

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UBISOFT, INC. and UBISOFT ENTERTAINMENT SA,
Petitioner,

v.

GUITAR APPRENTICE, INC.,
Patent Owner.

Case IPR2015-00298
Patent 8,586,849 B1

Before KEVIN F. TURNER, GEORGIANNA W. BRADEN, and
ROBERT J. WEINSCHENK, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

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

I. INTRODUCTION

Ubisoft, Inc. and Ubisoft Entertainment SA (collectively, “Petitioner”) filed a Petition (Paper 4, “Pet.”) requesting an *inter partes* review of claims 1–3, 5, 9–12, 14, 16–18, and 20 of U.S. Patent No. 8,586,849 B1 (Ex. 1001, “the ’849 patent”). Guitar Apprentice, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 8, “Prelim. Resp.”) to the Petition. On April 9, 2015, we instituted an *inter partes* review of claims 1–3, 5, 9–12, 14, 16–18, and 20 (“the challenged claims”) of the ’849 patent on the following grounds:

Claim(s)	Statutory Basis	Applied References(s)
1–3, 5, 9–12, 14, 16–18, and 20	35 U.S.C. § 102(e)	U.S. Patent Publication No. 2011/0003638 A1 (published Jan. 6, 2011) (Ex. 1003, “Lee”)
1–3, 5, 9–12, 14, 16–18, and 20	35 U.S.C. §§ 102(a), (e)	U.S. Patent Publication No. 2010/0137049 A1 (published June 3, 2010) (Ex. 1004, “Epstein”)

Paper 9 (“Dec. on Inst.”), 17.

After institution, Patent Owner filed a Response (Paper 14, “PO Resp.”) to the Petition, and Petitioner filed a Reply (Paper 17, “Pet. Reply”) to the Response. Also, after institution, the United States Court of Appeals for the Federal Circuit issued an *en banc* decision in *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015) (en banc). *Williamson* overruled the precedent cited in the Decision on Institution regarding when to interpret a claim limitation as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6. *See* Dec. on Inst. 5–8; *Williamson*, 792 F.3d at 1348–49. We requested additional briefing from the parties addressing whether, in light of *Williamson*, the “proficiency sensing module” and “mode control

module” limitations in claim 9 of the ’849 patent should be interpreted as means-plus-function limitations under § 112 ¶ 6. Paper 15, 2–3. Petitioner filed a Claim Construction Brief (Paper 16, “Pet. Brief”), and Patent Owner filed a responsive Claim Construction Brief (Paper 18, “PO Brief”). An oral hearing was held on December 15, 2015, and a transcript of the hearing is included in the record. Paper 22 (“Tr.”).

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons set forth below, Petitioner has shown by a preponderance of the evidence that claims 1–3, 5, 17, 18, and 20 of the ’849 patent are unpatentable. Petitioner, however, has not shown by a preponderance of the evidence that claims 9–12, 14, and 16 of the ’849 patent are unpatentable.

A. *Related Proceedings*

The parties indicate that the ’849 patent is the subject of the following district court case: *Guitar Apprentice, Inc. v. Ubisoft, Inc.*, No. 2:13-cv-02903 (W.D. Tenn.). Pet. 58–59; Paper 6, 1.

B. *The ’849 Patent*

The ’849 patent relates to providing instruction on playing a musical instrument, such as a guitar. Ex. 1001, col. 1, ll. 25–29. Specifically, the ’849 patent describes an instruction system that displays a graphical representation of a guitar and demonstrates to a user when and how to play a note or chord. *Id.* at col. 1, ll. 52–61. The ’849 patent explains that the user does not have to learn all the notes or chords in a musical performance at one time. *Id.* at col. 1, ll. 48–51. Initially, the user only plays one or more segments of the musical performance, and the system plays the remaining segments. *Id.* at col. 2, ll. 61–65. In subsequent iterations of the musical

performance, the number of segments played by the user can be increased based on, among other things, the user's proficiency level. *Id.* at col. 2, l. 65–col. 3, l. 1.

C. *Illustrative Claim*

Claims 1, 9, and 17 are independent. Claim 1 is reproduced below.

1. A media system for progressive instruction in the playing of a guitar, the system comprising:

a non-transitory processor-readable memory medium having software residing thereon, the software executable by a processor to direct the performance of

generating audio signals corresponding to prerecorded sounds from one or more musical instruments associated with a predetermined musical performance, the one or more musical instruments comprising a guitar, the predetermined musical performance comprising a plurality of musical segments each further comprising one or more guitar notes or chords;

for a particular iteration of the musical performance, defining one or more of the plurality of musical segments as one or more user segments each having one or more associated display images comprising graphical representations of which one or more guitar strings to be engaged, and on which frets, to play the one or more notes or chords corresponding to the user segment;

sequentially generating the display images in association with the user segments of the musical performance;

during each user segment of the musical performance, prompting the user to play the corresponding one or more notes or chords; and

in association with subsequent iterations of the musical performance, defining one or more of the associated musical segments as one or more user segments based on criteria comprising a proficiency level of the user, wherein the proficiency level of the user is determinable by the system in accordance with signals received electrically from a guitar

played by the user in relation to the display images generated during the one or more user segments associated with a previous iteration of the performance.

Ex. 1001, col. 9, ll. 8–41.

II. ANALYSIS

A. *Anticipation of Claims 1–3, 5, 17, 18, and 20*

Petitioner argues that claims 1–3, 5, 17, 18, and 20 are anticipated by Lee and also by Epstein. Pet. 4. A claim is anticipated if each limitation of the claim is disclosed in a single prior art reference arranged as in the claim. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). We have considered the parties’ arguments and supporting evidence, and we determine that Petitioner has shown by a preponderance of the evidence that claims 1–3, 5, 17, 18, and 20 are anticipated by Lee and also by Epstein.

1. *Lee*

Lee relates to providing instruction on playing a musical instrument, such as a guitar. Ex. 1003 ¶¶ 33, 39. The music instruction system disclosed in Lee teaches a user to play a musical piece (e.g., a song or musical composition) that includes a number of musical events (e.g., notes or chords). *Id.* ¶¶ 30, 31, 58. Specifically, the system provides the user with visual cues that indicate the string and fret on which to play a particular note. *Id.* ¶¶ 94, 96, Figs. 5, 6, 7A, 7B. Lee explains that the user may begin with a low difficulty level that only requires the user to play some of the notes in a song. *Id.* ¶ 173. As the user progresses and gains skill, the difficulty level (and thus the number of notes played by the user) can be increased until the user is able to play the entire song. *Id.* ¶¶ 173, 174.

Claim 1 of the ’849 patent recites “a non-transitory processor-readable memory medium having software residing thereon, the software executable

by a processor.” Ex. 1001, col. 9, ll. 10–12. Lee discloses a system that includes a processor for executing software instructions stored on a computer-readable memory. Pet. 13–14; Ex. 1003 ¶¶ 42, 50. Patent Owner does not dispute that Lee discloses the above limitation of claim 1.

Claim 1 recites “generating audio signals corresponding to prerecorded sounds from one or more musical instruments associated with a predetermined musical performance, the one or more musical instruments comprising a guitar, the predetermined musical performance comprising a plurality of musical segments each further comprising one or more guitar notes or chords.” Ex. 1001, col. 9, ll. 13–19. Claim 17 recites a similar limitation. *Id.* at col. 12, ll. 1–3. Lee discloses a musical piece data manager that plays a recorded audio track of an expert performing a musical piece on a guitar. Pet. 14–15; Ex. 1003 ¶¶ 61, 75. The musical piece played by the musical piece data manager is a song or composition that includes an assembly of musical events, with each musical event corresponding to a note or chord. Pet. 15; Ex. 1003 ¶¶ 30, 31, 58. Patent Owner does not dispute that Lee discloses the above limitation of claims 1 and 17.

Claim 1 recites “for a particular iteration of the musical performance, defining one or more of the plurality of musical segments as one or more user segments each having one or more associated display images comprising graphical representations of which one or more guitar strings to be engaged, and on which frets, to play the one or more notes or chords corresponding to the user segment.” Ex. 1001, col. 9, ll. 20–26. Claim 17 recites a similar limitation. *Id.* at col. 11, ll. 35–41, col. 12, ll. 4–7. Lee discloses that a user may begin with a low difficulty level that only requires the user to play some of the notes or chords in a musical piece. Pet. 16–17;

Ex. 1003 ¶ 173. Lee also discloses a performance cue manager that provides the user with visual cues, such as musical event circles, indicating the strings and frets on which to play the notes or chords in the musical piece. Pet. 17–18; Ex. 1003 ¶¶ 94, 96, Figs. 5, 6, 7A, 7B. Patent Owner does not dispute that Lee discloses the above limitation of claims 1 and 17.

Claim 1 recites “sequentially generating the display images in association with the user segments of the musical performance.” Ex. 1001, col. 9, ll. 27–28. Claim 17 recites a similar limitation. *Id.* at col. 12, ll. 4–7. Lee discloses that visual cues for the notes or chords in a musical piece scroll from the top of a user interface to the bottom as time progresses. Pet. 18–19; Ex. 1003 ¶¶ 94, 95, Figs. 5, 6. Patent Owner does not dispute that Lee discloses the above limitation of claims 1 and 17.

Claim 1 recites “during each user segment of the musical performance, prompting the user to play the corresponding one or more notes or chords.” Ex. 1001, col. 9, ll. 29–31. Claim 17 recites a similar limitation. *Id.* at col. 11, ll. 39–41. Lee discloses that a user is prompted to perform a note or chord when a visual cue corresponding to that note or chord reaches a cue line in the visual display. Pet. 19; Ex. 1003 ¶¶ 94, 95, Figs. 5, 6. Patent Owner does not dispute that Lee discloses the above limitation of claims 1 and 17.

Claim 1 recites “in association with subsequent iterations of the musical performance, defining one or more of the associated musical segments as one or more user segments based on criteria comprising a proficiency level of the user, wherein the proficiency level of the user is determinable by the system in accordance with signals received electrically from a guitar played by the user in relation to the display images generated

during the one or more user segments associated with a previous iteration of the performance.” Ex. 1001, col. 9, ll. 32–41. Claim 17 recites a similar limitation. *Id.* at col. 12, ll. 8–23. Lee discloses connecting a user’s guitar to an input of the music instruction system using a cable. Pet. 19; Ex. 1003 ¶ 39. Lee discloses comparing musical events from the user’s guitar to expected musical events and calculating various scores, statistics, and feedback, including the user’s proficiency level (e.g., beginner, easy, novice, skilled, difficult, or advanced). Pet. 19–22; Ex. 1003 ¶¶ 62, 65, 137, 183. Lee also discloses defining the number of musical events played by the user in a subsequent iteration of the musical piece based on the user’s proficiency level from a previous iteration of the musical piece.¹ Pet. 19–22; Ex. 1003 ¶¶ 173, 174; Ex. 1006 ¶¶ 25, 29, 30.

Patent Owner argues that Lee does not disclose the above limitation of claims 1 and 17, because the system in Lee does not define the number of user segments in a subsequent iteration of a musical performance based on a user proficiency level determined from a previous iteration of the musical performance. PO Resp. 5–7 (citing Ex. 1003 ¶¶ 106, 161, 183). Specifically, Patent Owner argues that, in Lee, “the user, not the system,” selects the difficulty level (and thus the number of user segments) for a subsequent session. PO Resp. 7 (citing Ex. 1003 ¶ 183). Patent Owner’s argument is not persuasive.

Lee discloses that “when the difficulty level of a musical piece is set to a low level, the user may be required to play only one out of every N

¹ Lee discloses maintaining the number of musical events played by the user, as required by claim 17. Pet. 30–31; Ex. 1003 ¶¶ 165, 173, 174; Ex. 1006 ¶¶ 32–34.

musical events, where $N > 1$,” and, “[a]s the user progresses and gains skill from session to session, the value of N may be gradually reduced to 1” at which point “the user may be required to correctly play each of N musical events.”² Ex. 1003 ¶¶ 173, 174 (emphasis added). Thus, Lee discloses a system that defines the number of user segments in a subsequent session based on the user’s proficiency level in a previous session. *Id.* Petitioner’s declarant, Dr. Michael Zyda, testifies that one of ordinary skill in the art reading Lee would have known that the system can adjust the number of user segments from session to session, as described in paragraphs 173 and 174 of Lee, without input from the user.³ Ex. 1006 ¶¶ 25, 29, 30.

Patent Owner does not address specifically the disclosure in paragraphs 173 and 174 of Lee or the declaration testimony of Dr. Zyda. *See* PO Resp. 5–7. Patent Owner instead focuses on paragraph 183 of Lee, which states that “[u]ser level 1830 may assist the user in selecting a difficulty level for a subsequent session.” Ex. 1003 ¶ 183; PO Resp. 7. This paragraph of Lee describes a particular example in which the user can provide input regarding the difficulty level (and thus the number of user segments) for a subsequent session. Ex. 1003 ¶ 183; Ex. 1006 ¶ 27. As

² As discussed above, Lee discloses that the term “musical piece” refers to a song or musical composition, and the term “musical event” refers to a note or chord in the musical piece. Ex. 1003 ¶¶ 30, 31, 58.

³ Dr. Zyda testifies that one of ordinary skill in the art would have had a bachelor’s degree in electrical engineering, computer science, physics, mathematics, or a related field or an equivalent number of years of working experience, in addition to one to two years of software programming experience. Ex. 1006 ¶ 17. Patent Owner does not dispute Dr. Zyda’s definition of the level of ordinary skill in the art, and we adopt that level of ordinary skill in the art in this case.

discussed above, though, the evidence indicates that the system disclosed in Lee also can adjust the number of user segments from session to session *without* input from the user. Ex. 1003 ¶¶ 173, 174; Ex. 1006 ¶¶ 25, 29, 30.

Moreover, even if Lee is limited to the example described in paragraph 183, Lee still discloses the limitations of claims 1 and 17. Claims 1 and 17 recite defining the number of user segments “*based on criteria comprising* a proficiency level of the user.” Ex. 1001, col. 9, ll. 34–35 (emphasis added); *see id.* at col. 12, ll. 13–14. This language in claims 1 and 17 requires that the criteria include a user proficiency level, but does not exclude other criteria, such as input from the user. Our reading of the claim language is consistent with the written description of the ’849 patent and the dependent claims, which indicate that the criteria for defining the number of user segments may include input from the user. *Id.* at col. 4, ll. 37–42, col. 8, ll. 35–42, col. 10, ll. 6–10. In fact, Patent Owner acknowledges that claims 1 and 17 allow for input from the user. Tr. 31:1–17 (“Even if the system is automatically making that recommendation, my dependent claims say that the user can override it.”). In the example described in paragraph 183 of Lee, the user proficiency level “*assist[s]*” the user in selecting a difficulty level for the next session. Ex. 1003 ¶ 183 (emphasis added). As such, the difficulty level (and thus the number of user segments) in the next session is based, at least in part, on the user’s proficiency level from a previous session, as required by the above limitation of claims 1 and 17.

For the reasons discussed above, we determine that Petitioner has shown by a preponderance of the evidence that Lee anticipates independent claims 1 and 17. Claims 2, 3, 5, 18, and 20 depend from claim 1 or claim 17. Petitioner identifies evidence indicating that Lee discloses the

limitations of claims 2, 3, 5, 18, and 20 (*see* Pet. 22–24, 31–32), and Patent Owner does not dispute that Lee discloses the limitations of claims 2, 3, 5, 18, and 20. We determine that the identified evidence supports Petitioner’s contentions, and we adopt Petitioner’s contentions as our own. Therefore, we determine that Petitioner also has shown by a preponderance of the evidence that Lee anticipates dependent claims 2, 3, 5, 18, and 20.

2. *Epstein*

Epstein relates to an interactive game for learning to play a guitar. Ex. 1004, Abstract. Specifically, Epstein discloses that a user may practice a song by playing a mini-game. *Id.* ¶¶ 57, 105. In one such mini-game, the user only has to play a section of the song. *Id.* If the user does not play a certain number of notes in the song correctly, the user may have to repeat the same game. *Id.* ¶ 105. If, on other hand, the user successfully completes several mini-games, the user may play a game that requires the user to perform the entire song. *Id.* ¶¶ 105, 116.

Claim 1 recites “a non-transitory processor-readable memory medium having software residing thereon, the software executable by a processor.” Ex. 1001, col. 9, ll. 10–12. Epstein discloses a software game engine that is executed on a computer having a memory. Pet. 33; Ex. 1004 ¶¶ 34, 35. Patent Owner does not dispute that Epstein discloses the above limitation of claim 1.

Claim 1 recites “generating audio signals corresponding to prerecorded sounds from one or more musical instruments associated with a predetermined musical performance, the one or more musical instruments comprising a guitar, the predetermined musical performance comprising a plurality of musical segments each further comprising one or more guitar

notes or chords.” Ex. 1001, col. 9, ll. 13–19. Claim 17 recites a similar limitation. *Id.* at col. 12, ll. 1–3. Epstein discloses playing a recorded audio signal of a song being performed on a guitar. Pet. 33–34; Ex. 1004 ¶¶ 36, 37. Patent Owner does not dispute that Epstein discloses the above limitation of claims 1 and 17.

Claim 1 recites “for a particular iteration of the musical performance, defining one or more of the plurality of musical segments as one or more user segments each having one or more associated display images comprising graphical representations of which one or more guitar strings to be engaged, and on which frets, to play the one or more notes or chords corresponding to the user segment.” Ex. 1001, col. 9, ll. 20–26. Claim 17 recites a similar limitation. *Id.* at col. 11, ll. 35–41, col. 12, ll. 4–7. Epstein discloses a mini-game in which a user only has to play a section of a song. Pet. 34–35; Ex. 1004 ¶¶ 57, 105. Epstein also discloses displaying graphical representations that indicate the strings and frets on which the user should play the notes or chords in the song. Pet. 35–36; Ex. 1004 ¶ 39, Fig. 4. Patent Owner does not dispute that Epstein discloses the above limitation of claims 1 and 17.

Claim 1 recites “sequentially generating the display images in association with the user segments of the musical performance.” Ex. 1001, col. 9, ll. 27–28. Claim 17 recites a similar limitation. *Id.* at col. 12, ll. 4–7. Epstein discloses that a graphical representation of a note or chord moves in time with the song. Pet. 37; Ex. 1004 ¶ 39, Fig. 4. Patent Owner does not dispute that Epstein discloses the above limitation of claims 1 and 17.

Claim 1 recites “during each user segment of the musical performance, prompting the user to play the corresponding one or more

notes or chords.” Ex. 1001, col. 9, ll. 29–31. Claim 17 recites a similar limitation. *Id.* at col. 11, ll. 39–41. Epstein discloses that a user is supposed to play a note or chord when the graphical representation of that note or chord approaches the hit-line or hit-area. Pet. 37; Ex. 1004 ¶ 39, Fig. 4. Patent Owner does not dispute that Epstein discloses the above limitation of claims 1 and 17.

Claim 1 recites “in association with subsequent iterations of the musical performance, defining one or more of the associated musical segments as one or more user segments based on criteria comprising a proficiency level of the user, wherein the proficiency level of the user is determinable by the system in accordance with signals received electrically from a guitar played by the user in relation to the display images generated during the one or more user segments associated with a previous iteration of the performance.” Ex. 1001, col. 9, ll. 32–41. Claim 17 recites a similar limitation. *Id.* at col. 12, ll. 8–23. Epstein discloses comparing a signal output by a user’s guitar with a selected song to determine if the user played the notes or chords correctly. Pet. 37–38; Ex. 1004 ¶¶ 36, 41. Epstein also discloses a mini-game in which the user only has to play a section of a song. Pet. 37–38; Ex. 1004 ¶¶ 57, 105. In a subsequent game, the user may have to play more of the song based on the user’s proficiency level in the previous game.⁴ Pet. 37–38; Pet. Reply 10–12; Ex. 1004 ¶¶ 105, 116.

Patent Owner argues that Epstein does not disclose the above limitation of claims 1 and 17, because the system in Epstein does not define the number of user segments in a subsequent iteration of a musical

⁴ Epstein discloses that all the games in a particular sub-level can involve the same song. Ex. 1004 ¶ 97.

performance based on a user proficiency level determined from a previous iteration of the musical performance. PO Resp. 7–10 (citing Ex. 1004 ¶¶ 57, 105, 107, Fig. 16). Specifically, Patent Owner argues that, in Epstein, “it is not the proficiency at the performances of the mini-games that determines whether one moves through the levels.” PO Resp. 9. Patent Owner’s argument is not persuasive.

As discussed above, Epstein discloses a mini-game that allows a user to practice a song by playing only a section of the song. Ex. 1004 ¶¶ 57, 105. If the user does not play a certain number of notes in the song correctly, the user may have to repeat the same game. *Id.* ¶ 105. Thus, Epstein discloses maintaining the same number of user segments in a subsequent iteration of the musical performance based on the user’s proficiency level in a prior iteration. If, on the other hand, the user successfully completes several mini-games, the user may play a game that requires the user to perform the entire song. *Id.* ¶¶ 105, 116. Thus, Epstein also discloses increasing the number of user segments in a subsequent iteration of the musical performance based on the user’s proficiency level in a prior iteration.

For the reasons discussed above, we determine that Petitioner has shown by a preponderance of the evidence that Epstein anticipates independent claims 1 and 17. Claims 2, 3, 5, 18, and 20 depend from claim 1 or claim 17. Petitioner identifies evidence indicating that Epstein discloses the limitations of claims 2, 3, 5, 18, and 20 (*see* Pet. 38–39, 44), and Patent Owner does not dispute that Epstein discloses the limitations of claims 2, 3, 5, 18, and 20. We determine that the identified evidence supports Petitioner’s contentions, and we adopt Petitioner’s contentions as our own.

Therefore, we determine that Petitioner also has shown by a preponderance of the evidence that Epstein anticipates dependent claims 2, 3, 5, 18, and 20.

B. *Anticipation of Claims 9–12, 14, and 16*

Petitioner argues that claims 9–12, 14, and 16 are anticipated by Lee and also by Epstein. Pet. 4. A claim is anticipated if each limitation of the claim is disclosed in a single prior art reference arranged as in the claim. *Net MoneyIN*, 545 F.3d at 1369. We have considered the parties’ arguments and supporting evidence, and we determine that Petitioner has not shown by a preponderance of the evidence that claims 9–12, 14, and 16 are anticipated by Lee or Epstein.

Claim 9 recites “a proficiency sensing module effective to receive signals from a guitar electrically coupled to the system, compare the received signals to expected signals associated with corresponding user segments of the musical performance, and determine a proficiency level of the user based on the comparison.” Ex. 1001, col. 10, ll. 40–45. Claim 9 also recites “a mode control module effective to define one or more of the plurality of musical segments in the selected performance as user segments based upon one or more criteria including the determined proficiency level of the user and a performance iteration, wherein in successive iterations the mode control module determines whether the proficiency level of the user warrants increasing the number of user segments.” *Id.* at col. 10, ll. 46–53.

In the Decision on Institution, we determined that the “proficiency sensing module” and “mode control module” limitations did not invoke 35 U.S.C. § 112 ¶ 6, because, *inter alia*, there is a strong presumption that a limitation lacking the terms “means for” is not subject to § 112 ¶ 6. Dec. on Inst. 5–8 (citing *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d

1354, 1358 (Fed. Cir. 2004)). *Williamson*, however, expressly overruled prior decisions that applied a “strong” presumption that a limitation lacking the terms “means for” is not subject to § 112 ¶ 6. 792 F.3d at 1348–49. *Williamson* explained that “[t]he standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* at 1349. We, therefore, reconsider our determination in the Decision on Institution that the “proficiency sensing module” and “mode control module” limitations do not invoke § 112 ¶ 6. As discussed above, we requested additional briefing from the parties addressing this issue, and both parties filed a brief. Paper 15, 2–3; Pet. Brief; PO Brief.

The “proficiency sensing module” and “mode control module” limitations in claim 9 are similar to the limitation at issue in *Williamson*. Specifically, the “proficiency sensing module” and “mode control module” limitations are in a format consistent with traditional means-plus-function limitations. Ex. 1001, col. 10, ll. 40–53; *see Williamson*, 792 F.3d at 1350. Each limitation replaces the term “means” with the term “module,” and recites certain functions performed by the module. Ex. 1001, col. 10, ll. 40–53; *see Williamson*, 792 F.3d at 1350. The word “module” by itself does not provide any indication of structure. *See Williamson*, 792 F.3d at 1350–51; PO Brief 3 (“Thus, the module, like most computing elements, are a combination of relatively generic computer hardware coupled with software.”). Further, neither party argues specifically or identifies evidence indicating that the prefixes “proficiency sensing” and “mode control” impart structure into the term “module.” *See* Pet. Brief 2; PO Brief 5–6; *Williamson*, 792 F.3d at 1350–51.

Patent Owner argues that the claim language imparts structure by reciting the input and output of each module. PO Brief 5–6; Tr. 25:7–14. The functions recited in claim 9, however, only describe certain inputs and outputs at a very high level (e.g., receiving signals from a guitar and comparing the received signals to expected signals). Ex. 1001, col. 10, ll. 40–53; *see Williamson*, 792 F.3d at 1351. The ’849 patent explains that a person of ordinary skill in the art “would conceive of numerous structural means” for performing the recited functions of the “proficiency sensing module” and the “mode control module.” Ex. 1001, col. 3, ll. 19–28; *see id.* at col. 3, ll. 58–67. As a result, the functions recited in claim 9 for the “proficiency sensing module” and the “mode control module” do not connote sufficiently definite structure. *See Williamson*, 792 F.3d at 1351. Therefore, we determine that the “proficiency sensing module” and “mode control module” limitations in claim 9 are means-plus-function limitations under § 112 ¶ 6.

The asserted grounds of unpatentability for claim 9 in this case are based on prior art, not indefiniteness.⁵ Dec. on Inst. 17; Pet. 4–5, 24–28, 39–41; *see* 35 U.S.C. § 311(b). To show the unpatentability of a claim including a means-plus-function limitation based on prior art, Petitioner must: 1) identify the specific portions of the specification that describe the structure corresponding to the claimed function; and 2) specify where that structure or an equivalent is found in the cited prior art patents or printed

⁵ Petitioner argued in a related district court case involving the ’849 patent that claim 9 is invalid as indefinite, and the district court agreed with Petitioner. *Guitar Apprentice, Inc. v. Ubisoft, Inc.*, 97 F. Supp. 3d 965, 993–995 (W.D. Tenn. 2015).

publications. 37 C.F.R. §§ 42.104 (b)(3), (4); *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 582 F.3d 1288, 1299–1300 (Fed. Cir. 2009). Petitioner, however, does not identify any corresponding structure for the “proficiency sensing module” and “mode control module” limitations in claim 9. *See* Pet. 6–8; Pet. Brief 3–5. As a result, Petitioner also does not show that Lee or Epstein discloses the corresponding structure for those limitations or an equivalent. *See* Pet. 24–28, 39–41; *Fresenius*, 582 F.3d at 1299 (“a functional analysis alone will not suffice”). Therefore, we determine that Petitioner has not shown by a preponderance of the evidence that claim 9 is anticipated by Lee or Epstein. *See Fresenius*, 582 F.3d at 1299–1300 (affirming grant of JMOL of no invalidity because “Fresenius neither identified the structure in the specification that corresponds to the means for delivering dialysate nor compared it to the structures present in the prior art”). Because claims 10–12, 14, and 16 depend from claim 9, we determine that Petitioner also has not shown by a preponderance of the evidence that claims 10–12, 14, and 16 are anticipated by Lee or Epstein.

III. CONCLUSION

Petitioner has shown by a preponderance of the evidence that claims 1–3, 5, 17, 18, and 20 of the ’849 patent are anticipated by Lee and also by Epstein. Petitioner has not shown by a preponderance of the evidence that claims 9–12, 14, and 16 of the ’849 patent are anticipated by Lee or Epstein.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–3, 5, 17, 18, and 20 of the ’849 patent are shown unpatentable;

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FURTHER ORDERED that claims 9–12, 14, and 16 of the '849 patent are not shown unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, 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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