is reproduced below.

Figure 3A is a screenshot of a user interface (GUI 200) for managing patient data. The interface is divided into a top header area (210) and a main content area (220). The header area contains fields for Patient Name (John Doe), Sex (M), Creation Date (01-18-2011), and Document Type (Discharge Summary). The main content area is divided into two panels: a text panel (220) on the right and a fact panel (230) on the left. The text panel displays a text narrative (300) with various clinical facts highlighted and labeled with reference numerals (312, 313, 314, 315, 316, 317, 318, 319). The fact panel (230) displays a table of clinical facts (320) with columns for Name, Status, and Schedules. The table lists four facts: Unspecified Chest Pain (active), Shortness of Breath (active), Unspecified Essential Hypertension (history), and Obesity Unspecified (history). The fact panel also includes an 'Add Fact' button and a table for adding new facts. The text panel includes a 'Hide All' button. The bottom of the interface has a status bar (220) with buttons for Save, Dictate, Complete, and Cancel.

FIG. 3A

Figure 3A shows GUI 200, which includes text panel 220 and fact panel 230. *Id.* at 4:59–61, 20:57, 21:10, 21:38–50. Text panel 220 displays “a text narrative referring to the encounter between clinician 120 and patient 122.” *Id.* at 20:57–59. Fact panel 230 displays one or more clinical facts that CLU engine 104 extracted from the text narrative. *Id.* at 21:38–40. For

example, fact panel displays fact 314, which “indicates that patient 122 is currently presenting with shortness of breath.” *Id.* at 22:4–15. Additionally, in text panel 220, “indicator 315 indicates the linkage between fact 314 and the words ‘shortness of breath’ in the ‘Chief complaint’ section of the text narrative.” *Id.* at 23:17–19.

The user may review and edit the set of clinical facts extracted from the text narrative. For example, by choosing the “X” option beside a given fact in fact panel 230, a user may delete that fact. *Id.* at 24:60–62. Additionally, the user may receive from fact review component 106 a suggestion “that an unspecified diagnosis may possibly be ascertained from the patient encounter.” *Id.* at 28:31–34. Similarly, the user may receive from fact review component 106 an alert that it is desirable to disambiguate between multiple facts that might be extracted from one segment of the text. *Id.* at 30:4–8. For example, the ’403 patent notes that

if the text narrative contains the word “cold”, it may be difficult in some cases for CLU engine 104 to determine whether clinician 120 intended that word to mean that patient 122 is cold to the touch, that patient 122 has a runny nose, or that patient 122 has chronic obstructive lung disease (COLD).

Id. at 30:13–18. In such situations, the user may receive and select from a structured choice among the multiple possible options. Regarding this structured choice, the ’403 patent explains that

[s]uch a structured choice could include a choice among facts that could add specificity to a set of clinical facts already collected for the patient encounter, a choice among facts potentially implied by one or more combinations of facts already collected for the patient encounter, a choice to disambiguate between facts, or any other choice in which one or more structured options are presented to the user, from which the user may choose.

Id. at 30:39–46. In response to the user’s choice, “fact review component 106 may, for example through use of CLU engine 104, perform an update to the text narrative to make it explicitly state information corresponding to the selected fact.” *Id.* at 30:54–58. To further illustrate user review, Figure 10 of the ’403 patent is reproduced below.

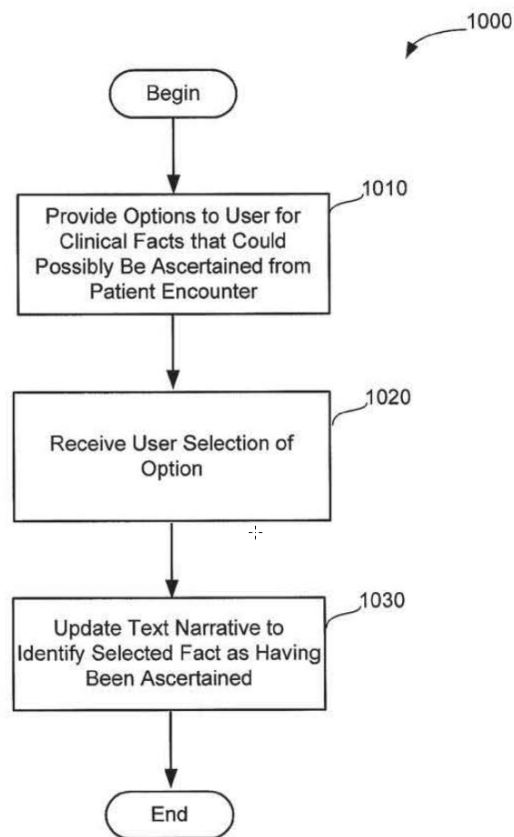


Figure 10 shows method 1000 of updating text in clinical records. *Id.* at 32:34–37. The ’403 patent explains that

[m]ethod 1000 begins at act 1010, at which one or more options may be provided to a user, the one or more options corresponding to one or more clinical facts that could possibly be ascertained from a patient encounter. At act 1020, a user selection of one of the options may be received. Method 1000 ends at act 1030, at which a text narrative (e.g., a textual representation of a free-form narration of the patient encounter provided by a clinician)

may be updated to identify the fact corresponding to the selected option as having been ascertained from the patient encounter.

Id. at 32:41–50.

D. Illustrative Claim

Claims 1, 16, and 31 are independent. Each of claims 2, 4, 5, 6, 9, 11, 13, 17, 19–21, 24, 26, 28, 32, 34–36, 39, 41, and 43 depends, directly or indirectly, from one of independent claims 1, 16, and 31. Claim 1 is illustrative of the challenged claims and recites:

1. A method comprising:

processing a free-form narration of a patient encounter provided by a clinician, using a natural language understanding engine implemented by one or more processors, to identify one or more options corresponding respectively to one or more clinical facts that could be extracted from the free-form narration of the patient encounter, the processing comprising

analyzing the free-form narration to identify a set of one or more features of at least a portion of the free-form narration,

correlating the set of features to one or more abstract semantic concepts, and

generating computer-readable data that expresses the one or more abstract semantic concepts as the one or more clinical facts that could be extracted from the free-form narration;

providing to a user the one or more options corresponding to the one or more clinical facts corresponding to the one or more abstract semantic concepts identified from the processing of the free-form narration;

receiving from the user a selection of a first option of the one or more options, the first option corresponding to a first fact of the one or more clinical facts; and

updating a textual representation of the free-form narration, using at least one processor, to identify the first fact as having been ascertained from the patient encounter.

Ex. 1001, 33:57–34:16.

III. ANALYSIS

A. Legal Principles

A claim is unpatentable under § 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. *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 skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). “To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

Citing Dr. Beigi’s testimony, Petitioner asserts that a person of ordinary skill in the art a person of ordinary skill in the art would have been familiar with speech recognition and error detection and correction methods applicable to speech recognition and related fields, including optical

character recognition and natural language processing. The experience and education levels may vary between persons of ordinary skill, with some persons having a Bachelor's degree in electrical engineering, computer science, or a related field and four years of experience, and others holding a Master's degree in electrical engineering or computer science, or a related field, but having only one to two years of experience. Pet. 11–12. Patent Owner does not dispute Petitioner's characterization of the level of ordinary skill in the art. We are persuaded that Petitioner has accurately identified the level of ordinary skill in the art and we adopt Petitioner's assessment.

C. Claim Construction

In an *inter partes* review filed before November 13, 2018, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent. 37 C.F.R. § 42.100(b) (2016).⁷ Consistent with that standard, we assign claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention, in the context of the entire patent disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Only those terms that are in controversy need be construed, and only to the

⁷ The Office recently changed the claim construction standard used in *inter partes* review proceedings. 37 C.F.R. § 42.100(b) (2018). As stated in the Federal Register notice, however, the new rule applies only to petitions filed on or after November 13, 2018, and, therefore, does not impact this matter. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,340 (Oct. 11, 2018) (stating “[t]his rule is effective on November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date”).

extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner proposes constructions for “natural language understanding” and “features,” but indicates that we need not construe any claim term to resolve this dispute. Pet. 13–15. Addressing Petitioner’s proposed claim constructions, Patent Owner contends that we need not construe any claim terms to resolve this dispute. PO Resp. 19–21. We agree that, for purposes of this Decision, we need not construe expressly any claim term.

D. Alleged Obviousness over Koll and Fritsch

1. Overview of Koll

Koll notes that in the medical profession, doctors dictate information from which transcripts are produced. Ex. 1005 ¶ 3. Koll explains that a report may include both text and data, in which case “the goal is not merely to capture spoken words as text, but also to extract data from those words, and to include the data in the report.” *Id.* ¶ 9. Koll also notes that doctors may dictate in free-form, rather than using the form and the codes desired for the resulting report. *Id.* ¶ 11. Koll explains that an automated system may not identify correctly the structure and codes implied by the doctor’s free form narration. *Id.* ¶ 11–12. Koll notes some systems that produce structured reports from speech lack provisions for a human to verify accuracy of data extracted from the speech. *Id.* ¶ 13. Koll expresses a desire to provide “improved techniques for verifying the correctness of data

extracted from speech into documents.” *Id.* ¶ 15. Figure 1 of Koll is reproduced below.

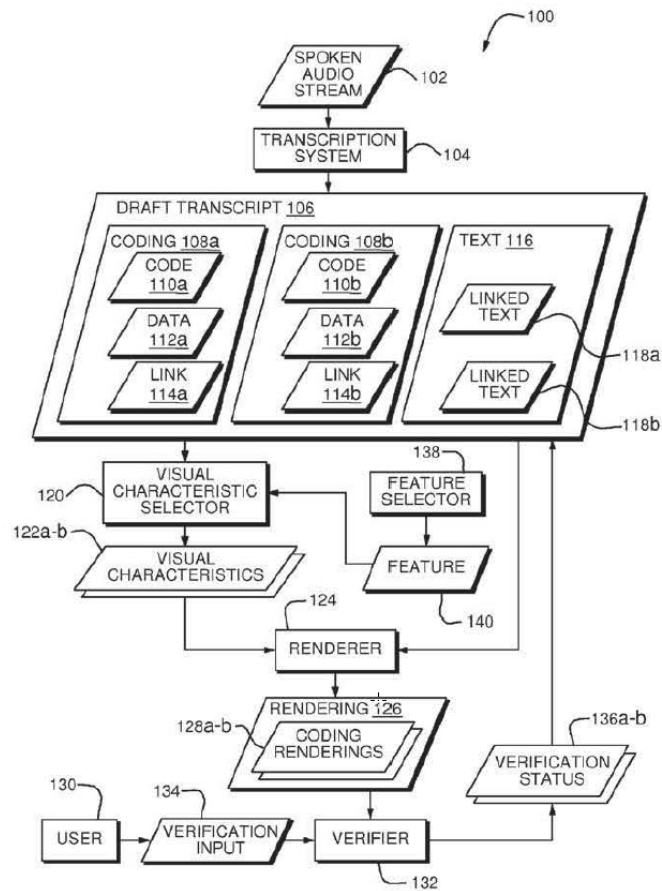


FIG. 1

Figure 1 shows a dataflow diagram of system 100, which allows verification of data codes extracted from speech. *Id.* ¶ 31

System 100 includes transcription system 104, which produces draft transcript 106 from spoken audio stream 102. *Id.* ¶ 32. To do so, transcription system 104 may use an automatic speech recognizer by itself, or in combination with a human transcriptionist. *Id.* ¶ 33. Koll notes that

transcription system 104 may use techniques disclosed in Fritsch.⁸ *Id.* Draft transcript 106 includes “text 116 that is either a literal (verbatim) transcript or a non-literal transcript of the spoken audio stream.” *Id.* ¶ 33. Draft transcript 106 also includes codings 108, “each of which encodes a ‘concept’ extracted from the spoken audio stream 102.” *Id.* ¶ 34. “In the context of a medical report, each of the codings 108 may, for example, encode an allergy, prescription, diagnosis, or prognosis.” *Id.* ¶ 35.

Koll discusses an example where spoken audio stream 102 includes discussion of two allergies. Koll shows the text of this example in Figure 4A, which is reproduced below.



NEW PARAGRAPH ALLERGIES COLON THE PATIENT HAS AN
ALLERGY TO PENICILLIN THAT CAUSES HIVES; THE PATIENT
ALSO REPORTS PRIOR ALLERGIC REACTION TO PEANUT BUTTER

FIG. 4A

Figure 4A shows text discussing a patient’s allergy to penicillin, as well as the patient’s allergic reaction to peanut butter. *Id.* ¶ 37; Fig. 4A.

As shown in Figure 1, Koll discloses using renderer 124 to produce rendering 126 of draft transcript 106. *Id.* ¶ 52. In the case of the exemplary text shown in Figure 4A, the associated rendering may, for example, take the form shown in either of Figures 3A and 3B, which are reproduced below.

⁸ When identifying related applications, Koll notes that “[t]his application is related to copending and commonly-owned U.S. patent application Ser. No. 10/923,517, filed on Aug. 20, 2004, entitled ‘Automated Extraction of Semantic Content and Generation of a Structured Document from Speech,’ [(Fritsch)], which is hereby incorporated by reference herein.” *Id.* ¶ 2.

302a ALLERGY TYPE	302b ALLERGEN	302c REACTION	302d TEXT	302e CORRECT?
304a DRUG	PENICILLIN	HIVES	THE PATIENT HAS AN ALLERGY TO PENICILLIN THAT CAUSES HIVES;	X
304b FOOD	PEANUT BUTTER		PATIENT ALSO REPORTS PRIOR ALLERGIC REACTION TO PEANUT BUTTER.	

FIG. 3A

ADVERSE REACTIONS 312	
314	THE PATIENT HAS AN ALLERGY TO PENICILLIN THAT CAUSES HIVES;
	PATIENT ALSO REPORTS PRIOR ALLERGIC REACTION TO PEANUT BUTTER.

FIG. 3B

Figure 3A shows two codings rendered in table format. *Id.* ¶ 59. Figure 3B shows two codings rendered “using formatted text.” *Id.* ¶ 63. For example, in Figure 3B, “‘penicillin’ has been rendered as boldfaced text 318, thereby indicating that the corresponding coding 108a has been encoded as an allergy.” *Id.* ¶ 64.

These renderings may be used to confirm the accuracy of the codings and/or features of the codings. *Id.* ¶ 66. For example, in the case of rendering 300 shown in Figure 3A, a user may confirm or reject a coding “by checking the corresponding checkbox to indicate a verification status of ‘correct’ (i.e., ‘verified’) or leaving the checkbox unchecked to indicate a verification status of ‘incorrect.’” *Id.* ¶ 69. In the case of rendering 310 shown in Figure 3B, a user may confirm or reject a coding by “leaving boldfaced text as boldfaced or by leaving non-boldfaced text as non-boldfaced (thereby verifying (accepting) the corresponding codings), or by changing boldfaced text into non-boldfaced text (thereby rejecting (disconfirming) the corresponding codings).” *Id.* ¶ 71. Based on the user’s

verification input, verification statuses of the codings are identified and stored. *Id.* ¶¶ 72, 80.

2. Overview of Fritsch

Fritsch discloses automatically generating structured documents from a spoken audio stream. Ex. 1006, code (57). Figure 2 of Fritsch is reproduced below.

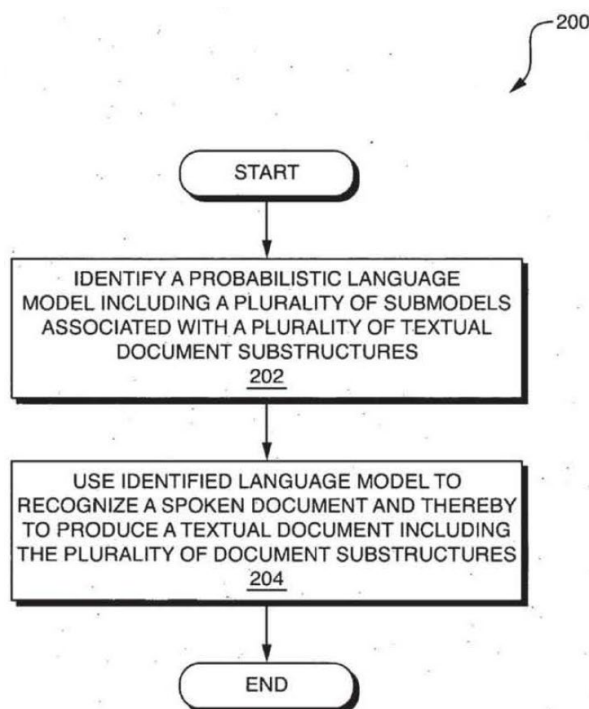


FIG. 2

Figure 2 shows a flowchart of method 200, which is executed to produce a structured textual document from a spoken document. *Id.* ¶ 48. Fritsch explains the execution of method 200 further in connection with Figure 3, which is reproduced below.

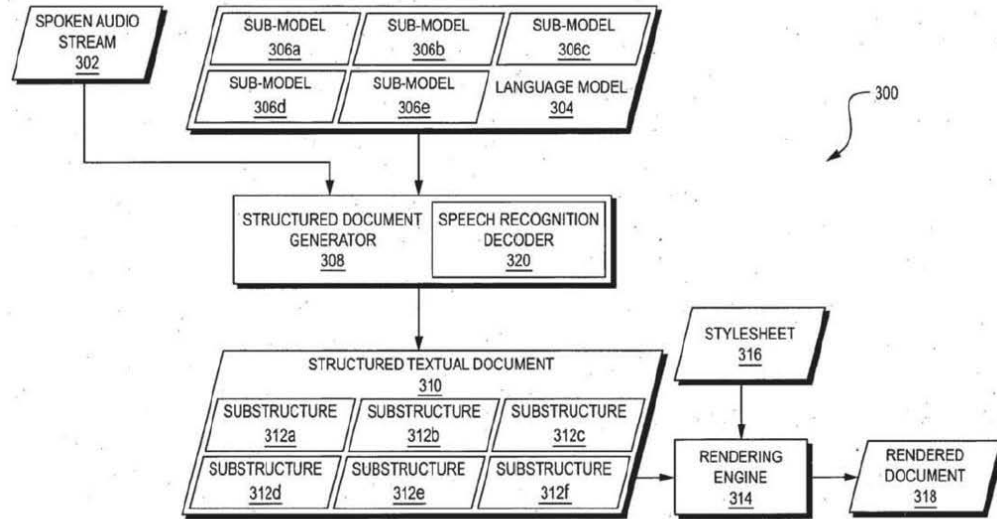


FIG. 3

Figure 3 shows a data flow of system 300, which is used to execute method 200 of Figure 2. *Id.* ¶¶ 30, 48.

System 300 includes spoken audio stream 302, probabilistic language model 304, structured document generator 308, and rendering engine 314. *Id.* ¶¶ 49–50, 60, 62. System 300 serves the purpose of producing structured textual document 310 with content from spoken audio stream 302 organized into a specific structure with concepts “identified and interpreted in a machine-readable form.” *Id.* ¶ 54. Rendering engine 314 produces rendered document 318 by rendering structured textual document 310 using stylesheet 316. *Id.* ¶ 60. Method 200 integrates speech recognition and natural language processing, “thereby enabling the language model to influence both the recognition of words in the audio stream 302 and the generation of

structure in the structured textual document 310, thereby improving the overall quality of the structured document 310.” *Id.* ¶ 140.

3. Discussion

Petitioner argues that Koll and Fritsch teach every limitation of the challenged claims. Pet. 20–38. Our review of the full record persuades us that Koll and Fritsch teach every limitation of claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43, and that these claims would have been obvious over Koll and Fritsch. Based on our full review of the record, Petitioner neither demonstrates that Koll and Fritsch teach all of the limitations of claims 9, 11, 24, 26, 39, and 41, nor demonstrates that these claims would have been obvious over Koll and Fritsch.

Petitioner asserts that Koll teaches “processing a free-form narration of a patient encounter provided by a clinician, transcribing the clinician’s dictation or other audio stream to produce a draft transcript.” *Id.* at 22. Petitioner asserts that Koll refers to Fritsch for certain details of how to process the free-form narration. *Id.* Petitioner cites Fritsch as teaching certain limitations of the claims related to the processing, such as the claim limitation “correlating the set of features to one or more abstract semantic concepts.” *Id.* at 21–28.

Petitioner argues that it would have been obvious to combine the teachings of Fritsch with those of Koll for a number of reasons. *Id.* at 19–20. Petitioner notes that Koll incorporates Fritsch by reference, and Koll relies on Fritsch as teaching certain processing details. *Id.* at 19. Petitioner contends that Koll and Fritsch contain very similar disclosures that a person of ordinary skill in the art could have combined with a reasonable expectation of success. *Id.* at 19. Petitioner also argues that the references

both relate to the objective of using natural language inputs to generate coded documents accurately and efficiently, and that they disclose complementary mechanisms for advancing this objective. *Id.* at 19–20. Petitioner asserts that a person of ordinary skill in the art “would therefore have combined these teachings to further improve the accuracy of such coded documents.” *Id.* at 20.

The parties’ arguments raise a number of different disputes regarding various of the challenged claims and their claim limitations. We turn now to detailed discussions of the disputes raised by the parties’ arguments.

a. Claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43

(1) “generating computer-readable data that expresses the one or more abstract semantic concepts as the one or more clinical facts that could be extracted from the free-form narration”

The Petition argues that this claim limitation is taught by “the combination of Koll and Fritsch.” Pet. 21. Petitioner elaborates that

Fritsch also discloses the third and final step of processing the free-form narration; Fritsch generates the computer-readable “structured [textual] document” also used by Koll that expresses the abstract semantic concepts identified in the previous step as clinical facts, *i.e.*, medical codes. Fritsch [0054] (machine-readable structure document 310 with identified concepts), [0076, 0124-0151] (medical document example with medical codes), Fig. 5; Koll [0033-0034] (each “coding[] 108...encodes a ‘concept’ extracted from the spoken audio stream 102”), [0035] (Each coding may “encode an allergy, prescription, diagnosis, or prognosis. In general, each of the codings 108 includes a code and corresponding data.”); Beigi Decl. ¶¶ 135-138.

Id. at 27.

Asserting that the Petition “rel[ies] solely upon Fritsch” for the “generating” limitation, Patent Owner argues that Fritsch “does not disclose expressing semantic concepts as clinical facts that could be extracted.” PO Resp. 27. Patent Owner explains that Fritsch focuses on determining where in a structured report to place information extracted from a narration. *Id.* at 27–28. Patent Owner argues that none of the disclosures cited by Petitioner teaches “expressing ‘abstract semantic concepts’ as ‘clinical facts that could be extracted from the free-form narration.’” *Id.* at 29–30. Patent Owner elaborates that the cited Fritsch disclosures focus on the process of developing and training language models used to produce structured documents. *Id.* at 30. Patent Owner contends that “[a]t most, the cited language shows that Fritsch’s system might be able to place particular portions of the clinical narrative associated with a particular medical code in a particular sub-structure of the structured document.” *Id.* Patent Owner contends that “medical codes, in and of themselves, are not clinical facts.” *Id.*

Arguing that Patent Owner attacks the references individually, Petitioner maintains that “[t]he combination of Koll and Fritsch discloses this limitation.” Pet. Reply 3. Petitioner explains that Koll relies on Fritsch to generate a structured document, referred to in Koll as a “draft transcript.” *Id.* Petitioner elaborates that Koll “provides examples of and further describes the draft transcript produced by Fritsch.” *Id.* at 4.

Petitioner maintains that Fritsch’s structured document constitutes computer-readable data, and that it “expresses abstract semantic concepts as clinical facts (in medical codings within that structured document).” *Id.* at 3. Petitioner elaborates that Koll relies on Fritsch to provide this structure

document, referred to in Koll as its “draft transcript.” *Id.* Petitioner asserts that Koll discusses an example of a structured report from Fritsch in which “‘each of the codings 108 may, for example, encode an allergy, prescription, diagnosis, or prognosis’ and includes ‘a code and corresponding data.’” *Id.*

Petitioner also argues that Patent Owner’s assertions in another *inter partes* review (in which Patent Owner was the petitioner) contradict its present arguments that Koll and Fritsch fail to disclose “clinical facts.” *Id.* at 4–8. Petitioner explains that Patent Owner cited Koll as allegedly teaching

These structured electronic documents take the form of, for example, a mark-up language document, such as an XML document. The structured electronic documents include both a transcript of the speech recording as well as “codings” for the speech transcript. **The codings in the structured document encode “concepts” (e.g., clinical facts related to medications, allergies, or diagnoses) related to the words in the speech transcript.**

Ex. 1034, 6; Pet. Reply 4.

In response, Patent Owner maintains that the Petition exclusively relied on incorrect assertions that Fritsch and “medical code[s]” teach the claimed “clinical facts.” Sur-reply 2–4. Patent Owner urges us to reject the Reply’s citation of parts of Fritsch and Koll not cited in the Petition. *Id.* at 3. Similarly, Patent Owner faults the Reply’s “belated attempt to rely upon the ‘data’ portions of Fritsch’s codings,” asserting that the Petition “expressly relied upon the ‘medical code’ portion of the coding, not the associated data.” *Id.* Regarding the substance of the dispute, Patent Owner argues that “[a]s explained in the [Response] and in Dr. Bergeron’s accompanying declaration . . . ‘medical codes, in and of themselves, are not clinical facts.’”

Id. 3. Patent Owner also asserts that its position in this proceeding comports with its statements in the other *inter partes* review discussed by Petitioner (Reply 4). Sur-reply 4. Contrary to Petitioner’s arguments, Patent Owner’s statements from the other *inter partes* review do not admit that the references teach the disputed limitation. *Id.*

First, we consider Patent Owner’s contention that the Petition relied on Fritsch exclusively as teaching this limitation. The Petition explains that Koll incorporates Fritsch in its entirety. Pet. 19. The Petition asserts that Fritsch provides Koll’s draft transcript 106, which “includes extracted clinical facts, encoded as medical codings, and links from the coded facts to the source text.” *Id.* at 22; *see also id.* at 27 (“Fritsch generates the computer-readable ‘structure [textual] document’ also used by Koll.”). The Petition contends that “the combination of Koll and Fritsch teaches performing these sub-steps,” which include the “generating” sub-step. *Id.* at 21. Further addressing this sub-step, the Petition argues that “Fritsch also discloses the third and final step,” citing portions of Fritsch and citing portions of Koll related to draft transcript 106. *Id.* at 27.

We do not agree with Patent Owner’s suggestion that the Petition relied exclusively on Fritsch as teaching the “generating” step. The Petition’s assertion that “the combination of Koll and Fritsch teaches the limitation” and the Petition’s citation of Koll convey reliance on the text of both Fritsch and Koll in addressing the “generating” limitation. This makes sense, given that the cited portions of Koll relate to draft transcript 106, which Petitioner alleges came from Fritsch. *See* Pet. 22, 27; Ex. 1005 ¶¶ 33–35. Thus, it is clear in the Petition that Petitioner relies not only on the cited portions of Fritsch, but also the cited portions of Koll, at least as

“provid[ing] examples of and further describe[ing] the draft transcript produced by Fritsch.” Pet. Reply 4.

We also disagree with Patent Owner’s contention that the Petition’s discussion of the “generating” limitation relied on “medical coding[s]” to the exclusion of the associated data. Sur-reply 3. To the contrary, the portion of the Petition addressing the “generating” quoted the portion of Koll stating that “each of the codings 108 includes a code and corresponding data.” Pet. 27 (quoting Ex. 1005 ¶ 35).

Turning to the substance of the dispute, we find Petitioner’s evidence persuasive. As Petitioner argues, Koll teaches that “[e]ach coding may ‘encode an allergy, prescription, diagnosis, or prognosis.’” Ex. 1005 ¶ 35; Pet. 27. As Petitioner further explains, Koll also teaches that each coding comprises “a code and corresponding data.” Ex. 1005 ¶ 35; Pet. Reply 3. As Dr. Beigi testified, “[d]ates, codes, medications, allergies, vitals. These are clinical facts.” Ex. 1035, 79:3–6. Indeed, the ’403 patent explains that “[a]n exemplary set of clinical fact categories includes categories for problems, medications, allergies, social history, procedures, and vital signs.” Ex. 1001, 21:50–53.

We do not find Patent Owner’s counter arguments and evidence persuasive. Dr. Bergeron testifies that “medical codes are not clinical facts.” Ex. 2005 ¶ 88. We find this testimony of little persuasive value because Dr. Bergeron neither explains this assertion nor provides supporting evidence for it. *See id.* Additionally, even if medical codes generally do not constitute medical facts, that does not address Petitioner’s arguments regarding the cited references’ disclosure of codings. Petitioner asserts that draft transcript 106 “includes extracted clinical facts, encoded as medical codings” (Pet. 22),

elaborating that Koll discloses each coding includes both “a code and corresponding data” (Pet. Reply 3 (citing Ex. 1005 ¶¶ 33–38)).

On the whole, we find that Petitioner demonstrates that the cited prior art references’ disclosures related to the codings it uses teach clinical facts, regardless of whether medical codes, generally, do not necessarily constitute clinical facts. In sum, we find that a person of ordinary skill in the art would have understood that the portions of the references cited in the Petition⁹ teach “generating computer-readable data that expresses the one or more abstract semantic concepts as the one or more clinical facts that could be extracted from the free-form narration.”

(2) “options”

Each of the challenged independent claims recites “processing a free-form narration . . . to identify one or more options corresponding to one or more clinical facts,” “providing to a user the one or more options corresponding to the one or more clinical facts,” and “receiving from the user a selection of a first option of the one or more options.” *E.g.*, Ex. 1001, 33:58–62, 34:7–12. The Petition contends that “[t]hese options may be presented in a number of ways, including an option to accept or reject a fact extracted from the free-form narrative.” Pet. 6 (citing Ex. 1001, 24:56–25:13). The Petition also asserts that “the claims require identifying only *one* option corresponding to *one* clinical fact in the free-form narration, and

⁹ Although we do not agree with Patent Owner’s suggestion of procedural impropriety in the Reply’s citation of additional portions of the references, the portions of the references cited in the Petition support our finding, without the Reply’s supplemental citation of other portions of the references.

also contemplate, for example, two options, each one corresponding to its own respective clinical fact.” *Id.* at 28.

Petitioner argues that the Koll and Fritsch combination teaches the claims’ limitations reciting the “one or more options.” Pet. 21–23, 28–31. Regarding the claimed “processing . . . to identify one or more options,” Petitioner explains that Fritsch processes an audio stream to extract medical codings, “essentially the tentative results,” and generates the “structured document” used by Koll. *Id.* at 28. Petitioner notes that Koll discloses subsequent verification of these codings, as they may not be reliable. *Id.*

Regarding the claimed “providing to a user the one or more options” and “receiving a selection . . . of a first option,” the Petition argues that “Koll performs these next two steps by presenting the medical codings to the user as options to be verified or rejected, and accepting the user’s selection.” *Id.* at 29. The Petition explains that “the user may be prompted to verify or correct the transcribed text and coding, such as by displaying the linked text with an indication of the coding, and the user views these to determine if the coding and transcription is accurate.” *Id.* at 30. As an example of this, the Petition cites Koll’s discussion regarding Figures 3A and 3B. *Id.* at 30–31. The Petition asserts that in the example of Figure 3A, “penicillin has been encoded . . . as an allergen” and “[t]he user is presented with (and the system receives the selection of) the options of verifying or rejecting the correctness of that clinical fact by checking or unchecking the checkbox shown above.” *Id.* at 30. Similarly, the Petitioner asserts that “Figure 3B illustrates providing (and receiving selection of) similar options, but instead of a checkbox, the user is given the option of bolding or unbolding the word penicillin to verify or reject the correctness of the clinical fact.” *Id.* at 31.

Patent Owner argues that Petitioner does not show that the references teach the “one or more options” recited in the claims. Patent Owner argues that Petitioner improperly relies on Fritsch’s medical codes as meeting both the “one or more clinical facts” and the “one or more options” recited in the claims. PO Resp. 30–31. Patent Owner argues that the claims clearly do not mean that “the option *is* the clinical fact itself.” *Id.* at 31. Additionally, Patent Owner argues that a person of ordinary skill in the art “would not understand a medical code to be an ‘option.’” *Id.*

Petitioner counters that “the Petition explained that Koll *uses* the coding (which expresses one or more abstract semantic concepts as clinical facts) to present the user with the choice (an option) to verify or reject the coding.” Pet. Reply 9. Petitioner elaborates that “[t]he option to accept or reject the correctness of a coding (which represents a clinical fact) corresponds to the clinical fact, but is not the clinical fact itself.” *Id.* at 10.

In response, Patent Owner contends the Reply abandons Petitioner’s original position, contradicts the Petition and Dr. Beigi’s testimony, and does not save Petitioner’s case. Sur-reply 5–6. Patent Owner argues that verifying or rejecting a coding does not have anything to do with updating a “textual representation of the free form narration.” *Id.* at 5. Patent Owner explains that Koll only discloses manual text updates by a user dependent on audio, not coding. *Id.* Patent Owner also argues that verifying coding bears no resemblance to the option relating to medical codes disclosed in the ’403 patent. *Id.*

Petitioner persuades us that Koll teaches the claim limitations regarding the “one or more options.” We agree with Petitioner that the Petition explained that Koll teaches the claimed “one or more options” by

disclosing the option to verify or reject a clinical fact. When alleging that specific disclosures of Koll teach the claimed limitations, the Petition stated that “[t]he user is presented . . . *the options of verifying or rejecting* the correctness of [a] clinical fact” (Pet. 30 (emphasis added)) and “the user is given *the option of bolding or unbolding* the word penicillin *to verify or reject* the correctness of the clinical fact” (*id.* at 31 (emphases added)). Additionally, Petitioner persuades us that Koll provides the user with the option to confirm or reject an extracted fact, such as by checking or unchecking a checkbox (Figure 3A) or bolding or unbolding text (Figure 3B).

Furthermore, we disagree with Patent Owner’s suggestion that the ’403 patent requires providing more elaborate options, such as providing the user with the option to select from multiple codes. Sur-reply 5–6. The plain language of the claims requires only one option, and the ’403 patent explicitly discloses an example of providing the user with the simple option of deleting a fact. Ex. 1001, 24:60–62; Ex. 1003 ¶ 151. For the reasons explained in Section III.D.3.a(3)(a) below, we also disagree with Patent Owner’s assertion that the portions of Koll teaching the option to confirm or reject a fact have nothing to do with updating a textual representation of the narrative. Sur-reply 5.

(3) “*updating a textual representation of the free-form narration, using at least one processor, to identify the first fact as having been ascertained from the patient encounter*”

Petitioner argues that Koll teaches “updating a textual representation of the free-form narration, using at least one processor, to identify the first fact as having been ascertained from the patient encounter,” as recited in the

independent claims. Pet. 31–36. Petitioner provides multiple bases for its assertion. Petitioner cites a portion of Koll discussing directly revising an incorrectly transcribed temperature from 35.2°C to 37.2°C. *Id.* at 32.

Petitioner also contends that Koll teaches the “updating” step in connection with its discussion related to Figures 3A and 3B of verifying and rejecting codes by checking or unchecking checkboxes or bolding or unbolding text. *Id.* at 33. Petitioner explains that “[a]dding or removing the bold or the ‘X’ in a box is, of course, itself an update to the textual representation in the rendering resulting from a direct edit.” *Id.* Petitioner also argues that “a [person of ordinary skill in the art] implementing this system would understand that Koll meant, or at least it would have been obvious, for the system to update the linked text when the codings are updated by checking/unchecking a box or bolding/unbolding the rendered text.” *Id.* at 36.

Patent Owner argues that none of Petitioner’s alternative bases addresses persuasively the claimed “updating” step.

For the reasons discussed below, we find persuasive one of Petitioner’s alternate bases for asserting that Koll teaches the “updating” limitation. Specifically, as discussed below in Section III.D.3.a(3)(a), Petitioner persuades us that Koll’s discussion in connection with Figure 3B of bolding or unbolding text teaches the “updating” limitation of the independent claims. As discussed below in Section III.D.3.a(3)(b), we find unpersuasive Petitioner’s assertion that either Koll teaches or it would have been obvious for Koll’s system to update linked text in response to a user verify or rejecting a coding. As discussed below in Section III.D.3a(3)(c), Petitioner’s argument based on Koll’s example of a temperature-correction

is unpersuasive. In sum, with respect to claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43, by providing one persuasive basis for addressing the “updating” limitation, Petitioner prevails in demonstrating that Koll teaches the “updating” limitation.¹⁰ We turn now to detailed discussions regarding the parties’ disputes with respect to each of Petitioner’s bases.

*(a) Koll’s Discussion of Figures 3A and
3B—Checking/Unchecking Checkboxes,
Bolding/Unbolding Text*

Petitioner argues that Koll’s discussion of a user verifying or rejecting codings in connection with Figures 3A and 3B teaches the “updating a textual representation” limitation. Pet. 33–35. Petitioner explains that “[a]dding or removing the bold or the ‘X’ in a box is, of course, itself an update to the textual representation in the rendering resulting from a direct edict.” *Id.* at 33.

Patent Owner argues that Koll’s discussion of Figures 3A and 3B does not teach updating a textual representation, and that Petitioner improperly relies on the same action as allegedly corresponding to three different limitations in the challenged claims. PO Resp. 34–35. Patent Owner argues

¹⁰ As explained in detail below in Section III.D.3.b, dependent claims 9, 11, 24, 26, 39, and 41 further limit the “updating” step of the independent claims. None of Petitioner’s bases for addressing the “updating” limitation prevails with respect to dependent claims 9, 11, 24, 26, 39, and 41. Petitioner does not assert that Koll’s disclosure of bolding or unbolding in connection with Figure 3B meets the narrower limitations of dependent claims 9, 11, 24, 26, 39, and 41. *See* Pet. 37–38; Pet. Reply 19; Tr. 26:24–25:2. As explained in Section III.D.3.a(3)(b) and (c), Petitioner’s alternate bases for addressing the “updating” limitation fail with respect to the independent claims and, therefore, also fail with respect to dependent claims 9, 11, 24, 26, 39, and 41.

that “merely bolding or unbolding text, or checking/unchecking a box, does not amount to ‘updating a textual representation of the free-form narration, using at least one processor, to identify the first fact as having been ascertained from the patient encounter.’” *Id.* at 35. Additionally, Patent Owner faults Petitioner for relying on Koll’s discussion of Figures 3A and 3B to address the claims’ “providing,” “receiving,” and “updating” limitations. *Id.* at 34–35. Patent Owner contends that we should reject Petitioner’s attempt to “rely on the same elements of Koll to cover three different limitations of the challenged claims.” *Id.* at 35.

In response, Petitioner maintains that Koll’s discussion of checking or unchecking a box or bolding or unbolding text meets the claims’ “updating” limitation. Pet. Reply 11–13. Petitioner argues that in Koll’s discussion of Figures 3A and 3B, “Koll updates the textual representation based on the user’s selection (the click) by removing the bold formatting and/or checking/unchecking a box.” *Id.* at 13. Petitioner disputes Patent Owner’s contention that it improperly cites the same elements of Koll to meet three different claim limitations. *Id.* Petitioner explains that

The options are provided to the user by presenting the user with the ability to accept or reject the codings. Pet. 21-29, 42-50. The user’s selection is received by Koll as a click—a selection of the bolded text, for example. Beigi Tr. 97-107; Pet. 33-36. The system of Koll updates the textual representation by changing the coding in the structured document linked to the text and updating the rendering of the linked text to reflect the changed coding, *i.e.*, changing the formatting. Beigi Tr. 97-107; Pet. 33-36. These are separate steps undertaken by Koll. Pet. 33; Koll [0087-0091, 0073-0074]; Beigi Decl. ¶¶ 165-67.

Id.

In response, Patent Owner reiterates that Petitioner improperly addresses three claim limitations with the same disclosure, which does not even teach the updating step. Sur-reply 7–10. Patent Owner disagrees with Petitioner’s position that a user’s click, separate from the bolding and unbolding, teaches the claim limitation “receiving from the user a selection of a first option.” *Id.* at 8. Additionally, Patent Owner argues that bolding or unbolding text does not change the textual representation because it does not change the words in the text. *Id.* at 9–10.

We find Petitioner’s arguments and evidence to be more persuasive than Patent Owner’s. Petitioner persuades us that Figure 3B shows a textual representation of a free-form narration. Pet. 30–31. Additionally, Petitioner persuades us that Koll’s disclosed process of verifying the accurate extraction of clinical facts includes bolding or unbolding a portion of the textual representation to verify or reject a fact, thereby “updating a textual representation of the free-form narration, using at least one processor, to identify the first fact as having been ascertained from the patient encounter.” Pet. 30–31, 33–35; Pet. Reply 11–13. We disagree with Patent Owner’s assertion that bolding the text has no effect on the textual representation because the words do not change. Sur-reply 9–10. Facially, whether text is bold constitutes a characteristic of the textual representation, such that bolding text does affect the textual representation. Patent Owner’s suggestion that the words used in the textual representation must change is not commensurate in scope with the ordinary meaning of the claim language “updating a textual representation.” And Patent Owner does not provide reasoning or evidence persuading us that the ordinary meaning of the claim language does not apply. Sur-reply 9–10.

Regarding Patent Owner's assertion that Petitioner improperly relies on the same action as meeting all three of the claims' "providing," "receiving," and "updating" steps, we find Petitioner's position more persuasive. Petitioner persuades us that Koll's discussion related to Figure 3B teaches to a person of ordinary skill in the art not just a single action, but at least the separate steps of (1) "presenting the user the ability to accept or reject the codings," (2) receiving the user's selection as a click, and (3) updating the textual representation. Pet. Reply 12–13. The first step occurs when Koll presents the user with the textual representation in its original form, such as with certain words bolded and others unbolded. As Dr. Beigi testifies, the second step occurs when a user acts "[b]y making [a] click," which would be received as the user's selection. Ex. 1035, 104:25–105:25. Then, the third step occurs, in which some portion of the textual representation is changed by bolding or unbolding it. *Id.* We do not agree with Patent Owner's unsupported assertion that "[a] 'click' is simply *how* a user makes a selection, but it is not the selection itself." Sur-reply 8. Thus, contrary to Patent Owner's arguments, the Petition cites a disclosed process that a person of ordinary skill in the art would understand as involving at least three separate steps corresponding to the "providing," "receiving," and "updating" steps recited in the independent claims.

For the foregoing reasons, Petitioner persuades us that Koll teaches the "updating" limitation of the independent claims by disclosing bolding or unbolding text in connection with Figure 3B.

(b) Manual Temperature Correction

Petitioner argues that Koll's disclosure of a user changing transcribed text from 35.2°C to 37.2°C teaches the claimed "updating a textual representation." Pet. 32. Petitioner argues that the user's change of the temperature constitutes directly editing the text, "which changes both the displayed data value 112 and the linked text 118a." *Id.*

Patent Owner argues that Petitioner's citation of the temperature example to meet the "updating" step is inconsistent with Petitioner's reliance on different examples to address the "providing" and "receiving" steps. PO Resp. 32–34. Patent Owner argues that the "update to the textual representation must identify the *same* 'first fact' that pertains to the 'one or more options' presented to the user in the prior limitations." *Id.* at 33. According to Patent Owner, "Petitioner simply does not make this showing with respect to the transcript correction feature of Koll." *Id.* at 33–34.

Petitioner responds that "a [person of ordinary skill in the art] would have understood that the text correction feature in Koll provides users of its system with a means of correcting errors in the text so that the coding and the textual representation are both correct." Pet. Reply 18. Petitioner elaborates that

As MModal's Petition explains, the options are provided to the user and the "user may be prompted to verify or correct the transcribed text and coding." Pet. 30. Further, "Koll provides (and receives selection of) other options such as pressing a key on a keyboard, pressing a button in a graphical user interface, or manually correcting transcribed text in response, and all of these can be in response to a prompt to verify the accuracy." Pet. 31.
Id.

Patent Owner argues that the Reply does not address Patent Owner's Response meaningfully. Sur-reply 16. Instead, Patent Owner asserts that the Reply merely repeats Petitioner's prior arguments. *Id.*

Consistent with Patent Owner's argument, the "updating" step involves the same "first fact" involved in the "receiving" step. *E.g.*, Ex. 1001, 34:11–15. Thus, to demonstrate that Koll teaches both of these limitations (which Petitioner asserts), Petitioner would need to explain how Koll teaches using the same fact in connection with both the "receiving step" and the "updating" step. But when addressing the "receiving step," the Petition does not even mention Koll's discussion of changing the temperature from 35.2°C to 37.2°C. Pet. 29–31. Therefore, Petitioner's arguments based on Koll's temperature disclosure fail.

(c) Updating Linked Text

As noted above, we find unpersuasive the following alternative basis argued by Petitioner to show Koll teaches the "updating" limitation. However, as also discussed above, we find Petitioner's other basis as to how Koll teaches this limitation to be persuasive. *Supra* Section III.D.3.a(3)(a).

Petitioner argues that a person of ordinary skill in the art would understand that Koll teaches and/or would have viewed it as obvious for the system to update linked text, in addition to linked codes, when a user checks or unchecks a box or bolds or unbolds text to verify or reject a coding. Pet. 36. Petitioner explains that Koll endeavors to improve the accuracy of transcripts and codings, due to the importance of accurate medical reports. *Id.* at 34. Petitioner argues that Koll discloses a single action by which a user reviewing the text and coding can correct both. *Id.* at 34–35. Petitioner

also explains that changing the coding without changing the text would create a detrimental inconsistency between the coding and the text. *Id.* at 35.

Patent Owner argues that a person of ordinary skill in the art would neither have thought that Koll's system updates linked text in response to the coding verification/rejection, nor would have found it obvious to do so. PO Resp. 35–38. Patent Owner contends that Koll clearly discloses that checking or unchecking checkboxes or bolding or unbolding text triggers only changes to corresponding “coding,” not changes to the underlying text. *Id.* at 35–36. Additionally, Patent Owner disagrees with Petitioner's assertion that a person of ordinary skill in the art would have thought it makes sense to change the text to comport with the change to the code. *Id.* at 36. Patent Owner explains that Koll seeks to make the codes consistent with the text, making it superfluous to modify the text. *Id.* at 36–37.

For substantially this same reason, Patent Owner argues that it would not have been obvious to modify Koll to update linked text because “Koll makes clear that its code validation system already aligns the coding and the text.” *Id.* at 37. Moreover, noting that Petitioner and Dr. Beigi do not explain how a person of ordinary skill in the art would have implemented such a change, Patent Owner argues the proposed modification presents significant technical challenge and substantial risk of creating new errors. *Id.* at 37–38. Patent Owner cites Dr. Bergeron's testimony that such a modification would have proved complex “because the system would have to infer, based on the binary yes/no coding validation that Koll describes, what the apparently erroneous free-form narrative *should have said*. In other words, the system would effectively need to reverse engineer the natural language that corresponds to the coding change the user made.”

Ex. 2005 ¶ 107. Dr. Bergeron further testifies that Petitioner does not cite any prior art providing guidance on such a modification, which Dr. Bergeron believes “would have been very challenging” and would “create a substantial risk that *new* errors would be introduced into the system.” *Id.*

¶ 108. Given that “Koll already discloses that the end result of its process is consistency between the coding and the text,” Dr. Bergeron testifies, a person of ordinary skill in the art “would not have been motivated to make this challenging and risky change.” *Id.*

Petitioner responds that “Koll teaches checking the text and codings against the audio (or against a user’s knowledge), verifying the accuracy, and fixing errors in an integrated process that increases efficiency.” Pet. Reply 14. Petitioner maintains that a change to the codings without a change to the text creates a discrepancy, in conflict with Koll’s teachings to verify the accuracy of the text and the coding in a single integrated process. *Id.* In response to Patent Owner’s arguments about the technical complexity of modifying linked text in correspondence with coding changes, Petitioner argues that “there is no dispute that generating natural language text was known at the time of the invention.” *Id.* at 16. Petitioner cites Dr. Bergeron’s deposition testimony for the proposition that “generating natural language text ‘was done commonly.’” *Id.* (citing Ex. 1036, 201–202). Petitioner adds that Patent Owner does not explain how applying text updates in Koll would differ from “known generation of natural language text.” *Id.* Petitioner also contends that it would not be difficult to modify the linked text by adding the word “not” when a user rejects a coding. *Id.*

In response, Patent Owner maintains that Koll does not teach updating linked text based on coding changes, and that doing so would entail greater

difficulty than acknowledged by Petitioner. Sur-reply 10–13. Patent Owner argues that Koll discloses text updates result from a user comparing text to the spoken audio stream, rather than from verifications of codings. *Id.* at 10. Patent Owner argues that Petitioner’s characterization of the difficulty level rests on logical fallacy. For example, Patent Owner disagrees with Petitioner’s logic that simply changing text from “the patient is allergic to penicillin” to “the patient is not allergic to penicillin” would correct the text when a user rejects a coding of a penicillin allergy. *Id.* at 11–12. Patent Owner explains that a user could reject a penicillin allergy coding because the audio states the patient is allergic to Penicillamine or a number of other possible things, which may have been transcribed incorrectly. *Id.* at 11. Patent Owner further argues that Petitioner mischaracterizes the breadth of Dr. Bergeron’s deposition testimony, explaining that “Dr. Bergeron made clear that his testimony regarding the generation of natural language text being performed ‘commonly’ was restricted to the limited circumstance where the starting point was ‘a list of terms’ or ‘findings.’” *Id.* at 12.

Petitioner does not persuade us either that Koll teaches that its system updates linked text when a user corrects coding, or that a person of ordinary skill in the art would have found it obvious to modify Koll’s system to do so. Petitioner cites a number of passages of Koll as allegedly conveying to a person of ordinary skill in the art that the system automatically updates the draft transcript in response to a user’s input regarding coding. Pet. 33–35. Although Koll appears to suggest some process by which the user verifies accuracy of the coding and the transcript at the same time, the details of that process are unclear. *E.g.*, Ex. 1005 ¶¶ 90–91. Portions of Koll that discuss changes the system makes when a user confirms or rejects a coding discuss

altering the coding, without explicitly disclosing updating linked text. *E.g.*, ¶¶ 73–74. Additionally, comparing the parties’ arguments and evidence regarding the difficulty of having Koll’s system update the text, we find Patent Owner’s position at least as persuasive as Petitioner’s. Petitioner does not cite prior art teaching such a process of updating text. Without persuasive, objective evidence to the contrary, Patent Owner’s arguments and evidence about the complexity of the problem cast considerable doubt on Petitioner’s position. For example, Patent Owner’s arguments and evidence cast considerable doubt on Petitioner’s assertion that simply inserting the word “not” would correct the text when a user rejects a penicillin allergy coding.

(4) Objective Indicia

Patent Owner argues that objective indicia of non-obviousness demonstrates patentability of the challenged claims. PO Resp. 39–42. Specifically, Patent Owner asserts there is evidence of non-obviousness “in the form of direct praise for the patented invention from industry peers,” including the real-party-in-interest in this proceeding, 3M. *Id.* at 39. Patent Owner notes that a 3M press release from 2011 announced a partnership with Patent Owner to deliver certain technology and praised that technology. *Id.* at 40. Asserting that Petitioner has relied on the 3M press release to argue certain 3M employees constitute inventors of the ’403 patent, Patent Owner argues that the technology 3M praises in the press release embodies the claimed invention of the ’403 patent. *Id.*

Patent Owner also alleges other objective indicia of non-obviousness, namely a need in the industry that Patent Owner alleges was solved by the ’403 patent. *Id.* at 41. Asserting that Petitioner and Dr. Beigi concede “the

trend toward EMR adoption was not new in 2011,” Patent Owner argues that “[d]espite a recognized need to increase EMR adoption by allowing physicians to dictate in free-form, and despite recognition that NLU *could* provide a solution, no one actually came up with the solution provided by the 403 Patent other than the named inventors of the 403 Patent.” *Id.* at 42.

In response, Petitioner argues the 3M press release constitutes marketing, rather than industry praise. Pet. Reply 23. Petitioner explains that 3M had a financial interest in touting the technology because it would ultimately commercialize the technology. *Id.*

Petitioner also argues that Patent Owner does not establish a nexus between the product discussed in the press release and the challenged claims. *Id.* at 24. Asserting that the press release praises the whole product, not just the features of the claims, Petitioner argues the disclosure in the press release is not coextensive with the claims. *Id.* Therefore, Petitioner argues, no presumption of a nexus exists. *Id.*

Additionally, Petitioner disputes Patent Owner’s allegation that a known trend toward EMR provides objective evidence of non-obviousness. *Id.* at 24. Petitioner argues that “[t]o the extent that [Patent Owner] is attempting to argue that there existed a long-felt need, it has provided no evidence to support that contention. To the contrary, Koll taught the use of NLU system with EMRs prior to the ’403 patent’s invention.” *Id.* Petitioner further argues that Patent Owner cannot show a nexus because the technology for which Patent Owner suggests a recognized need was disclosed in the prior art. *Id.* at 24–25.

Patent Owner counters that the 3M press release has a nexus to the claims and qualifies as objective evidence of non-obviousness, regardless of

whether it constitutes marketing. Sur-reply 18–21. Regarding the nexus, Patent Owner again emphasizes that Petitioner relies on the press release to assert 3M employees constitute inventors. *Id.* at 20–21. Patent Owner adds that Petitioner has not only failed to provided any evidence of differences between the praised product and the claims, “Petitioner expressly states that the press release ‘touts . . . ***the technology claimed in the ’403 patent.***’” *Id.* at 21 (citing Pet. Reply 2).

Petitioner persuades us that the source of Patent Owner’s alleged industry praise diminishes its persuasive value. To the extent 3M’s praise for its own product can serve as objective evidence of non-obviousness, we find it significantly less persuasive than praise from a competitor.

In addition, we agree with Petitioner that Patent Owner has not established a nexus between the alleged industry praise and the ’403 patent. Patent Owner has not invoked the presumption that a nexus exists because Patent Owner has not shown the product described in the 3M press release embodies the claimed features and is co-extensive with them. *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018). Nor has Patent Owner otherwise demonstrated there is a nexus between the product and the claimed invention, e.g., by showing that the alleged objective evidence of non-obviousness is the direct result of the unique characteristics of the claimed invention. *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019).

Rather than provide direct evidence that the product described in the press release embodies the claimed invention, Patent Owner states *ipse dixit* that “[t]here can be no doubt that the technology 3M praises in the press release embodies the invention in the 403 Patent,” on the grounds that

Petitioner relied on the press release in district court to show one of its employees should be a named inventor to the '403 patent. PO Resp. 40. Patent Owner bears the burden of demonstrating a nexus, and we find it insufficient for Patent Owner to rely on an assertion made by Petitioner in district court about inventorship in order to show what features the product described in the press release had. Even if we were to assume, *arguendo*, that the product described in the press release embodies the claimed features of the '403 patent, Patent Owner does not even assert, much less provide any evidence, that the claimed features are coextensive with the product or that the praise is a direct result of the claimed invention.

Additionally, Petitioner persuades us that we should give little or no weight to Patent Owner's allegations of "a recognized need to increase EMR adoption by allowing physicians to dictate in free-form." PO Resp. 42. As Petitioner explains, "Koll taught the use of NLU systems with EMRs prior to the '403 patent's invention." Pet. Reply 24 (citing Ex. 1005, code (57), ¶ 96). Indeed, Koll teaches a system "for verifying codings of data extracted from speech" (Ex. 1005 ¶ 31), the system allowing doctors to dictate "in any form" (*id.* ¶ 32). So, to the extent Patent Owner suggests that the '403 patent meets a long-felt need, we find Petitioner's arguments more persuasive. And Patent Owner does not otherwise explain persuasively why the alleged recognized need demonstrates non-obviousness of the claimed invention.

Accordingly, at best, Patent Owner's evidence weighs only slightly in favor of non-obviousness.

(5) Graham Factors

We now weigh the evidence of the *Graham* factors with respect to Petitioner’s challenge of claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43 as allegedly obvious over Koll and Fritsch. Starting with the scope and content of the prior art, Petitioner persuades us that, in combination, Koll and Fritsch teach all of the limitations of the challenged claims. Pet. 19–40; Pet. Reply 1–19. Koll teaches using the process of Fritsch to perform the claimed step “processing a free-form narration . . . to identify one or more options corresponding respectively to one or more clinical facts that could be extracted from the free-form narration of the patient encounter.” Koll also teaches the claimed steps of “providing to the user one or more options,” “receiving from the user a selection,” and “updating a textual representation.” Fritsch teaches a natural language understanding engine expressly incorporated by Koll, with the result that the combination of the references teaches the claimed “analyzing,” “correlating,” and “generating” processing steps.

Turning to the differences between the claimed invention and the prior art, Koll relies on incorporation of Fritsch to explain the details of certain claimed processing steps. For example, as Petitioner notes, Koll relies on Fritsch to explain details of the “analyzing,” “correlating,” and “generating” processing steps.

As discussed above in Section III.B, we are persuaded by Petitioner that a person of ordinary skill in the art would have been familiar with speech recognition and error detection and correction methods applicable to speech recognition and related fields, including optical character recognition and natural language processing. The experience and education levels may

vary between persons of ordinary skill, with some persons having a Bachelor's degree in electrical engineering, computer science, or a related field and four years of experience, and others holding a Master's degree in electrical engineering or computer science, or a related field, but having only one to two years of experience.

Regarding the objective indicia of non-obviousness, we find that Patent Owner evidence relatively weak, at best. As discussed above in Section III.D.3.a(5), we agree with Petitioner that Patent Owner has not shown a nexus to the 3M press release and, even if there were a nexus, the biased statements in the press release do not have as much persuasive value as praise from a competitor. Additionally, Patent Owner's argument about "a recognized need to increase EMR adoption" does not persuade us of long-felt need. And Patent Owner does not explain any other way this assertion is relevant to objective indicia of non-obviousness.

On the whole, with respect to the challenge of claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43 as allegedly obvious over Koll and Fritsch, evidence of the *Graham* factors weighs heavily in favor of a conclusion of obviousness. The only differences between the claimed invention and Koll are taught by Fritsch, which is expressly incorporated into Koll's disclosure for the purpose of teaching those claimed features. We find that the level of skill in the art weighs slightly in favor of a conclusion of obviousness, as it reflects an ability to successfully implement Koll's instruction to incorporate the details of Fritsch. The objective indicia of non-obviousness alleged by Patent Owner may weigh (at most) slightly in favor of non-obviousness, but relatively little in comparison to the other factors.

(6) Conclusion—Claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43

In sum, Petitioner persuades us that claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 35, 36, and 43 would have been obvious over Koll and Frittsch.

b. Claims 9, 11, 24, 26, 39, 41

(1) “wherein the updating comprises natural language text corresponding to the first fact, and adding the generated text to a textual representation of the free-form narration”

Each of claims 9, 24, and 39 depends from one of the independent claims and further limits the independent claim’s “updating” step by reciting “wherein the updating comprises generating natural language text corresponding to the first fact, and adding the generated text to a textual representation of the free-form narration.” *E.g.*, Ex. 1001, 34:35–38. Each of claims 11, 26, and 41 depends from one of claims 9, 24, and 39.

The Petition alleges Koll teaches the limitation recited in claims 9, 24, and 39, explaining that

[Patent Owner] contends that this step may be performed when the user directly adds new text. Ex. 1025 at 40-44. Thus, Koll teaches this step for the reasons described regarding Step 4 above, including directly and also by indirectly editing the text (*e.g.*, the system automatically updating the linked text when the user bolds/unbolds or checks/unchecks a box). Beigi Decl. ¶¶ 183-184.

Pet. 37.

Patent Owner counters that Petitioner has not shown Koll teaches updating the textual representation of the free-form narration by generating natural language text. PO Resp. 38–39. Patent Owner argues that “Petitioner’s contention that the temperature correction disclosure in Koll

meets this limitation fails for the same reason as is explained above with respect to claim 1.” *Id.* at 38. Patent Owner argues that Petitioner’s citation of Koll’s bolding and unbolding text to confirm or reject codings does not apply to the dependent claims’ requirement of “generating natural language text.” *Id.* at 38–39. Finally, Patent Owner argues, Petitioner has not supported adequately its contention that a person of ordinary skill in the art would have thought that automatically updating linked text in response to coding verifications was taught by Koll or would have been obvious. *Id.* at 39.

Petitioner responds that “two of the disclosures of updating the textual representation ((1) by updating the linked text and (2) through the manual addition of text by the user) include generation of natural language text and thus meet this claim limitation.” Pet. Reply 19.

We find Patent Owner’s arguments and evidence more persuasive than Petitioner’s. First, for the reasons explained above in Section III.D.3.a(3)(c), we find unavailing Petitioner’s contentions about Koll updating linked text in response to a user confirming or rejecting a coding. Second, for the reasons explained above in Section III.D.3.a(3)(b), we find unavailing Petitioner’s unpatentability assertions based on a user’s manual text correction, i.e., Koll’s disclosure of correcting transcribed text from 35.2°C to 37.2°C. These failings applies equally with respect to Petitioner’s challenge of claims 9, 11, 24, 26, 39, and 41, as Petitioner does not present any substantively different arguments or evidence with respect these claims. *See* Pet. 37–38; Pet. Reply 19. Additionally, Petitioner neither asserts nor demonstrates that Koll’s disclosures of bolding or unbolding text

or checking or unchecking a checkbox teach “generating natural language text” in accordance with claims 9, 11, 24, 26, 39, and 41.

(2) Graham Factors

Regarding the scope and content of the prior art, Petitioner relies on Koll as teaching these claims’ limitations that “the updating comprises generating natural language text corresponding to the first fact, and adding the generated text to a textual representation of the free-form narration.” Patent Owner persuades us that a person of ordinary skill in the art would not have understood Koll as teaching these features. And Petitioner does not identify any other prior art that teaches these features.

Regarding the differences between the claimed invention and the prior art, the claims’ limitations that “the updating comprises generating natural language text corresponding to the first fact, and adding the generated text to a textual representation of the free-form narration” have not been shown to be taught in any of the cited prior art.

Regarding the level of skill in the art, as noted above, we are persuaded that a person of ordinary skill in the art would have been familiar with speech recognition and error detection and correction methods applicable to speech recognition and related fields, including optical character recognition and natural language processing. The experience and education levels may vary between persons of ordinary skill, with some persons having a Bachelor’s degree in electrical engineering, computer science, or a related field and four years of experience, and others holding a Master’s degree in electrical engineering or computer science, or a related field, but having only one to two years of experience.

Regarding the alleged objective indicia of non-obviousness, as noted above, we find Patent Owner presents relatively weak evidence.

On the whole, with respect to Petitioner's challenge of claims 9, 11, 24, 26, 39, and 41 as allegedly obvious over Koll and Fritsch, we find that the evidence of the *Graham* factors weigh heavily in favor of non-obviousness. Petitioner has not demonstrated that the prior art teaches the claims' limitations that "the updating comprises generating natural language text corresponding to the first fact, and adding the generated text to a textual representation of the free-form narration." Nor has Petitioner otherwise persuasively addressed this claim language.

(3) Conclusion—Claims 9, 11, 24, 26, 39, 41

In sum, Petitioner fails to address adequately the limitations of claims 9, 11, 24, 26, 39, and 41. Therefore, Petitioner does not persuade us that these claims would have been obvious over Koll and Fritsch.

E. Alleged Obviousness over Koll, Fritsch, and Allard

1. Overview of Allard

Allard discloses a system and method for producing codified electronic records. Ex. 1008, code (57). Allard discloses analyzing a textual commentary to find multiple codes that possibly correspond to the textual commentary. *Id.* Allard discloses presenting the codes to a user, as well as receiving a selection of at least one of the codes from the user. *Id.* Allard teaches that the codes "can be audibly presented to the user" and that "the user can be prompted to utter selections 145 into the textual input device 105

to select particular ones of the codes/information 130 and accept, change, refine, negate, or delete such selections.” *Id.* ¶ 25.

2. Discussion

Petitioner’s challenge of claims 4, 19, and 34 as obvious over Koll, Fritsch, and Allard builds from the challenge of independent claims 1, 16, and 31 as allegedly obvious over Koll and Fritsch. *See* Pet. 38. Petitioner cites Allard as teaching “wherein the receiving comprises receiving a spoken selection of the first option,” as recited in claims 4, 19, and 34. *Id.* at 38–40. Petitioner argues that a person of ordinary skill in the art would have had reason to combine this teaching of Allard with Koll’s teaching because it would allow hands-free operation. *Id.* at 39. Petitioner argues that “[a person of ordinary skill in the art] would have been motivated to add voice to the panoply of input options given in Koll.” *Id.*

Petitioner persuades us that Koll, Fritsch and Allard teach all of the limitations of claims 4, 19, and 34. Additionally, Petitioner persuades us that a person of ordinary skill in the art would have had reason to combine the references’ teachings, as well as reasonable expectation of successfully doing so.

Considering the *Graham* factors, we find that they collectively weigh in favor of a conclusion of obviousness for reasons largely substantively the same as those explained in Section III.D.3.a(3)(c) with respect to the challenge of the independent claims as allegedly obvious over Koll and Fritsch. In addition to the independent claims’ limitations, claims 4, 19, and 34 require that “receiving comprises receiving a spoken selection of the first option,” which constitutes a difference between the claimed invention and the teachings of Koll and Fritsch. Petitioner persuades us that Allard bridges

the gap between the claims and the teachings of Koll and Fritsch. Pet. 38–40. In view of this and the level of skill in the art, we find that the first three *Graham* factors weigh heavily in favor of obviousness and outweigh Patent Owner’s alleged objective evidence of non-obviousness.

In sum, Petitioner persuades us that claims 4, 19, and 34 would have been obvious over Koll, Fritsch, and Allard.

F. Alleged Obviousness over Koll and Ceusters

1. Overview of Ceusters

Ceusters discloses a Natural Language Understanding system for indexing free text documents. Ex. 1007, code (57). Ceusters’ system uses two primary steps. *Id.* at 4:43–47. In the first step, the system receives a document and prepares the document by “for indexing by typographical and functional segmentation of the document.” *Id.* at 4:46–50. In the second step, the system extracts concepts from segmented text and indexes the document based on the extracted concepts. *Id.* at 4:53–56. The second step may also involve “coding of the text using a standard medical coding system, such as ICD-9, ICD-10, MedDRA, SNOMED or other formal coding system.” *Id.* at 4:56–59. The second step uses a formal ontology of concepts that are not dependent on language. *Id.* at 4:59–62.

a. Claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43

Petitioner argues that the combination of Koll and Ceusters teaches every limitation of the challenged claims. Pet. 42–52. Our review of the full record persuades us that Koll and Ceusters teach every limitation of claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43, and that these claims would have been obvious over Koll and Ceusters. Based on our full

review of the record, Petitioner neither demonstrates that Koll and Fritsch teach all of the limitations of claims 9, 11, 24, 26, 39, and 41, nor demonstrates that these claims would have been obvious over Koll and Ceusters.

Petitioner asserts that Koll teaches “processing a free-form narration of a patient encounter provided by a clinician, transcribing the clinician’s dictation or other audio stream to produce a draft transcript.” *Id.* at 43. Petitioner cites Ceusters as teaching certain limitations of the claims related to the processing, such as the claim limitation “correlating the set of features to one or more abstract semantic concepts.” *Id.* at 44–50.

Petitioner argues that it would have been obvious to use the teachings of Ceusters to provide natural language understanding for the system disclosed by Koll. *Id.* at 40–42. Petitioner asserts that, although Koll cites Fritsch as an example of a suitable natural language understanding engine, “a [person of ordinary skill in the art] would have immediately understood that Ceusters would serve as well, and would have used Ceusters for essentially the same reasons as Fritsch.” *Id.* at 40. Petitioner explains that Koll discloses using any techniques available to process free-form narration and produce a transcript with standardized medical codes. *Id.* Petitioner asserts that Ceusters, like Fritsch, discloses techniques for transcribing and coding free-form narration with medical coding systems. *Id.* Petitioner also contends that a person of ordinary skill in the art would have found Ceusters’ method particularly appealing because Ceusters touts certain features. *Id.* at 41. Thus, Petitioner contends that a person of ordinary skill in the art would have looked to Ceusters for the natural language understanding techniques needed to provide the processing for Koll’s

system. *Id.* Petitioner further argues that Koll and Ceusters constitute analogous art, and a person of ordinary skill in the art would have had a reasonable expectation of successfully combining the teachings of Koll and Ceusters. *Id.* at 41–42.

Patent Owner argues that, contrary to Petitioner’s arguments, Ceusters does not teach the independent claims’ limitation “generating computer-readable data that expresses the one or more abstract concepts as the one or more clinical facts that could be extracted from the free-form narration.” PO Resp. 30. Patent Owner contends that “medical codes, in and of themselves, are not clinical facts.” *Id.* As discussed above in Section III.D.3.a(1), we do not find this conclusory argument persuasive.

We turn now to considering the *Graham* factors with respect to Petitioner’s challenge of claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43 as allegedly obvious over Koll and Ceusters. We find that the *Graham* factors weigh in favor of obviousness. The *Graham* factors analysis for this challenge is largely the same as the analysis for the challenge based on Koll and Fritsch. As discussed above in Section III.F.1.a, Koll and Ceusters, in combination, teach all of the limitations of claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43 in a very similar manner to Koll and Fritsch teaching all of the claims’ limitations. Although, Koll does not expressly incorporate Ceusters’ like it does Fritsch, Petitioner persuades us that a person of ordinary skill in the art would have reason to combine Ceusters’ teachings with Koll. Pet. 40–50. So, we find that the scope and content of the prior art, as well as the differences between the claimed invention and the prior art, weigh heavily in favor of obviousness. Additionally, we find that the level of skill in the art weighs

slightly in favor of obviousness, as Petitioner persuades us that the level of skill is high enough to recognize a reason to combine Ceusters' teachings with Koll's, and to have a reasonable expectation of successfully doing so.

For the foregoing reasons, Petitioner persuades us that claims 1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, and 43 would have been obvious over Koll and Ceusters.

b. Claims 9, 11, 24, 26, 39, and 41

Petitioner's challenge of claims 9, 11, 24, 26, 39, and 41 as allegedly obvious over Koll and Ceusters relies on Koll as teaching these claims' limitations in the same manner that the challenge based on Koll and Fritsch does. Accordingly, for the same reasons as we discussed in Section III.D.3.b above, we find unavailing Petitioner's assertions regarding the obviousness of these claims over Koll and Ceusters. Therefore, Petitioner fails to persuade us that claims 9, 11, 24, 26, 39, and 41 would have been obvious over Koll and Ceusters.

G. Alleged Obviousness over Koll, Ceusters, and Allard

Petitioner's challenge of claims 4, 19, and 34 as obvious over Koll, Ceusters, and Allard builds from the challenge of independent claims 1, 16, and 31 as allegedly obvious over Koll and Ceusters. *See* Pet. 52. Petitioner cites Allard as teaching the use of voice selection of options or other voice commands. *Id.* Petitioner argues that "it would have been obvious to combine Allard with Koll and Ceusters for essentially the same reasons as it was for Koll and Fritsch. In short, a clinician often has her hands full and is concerned with cross-contamination." *Id.* at 52–53.

Petitioner persuades us that Koll, Ceusters, and Allard teach all of the limitations of claims 4, 19, and 34. Additionally, Petitioner persuades us

that a person of ordinary skill in the art would have had reason to combine the references' teachings, as well as reasonable expectation of successfully doing so.

Considering the *Graham* factors, we find that they collectively weigh in favor of a conclusion of obviousness for reasons largely substantively the same as those explained in Section III.F.1.a with respect to the challenge of the independent claims as allegedly obvious over Koll and Ceusters. In addition to the independent claims' limitations, claims 4, 19, and 34 require that "receiving comprises receiving a spoken selection of the first option," which constitutes a difference between the claimed invention and the teachings of Koll and Ceusters. Petitioner persuades us that Allard bridges the gap between the claims and the teachings of Koll and Ceusters. Pet. 38–40. In view of this and the level of skill in the art, we find that the first three *Graham* factors weigh heavily in favor of obviousness and outweigh Patent Owner's alleged objective evidence of non-obviousness.

In sum, Petitioner persuades us that claims 4, 19, and 34 would have been obvious over Koll, Ceusters, and Allard.

IV. CONCLUSION

In summary,

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 2, 5, 6, 9, 11, 13, 16, 17, 20, 21, 24, 26, 28, 31, 32, 35, 36, 39, 41, 43	103(a)	Koll, Fritsch	1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, 43	9, 11, 24, 26, 39, 41
4, 19, 34	103(a)	Koll, Fritsch, Allard	4, 19, 34	
1, 2, 5, 6, 9, 11, 13, 16, 17, 20, 21, 24, 26, 28, 31, 32, 35, 36, 39, 41, 43	103(a)	Koll, Ceusters	1, 2, 5, 6, 13, 16, 17, 20, 21, 28, 31, 32, 35, 36, 43	9, 11, 24, 26, 39, 41
4, 19, 34	103(a)	Koll, Ceusters, Allard	4, 19, 34	
Overall Outcome			1, 2, 4–6, 13, 16, 17, 19–21, 28, 31, 32, 34, 35, 36, 43	9, 11, 24, 26, 39, 41

V. ORDERS

In consideration of the foregoing, it is hereby

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 1, 2, 4–6, 13, 16, 17, 19–21, 28, 31, 32, 34, 35, 36, and 43 are unpatentable;

FURTHER ORDERED that Petitioner has not shown by a preponderance of the evidence that claims 9, 11, 24, 26, 39, and 41 are unpatentable.

FURTHER ORDERED that because this is a Final Written Decision, any party 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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Patent 8,738,403 B2

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