

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

MEMORYWEB, LLC,
Patent Owner.

IPR2022-00033
Patent 10,423,658 B2

Before LYNNE H. BROWNE, NORMAN H. BEAMER, and
KEVIN C. TROCK, *Administrative Patent Judges*.

BROWNE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

We have authority to hear this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, we determine that Petitioner, Apple, Inc. (“Apple”), has shown by a preponderance of the evidence that claims 1–15 (the “challenged claims”) of U.S. Patent No. 10,423,658 B2 (Ex. 1001, “the ’658 Patent”) are unpatentable. *See* 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2019).

A. Procedural History

The Petition (Paper 1, “Pet.” or “Petition”) requested *inter partes* review of the challenged claims of the ’658 Patent. Patent Owner, MemoryWeb, LLC, filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). With our authorization, Petitioner filed a Preliminary Reply (Paper 10), and Patent Owner filed a Preliminary Sur-reply (Paper 11). Based upon the record at that time, we instituted *inter partes* review on all challenged claims on the grounds presented in the Petition. Paper 12 (“Institution Decision” or “Dec.”).

After institution, Patent Owner filed a Response (Paper 20, “PO Resp.”), Petitioner filed a Reply (Paper 26, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 31, “PO Sur-reply”).

Patent Owner filed a Motion to Exclude certain evidence (Paper 34). Petitioner opposed the Motion (Paper 35). Patent Owner filed a Reply to Petitioner’s Opposition to the Motion (Paper 38).

On March 14, 2023, an oral hearing was held.

B. Real Party-in-Interest

Petitioner states that it “is the real party-in-interest for this petition.”
Pet. 2. Patent Owner states that it is the real party-in-interest. *See* Paper 3,
2. *See also* Paper 7, 2; Paper 19, 2.

C. Related Matters

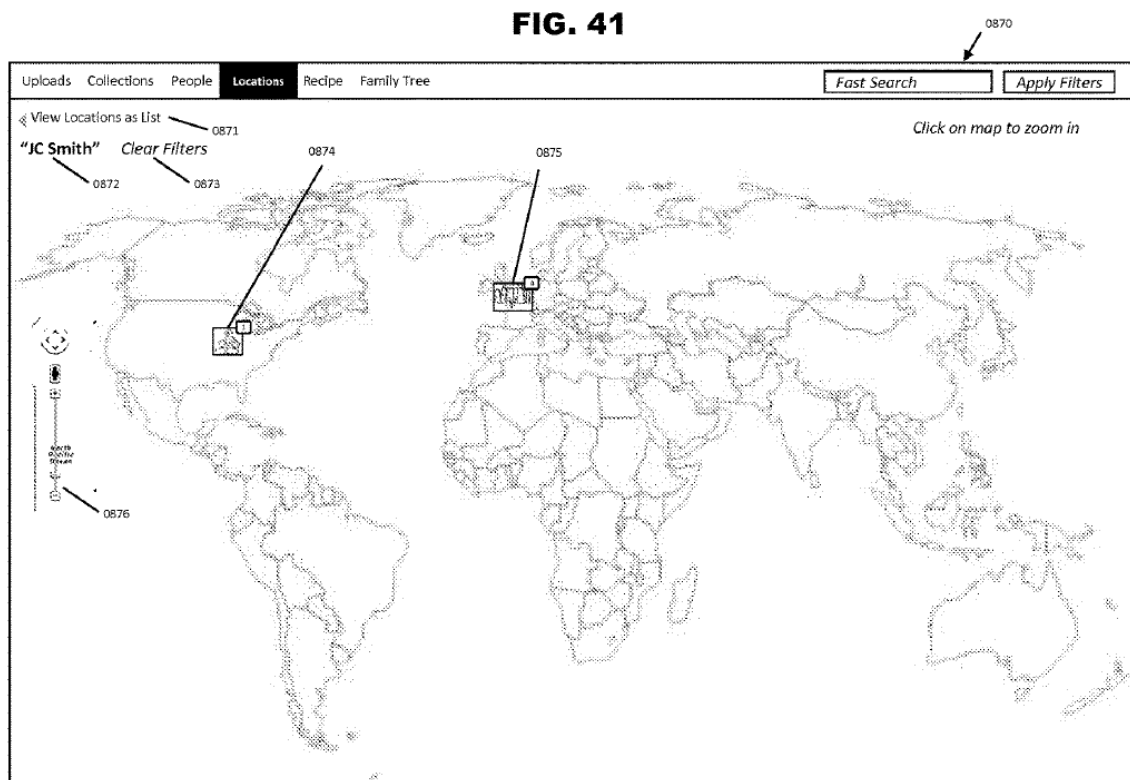
According to the parties, the ’658 Patent was asserted in the following district court proceedings: *MemoryWeb, LLC v. Apple Inc.*, Case No. 6:21-cv-00531 (W.D. Tex.); *MyHeritage (USA), Inc. et. al. v. MemoryWeb, LLC*, Case No. 1:21-cv-02666 (N.D. Ill.) (dismissed); and *MemoryWeb, LLC v. Samsung Electronics Co., Ltd. et al.*, Case No. 6:21-cv-00411 (W.D. Tex.).
Pet. 3; Paper 3, 2; Paper 7, 2; Paper 19, 2.

Patent Owner also identifies U.S. Patent No. 9,098,531 (“the ’531 patent”), U.S. Patent No. 9,552,376 (“the ’376 patent”), U.S. Patent No. 10,621,228 (“the ’228 patent”), U.S. Patent No. 11,017,020 (“the ’020 patent”), U.S. Patent No. 11,163,823 (“the ’823 patent”), and pending U.S. Patent Application 17/459,933 as related to the ’658 Patent. Paper 7, 2–3.

Patent Owner additionally indicates the following *inter partes* proceedings are related matters: *Apple Inc. v. MemoryWeb, LLC*, IPR2022-00111 (PTAB) challenging the ’020 patent; *Apple Inc. v. MemoryWeb, LLC*, PGR2022-00006 (PTAB) challenging the ’020 patent; *Apple Inc. v. MemoryWeb, LLC*, IPR2022-00031 (PTAB) challenging the ’228 patent; *Apple Inc. v. MemoryWeb, LLC*, IPR2022-00032 (PTAB) challenging the ’370 patent; and *Unified Patents, LLC v. MemoryWeb, LLC*, IPR2021-01413 (PTAB), (challenging the ’228 patent.

D. The '658 Patent (Ex. 1001)

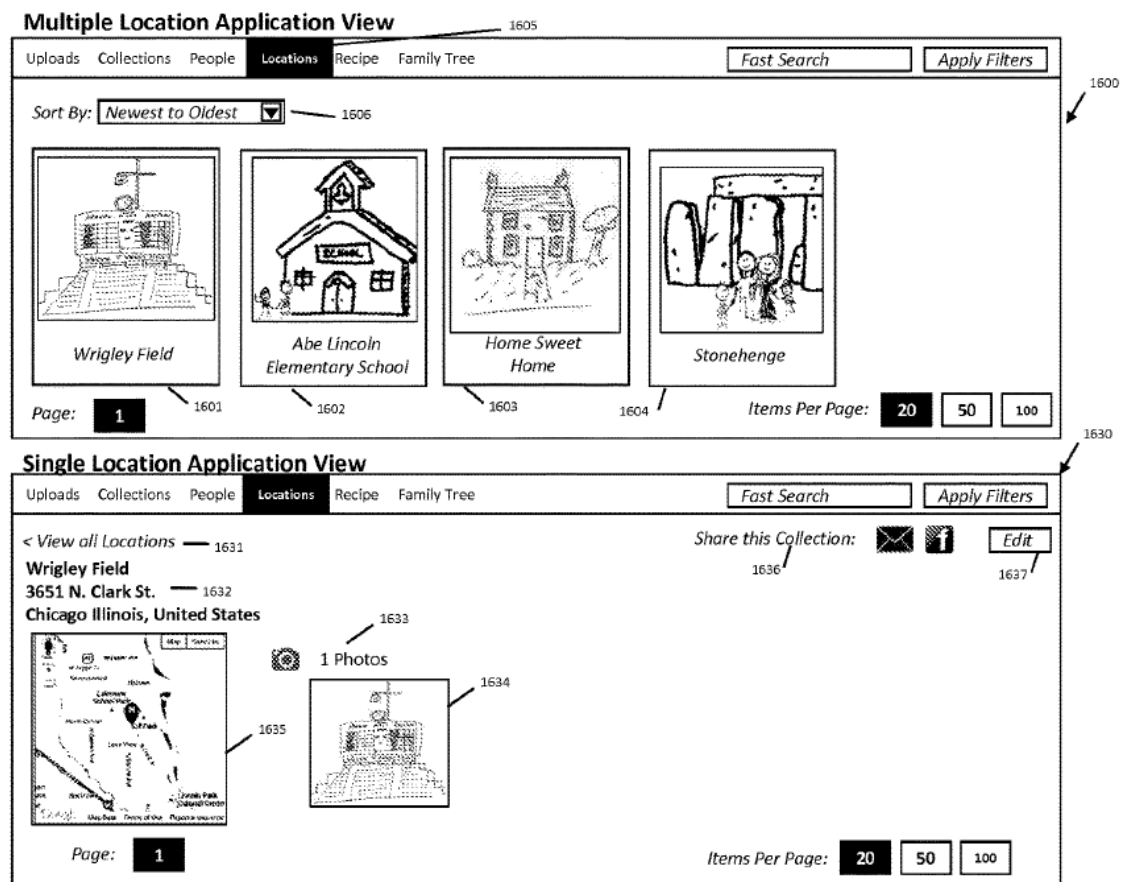
The '658 Patent relates to a computer-implemented system and method for managing and using digital files such as digital photographs. Ex. 1001, 1:16–19. In particular, the '658 Patent aims to provide an “interactive platform” for users to gather, organize, view, navigate, search, share and archive digital files, e.g., digital photographs and videos. *Id.* at 13:12–18, 13:56–59. The interactive platform may be provided via an “Application” having various “Application Views” for interaction with and organization of digital files. *Id.* at 8:59–9:7. A screenshot of an exemplary type of Application View, a “Location Application View,” is shown in Figure 41, reproduced below. *Id.* at 4:3–4.



As shown in the Location Application View interface of Figure 41, “Digital Files are displayed within an interactive map (Google map shown as

an example).” Ex. 1001, 29:25–29. Further, “[i]n this view, individual or groups of Digital Files are illustrated as photo thumbnails (see indicators 0874 and 0875) on the map and the user can select the thumbnail to see all the Digital Files with the same location.” *Id.* at 29:32–36. In the case that the user selects either one of the thumbnails, a “Single Location Application View” interface corresponding to the location is presented to the user, as shown in the bottom portion of Figure 34 reproduced below. *Id.*

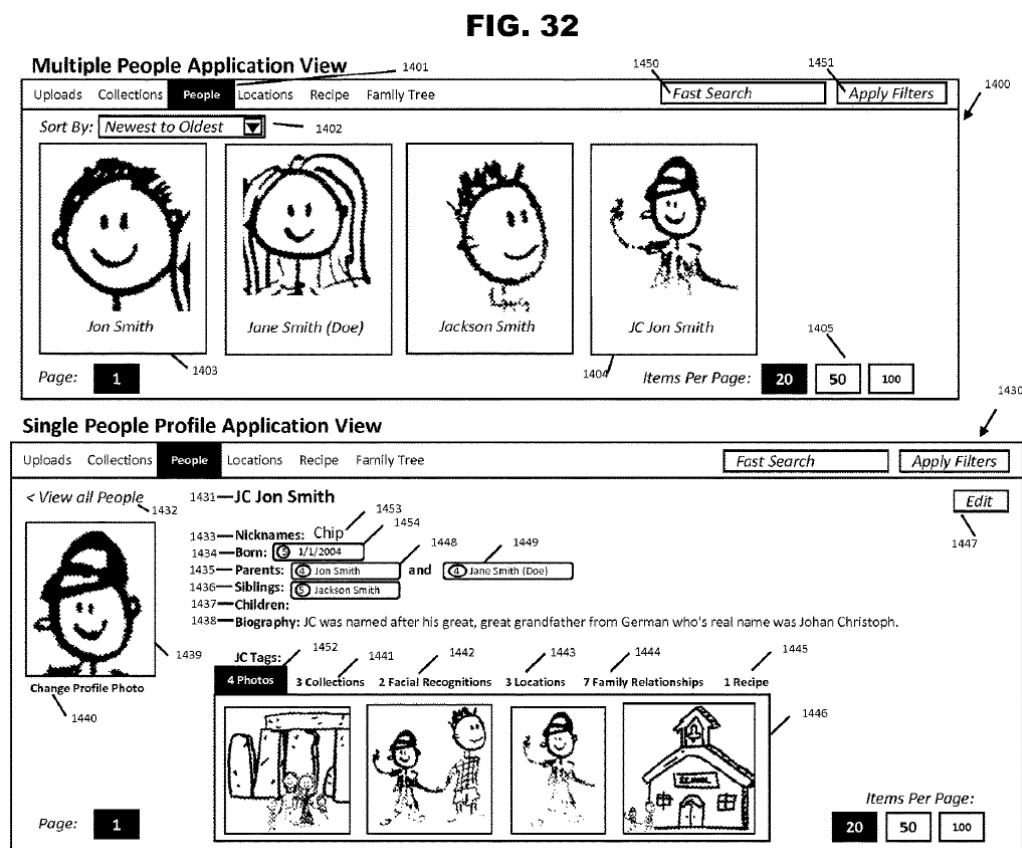
FIG. 34



Focusing on the single location (1630) Locations Application View, an “individual location name is displayed at the top of the page (1632).” Ex. 1001, 24:22–24. The single location Locations Application View further displays “[t]humbnails of each Digital File within the specific collections” of

digital files. *Id.* at 24:25–26; *see id.* at 23:56–59, Fig. 33. In the example shown in Figure 34, “one photo (1633) taken at Wrigley Field (1634) that is associated with the location called Wrigley Field” is displayed. *Id.* at 24:26–28.

Turning to another Application View described by the ’658 Patent, a “Multiple People Application View” is shown in Figure 32 reproduced below. *Id.* at 3:58.



The Multiple People Application View “can be seen by selecting ‘People’ (1401) from any of the Application Views within the Application.” Ex. 1001, 22:46–48. As shown in Figure 32, “Multiple People Application View” 1400 “display[s] all the people that were created within the user's Application.” *Id.* at 22:44–46. “For each person, a thumbnail of their face

along with their name is depicted. In this figure, Jon Smith (1403) and JC Jon Smith (1404) along with some other people are illustrated.” *Id.* at 22:52–55.

Further, “[f]or each person,” there are “tags that are associated to [that] person.” Ex. 1001, 23:4–6. In “Single People Profile Application View” 1430, associated tags are used show that there are, e.g., “four photos (1452) associated with that person.” *Id.* at 23:6–9. In another example, the person “grandma” has been tagged in, and so, is associated with, 100 photos. *Id.* at 24:56–59. Put another way, digital files have tags, e.g., in a “Tag Block of the Relationship Table for the Digital File,” which associate a particular digital file with a particular person or otherwise characterizes and documents the digital file. *See id.* at 20:1–6; 24:42–52.

E. Challenged Claims

Petitioner challenges claims 1–15 of the ’658 Patent. Pet. 1. Claim 1, the only independent claim is reproduced below:

1. A computer-implemented method of displaying at least a portion of a plurality of (i) digital photographs, (ii) videos, or (iii) a combination of (i) and (ii), each of the digital photographs and videos being associated with a geotag indicative of geographic coordinates where the respective digital photograph or video was taken, the method comprising:

displaying an application view on a video display device including displaying a plurality of selectable elements, the plurality of selectable elements including a location selectable element;

responsive to a click or tap of the location selectable element, displaying a map view on a video display device, the displaying the map view including displaying:

(i) a representation of an interactive map;

(ii) a first location selectable thumbnail image at a first location on the interactive map, the first location being associated with the geographic coordinates of a first geotag, a first set of digital photographs and videos including all of the digital photographs and videos associated with the first geotag;

(iii) a first count value image partially overlapping the first location selectable thumbnail image, the first count value image including a first number that corresponds to the number of digital photographs and videos in the first set of digital photographs and videos;

(iv) a second location selectable thumbnail image at a second location on the interactive map, the second location being associated with the geographic coordinates of a second geotag, a second set of digital photographs and videos including all of the digital photographs and videos associated with the second geotag; and

(v) a second count value image partially overlapping the second location selectable thumbnail image, the second count value image including a second number that corresponds to the number of digital photographs and videos in the second set of digital photographs and videos;

responsive to a click or tap of the first location selectable thumbnail image, displaying a first location view on the video display device, the displaying the first location view including displaying (i) a first location name associated with the first geotag and (ii) a scaled replica of each of the digital photographs and videos in the first set of digital photographs and videos, the displayed scaled replicas of each of the digital photographs and videos in the first set of digital photographs and videos not being overlaid on the interactive map; and

responsive to a click or tap of the second location selectable thumbnail image, displaying a second location view on the video display device, the displaying the second location view including displaying (i) a second location name corresponding to the second geotag and (ii) a scaled replica of each of the digital

photographs and videos in the second set of digital photographs and videos, the displayed scaled replicas of each of the digital photographs and videos in the second set of digital photographs and videos not being overlaid on the interactive map.

Ex. 1001, 35:13–36:7.

F. Evidence

Petitioner relies upon the following evidence:

(1) Aperture 3 User Manual, Apple Inc. (2009) (“A3UM”) (Ex. 1005);

(2) U.S. Publication No. 2010/0058212 A1, published Mar. 4, 2010 (“Belitz”) (Ex. 1006);

(3) U.S. Patent. No. 7,620,496 B2, issued November 17, 2009 (“Rasmussen”) (Ex. 1025); and

(4) Declaration of Dr. Loren Terveen (Ex. 1003).

Patent Owner relies upon the following evidence:

(1) Declaration of Rajeev Surati, Ph.D. (Ex. 2001).

G. Asserted Grounds of Unpatentability

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)
1, 2, 5–15	103(a)	A3UM, Belitz
3, 4	103(a)	A3UM, Belitz, Rasmussen

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. The ’658 Patent claims priority to Patent Application No. 13/157,214, providing an effective filing date of June 9, 2011. *See* Ex. 1001, code (63). Because this priority date is before the effective date of the applicable AIA amendments (March 16, 2013), we use the pre-AIA version of 35 U.S.C. § 103 in this proceeding.

II. ANALYSIS

A. Principles of Law: Obviousness

A claim is unpatentable as obvious under 35 U.S.C. § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious 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) objective evidence of nonobviousness, i.e., secondary considerations.² See *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

The Supreme Court has made clear that we apply “an expansive and flexible approach” to the question of obviousness. *KSR*, 550 U.S. at 415. Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 417. Reaching this conclusion, however, requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness requires the additional showing that a person of ordinary skill would have

² The current record does not present or address any evidence of nonobviousness.

selected and combined those prior art elements in the normal course of research and development to yield the claimed invention. *Id.*

B. Level of Ordinary Skill

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991).

Petitioner contends that a person of ordinary skill in the art “would have had (1) at least a bachelor’s degree in computer science, computer engineering, or electrical engineering, and (2) at least one year of experience designing graphical user interfaces for applications such as photo management systems.” Pet. 9 (citing Ex. 1003 ¶¶ 41–43). Patent Owner “does not dispute Petitioner’s proposed level of skill.” PO Resp. 14.

Petitioner’s description of the level of ordinary skill is generally consistent with the subject matter of the ’658 Patent, with the exception of the qualifier “at least,” which creates a vagueness that may extend the level to that reflecting an expert. Based on the record presented, including our review of the ’658 Patent and the types of problems and solutions described in the ’658 Patent and the cited prior art, we determine that a person of ordinary skill in the art is a person with a bachelor’s degree in computer science, computer engineering, electrical engineering, or a related field, with two years of academic or industry experience designing graphical user interfaces for applications such as photo management systems.

C. Claim Construction

Pursuant to 37 C.F.R. § 42.100(b), we apply the claim construction standard as set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Under *Phillips*, claim terms are generally given their ordinary and customary meaning as would be understood by one with ordinary skill in the art in the context of the specification, the prosecution history, other claims, and even extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises, although extrinsic evidence is less significant than the intrinsic record. *Phillips*, 415 F.3d at 1312–17. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* at 1315.

Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (in the context of an *inter partes* review, applying *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner asserts that “the Board need not expressly construe the claims.” Pet. 12. “Patent Owner agrees that the claims should be afforded their plain and ordinary meaning, but offers a discussion of that meaning in connection with certain terms and phrases . . . in the event the Board determines that is necessary to resolve Petitioner’s patentability challenges.” PO Resp. 15. In its Sur-reply, Patent Owner proposes constructions for the claim terms “application view,” “responsive to displaying,” and “[first/second]-person-location selectable element.” PO Sur-reply 8–13. Patent Owner has not shown good cause as to why we should consider these claims constructions at this late stage in this proceeding.

We agree with the Petitioner that no claim terms require express construction. *See Vivid Techs.*, 200 F.3d at 803 (holding that only terms that are in controversy need to be construed, and “only to the extent necessary to resolve the controversy”). To the extent that the meaning of any claim term is addressed, we use its ordinary and customary meaning as discussed in our analysis below.

D. Relevant Prior Art

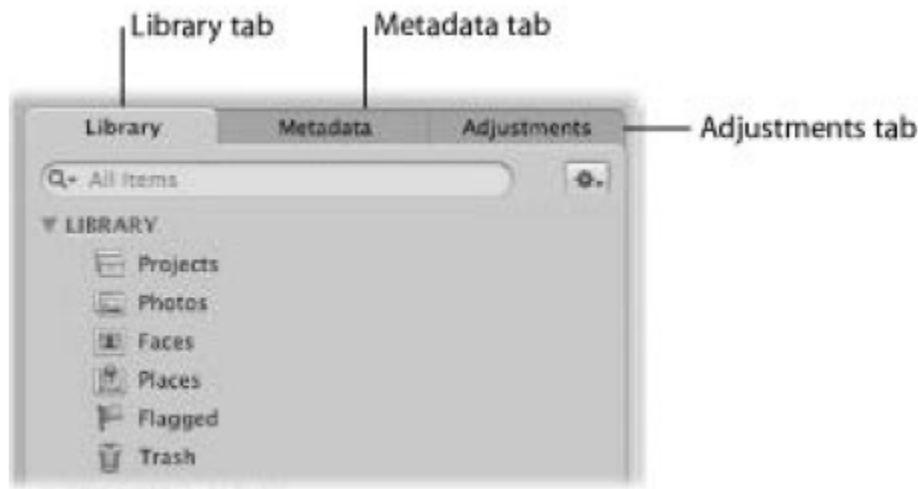
1. A3UM (Ex. 1005)

A3UM is a user manual for Apple’s Aperture software product, showing a copyright date of 2009. Ex. 1005, 3. Petitioner asserts that A3UM is prior art under pre-AIA 35 U.S.C. § 102(b). Pet. 12.

A3UM explains that the Aperture software product (“Aperture”) is a “digital image management system that can track thousands of digital images and provides . . . image management and adjustment tools” and allows the user to “work with high-quality JPEG, TIFF, and RAW image files-and even HD video files.” Ex. 1005, 1–2. A3UM states that Aperture organizes “photos, audio clips, and video clips.” *Id.* at 21. A3UM “describes the Aperture interface, commands, and menus and gives step-by-step instructions for creating Aperture libraries and for accomplishing specific tasks.” *Id.* at 3. One particular Aperture interface is the Aperture main window, reproduced below in an Aperture main window screenshot. *Id.* at 46.



The Aperture main window shows various interface features including an “Inspector pane,” a “Toolbar,” a “Viewer,” a “Browser,” and a “Vault pane.” *Id.* The Browser displays “thumbnail images contained in a folder, project, or album.” *Id.* at 47. In this example, a “single row of thumbnails” is displayed. *Id.* at 47–48. The Browser also displays “video files [imported] into Aperture.” *Id.* at 271. Next, the Viewer shows selected thumbnails from the Browser at full size, or allows side-by-side image comparison. *Id.* at 51. If video items were selected from the Browser, the Viewer can display those videos. *Id.* at 271. Further, the Inspector pane provides access to a Library inspector, via its Library tab, reproduced in an Inspector Pane screenshot below. *Id.* at 54.



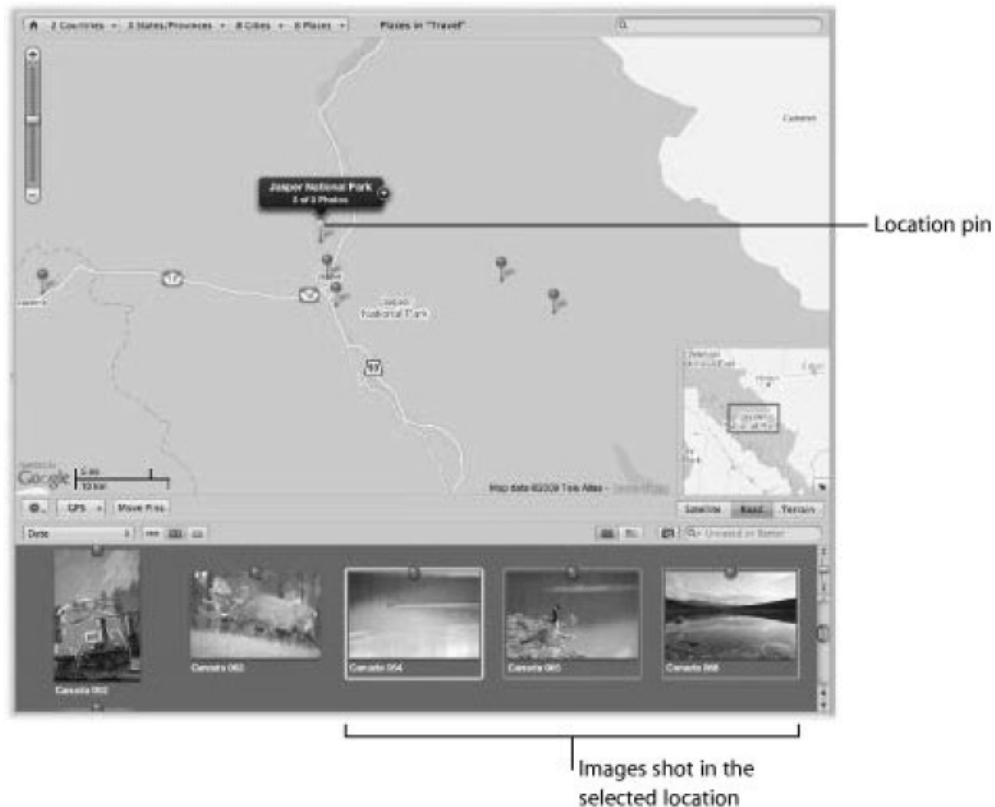
“The Library inspector holds containers—projects, folders, and albums—” which are used to organize images. *Id.* at 55. When a particular “project, folder, or album in the Library inspector” is selected, “the images are displayed in the Browser and Viewer.” *Id.* Further, the “Library inspector also provides a number of ways to view items in the library” and provides access to additional Aperture interface views, such as a Places view and a Faces view. *Id.* Those additional views are accessed by selecting the Places or Faces item in the Library inspector (as shown in the Inspector Pane screenshot) or by selecting the Places or Faces button in the toolbar (as shown in the Aperture main window screenshot). *Id.* at 81, 424.

The Places view “automatically plots the location of each image on [a] map” and provides “images associated with a location.” *Id.* at 435–436. That is, the Places view organizes “images by the locations where they were taken” and “categorizes the images by location and converts” the location to “place names, such as Vancouver, Canada.” *Id.* at 30. A screenshot of one exemplary Places view, within the overall Aperture main window, is reproduced below. *Id.*



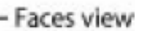
- The location badge indicates that location information has been assigned to the image.

Another exemplary screenshot of the Places view showing “location pins [to] mark the locations where images or groups of images were shot” is reproduced below. *Id.* at 435–437.

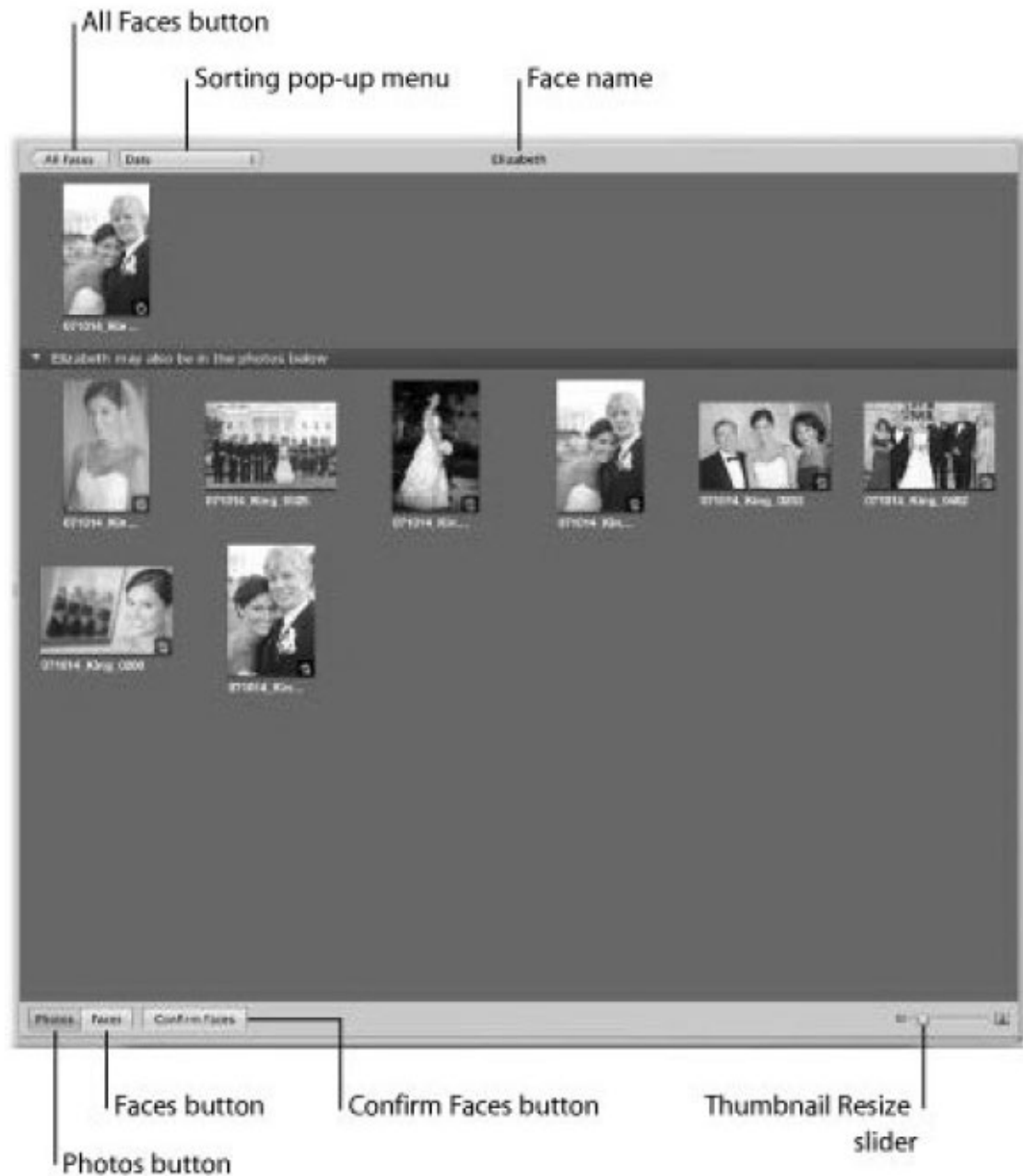


As shown above, “location pins mark the locations where images or groups of images were shot.” *Id.* at 435–437. In particular, the screenshot shows a location pin having a text callout indicating that number of photos were taken at a national park. When a pin is selected, “the image or images associated with the location marked by the [selected] pin are selected in the Browser.” *Id.* at 436.

Turning to the Faces view, the Faces view “show[s] all the photos of people with assigned names in the Aperture library.” *Id.* at 78. A screenshot of the Faces view, within the overall Aperture main window, showing images of people with assigned names, is reproduced below. *Id.* at 29, 78.



By selecting a “person’s snapshot in Faces view,” Aperture displays “all of the images in [the] library in which a person appears.” *Id.* at 29, 79. A screenshot of all the images of a selected person is reproduced below. *Id.* at 79–80; *see id.* at 29.



As shown above, “all the confirmed images of that person appear at the top of the Faces browser, and all the suggested images of the person appear in a separate section below the confirmed images.” *Id.* at 79–80. The suggested images of the person are determined in an automated process which uses “face detection and face recognition technology” to suggest

images corresponding to a named person. *Id.* at 417–419. Those suggested images can be confirmed as matches for the named person by selecting the “Confirm Faces” button. *Id.* at 80, 425. Alternatively, an image can have a name manually assigned to it. *Id.* at 421–422.

2. *Belitz (Ex. 1006)*

Belitz is a U.S. Patent Publication that published on March 4, 2010, more than one year before the earliest priority date of the ’658 Patent. Ex. 1001, code (22), (60); Ex. 1006, code (43). Petitioner asserts that *Belitz* is prior art under pre-AIA 35 U.S.C. § 102(b). Pet. 21.

Belitz relates to a “user interface . . . configured to display a map and to display at least one marked location on said map.” Ex. 1006, code (57). By way of background, *Belitz* explains that “[i]t is common to mark special locations on a map by associating a graphical object with that location. Examples of such locations are service points, restaurants, tourist attractions, visited places etc[.] and examples of graphical objects are photographs taken at such a location.” *Id.* ¶ 2. *Belitz* further explains “[i]f many locations are located close to one another they overlap and the view of the associated images become cluttered and it is difficult to discern between the various objects and the user is not provided with a good view of what location is associated with what.” *Id.* *Belitz* presents a user interface attempting to address those concerns. *Id.* ¶ 5. Figures 4a and 4b, reproduced below, show screenshots of the user interface. *Id.* ¶ 51, 55.

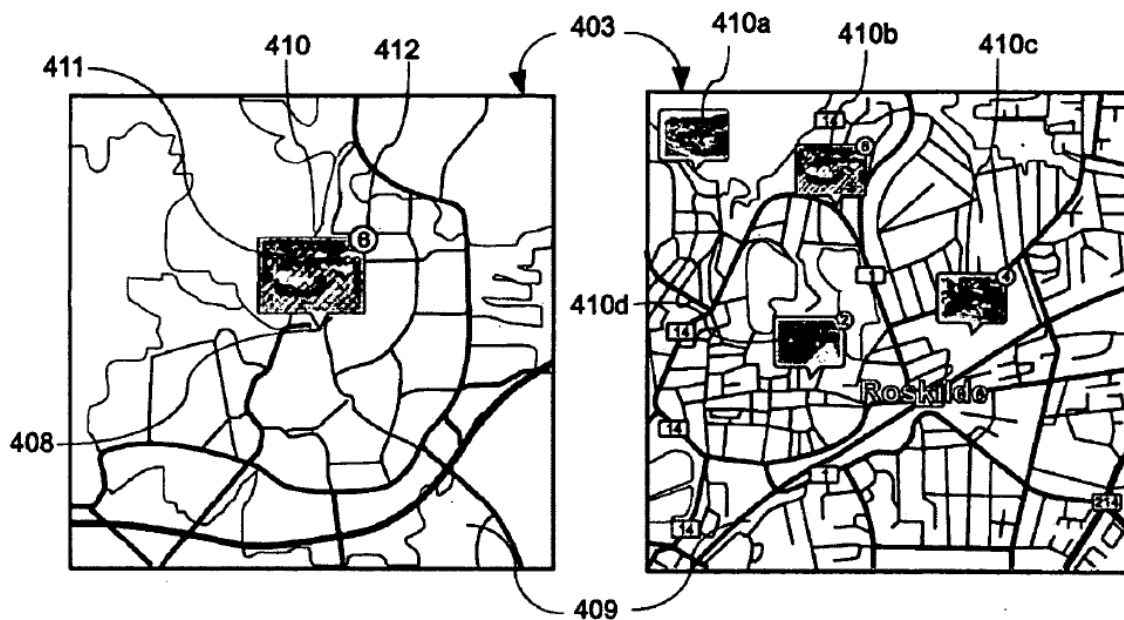


Fig. 4a

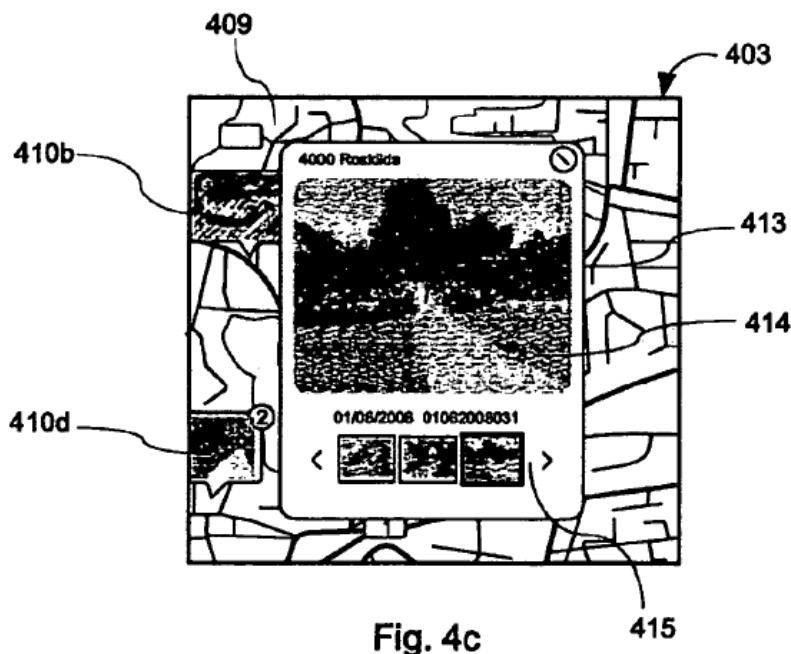
Fig. 4b

As shown in Figure 4a, a "map 409 is displayed of a town called Roskilde. A location 408 is marked by a graphical object 410." *Id.* ¶ 51. "[G]raphical object 410 has a visual representation 411 which in this embodiment is a photograph that is associated with the location." *Id.* ¶ 52. Furthermore, "graphical object 410 carries a number indicator 412 which presents a viewer with a number. The number indicates how many graphical objects 410 are associated with that location and are stacked into one graphical object 410." *Id.* ¶ 54. Furthermore, "graphical objects stacked in the displayed graphical object or graphical group object 410 . . . can be associated with other locations that are in close proximity to the marked location 408" because "if the graphical objects associated with each location were to be displayed separately they would overlap which would clutter the view and be confusing to a user." *Id.*

Figure 4b shows map 408 having been "zoomed in showing the area in greater detail." *Id.* ¶ 55. At this zoom level, graphical object 410 is "split

up into 4 graphical objects 410*a*, 410*b*, 410*c* and 410*d*” because the display of those graphical objects would not overlap. *Id.* Those graphical objects themselves also consist of some number of graphical objects. *Id.*

When a graphical object, e.g., graphical object 410, 410a, 410b, 410c, or 410d, is selected, a popup window is displayed over the graphical object. *Id.* ¶ 60. Figure 4c, reproduced below, is a screenshot showing the user interface after the selection of graphical object 410c. *Id.*



As shown in Figure 4c, the “popup window shows at least some of the visual representations 411 of the graphical object 410c.” One 414 of the visual representations 411 or images as they are in this embodiment is shown in a larger size than the others which are shown in a list 415.” *Id.* In some embodiments, “graphical objects are photographs that are associated with the location where they were taken. The visual representations are thumbnails of the photographs.” *Id.* ¶ 62.

3. Rasmussen (Ex. 1025)

Rasmussen is a U.S. Patent that issued on November 17, 2009, more than one year before the earliest priority date of the '658 Patent. Ex. 1001, code (22), (60); Ex. 1025, code (45). Petitioner asserts that Rasmussen is prior art under pre-AIA 35 U.S.C. § 102(b). Pet. 23.

Rasmussen “relates to digital mapping systems, and more particularly, to techniques that provide more accurate and useful map scales.” Ex. 1025, 1:18–20. In particular, Rasmussen describes digital map tools and user interface options for a digital map. *Id.* at 9:35–49, 48. Figure 2, reproduced below, shows exemplary tools and interface options. *Id.*

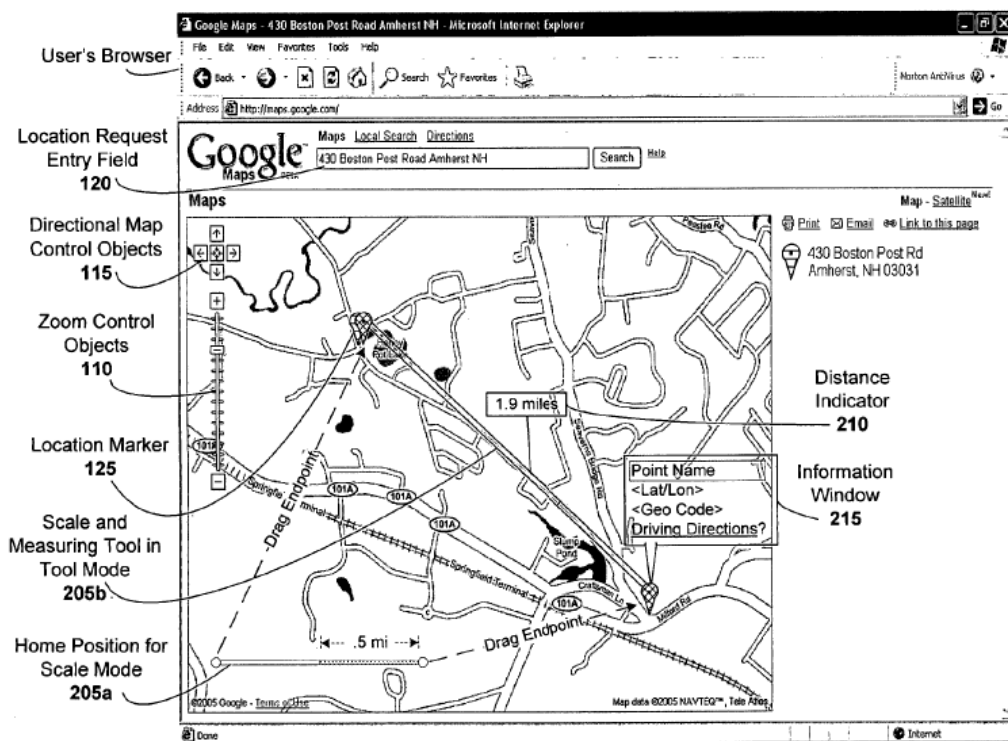


Fig. 2

As shown in Figure 2, a user may position endpoints at various locations on the map, creating measuring tool 205b between the endpoints. *Id.* at 9:61–65. “If the user clicks the tool 205b endpoints or the line between them, an information window . . . opens to show information about

the map locations marked by the tool 205*b* endpoints.” *Id.* at 10:17–23. For example, “information window 215 is shown, and includes latitude/longitude and/or geocode information.” *Id.* at 10:25–27.

E. A3UM as a Printed Publication

Petitioner argues that A3UM should be considered a printed publication because A3UM was publicly available through the Aperture 3 website and software DVD. Pet. 12–17. Patent Owner disputes this and claims that Petitioner “has failed to establish that A3UM qualifies as printed publication prior art [under Section 102] by a preponderance of the evidence.” PO Resp. 28.

1. *Applicable Law*

Our governing statutes provide “[a] petitioner in an *inter partes* review may request to cancel as unpatentable one or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.” 35 U.S.C. § 311(b). Although Patent Owner challenges whether A3UM is a printed publication, the burden of persuasion remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (*citing Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in an *inter partes* review). Petitioner must demonstrate by a preponderance of the evidence that the challenged claims are unpatentable—including showing that the references relied upon are patents or printed publications. *See* 35 U.S.C. § 311(b); *Nobel Biocare Servs. AG v. Intradent USA, Inc.*, 903 F.3d 1365, 1375 (Fed. Cir. 2018), *as amended* (Sept. 20, 2018). “The preponderance of the evidence standard

applicable to *inter partes* reviews requires proof that a fact was more likely than not to have occurred.” *Instradent USA, Inc. v. Nobel Biocare Servs. AG*, IPR2015-01786, Paper 106 at 33 (PTAB Feb. 15, 2017) (internal quotations omitted).

The determination of whether a reference qualifies as a “printed publication” is a legal conclusion based on underlying factual findings. *Nobel*, 903 F.3d at 1375 (citing *Jazz Pharm., Inc. v. Amneal Pharm., LLC*, 895 F.3d 1347, 1356 (Fed. Cir. 2018)). The underlying factual findings include whether the reference was publicly accessible. *Id.* (citing *In re NTP, Inc.*, 654 F.3d 1279, 1296 (Fed. Cir. 2011)).

The determination of whether a document is a “printed publication” under 35 U.S.C. § 102 “involves a case-by-case inquiry into the facts and circumstances surrounding the reference's disclosure to members of the public.” *Medtronic, Inc. v. Barry*, 891 F.3d 1368, 1380 (Fed. Cir. 2018) (citing *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004)). In certain situations, particularly for manuscripts or dissertations stored in libraries, courts may inquire whether a reference was sufficiently indexed, catalogued, and shelved. *See, e.g., In re Hall*, 781 F.2d 897, 898–99 (Fed. Cir. 1986); *In re Lister*, 583 F.3d 1307, 1315 (Fed. Cir. 2009) (manuscript became publicly accessible once it was placed in a searchable database). In other situations, such as for information displayed at meetings and trade shows, courts have explained that indexing is not required if it was sufficiently disseminated. *See Medtronic*, 891 F.3d at 1381 (citing *Suffolk Techs., LLC v. AOL Inc.*, 752 F.3d 1358, 1365 (Fed. Cir. 2014)). The Federal Circuit has summarized that “[w]hile cataloging and indexing have played a significant role in our cases involving library references, we have explained that neither cataloging

nor indexing is a necessary condition for a reference to be publicly accessible.” *Lister*, 583 F.3d at 1312 (citing *Klopfenstein*, 380 F.3d at 1348).

“Because there are many ways in which a reference may be disseminated to the interested public, ‘public accessibility’ has been called the touchstone in determining whether a reference constitutes a ‘printed publication’ bar under 35 U.S.C. § 102(b).” *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016) (quoting *In re Hall*, 781 F.2d at 898–99). “A given reference is ‘publicly accessible’ upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.” *SRI Int’l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008) (quoting *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006)). The Federal Circuit has “interpreted § 102 broadly, finding that even relatively obscure documents qualify as prior art so long as the relevant public has a means of accessing them.” *GoPro, Inc. v. Contour IP Holding LLC*, 908 F.3d 690, 693 (Fed. Cir. 2018).

What constitutes a “printed publication” must also be determined in light of the technology employed. *Samsung Elecs. Co. v. Infobridge Pte. Ltd.*, 929 F.3d 1363, 1369 (Fed. Cir. 2019) (citing *Wyer*, 655 F.2d at 226). Public accessibility requires more than technical accessibility. *Id.* (citing *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 773 (Fed. Cir. 2018)). “[A] work is not publicly accessible if the only people who know how to find it are the ones who created it.” *Id.* at 1372. On the other hand, “a petitioner need not establish that specific persons actually accessed

or received a work to show that the work was publicly accessible.” *Id.* at 1374. “In fact, a limited distribution can make a work publicly accessible under certain circumstances.” *Id.* (quoting *GoPro*, 908 F.3d at 694).

2. *Petitioner’s Assertions*

Petitioner contends that A3UM was publicly accessible at least as early as February 2010, and qualifies as prior art under section 102(b), because (1) a copy was enclosed as an HTML file set on the installation DVD included in each retail package of Aperture 3 sold by Apple, Inc. and was accessible by both the files themselves and through the software; and (2) it was also published on the www.apple.com website.³ Pet. 12–13 (citing Ex. 1020 PP 12–20). Petitioner primarily relies on a declaration by Matthew Birdsell, who “is an Apple employee with personal knowledge of the publication and dissemination of the Aperture 3 User Manual in early 2010,” to demonstrate that A3UM qualifies as a printed publication. Pet. 13 (citing Ex. 1020 ¶¶ 2–4). In February 2010, Mr. Birdsell was an independent contractor for Apple who “personally worked on Apple documentation and publications regarding each version of Aperture throughout its lifespan, including Aperture 3.” Ex. 1020 ¶ 2.

Mr. Birdsell testified that “more than 100,000 customers had purchased and were using the Aperture 3 product between February and June of 2010,” which he based on his personal “experience with the utilization levels of the help resources on the Apple.com website at the time.” Ex. 1020 ¶ 7. To support this statement, Petitioner submits an

³ Petitioner indicates that it “relies on the HTML file set form of the Aperture 3 User Manual (A3UM, EX1005) in this proceeding.” Pet. 13 (citing Ex. 1020 ¶ 9).

Internet Archives’ Wayback Machine capture of the home webpage of apple.com showing Aperture 3 for sale in February 2010 in addition to a table of contents that presumably can be accessed from the “Aperture 3 User Manual” hyperlink. Pet. 13 (citing Ex. 1021); *see also* Pet. Reply 7, 12. Petitioner also includes three articles discussing Aperture 3 software and its February 9, 2010, release date, which, Petitioner contends, demonstrate that “many individuals had installed Aperture 3—and thereby transferred A3UM—onto their computers before June 2010, which required use of the installer DVD supplied via the retail package of Aperture 3.” Pet. 13–14 (citing Exs. 1044, 1045, 1048).

Using the installer DVD, Petitioner alleges that A3UM could be accessed by running the Aperture 3 software then selecting “Aperture 3 User Manual” in the “Help>Aperture Help” menu, which “would retrieve the locally-stored A3UM HTML file set copied during installation.” Pet. 15 (citing Ex. 1003 ¶¶ 86–97, 99; Ex. 1051, 7, 159); *see also* Pet. Reply 15–19. In addition to the internal help functionality, Petitioner asserts that “[s]killed artisans could obtain A3UM from the Aperture 3 installation DVD or from computers onto which Aperture 3 had been installed” by locating the HTML file set in the local copy of the Aperture 3 application bundle and opening the file set with a web browser. Pet. 15 (citing Ex. 1003 ¶¶ 78–85, 91–97; Ex. 1020 ¶ 14)).

Petitioner alleges that A3UM (the HTML file set) “was also published on the www.apple.com website.” Pet. 13 (citing Ex. 1020 ¶¶ 17–20). Petitioner asserts that “the A3UM HTML file set was loaded onto a publicly accessible website (<http://documentation.apple.com/en/aperture/usermanual/>) where it became accessible to any member of the

public starting on the date of commercial sale of Aperture 3.” Pet. 16 (citing Ex. 1020 ¶¶ 9–11). To support this, Petitioner submits that archived copies of the Aperture 3 website from 2010 “include an embedded URL pointing to the HTML-based User Manual” and “display the same table of contents entries as A3UM (EX1005), including sub-sections when manually selected.” *Id.* (citing Ex. 1003 ¶ 103; Ex. 1021, 6). Further, Petitioner contends that “a skilled artisan, exercising only reasonable diligence, could have located A3UM by following links on the apple.com web site” or “[a]lternatively, that person could have located A3UM using the search feature within the apple.com web site or using well-known search engines.” *Id.* at 16–17 (citing Ex. 1003 ¶¶ 101–103; Ex. 1021; Ex. 1020 ¶¶ 18–19).

3. *Patent Owner’s Response*

Patent Owner contends that Petitioner “has failed to establish that A3UM qualifies as printed publication prior art by a preponderance of the evidence.” PO Resp. 28 (citing *Instradent USA, Inc. v. Nobel Biocare Services AG*, IPR2015-01786, Paper 106 at 33 (PTAB Feb. 15, 2017)). In support of this general contention, Patent Owner presents six arguments. Each of these arguments is discussed below.

a) Patent Owner’s First Argument: Petitioner Has Not Shown That the Website Version of A3UM Was Publicly Accessible

Patent Owner contends that Petitioner has not shown that the website version of A3UM was publicly accessible. PO Resp. 29–35. Patent Owner asserts that Dr. Terveen’s testimony “that Apple was ‘well-known’ in 2010 and that a person ‘interested in learning about Apple software’ would have visited www.Apple.com and then allegedly proceeded to the Aperture 3 user manual page” is insufficient to show that a person of ordinary skill in the art

exercising reasonable diligence would have “known to navigate to Apple.com and then look for the Aperture 3 user manual page in search of A3UM.” *Id.* 30 (citing Ex. 1003 ¶ 101; *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 772 (Fed. Cir. 2018)). According to Patent Owner, “[e]ven if an unspecified group of consumers knew of Aperture 3 during the relevant timeframe, there is no evidence those consumers were POSITA⁴s or that an interested POSITA would have known of Aperture 3 or had any motivation to look for it.” *Id.* at 30–31.

Patent Owner further contends that “[e]ven if a POSITA navigated to Apple.com, Petitioner has nevertheless failed to establish that a POSITA exercising reasonable diligence would have actually found the Aperture 3 user manual page.” PO Resp. 32. According to Patent Owner, “‘Aperture’ or ‘Aperture 3’ would not be common search terms to a POSITA, and there is no evidence on the record that searching Apple.com for other terms that would be common, like ‘photo,’ for example, would have yielded any Aperture-related results.” *Id.* Patent Owner contends further that “even if accessing the Aperture 3 webpage through the homepage, a POSITA would still have needed to navigate through at least four more pages to reach the manual.” *Id.* at 34 (citing Ex. 1003 ¶ 102; Ex. 1020 ¶19; Ex. 2026, 67:21–69:11).

b) Patent Owner Second Argument: Petitioner Has Not Shown That Ex. 1005 Accurately Represents What

⁴ Person of ordinary skill in the art.

*Was Shown on the Aperture 3 User Manual Page Before
June 2010*

Patent Owner contends that Petitioner has not shown that Ex. 1005 accurately represents what was shown on the Aperture 3 user manual page before June 2010. PO Resp. 35–38. Patent Owner asserts that “Ex. 1005 is an 1,122-page PDF compilation created from approximately 750 individual HTML files purportedly found on an Aperture 3 installation DVD of unknown origin, provided (and presumably prepared) by counsel in 2021.” *Id.* at 35 (citing Ex. 1003 ¶ 82; Ex. 2023, 57:10–16, 59:4–10; Ex. 2024, 251:15–252:15; *see also* Ex. 2026, 38:25–39:3). According to Patent Owner, “[w]ithout an archived version of the Aperture 3 product manual page, it is impossible to know if Ex. 1005 accurately represents what was available on that page in 2010.” *Id.* at 38 (citing *B/E Aerospace, Inc. v. C & D Zodiac, Inc.*, 709 F.App’x 687, 697–98 (Fed. Cir. 2017)).

*c) Patent Owner’s Third Argument: Petitioner’s
Evidence of Sales is Insufficient to Show Public
Accessibility*

Patent Owner contends that Petitioner’s sales evidence fails to establish public accessibility because, Petitioner “is unable to distinguish between users who purchased retail boxes of Aperture 3 versus those who upgraded from Aperture 2 to Aperture 3,” and that “[f]or those who upgraded, there is no evidence they had the DVD.” PO Resp. 39 (citing Ex. 2026, 62:23–63:20, 65:5–13). Patent Owner contends further that “Petitioner has not offered any evidence that users who purchased the Aperture 3 product would have accessed the website.” *Id.*

d) Patent Owner's Fourth Argument: Petitioner's Reliance on the Aperture 3 Installation DVD is Insufficient to Show That A3UM is a Printed Publication

Patent Owner contends that the HTML file set on the Aperture 3 installation DVD is not a printed publication because “[e]ven if those HTML files were technically present on a DVD circulated to consumers, they were not publicly accessible because they were ‘hidden’ or ‘invisible’ and required a complex series of steps to un-hide.”

PO Resp. 39–40. Patent Owner asserts that “Dr. Terveen—Petitioner’s technical expert and alleged POSITA in this matter—could not testify that he knew where or how to find the ‘hidden files’ on his own” and that “his testimony suggests Petitioner’s counsel provided him with ‘tips’ on how to find the hidden files and conceded that it was ‘possible’ that he did not know how to find the hidden HTML file set without counsel’s ‘tips.’” *Id.* at 40.

Patent Owner asserts further that “the steps required to actually locate the HTML file set further demonstrate that the HTML file set was not publicly accessible.” PO Resp. 41 (citing Ex. 2025 ¶¶ 118–22). Patent Owner contends that “the user manual could only be located at the following path *after arriving at the Archive.pax.gz* location:

/Archive/Applications/Aperture.app/Contents/Resources/English.lproj/aperture_help/en/aperture/.” *Id.* at 45 (citing Ex. 1003 ¶ 82; Ex. 2023, 100:23–101:10). According to Patent Owner, “a POSITA with the Aperture 3 installation DVD lacked any reasonable way of locating the HTML file set unless they already knew what to look for and where to look or if they expanded and inspected every single folder.” *Id.* at 46 (citing *Samsung*, 929 F.3d at 1372).

In addition, Patent Owner contends that *Cisco Sys., Inc. v. Centripetal Networks, Inc.*, IPR2018-01436, Paper 40 (PTAB Jan. 23, 2020), relied upon by Petitioner in claiming that the HTML file set on the Aperture 3 installation DVD is a printed publication, is “clearly distinguishable.” PO Resp. 48. Patent Owner asserts that “the product manual at issue in *Cisco* ‘was enclosed on documentation disks (CD-ROM/DVD) included with each Sourcefire 3D System product sold by Sourcefire, Inc.’” and that “[a]ll one needed to do to view the manual in *Cisco* was to insert the DVD to see the PDF.” *Id.* (citing *Cisco*, Paper 40, p. 23; Ex. 1005 ¶ 11). Whereas, “the Aperture 3 DVD did not include the manual in PDF format. Instead, the HTML file set was purposely hidden inside the installation DVD, requiring a convoluted series of steps that likely proved challenging even to Petitioner’s expert.” *Id.* at 48–49 (citing *id.* at 41–48).

*e) Patent Owner’s Fifth Argument: Aperture 3
Installed on a Mac Computer is Not a Printed
Publication*

Patent Owner contends that the HTML file set installed on a Mac Computer is not a printed publication. PO Resp. 50–53. Patent Owner asserts that Petitioner’s reliance on installation of the Aperture 3 HTML file set on a Mac Computer “crosses the line between relying on material that may arguably constitute a printed publication to relying on a component within a software program that is out of bounds for an IPR.” *Id.* at 50. According to Patent Owner, “[t]he user manual pop-up window seen only by users running Aperture 3 is not a printed publication: it is part of an executing software program. Likewise, the files in the installed Aperture 3 application constitute part of the actual program installed on MacBook, not a printed publication.” *Id.* at 53.

*f) Patent Owner's Sixth Argument: Mr. Birdsell's
Testimony Lacks Credibility*

Patent Owner contends that Mr. Birdsell's testimony lacks credibility because Mr. Birdsell is an Apple employee. PO Resp. 53. Patent Owner asserts that "[m]uch of Mr. Birdsell's testimony was based on memory from over 10-years ago with no corroborating emails or similar documentary evidence" and that "Mr. Birdsell struggled with basic facts." *Id.* at 54.

*g) Arguments Pertaining to Other Alleged Non-Prior
Art*

In addition to arguing that A3UM is not prior art, Patent Owner also contends that "Petitioner relies on at least two references related to Google Maps to show a reasonable expectation of success: (1) excerpts from a textbook entitled 'PHP Web 2.0 Mashup Projects' (hereinafter, 'PHP Web,' Ex. 1035) and (2) an Internet Archive printout regarding the Google Maps API (hereinafter, 'Google Maps API,' Ex. 1040). PO Resp 55 (citing Pet. 28). Patent Owner also contends that "Petitioner also relies on webpage printouts discussing certain alleged photo management products to support the motivation to combine: Picasa Web Albums (Ex. 1033) and Panaoramio (Exs. 1032 and 1034)." *Id.* at 56 (citing Pet. 29). According to Patent Owner, Petitioner does not attempt to establish that any of these exhibits qualify as prior art. *See id.* at 55–56.

Petitioner does not rely upon the exhibits identified by Patent Owner (Exs. 1032–1035, and 1040), as prior art references that form the substantive basis of Petitioner's obviousness challenges to claims 1–15. *See* Pet. 3. Accordingly, they need not qualify as prior art and we do not discuss this argument further.

4. *Petitioner's Reply*

a) *Reply to Patent Owner's First Argument: That
Petitioner Has Not Shown That the Website Version of
A3UM Was Publicly Accessible*

Petitioner asserts that no evidence contradicts Mr. Birdsell's testimony that "***at least 100,000 individuals actually did access*** [A3UM via Apple's website] between February and June of 2010, based on his recollection of Apple analytical reports of 'documentation.apple.com[.]'" Pet. Reply 7 (citing Ex. 2026, 51:16–20, 54:6–22, 55:20–56:11; *see also* Ex. 1020 ¶ 7). Petitioner also replies that no testimony contradicts Mr. Birdsell's further testimony that he "recalled loading the HTML file set that is A3UM onto a staging server on February 8, 2010, and that 'within a few hours after publication' on February 9, 2010, he and his team verified 'the files were live and accessible to customers and that all the links worked.'" *Id.* (citing Ex. 2026, 36:19–36:12, 36:21–37:25; 59:6–8; Ex. 1020 ¶¶ 10–11).

Petitioner asserts that "[w]itnesses from both parties testified [A3UM] is located on and can be retrieved from (i) the Installer DVD and (ii) a local copy of the Aperture application bundle after installation" and that "[p]rinted documentation in the Aperture 3 retail box explains the Aperture 3 user manual is on the computer after installation." Pet. Reply 8 (citing Ex. 1003 ¶¶ 75–94, 99; Ex. 2001 ¶ 108; Ex. 2025 ¶ 118; Ex. 2026, 25:19–24; Ex. 1089, 139:20–140:1, 143:9–13; Ex. 1051, 7, 135, 159). Petitioner asserts further that "Dr. Surati confirmed the Installer DVD has creation-modification dates establishing files on it necessarily existed ***before*** February 2010," that "[a]nyone who used Aperture 3 in February 2010 could access and inspect A3UM using the Aperture help window," and that "[t]he high volume of accesses of A3UM on Apple's website confirms people were

aware of A3UM starting in February 2010.” *Id.* (citing Ex. 1089, 125:3–25; Ex. 1073, 1; Ex. 1003 ¶¶ 87–90; Ex. 1020 ¶ 12(b)).

In addition, Petitioner asserts that “[a]n array of evidence corroborates [Petitioner’s assertion that the A3UM installer DVD was publicly distributed], including (i) Apple’s press release . . . (ii) Mr. Birdsell’s recollections about its release date, his activities around that release date, and that he witnessed it for sale in Apple stores then . . . and (iii) webpages captured between February and June 2010 reporting experiences of people using Aperture 3.” Pet. Reply 8–9 (citing Ex. 1048, 1; Ex. 1020 ¶¶ 5–7; Ex. 2026, 59:10–60:10, 62:4–21; Ex. 1044, 1; Ex. 1045, 2; Ex. 1077, 1; Ex. 1089, 181:14–182:11, 192:2–7, 189:10–14, 170:6–13). Petitioner asserts further that “[s]killed artisans thus knew of and could have retrieved A3UM starting in February 2010.” *Id.* at 9.

b) Reply to Patent Owner’s Second Argument: That Petitioner Has Not Shown that Ex. 1005 Accurately Represents What Was Shown on the Aperture 3 User Manual Page Before June 2010

Petitioner asserts that Patent Owner “has not disputed that EX1005 is a true and correct copy of the A3UM HTML file set **on the v3.0 Aperture Installer DVD.**” Pet. Reply 20. Petitioner asserts that “[t]he ‘provenance’ of A3UM is also clear—the footer reports the path to each HTML file used to render each page, and they are all in the ‘usermanual’ subfolder in the ‘Resources’ subfolder of a local copy (*i.e.* ‘file:///’) of the Aperture 3 application bundle. *Id.* at 20–21 (citing Ex. 1005; Ex. 1003 ¶¶ 81, 73; Ex. 2024, 252:13–15).

Petitioner points out that “Dr. Surati confirmed he could retrieve the A3UM HTML file set from the Installer DVD as Dr. Terveen did” and “that

all the files on the Installer DVD existed by January 21, 2010 and could not be modified after that date.” Pet. Reply 21 (citing Ex. 1089, 125:3–25, 139:20–140:1; Ex. 2025 ¶ 117; Ex. 1003 ¶¶ 80–81; Ex. 1073,1). Petitioner also points to Mr. Birdsell’s testimony “that the same A3UM HTML file set was (i) packaged for distribution on the Installer DVD and (ii) loaded on apple.com.” *Id.* (citing Ex. 2026, 40:15–41:10, 41:17–42:12; Ex. 1020 ¶ 4). Thus, according to Petitioner, “because EX1005 was produced from HTML files on the v3.0 Aperture Installer DVD that existed before February 2010, and because that HTML file set is ‘one-for-one’ identical to the one accessible from the Aperture support page, . . . EX1005 was publicly accessible from the apple.com website and from the Installer DVD.” *Id.*

*c) Reply to Patent Owner’s Third Argument: That
Petitioner’s Evidence of Sales is Insufficient to Show
Public Accessibility*

Petitioner asserts that “Mr. Birdsell’s testimony *is* evidence” and it “is reliable—he had clear recollections of relevant facts and his testimony is corroborated by other evidence (*e.g.*, reports of third parties using Aperture 3 in webpages captured before June 2010).” Pet. Reply 9 (citing *In re Jolley*, 308 F.3d 1317, 1328 (Fed. Cir. 2002); *In re Apple Inc.*, 979 F.3d 1332, 1336 (Fed. Cir. 2020); Ex. 1044, 1; Ex. 1045, 2; Ex. 1007, 1; Ex. 1089, 170:6–13, 181:14–182:11, 189:10–14, 192:2–7). Petitioner asserts that the cases cited by Patent Owner in support of its arguments “about numbers of copies that must distributed to establish public availability” “found numbers far fewer than 100,000 copies were sufficient” to make the required showing. *Id.* at 9–10 (citing PO Resp. 51–52; *Cisco*, Paper 40, p. 23–31; *Mass. Inst.of Tech. v. AB Fortia*, 774 F.2d 1104, 1109 (Fed. Cir. 1985)).

d) Reply to Patent Owner's Fourth Argument: That Petitioner's Reliance on the Aperture 3 Installation DVD is Insufficient to Show That A3UM is a Printed Publication

Petitioner asserts that Dr. Surati's testimony isn't credible. Pet. Reply 13–15. Specifically, Petitioner asserts that “[a]s his deposition shows, he was unfamiliar with how MacOS applications are organized and distributed, that their help files are typically stored in the application bundle, and how to reveal hidden files” and that “despite confirming a skilled person would have consulted Apple documentation or MacOS ‘how to’ books if they had questions, he did not.” *Id.* at 13 (citing Ex. 1089, 36:2–11, 42:23–42:8, 44:2–14, 405:20–406:19; Ex. 2025 ¶¶ 114–117). Petitioner asserts that “[a]fter reviewing such documentation, Dr. Surati confirmed it teaches” how MacOS applications are organized and distributed and notes that “Dr. Surati analogized locating A3UM within the Installer DVD to ***finding a book in a library***.” *Id.* at 13–15 (footnote omitted, citing Ex. 1089, 407:8–19). Thus, according to Petitioner

a skilled artisan who took even the most basic steps to familiarize himself with how MacOS applications are organized and distributed would have known ***where*** to look for HTML help files (*e.g.*, A3UM) in the Aperture 3 application bundle (*i.e.*, in the “Resources” folder) and ***how*** to retrieve them from (i) the Installer DVD and (ii) after installation, the local copy of the Aperture 3 application bundle.

Id. at 15. (citing Ex. 1003 ¶¶ 93–94; Ex. 2025 ¶ 118; Ex. 1089, 36:2–11, 42:23–43:8, 44:2–14, 407:20–408:8).

Petitioner then summarizes the steps Dr. Surati took to retrieve A3UM from the installer DVD as outlined in Ex. 1089. Pet. Reply 15–19.

e) Reply to Patent Owner's Fifth Argument: That Aperture 3 Installed on a Mac Computer is Not a Printed Publication

Petitioner asserts that Patent Owner “can’t dispute that installing Aperture 3 from the v3.0 Aperture Installer DVD is trivial or that it copies A3UM to the user’s computer” because “Dr. Surati confirmed this.” Pet. Reply 19 (citing Ex. 1003 ¶¶ 80–85, 91–98; Ex. 1020 ¶¶ 12, 14; Ex. 2026, 25:19–24; Ex. 2025 ¶117). In addition, Petitioner asserts that “as both experts and the Apple guidelines confirm, the A3UM HTML files in the Aperture 3 application bundle can be viewed with a Safari web browser *without* Aperture 3 running.” *Id.* at 20. (footnote omitted, citing Ex 1003 ¶ 95; Ex. 1089, 27:4–7, 98:5–99:10; Ex. 1071, 5; Ex 2023, 80:2–81:6; Ex. 2026, 71:11–72:8).

f) Reply to Patent Owner's Sixth Argument: That Mr. Birdsell's Testimony Lacks Credibility

Petitioner asserts that “witnesses ordinarily testify from their recollections, and [Patent Owner] had ample opportunity to prove bias or defective recollections and failed to do so.” Pet. Reply 22. Petitioner asserts further that “Mr. Birdsell’s recollections are also corroborated by other evidence.” *Id.* (citing *Jolley*, 308 F.3d 1328, *Apple*, 979 F.3d 1336; Ex. 1020, ¶ 13; Ex. 1003 ¶¶ 71, 103; Ex. 1089, 104:6–15; Ex. 1020 ¶¶ 5–7, 14–16; Ex. 2026, 59:10–60:9, 62:4–21).

5. Patent Owner's Sur-reply

In response to Petitioner’s Reply, Patent Owner reiterates some of its arguments, namely is arguments pertaining to its first, second, fourth, and fifth arguments outlined in Section II.E.3 above. PO Sur-reply 1–7.

a) *Patent Owner's First Argument: Petitioner Has Not Shown That the Website Version of A3UM Was Publicly Accessible*

Patent Owner contends that “Petitioner’s theories are flawed because they require *a priori* knowledge of Aperture 3 and A3UM.” PO Sur-reply 1 (citing Pet. Reply 8). According to Patent Owner, “[a] POSITA would not have possessed this prerequisite knowledge, as evidenced by Petitioner’s own expert *having never heard of Aperture 3* prior to 2021.” *Id.* (citing Ex. 2023, 49:14–50:11, 52:2–4; PO Resp. 30–31); *see also id.* at 6 (reiterating this argument and asserting that “[t]here is also no evidence that Apple was known for photo management software such that one interested in the relevant subject matter would visit apple.com.” (citing *Corning Optical Communications LLC v. Dali Wireless, Inc.*, IPR2021-00762, Paper 37 at 24–25 (PTAB Oct. 11, 2022))). Patent Owner contests Petitioner’s characterization of Dr. Surati’s testimony as admitting “that one would have learned of Aperture by Googling ‘photo editing and management software’ or ‘photo management software’” arguing that “Dr. Surati was asked to speculate whether searching the exact phrase ‘photo editing and management software’ could have yielded a result mentioning Aperture 3” “not because an interested artisan would use it for a search, but because it conveniently appears in an Apple document.” *Id.* at 1 (citing Pet. Reply 10; Ex. 1089, 204:9–205:3; Ex. 1048, 1; *Corning*, IPR2021-00762, Paper 37 at 26; *see also id.* at 6 (reiterating this argument and asserting that “[a]ny mention of Aperture 3 on the apple.com homepage was limited to mere weeks, which weighs against a finding of public accessibility.” (citing Pet. Reply 12–13; PO Resp. 35))).

Patent Owner contends that “Petitioner proffers no evidence (1) that a POSITA would use its newly proposed search terms, nor (2) whether or where 2011 Google search results would contain a reference to Aperture 3 or A3UM.” PO Sur-reply 2 (citing Pet. Reply 10). Given this alleged lack of evidence, Patent Owner contends that “Petitioner’s argument as to how a POSITA would learn of Aperture 3 and A3UM rests on speculation and should be rejected.” *Id.*

b) Patent Owner Second Argument: Petitioner Has Not Shown That Ex. 1005 Accurately Represents What Was Shown on the Aperture 3 User Manual Page Before June 2010

Patent Owner contends that the Petition “lacks credible evidence as to the origins of EX1005 and incorrectly argues that Patent Owner ‘has not disputed that EX1005 is a true and correct copy of’ A3UM.” PO Sur-reply 2 (citing Pet. Reply 20). Patent Owner states that it “objected to EX1005’s authenticity.” *Id.* (citing Paper 14, 3). Patent Owner contends that “neither of Petitioner’s witnesses could explain how EX1005 was created” as “[b]oth witnesses only ‘spot-checked’ parts of EX1005 against a table of contents.” *Id.* (citing PO Resp. 36; Ex 2026, 20:5–6, 41:11–16, 44:15–17, 21–23; Ex. 2023, 57:10–59:10, 62:3–12).

Patent Owner contends that “Petitioner depends on uncorroborated assertions from its employee, Mr. Birdsell” that “cannot be corroborated because no such evidence exists, so it should be given little or no weight.” PO Sur-reply 2–3 (citing Ex. 2026, 54:23–55:17, 69:13–19, 53:16–54:17; *Carella v. Starlight Archery & Pro Line Co.*, 804 F.2d 135, 138 (Fed. Cir. 1986); *Parrot S.A. v. Qfo Labs, Inc.*, IPR2018-01690, Paper 40 at 63–64 (PTAB Feb. 20, 2020); *see also id.* at 7).

Patent Owner contends that “Mr. Birdsell could only speculate as to the number of Aperture sales.” PO Sur-reply 3 (citing Pet. Reply 9). According to Patent Owner, in this case “sales *are* required because accessing A3UM via a DVD requires a sale.” *Id.* In addition, Patent Owner contends that another indication that A3UM was not publicly accessible is the fact that Aperture 3 users were bound by a license agreement. *Id.* (citing Ex. 2007, 1–2).

c) Patent Owner’s Fourth Argument: Petitioner’s Reliance on the Aperture 3 Installation DVD is Insufficient to Show That A3UM is a Printed Publication

Patent Owner contends that “Petitioner failed to establish that a POSITA would know A3UM is **hidden** on the DVD.” PO Sur-reply 4 (citing *id.* at 2–3). According to Patent Owner, “[t]he Reply goes to great lengths to explain how one could unhide A3UM” and “[t]hese arguments underscore the need for in-depth knowledge or research regarding how Mac OS applications ‘are organized and distributed’ to locate A3UM.” *Id.* (citing Pet. Reply 13–16). Patent Owner argues further that Petitioner’s expert “did not find the hidden files on his own and required ‘tips’ from counsel.” *Id.* (citing PO Resp. 40–41; Ex. 2023, 67:8–19, 73:10–22, 79:10–15; *Corning*, IPR2021-00762, Paper 37 at 19–20).

Patent Owner further contends that even if “an artisan exercising reasonable diligence would have unhidden the files, Petitioner does not explain how navigating to the Archive.pax.gz file, copying, then decompressing it as one of numerous steps comports with reasonable diligence” and that Petitioner does not “dispute that the DVD lacked search functionality.” PO Sur-reply 4 (citing Pet. Reply 18; PO Resp. 43–44, 47; Ex. 2025 ¶¶ 119–120).

In addition, Patent Owner contends that Dr. Surati did not analogize locating A3UM within the Installer DVD to finding a book in a library. PO Sur-reply 5 (citing Pet. Reply 15, Ex. 1089, 407:8–19, footnote omitted). Rather, according to Patent Owner, “Dr. Surati testified that finding the hidden A3UM files is akin to being told that a book is hidden in a library and being asked to find it without guidance.” *Id.* (citing Ex. 1089, 409:2–19; PO Resp. 49).

*d) Patent Owner’s Patent Owner’s Fifth Argument:
Aperture 3 Installed on a Mac Computer is Not a Printed
Publication*

Patent owner contends that even if A3UM can be viewed with a Safari web browser without Aperture 3 running, “that does not change the fact that A3UM is a component of an installed software product that one would have to take many steps to locate.” PO Sur-reply 6.

6. Discussion

We determine that Petitioner has proven by a preponderance of the evidence that A3UM was “publicly accessible” both through distribution of public sales of the Aperture 3 software and the Aperture 3 website for several reasons. Because much of our decision is premised on our determination that Mr. Birdsell’s testimony is credible, we begin our discussion with Patent Owner’s sixth argument, that Mr. Birdsell’s testimony is not credible before discussing Patent Owner’s other arguments.

*a) Patent Owner’s Sixth Argument: Mr. Birdsell’s
Testimony Lacks Credibility*

We credit Mr. Birdsell’s testimony. Although, Mr. Birdsell has been an Apple employee for over a decade, there is no evidence to suggest that he has a financial stake (e.g., losing employment) in the outcome of this matter,

unlike in *Parrot*. See *Parrot*, IPR2018-01690, Paper 40 at 63–64 (giving little weight to testimony from witness who was a party’s cofounder and admitted to having a financial stake in the outcome of the proceeding). We agree with Petitioner that “witnesses ordinarily testify from their recollections, and [Patent Owner] had ample opportunity to prove bias or defective recollections and failed to do so.” Pet. Reply 22. As discussed below, Petitioner provides corroborating evidence in support of Mr. Birdsell’s testimony, whereas Patent Owner offers no evidence beyond attorney argument that Mr. Birdsell’s testimony is unreliable.

b) Patent Owner’s First Argument: Petitioner Has Not Shown That the Website Version of A3UM was Publicly Accessible

We determine that Petitioner has proven by a preponderance of the evidence that the website version of A3UM was publicly accessible. We credit Mr. Birdsell’s testimony that the HTML file set was loaded onto a staging server the night before Aperture 3’s launch, and that he personally, as well as the quality assurance team, verified that “the files were live and accessible to customers and that all the links worked” on the website on launch day. Ex. 2026, 36:21–37:5, 36:8–12. Further, Apple published a press release (Ex. 1077) and marketed Aperture 3 on its home page. Ex. 1077; Ex. 1078. Dr. Surati’s testimony shows that a person of ordinary skill in the art using a search engine such as Google to find photo management and editing software would have been able to find the Aperture 3 support page containing A3UM in February 2010. See Ex. 1089, 187:12–188:8, 202:12–204:4, 205:17–206:2. This testimony also corroborates Mr. Birdsell’s testimony that approximately 95% of traffic accessing Aperture 3 came from search engines. Ex. 2026: 67:13–20.

These facts indicate that a person did not need *a priori* knowledge of the reference in order to access it. *See Samsung*, 979 F.3d at 1374.

Moreover, the experts from both parties were able to find the Aperture 3 support page with the A3UM PDF on apple.com in a few clicks by navigating to pages that seemed relevant to photo management and editing, indicating that a POSITA in 2010 could have found the Aperture 3 software through reasonable diligence without searching on the website. Ex. 1003 ¶ 101; Ex. 1089, 207:22–208:22; *see generally* Exs. 1021; 1074.

There is no evidence to suggest that credentials were needed to access the user manual and despite the software licensing agreement, A3UM was public such that anyone could download it, so any concerns about the inability to copy the manual are moot. *See Klopfenstein*, 380 F.3d at 1351 (finding that prohibiting copying weighs against public accessibility). Further, assuming *arguendo* that Aperture 3 was marketed for “mere weeks” on the home page, Aperture 3’s product page remained for much longer. Ex. 2026, 66:8–12 (noting that Mr. Birdsell took A3UM off the Apple website at the beginning of the pandemic in 2020). Thus, we determine that Petitioner has proven by a preponderance of the evidence that the HTML version of A3UM was “publicly accessible” by a POSITA for a time period long enough to be considered sufficiently disseminated. *See Klopfenstein*, 380 F.3d at 1351–52 (determining that three days was long enough to consider a reference “publicly available”). Because Petitioner demonstrated accessibility, Petitioner had no requirement to show the number of people who actually accessed the HTML files. *See, e.g., Samsung*, 929 F.3d at 1374; *Constant*, 848 F.2d at 1568.

c) Patent Owner Second Argument: Petitioner Has Not Shown that Ex. 1005 Accurately Represents What Was Shown on the Aperture 3 User Manual Page Before June 2010

We determine that Petitioner has demonstrated by a preponderance of the evidence that Ex. 1005 accurately represents what was shown on the Aperture 3 user manual page. Both Mr. Birdsell and Dr. Terveen individually compared Ex. 1005 to the HTML file set and found no discrepancies. Ex. 2026, 41:14–16; Ex. 2023, 61:13–17. Additionally, each page of Exhibit 1005 has the file path for each file located in the bottom left hand corner and the file path is consistent with the file path given above for the help files. *See generally* Ex. 1005. Both of these together, with no evidence from Patent Owner to suggest otherwise, indicate that Ex. 1005 is the same as the HTML file set. Further, we credit Mr. Birdsell’s unrebutted testimony that the same version of A3UM would have been sent to both the disk packaging team and the team responsible for loading A3UM onto the website. Ex. 2026, 40:15–41:10.

Patent Owner alleges that the version of the A3UM Table of Contents shown in Exhibit 1021 has a copyright date of 2011, indicating that A3UM may not have been available on the website until after the critical date. PO Resp. 37 n.4; *compare* Ex. 2010 with Ex. 1021. However, in *Nautilus, Inc. v. Icon Health Fitness Inc.*, the Board noted that a date notation on a document is not dispositive and is only “one piece of evidence to consider in the public accessibility analysis.” IPR2017-01363, Paper 33 at 16 (PTAB Nov. 28, 2018). Evidence indicates that the copyright date was due to the Wayback Machine’s processes and does not reflect the actual copyright year of A3UM. Ex. 1055 (showing code that demonstrates copyright year was

inserted by Wayback Machine; Ex. 2026, 46:20–49:7 (explaining how the Wayback Machine archives webpages). This evidence illustrates that the Apple webpage more likely than not, based on the totality of the evidence, displayed A3UM in 2010.

*d) Patent Owner’s Third Argument: Petitioner’s
Evidence of Sales is Insufficient to Show Public
Accessibility*

Petitioner argues, and we agree, that the 100,000 copies sold “far exceeds the number of disclosures recognized under the relevant dissemination law for printed publications.” Pet. 14 (quoting *Cisco Sys., Inc. v. Centripetal Networks, Inc.*, IPR2018-01436, Paper 40 at 23–31 (Jan. 23, 2020); citing *Mass. Inst. of Tech. v. AB Fortia*, 774 F.2d 1104, 1109 (Fed. Cir. 1985); Reply 7. Patent Owner does not dispute Petitioner’s evidence that Aperture 3 was publicly sold, or that a copy of the A3UM reference was included on the Aperture 3 installer DVD sold in the relevant timeframe. Patent Owner only disputes the number of copies sold and submits that Mr. Birdsell “merely ‘believe[s]’ that a number of customers purchased and were using the Aperture 3 product before June of 2010.” PO Resp. 38.

Patent Owner has not offered any evidence beyond attorney argument that suggests Mr. Birdsell’s testimony is unreliable. Petitioner, however, has provided corroborating evidence to show that Aperture 3 was marketed, including a press release (Exhibit 1048), a feature on the home page of Apple (Exhibit 1021), and two separate reviewer articles (Exhibits 1044, 1045). *See also* Ex. 2026, 57:3–12 (stating that the presence of Aperture 3 on the Apple home page meant that it received “top billing”). Thus, it is not unreasonable to conclude that Aperture 3—sold on a website that Patent Owner’s expert noted was “probably” one of the most visited websites in the

world in 2010 (Ex. 1089, 188:9–16)—had sold enough copies to be considered sufficiently disseminated to the public, especially given the un rebutted testimony of Mr. Birdsell. Even without the knowledge of how many users purchased Aperture 3 retail boxes when upgraded from Aperture 2, the fact that the Aperture series has been successful enough to manufacture three separate versions also supports this finding. Though Petitioner’s expert apparently lacked personal knowledge of Aperture 3 prior to this case, Mr. Birdsell’s testimony, along with the other evidence corroborating Apple’s marketing and sales of Aperture 3, shows that POSITAs would likely have known about Aperture 3. *See, e.g.*, Ex. 1020, ¶ 7 (noting that at least 100,000 copies of Aperture 3 were sold); Ex. 2026, 51:16–20 (stating that website analytics corresponded with sales); 54:15–22 (discussing website access volume for Aperture 3); Exs. 1044, 1045, 1048 (published press releases and product reviews of Aperture 3). We find it far more likely than not that A3UM was publicly accessible through retail sales of Aperture 3 software at least as of June 2010.

*e) Patent Owner’s Fourth Argument: Petitioner’s
Reliance on the Aperture 3 Installation DVD is
Insufficient to Show That A3UM is a Printed Publication*

We determine that Petitioner has shown by a preponderance of the evidence that the A3UM HTML file set present on the Aperture 3 installation DVD is a printed publication. Even though the HTML file set was hidden after installation, anyone who had the installer DVD could access the A3UM file set. The relevant inquiry here is “whether the reference was ‘available to the extent that persons interested and ordinarily skilled in the subject matter or art[,] exercising reasonable diligence, can locate it.’” *Voter Verified, Inc. v. Premier Election Sols., Inc.*, 698 F.3d

1374, 1380 (Fed. Cir. 2012) (quoting *SRI*, 511 F.3d at 1194). The Petition outlines the steps a POSITA would have performed to “obtain A3UM from the Aperture 3 installation DVD or from computers onto which Aperture 3 had been installed.” Pet. 15. Dr. Terveen’s corroborating testimony explains how he obtained A3UM from the installation DVD and a computer onto which he had installed Aperture 3. Ex. 1003 ¶¶ 80–97. Dr. Surati’s testimony also corroborates Petitioner’s position. Ex. 1089, 16:4–14, 36:2–11, 42:23–43:8, 44:2–14, 64:6–65:2, 71:23–72:8, 72:21–24, 73:18–74:41, 86:16–87:5, 89:10–14, 97:9–13, 98:5–11, 100:16–101:2, 108:18–21, 127:3–8; 131:23–132:10, 135:16–21, 136:24–137:3, 141:25–142:20; Pet. Reply 15–19.

Further, “a printed publication need not be easily searchable after publication if it was sufficiently disseminated at the time of its publication.” *Suffolk Techs., LLC v. AOL Inc.*, 752 F.3d 1358, 1364 (Fed. Cir. 2014). We determine that A3UM was sufficiently disseminated on the Aperture 3 installer DVD that anyone could purchase, regardless of whether the files were initially hidden on the DVD.

f) *Patent Owner’s Fifth Argument: Aperture 3
Installed on a Mac Computer is not a Printed Publication*

We are not persuaded by Patent Owner’s argument that A3UM constitutes a product and not a printed publication because the A3UM HTML file set can be accessed without a special program or coding expertise. Patent Owner relies on *Ex parte Nelson* to support their argument; however, *Nelson* is distinguishable from the case here. No. 2020-004978, 2020 WL 8186425 at *15. The examiner in *Nelson* relied on the actual software and not the user manuals to make rejections; additionally, there was insufficient evidence to suggest that the user manuals were included in the

software distribution, unlike this case. *Id.* The files are in a folder on their own and their contents can be accessed without Aperture 3 running. Ex. 1089, 98:5–99:10; Ex. 2023, 80:2–81:6. Although A3UM is most easily accessible through the actual Aperture 3 software in the internal help functionality after installation, that does not necessarily make it part of a product. Evidence also suggests that A3UM alone was available on the Aperture 3 website, which further indicates that there is a demarcation between the product and A3UM. *See, e.g.*, Ex. 1021; *see also* Ex. 2026, 56:13–22 (noting that the Aperture 3 software could only be distributed through retail boxes and not through online download in 2010).

7. *Determination That A3UM is a Printed Publication*

Having considered the evidence of record and Patent Owner’s arguments discussed above, we determine that Petitioner has shown by a preponderance of the evidence that A3UM is a printed publication and qualifies as prior art in this proceeding.

F. Ground 1 - Obviousness of Claims 1, 2, and 5–15 over A3UM and Belitz

Petitioner asserts that claims 1, 2, and 5–15 are obvious over the combination of A3UM and Belitz under 35 U.S.C. § 103(a). Pet. 23–75.

1. *Independent Claim 1*

For each limitation of claim 1, Petitioner asserts that A3UM alone or in combination with Belitz meets that limitation. Pet. 23–50. Petitioner also provides the testimony of Dr. Terveen in support of its position with respect to the limitations of claim 1. *See* Ex. 1003 ¶¶ 138–189. Patent Owner raises two issues in response to Petitioner’s challenge to claim 1. We address each of these arguments below. We have reviewed Petitioner’s evidence and

reasoning in support of this challenge. In addition, we have reviewed the testimony in support thereof. For the uncontested limitations of claim 1, we determine that Petitioner has shown by a preponderance of the evidence that the combined teachings of A3UM and Belitz meet the uncontested limitations. Accordingly, we focus our discussion of this challenge on Patent Owner's arguments.

a) Patent Owner's Argument That Petitioner Fails to Identify an "Application View" That is Distinct From the Other Claimed Views

Petitioner asserts that A3UM describes displaying a user interface ("*application view*") with various views, such as Faces and Places views, on a conventional computer monitor ("*video display device*") when it is executing. Pet. 36 (citing Ex. 1005, 65, 81–82, 158, 1081; Ex. 1003 ¶ 154). Petitioner asserts further that "A3UM also describes a Library inspector with a '*plurality of selectable elements*' including (i) a 'Places' item 'to view the locations assigned to images in the library on a map' ('*location selectable element*') and, e.g., (ii) a 'Faces' item 'to view people identified in images.'" *Id.* at 37 (citing Ex. 1005, 78–81, 125–126, 424, 436). In addition, Petitioner asserts that "A3UM provides a Toolbar with a '*plurality of selectable elements*' including (i) a 'Places' button to view the locations of images in a selected item in the Library inspector (another '*location selectable element*') and (ii) a 'Faces' button to view faces identified in a selected item in the Library inspector." *Id.* (citing Ex. 1005, 78–81, 125–126, 424, 436; Ex. 1003 ¶ 155).

Patent Owner contends that "[n]owhere does Petitioner identify an 'application view' in A3UM that is distinct" "from the 'map view,' 'people view,' and 'album view.'" PO Resp. 56 (citing *id.* at 15–19; Pet. 36–37; Ex.

2025 ¶¶ 159–160); *see also* PO Sur-reply 13–14. According to Patent Owner, “Dr. Terveen testified that he believed that ‘any of the views within the Aperture user interface are application views.’” *Id.* at 57 (citing Ex. 2024, 297:19–298:7, 298:17–20). Patent Owner contends that “[t]his interpretation conflicts with the plain language, which logically prohibits the claimed ‘application view’ from also being, for example, the ‘map view’ and the ‘people view.’” *Id.* (citing *id.* at 15–19; Ex. 2025 ¶ 161).

Petitioner replies that Patent Owner’s argument rests on an incorrect claim construction and that Patent Owner mischaracterizes Dr. Terveen’s testimony. Pet. Reply 23. According to Petitioner, Dr. Terveen “did not contend the claim language was met simply because A3UM has an interface. He identified specific elements of different interfaces that met the requirements of the first clause of claim 1.” *Id.* (citing Ex. 1003 ¶ 155; Ex. 2024, 296:16–298:20).

In response to Petitioner’s Reply, Patent Owner asserts that Petitioner raises a new argument by identifying the Library inspector and Toolbar as corresponding to the claims “application view.” PO Sur-reply 14. Patent Owner is mistaken. The Petition identifies these elements of A3UM as corresponding to the claimed application view. Pet. 37.

We do not agree with Patent Owner that claim 1 requires an “application view” that is distinct from other views. PO Resp. 56. The ’658 Patent describes various types of application views, such as the uploads application view, the people application view, the location application view, and the recipe application view. *See, e.g.* Ex. 1001, 3:58–62. Nowhere does the ’658 Patent describe an “application view” that is distinct from one of these disclosed views.

Further, we agree with Petitioner that the Library inspector identified by Dr. Terveen meets the limitation of an “application view” even under Patent Owner’s construction because it is a view that is not the same as the claimed “map view” or “people view” and it includes a plurality of selectable elements (Projects, Photos, Faces, Places, Flagged, and Trash buttons) including a location selectable element (Places button). Ex. 1005, 78. Even given Patent Owner’s proposed construction, we are persuaded for the reasons stated by Petitioner that A3UM discloses an “application view” that is distinct from the other claimed views.

b) Patent Owner’s Argument That Petitioner Fails to Meet Its Burden to Show a POSITA Would Modify A3UM With Belitz

(1) Petitioner’s Assertions

Petitioner contends that “it would have been obvious to modify A3UM to substitute Belitz’s thumbnail markers for A3UM’s pins.” Pet. 39. In support of this contention, Petitioner asserts that “[a] skilled artisan would have considered the teachings of A3UM and Belitz together, as both references (and the ’658 Patent) come from the same field of endeavor: ‘managing and using digital files such as photographs.’” *Id.* at 24 (citing Ex. 1003 ¶ 121; Ex. 1001, 1:16–19; Ex. 1005, 1–2; Ex. 1006 ¶¶ 1, 62). Petitioner asserts further that “A3UM and Belitz address the same problems (also purportedly solved by the ’658 Patent): allowing ‘people to organize, view, preserve and share’ their digital photographs.” *Id.* (citing Ex. 1003 ¶ 122; Ex. 1001, 1:56–62; Ex. 1005, 1–2; Ex. 1006 ¶¶ 2–5). Petitioner also asserts that A3UM and Belitz “describe analogous techniques—both describe use of a scalable interactive map with user-selectable markers (pins or thumbnail images) specifying the locations of photo(s) or other digital

files, and use of those markers to retrieve digital files (e.g., photos) linked to those locations.” *Id.* at 25 (citing Ex. 1003 ¶ 123; Ex. 1005, 30, 81–83, 429–466; Ex1006, ¶¶ 39, 50, 51–55, 62; *see also id.* at 12–23).

Petitioner asserts that “[a] skilled artisan would have recognized that Belitz’s thumbnail map markers are a functional equivalent of and could be used as an alternative to the pins used in the A3UM interactive map” because both references “describe enabling a user to zoom in and out of regions on their respective interactive maps” and “teach dynamically grouping map markers into fewer markers when the map is zoomed out to reduce visual clutter on the map.” Pet. 25 (citing Ex. 1003 ¶¶ 125–126; Ex. 1005, 82, 437–438; Ex. 1006 ¶¶ 55–58, 62). Petitioner asserts further that “A3UM and Belitz also describe analogous ways of conveying the number of photos at a location via their map interfaces” in that “A3UM discloses displaying the number of images at a location after a user interaction with a pin . . . while Belitz displays that information on the thumbnail image without requiring a user interaction.” Pet. 25 (citing Ex. 1003 ¶ 127; Ex. 1005, 436–437; Ex. 1006 ¶¶ 51–55, Figs. 4a–4b)).

Petitioner reasons that “[i]t would have been obvious to a skilled artisan before June of 2010 to modify A3UM’s Places view to incorporate Belitz’s graphical object functionality, including, *inter alia*, its thumbnails and counts,” because “[a]s Dr. Terveen explains, such a ‘modification would result in an interactive map displaying thumbnails with picture counts at locations where digital images are located, while allowing a user to interact with the thumbnail to display the name of the location and view pictures with that location.’” Pet. 26 (citing Ex. 1003 ¶ 128; Ex. 1005, 437).

Petitioner provides further reasoning in support of the proposed modification

(Pet. 26–30); however, in the interest of brevity we do not reproduce those reasons here.

(2) *Patent Owner’s Response*

Patent Owner contends that Petitioner fails to show that a person of ordinary skill in the art would modify A3UM in view of the teachings of Belitz. PO Resp. 57–65. Specifically, Patent Owner contends that “a POSITA would not have modified A3UM to replace the pins with thumbnails including numbers, while also maintaining the label that appears above a selected pin in A3UM.” *Id.* at 58 (citing Ex. 2025 ¶ 167). Patent Owner contends further that “[a] POSITA would recognize that showing the count number twice for the same thumbnail is redundant and unnecessary” and that “[a] POSITA would not create a graphical interface with such elements because they would increase visual clutter, occupy a portion of the interface that could be used to convey other information (e.g., more of the map), and likely distract and confuse the user.” *Id.* at 59 (citing Ex. 2025 ¶ 167; Ex. 2022, 288, 82); *see also* PO Sur-reply 14–15.

Patent Owner contends that “replacing the pins with Belitz’s thumbnails would obscure more of the underlying map” and “[t]his would reduce the amount of information that can be conveyed to the user via the map and create more visual clutter, which is undesirable in user interface design. PO Resp. 60 (citing Ex. 2025 ¶¶ 167–177; Ex. 2024, 306:4–308:2; Ex. 1003, 4); *see also* PO Sur-reply 15. Patent Owner contends further that Petitioner “does not identify any benefits to its proposed combination and fails to address the drawbacks.” *Id.*

Patent Owner contends that “Belitz does not provide a motivation to modify A3UM” because “Belitz is designed to only mark ‘special locations’

on a map, not an entire photo library,” and “A3UM *already* achieves Belitz’s objective of providing associations between images and locations without any modification.” PO Resp. 62 (citing Ex. 2025 ¶¶ 173–186; Ex. 1006, Title, ¶¶ 2, 4, 10, 19, 71; Ex. 2025 ¶ 179).

Patent Owner contends that the Google Maps documentation “does not support Petitioner’s assertions.” PO Resp. 63. Specifically, Patent Owner contends that a person of ordinary skill in the art would not read the description of the GMarkerOptions object as meaning “that one could simply replace the default marker with a photograph using the Google Maps API.” *Id.* at 64–65. Patent Owner contends that “the description suggests that one can substitute the default marker shown above with another symbol or shape, not that it would be substituted for a photograph.” *Id.* at 65 (citing Ex. 2025 ¶¶ 191–194).

Patent Owner also contends that Petitioner has not shown that the Google Maps documentation —referenced by Petitioner in explaining that the Google Maps API used by A3UM would have allowed a person of ordinary skill in the art to implement Belitz’s technique in . . . A3UM— qualifies as prior art, and, therefore, cannot be used to demonstrate a “reasonable expectation of success.” PO Resp. 63.

(3) *Petitioner’s Reply*

In reply to Patent Owner’s argument that a “skilled person would not have replaced pins with thumbnails in the A3UM Places map because the thumbnails in Belitz perform the same function as the pins in A3UM and result in more clutter,” Petitioner asserts that “a known and predictable alternative to what a reference describes is the precisely the type of variation that KSR found to be obvious.” Pet. Reply 24 (citing PO Resp. 59–60);

KSR, 550 U.S. at 401). Petitioner asserts that Patent Owner’s “concerns about ‘clutter’ are also unwarranted” as “the claims encompass an interactive map of any size that needs to display ***only two thumbnails*** which also can be of any size.” *Id.* (citing Ex. 1089, 226:21–228:3; 253:7–18). Petitioner asserts that “contrary to [Patent Owner’s] assertions (Response 58-60), the claims do not impose aesthetic requirements for the map (*e.g.*, that it be ‘uncluttered,’ that it not obscure portions of the map, that it not use labels with thumbnails).” *Id.* Petitioner asserts further that Patent Owner “ignores that the Petition identified features of A3UM and Belitz that resolve theoretical ‘cluttering’ concerns” in that “[i]t explained that A3UM and Belitz both teach ‘dynamically grouping map markers into fewer markers when the map is zoomed out to reduce visual clutter on the map.’” *Id.* at 25 (citing Pet. 25).

In reply to Patent Owner’s argument that Belitz is designed to only mark “special locations” on a map, Petitioner points out that the claims do not require mapping of an entire photo library. Pet. Reply 25 (citing PO Resp. 62, Ex. 1006 ¶ 71). Petitioner also asserts that “Belitz also is not so limited—it describes techniques with general application, including use of selectable thumbnails as markers on an interactive map and avoiding cluttering by collapsing multiple thumbnails into a fewer number when the map is zoomed.” *Id.* (citing Ex. 1006 ¶¶ 54, 62; Ex. 1005, 438–439).

In reply to Patent Owner’s argument that “a skilled artisan would not make the combination because it would cause the A3UM interface to display redundant information,” Petitioner asserts that “the information displayed in the combination is not redundant—the label provides the name of the

location *and* a (more descriptive) count of images at that location.” Pet. Reply 25 (citing PO Resp. 58; Pet. 26; Ex. 1003 ¶ 128).

In reply to Patent Owner’s argument that “replacing the pins with Belitz’s thumbnails would obscure more of the underlying map,” Petitioner asserts that “this supposed problem is both illusory and not solved by [Patent Owner’s] claimed methods—which permit use [of] thumbnails of any size on a map, and raise the identical ‘problem.’” Pet. Reply 26 (citing PO Resp. 60). Petitioner asserts further that “[t]he prevalence of products that used thumbnails to display locations of photographs on maps prior to the invention also refutes Patentee’s assertion.” *Id.* (citing Ex. 1034; Ex. 1043).

In reply to Patent Owner’s argument that “Belitz provides no motivation to modify A3UM because A3UM already achieves Belitz’s objective of associating images and locations, and thumbnails would not make it better,” Petitioner contends that “[t]his argument misstates the record and the law.” Pet. Reply 26 (citing PO Resp. 60–63). In support, Petitioner asserts that “[a]n obviousness determination “does not require a proposed combination of prior art teachings to lead to the preferred or the most desirable implementation to support a sufficient motivation to combine.”” *Id.* at 26–27 (citing *In re Fulton*, 391 F.3d 1195, 1200–01 (Fed. Cir. 2004)). Petitioner asserts further that Dr. Terveen’s testimony “identifies several distinct benefits of the combination” such as improvement in “Aperture 3’s overall usability by allowing users to more quickly identify the map marker they want to select.” Pet. Reply 27 (citing Ex. 1003 ¶¶ 119–137). According to Petitioner, Dr. Terveen’s testimony “also explains that adapting the display of A3UM to include a number overlaid on a thumbnail as disclosed by Belitz, rather than via a tab as taught by A3UM, presents

useful information to a user and would be trivial to implement.” *Id.* (citing Ex. 1003 ¶ 136).

In reply to Patent Owner’s argument that a “skilled person would have read the guidance in the PHP Textbook and Google Maps API as only teaching substitutions of ‘the default marker . . . with another symbol or shape,” Petitioner asserts that “Dr. Surati admitted that Google Maps API permits both use of a custom icon . . . and that its size can be varied to accommodate a thumbnail.” Pet. Reply 27–28 (citing PO Resp. 63–65; Ex. 1089, 250:25–16; 251:24–254:13). Petitioner also asserts that Patent Owner “incorrectly contends the Google Maps documentation is not prior art and cannot be used to demonstrate a reasonable expectation of success. But it is, and [Petitioner]’s reliance on Google Maps documentation is proper.” *Id.* at 28 (citing *id.* at 7–22).

(4) *Patent Owner’s Sur-reply*

In response to Petitioner’s Reply, Patent Owner reiterates many of its arguments from its Response. In the interest of brevity, we do not reproduce these arguments here.

Patent Owner submits that “Petitioner’s suggestion that the size of Belitz’s thumbnails could be modified to avoid map obstruction because the claims “permit use [of – sic] thumbnails of any size” is a new argument not presented in the Petition.” PO Sur-reply 16 (citing Pet. Reply 26, Pet. 41–43; *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–1370 (Fed. Cir. 2016). Patent Owner also contends that even if this isn’t a new argument, “Petitioner fails to explain how its new thumbnail size modification would work.” *Id.* (citing Pet. Reply 26).

Patent Owner contends that “the Petition did not argue that multiple A3UM pins would be combined into one Belitz thumbnail; rather, Petitioner proposed a 1-for-1 substitution.” PO Sur-reply 17 (citing Pet. 26; Ex. 2024, 308:15–310:9). Patent Owner contends that “[t]he Reply’s additional proposed modification reducing the number of thumbnails is another new, impermissible argument.” *Id.* (citing *Intelligent Bio-Systems*, 821 F.3d at 1369–1370). Patent Owner further contends that “even if the thumbnails were consolidated to reduce obstruction of the map (and Petitioner does not explain how this would be done), Dr. Surati explained that doing so still results in a loss of information.” *Id.* (citing Ex. 2025 ¶ 183).

Patent Owner contends that “Petitioner’s cited authority confirms that ‘the prior art as a whole must “suggest the desirability” of the combination,’” but “[t]he Reply identifies only two allegedly desirable aspects of Petitioner’s combination.” *Id.* at 18 (citing Pet. Reply, 27; *In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004)). Patent Owner further contends that “neither Petitioner nor Dr. Terveen explain how thumbnails facilitate quicker identification compared to pins” and “Petitioner does not explain how thumbnails would convey more “useful information” than pins.” *Id.* at 18–19 (citing Pet. Reply, 27; Ex. 1003 ¶¶ 131, 136; 37 C.F.R. § 42.65(a)).

(5) Discussion

We understand Petitioner’s reasoning in support of the proposed combination to be predicated on substitution of one known alternative for another. Pet. 41; Pet. Reply 24; *KSR*, 550, U.S. 398 at 401 (“[a] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.”); *see also id.* at 417

(“when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.”). We credit Dr. Terveen’s testimony that “[a] skilled artisan would have recognized that Belitz’s thumbnail map markers (“*thumbnail images*”) are a functional equivalent of, and could be used as an alternative to the pins used in the A3UM interactive map; both are visual indicators that denote the existence of content such as photographs at the indicated location.”

Ex. 1003 ¶ 125. Thus, we determine that Petitioner has provided sufficient reasons with rational underpinning for the proposed combination.

With respect to Patent Owner’s arguments, we agree with Petitioner that claim 1 does not preclude “clutter” and that “the Petition identifies features of A3UM and Belitz that resolve theoretical “cluttering” concerns. Pet. Reply 24–25. We also agree with Petitioner that Belitz’s teachings are not limited to “special locations” and that claim 1 does not require mapping of an entire photo library. *Id.* at 25. We further agree with Petitioner that the proposed combination would not result in display of redundant information or unacceptable obscuring of the underlying map. Pet. Reply 25–26.

Regarding Patent Owner’s arguments that Google Maps API is not prior art, we need not address these arguments, as the proposed combination does not rely on Google Maps API. Rather, Google Maps API is an evidence reference, which need not qualify as prior art. *In re Wilson*, 311 F. 2d 266, 268–269 (CCPA 1962) (finding a post-critical date “teaching reference” to be permissible evidence of the inherent characteristics of a product).

Having considered the evidence, testimony, and arguments in the record, we determine that Petitioner has shown that a person of ordinary skill in the art would have combined the teachings of A3UM and Belitz in the manner proposed in the challenge to claim 1. For these reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 is unpatentable over the combined teachings of A3UM and Belitz.

2. *Dependent Claim 2*

Patent Owner did not present separate arguments for claim 2. *See generally* PO Resp. We have reviewed the evidence and testimony in support of Petitioner's challenge to claim 2 and determine that Petitioner has shown by a preponderance of the evidence that claim 2 is unpatentable over the combined teachings of A3UM and Belitz.

3. *Dependent Claim 5*

Claim 5 requires, in the method of claim 1:

wherein the plurality of selectable elements further includes a people selectable element, the method further comprising responsive to a click or tap of the people selectable element, displaying a people view, the displaying the people view including displaying:

(i) a first person selectable thumbnail image including an image of a face of a first person, a third set of digital photographs and videos including digital photographs and videos associated with the first person;

(ii) a name associated with the first person, the name associated with the first person being displayed adjacent to the first person selectable thumbnail image;

(iii) a second person selectable thumbnail image including an image of a face of a second person, a fourth set of digital photographs and videos including digital photographs and videos associated with the second person; and

(iv) a name associated with the second person, the name associated with the second person being displayed adjacent to the second person selectable thumbnail image.

Ex. 1001, 30–49.

For each limitation of claim 5, Petitioner asserts that A3UM alone or in combination with Belitz meets that limitation. Pet. 51–59. Petitioner also provides the testimony of Dr. Terveen in support of its position with respect to the limitations of claim 5. *See* Ex. 1003 ¶¶ 214–239. Patent Owner raises one issue in response to Petitioner’s challenge to claim 5 which we address below. We have reviewed Petitioner’s evidence and reasoning in support of this challenge. In addition, we have reviewed the testimony in support thereof. For the uncontested limitations of claim 5, we determine that Petitioner has shown by a preponderance of the evidence that the combined teachings of A3UM and Belitz meet these uncontested limitations. Accordingly, we focus our discussion of this challenge on Patent Owner’s single argument which pertains to the limitations of claim 5 that require displaying of photographs *and videos* (i.e. items (i) and (iii). Ex. 1001, 36:36–37, 36:43–44.

Petitioner asserts that “A3UM shows detecting faces in videos.” Pet. 55 (citing Ex. 1003 ¶ 226). As an example, Petitioner asserts that “A3UM shows . . . the Filter HUD being set to ‘show[s] video files’ and DSC_0042 is the only item selected” and explains “that DSC_0042 is a video file because it has a badge overlay of a motion picture camera icon, EX1005, 23, which A3UM explains means ‘[t]he thumbnail image represents a video clip.’” *Id.* at 55–56 (citing Ex. 1005, 23, 271, 271). Petitioner asserts that in this example when “[t]he upper left of the screen shows the ‘Name’ button is active (not greyed out), indicating that the software has detected a face in the

selected media file” “[a] skilled artisan would understand this to mean that the media file can be associated with a detected face (*e.g.*, the woman in the video frame) which will be correlated to a person’s name, enabling it to be viewed in the Faces view for that person.” *Id.* at 56–57 (citing Ex. 1005, 23, 64; Ex. 1003 ¶ 228).

Petitioner alternatively asserts that “it would have been obvious to a skilled artisan by 2010 to modify A3UM to allow videos to be associated with faces in the same way as photos” because “A3UM already discloses extensive support for videos and displays them in-line with photos in the Browser . . . and allows users to interact with them as if they were images (until the user presses play).” Pet. 57–58 (citing Ex. 1003 ¶¶ 231–233; Ex. 1005, 51, 157, 166, 185, 250–251, 271, 413, 783). According to Petitioner, “[a]llowing support for videos in Faces view would involve at most detecting faces in the representative image of the video, such as the woman’s face shown above” which by 2010 was a well-known technique. *Id.* at 58 (citing Ex. 1003 ¶ 232; Ex. 1005, 23; Ex. 1049 ¶¶ 14–19, 51–53, Fig. 3; Ex. 1050, 1:6–15, 2:17–27, Fig. 1A). Petitioner asserts that “[a] user would have been motivated to detect faces in either the video still frame or the video itself and associate them with people in Faces view to expand the set of media made easily accessible through Faces view, which would have been an predictable arrangement of old techniques.” *Id.* (citing Ex. 1003 ¶ 233; Ex. 1005, 28–29).

Patent Owner contends that “A3UM does not disclose that Faces applies to videos.” PO Resp. 65 (emphasis omitted). Specifically, Patent Owner contends that “Dr. Terveen conceded [that] A3UM does not state that the facial recognition feature applies to . . . videos.” *Id.* (citing Ex. 2025

¶¶ 219–222; Ex. 2024, 363:2–7). Rather, Patent Owner contends, A3UM specifically defines an image as an artifact that reproduces the likeness of some subject or a picture. *Id.* (citing Ex. 1005, 111; Ex. 2024 ¶ 221). Patent Owner contends further that “there are numerous instances where A3UM differentiates between an ‘image’ and a ‘video.’” *Id.* at 65–66 (citing Ex. 1005, 2, 84, 157, 166, 169, 180; Ex. 2025 ¶ 222).

Patent Owner also contends that “Petitioner has not demonstrated that a POSITA would have a reasonable expectation of success in modifying A3UM to include facial recognition for videos.” PO Resp. 70 (citing Pet. 58; Ex. 2024 ¶ 234). Patent Owner contends further that “Petitioner’s own exhibits demonstrate that A3UM’s facial recognition was not even successful for still images, let alone videos.” *Id.* (internal footnote omitted, citing Ex. 1044; 1045; 2025, ¶¶ 229–232). “Given the documented problems associated with detecting faces in still images in Aperture 3,” Patent Owner contends that “a POSITA would not have been motivated to further extend that unreliable functionality to videos.” *Id.* (citing 2025 ¶¶ 238–244; *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.*, 876 F.3d 1350, 1361 (Fed. Cir. 2017)).

In reply to Patent Owner’s contentions, Petitioner asserts that “claim 5 does not require associating digital files (including videos) with people by *facial recognition*.” Pet. Reply 28 (citing Ex. 1089, 291:5–9, 295:1–10). Petitioner asserts that the Petition “explained geotagging photos and videos for display on a map was well-known, and because A3UM supports metadata tagging of digital image files, enabling videos to be used in Places was obvious.” *Id.* (citing Pet. 31–35, 45–47). Petitioner asserts that the Petition further “explained that A3UM makes obvious using these

capabilities to support videos in Faces” and that Patent Owner’s “expert also admitted that A3UM teaches manually associating names with digital files (which can include video and sound files).” *Id.* at 28–29 (citing Pet. 57–58; Ex 1089, 281:3–15, 282:5–10; Ex. 1005, 421).

Turning to Patent Owner’s contentions pertaining to the Petition’s alternative obviousness theory, Petitioner asserts that Patent Owner’s “criticism of Aperture 3’s performance is baseless, refuted by other evidence and irrelevant” and that Dr. Surati refuted Patent Owner’s assertion, “admitting [that] using keyframes would impose the same burden as processing a photo.” Pet. Reply 29 (citing Ex. 1089, 159:3–8, 162:10–17. 149:5–13, 150:21–151:3, 153:8–13, 154:24–155, 165:9–166:2. 284:25–285:11, 281:3–15, 276:3–17, 291:6–292:15; Ex. 1005, 422).

Patent Owner responds that it has demonstrated that Petitioner’s theory regarding A3UM’s “Name” button “is demonstrably wrong” and that “Dr. Terveen confirmed that he needed to ‘revise’ his opinions on this point.” PO Sur-reply 20–21 (citing Ex. 2024, 372:16–375:21). Patent Owner also reiterates its arguments regarding the alleged lack of a reasonable expectation of success in modifying A3UM to detect faces in videos. *Id.* at 21–22.

Having considered the evidence and testimony of record, as well as the arguments advance by both parties, we agree with Petitioner that “it would have been obvious to a skilled artisan by 2010 to modify A3UM to allow videos to be associated with faces in the same way as photos,” we credit Dr. Terveen’s testimony that by 2010, the technique of detecting faces in videos was well known, including by extracting keyframes and identifying faces in them. *See* Ex. 1003 ¶ 232. We further determine that

Ex. 1049 and Ex. 1050 support Dr. Terveen’s testimony that techniques for detecting faces in videos were well-known by 2010. Ex. 1049 ¶¶14–19, 51–53, Fig. 3; Ex. 1050, 2:17–27. In view of this testimony and evidence we agree with Petitioner that “[a] user would have been motivated to detect faces in either the video still frame or the video itself and associate them with people in Faces view to expand the set of media made easily accessible through Faces view, which would have been [a] predictable arrangement of old techniques.” Pet. 58 (citing Ex. 1003 ¶ 233).

Having considered the evidence, testimony, and arguments in the record, we determine that Petitioner has shown that A3UM would have rendered the contested limitations of claim 5 obvious to a person of ordinary skill in the art at the time of the invention. We determine that Petitioner has demonstrated by a preponderance of the evidence that claim 5 is unpatentable over the combined teachings of A3UM and Belitz.

4. Dependent Claims 6, 7, 9, and 10

Patent Owner did not present separate arguments for claims 6, 7, 9, and 10. *See generally* PO Resp. We have reviewed the evidence and testimony in support of Petitioner’s challenge to these claims and determine that Petitioner has shown by a preponderance of the evidence that claims 6, 7, 9, and 10 are unpatentable over the combined teachings of A3UM and Belitz.

5. Dependent Claims 8 and 11

Claim 8 requires the method of claim 7, “wherein the displaying the first person view further includes displaying a first-person-location selectable element” and claim 11 requires the method of claim 10, “wherein

the displaying the second person view further includes displaying a second-person-location selectable element.” Ex. 1001, 36:64–65, 37:13–14.

Petitioner asserts that in A3UM “[s]electing a user’s snapshot will display . . . confirmed and unconfirmed images containing that person’s faces within A3UM’s interface, including the viewer, the toolbar, and the inspector panes (collectively, for a given person, the ‘*[first/second] person view*’).” Pet. 62 (citing Ex. 1005, 418–419). Petitioner asserts that once a user’s snapshot is selected, “A3UM displays a Places link in the Library inspector (‘*[first/second]-person-location selectable element[s]*’).” *Id.* at 62–63 (citing Ex. 1005, 9, 419; Ex. 1003 ¶¶ 250–251). According to Petitioner, “[t]his element is ‘*selectable*’ to invoke A3UM’s Places view for all images with location information.” *Id.* at 63 (citing Ex. 1005, 81).

Alternatively, Petitioner asserts that

A3UM discloses using the Places button “[t]o show the location information for images in a specific item in the Library inspector,” . . . and it would have been obvious to modify A3UM such that (1) a person can be selected in the Library inspector (allowing the Places button to be selected to display a Places map of that person’s images), or (2) that selecting the Places toolbar button from Faces view will display a Places map of that person’s images.

Pet. 63–64 (citing Ex. 1005, 81; Ex. 1003 ¶¶ 252, 255). Petitioner asserts that “A3UM discloses extensive support for using the Places toolbar button to display maps that display locations for only a subset of the user’s library.” *Id.* at 64 (citing Ex. 1003 ¶ 253).

According to Petitioner, “A3UM discloses that, ‘[t]o show the location information for images in a specific item in the Library inspector,’ a user can ‘select an item [such as Projects, folders, albums, and smart albums] in the Library inspector, then click the Places button in the

toolbar.” Pet. 64 (citing Ex. 1005, 81, 436). Petitioner asserts that “[u]sers can create smart albums that include all (and only) images of a specific person identified via the Faces functionality, such as by (1) defining the smart album with a face-specific rule or (2) ‘drag[ging] the snapshot of the person to the Library inspector’ to ‘create a Smart Album configured to collect images of a person.’” *Id.* (citing Ex. 1005, 428). Petitioner asserts further that “[e]ach Library item, including person-specific smart albums, can be selected and then used to define the set of images that are displayed in Places when the Places toolbar button is selected.” *Id.* (citing Ex. 1003, ¶ 253; Ex. 1005, 81, 436). In addition, Petitioner asserts that “[i]t was also well-known by early 2010 to filter map-based image interfaces to specific groupings of images, such as was disclosed by Flickr.” *Id.* (citing Ex. 1033, 2; Ex. 1003 ¶ 254).

Petitioner asserts that “[a] skilled artisan would have been motivated to make this combination to improve the user experience and to allow exploring the locations of pictures of a given person” and that “[t]hese modifications would have been obvious in light of A3UM’s disclosure of a variety of grouping-specific Places views . . . as well as person-specific smart albums that, if selected and then the user selects the Places toolbar button, would enable a user to display a person-specific Places view.” Pet. 65 (citing Ex. 1003 ¶¶ 255–256; Ex. 1005, 81, 113, 116–118, 428, 436, 506–507). Petitioner asserts further that “[m]odifying A3UM to allow the Places toolbar button from the ‘*person view*’ to be selected to display a person-specific Places map would simply extend A3UM’s grouping-specific Places maps to one additional grouping” and “provide a more focused Places

view that displays only images from a given set of images, *e.g.*, images of one specific person.” *Id.* (citing Ex. 1003 ¶¶ 255–256).

Patent Owner contends that Petitioner fails to meet its burden for at least three reasons. PO Resp. 72; PO Sur-reply 22. First, Patent Owner contends that “nothing in A3UM that is alleged to be a [first/second]-person-location selectable element is displayed ‘responsive to’ selecting the first/second thumbnail image in the people view.” PO Resp. 72 (citing *id.* at 19–24; Ex. 2025 ¶¶ 245–250); *see also* PO Sur-reply 23. Specifically, Patent Owner contends that “there is no causal connection between (1) clicking a thumbnail in the people view and (2) displaying the Places link or Places toolbar button” and that “[t]he Places link and Places button in the toolbar are both persistently included and displayed by default.” PO Resp. 72 (citing Ex. 2025 ¶¶ 254–257; Ex. 1005, 6, 26).

Second, Patent Owner contends that “A3UM does not disclose separate and distinct [first/second]-person-location selectable elements as required in the claims.” PO Resp. 75 (citing *id.* at 24–27); *see also* PO Sur-reply 23. According to Patent Owner “Dr. Terveen opines that the A3UM Places link corresponds to the claimed (1) location selectable element (claim 1) **and** (2) first-person-location selectable element (claim 8) **and** (3) second-person-location selectable element (claim 11)” and “Petitioner and Dr. Terveen simply assumed, without any analysis or justification, that a single selectable element in A3UM could correspond to three separate and distinct claim elements, each having a different claimed function. *Id.* (citing Ex. 2024, 333:17–334:10; Ex. 1003 ¶¶ 155, 159, 251; Pet. 62–65). Patent Owner contends that “[s]uch an interpretation is contrary to the plain claim language and cannot stand.” *Id.* (citing *id.* at 24–27).

In response to Petitioner’s alternative argument “that it would be obvious to modify the A3UM Places toolbar button so it ‘could be selected to display the photos of the selected person in the Places view,’” Patent Owner contends that “a POSITA would not make such a modification” and that “even if they did, this modification does not rectify A3UM’s lack of distinct first and second person-location selectable elements, as the Places toolbar button is being applied as disclosing both of the first and second person-location selectable elements in claims 8 and 11 *and* as disclosing the location selectable element in claim 1.” PO Resp. 76 (citing Pet. 63–64; Ex. 1003 ¶¶ 155, 159, 252–256; Ex. 2025 ¶ 251); *see also* PO Sur-reply 24.

Third, Patent Owner contends that a POSITA would not modify the A3UM Places toolbar button as Petitioner suggests “because (1) the *generic* Places button is part of a generic toolbar and not specifically associated with any view and (2) the generic Places button would then be forced to perform different functions at different times, with insufficient context to guide the user.” PO Resp. 78 (citing Ex. 2025 ¶ 267). Patent Owner contends that “[s]uch a hindsight reconstructed design is contrary to fundamental user interface design and illogical.” *Id.* (citing Ex. 2025 ¶ 268).

Petitioner replies that “claims 8 and 11 add [to claims 7 and 10, from which they depend] that *the person view* further *includes* displaying the specified element—it does not require independently displaying those elements.” Pet. Reply 30. Petitioner asserts further that “the claims also do not require the ‘first’ and ‘second’ person-location-selectable elements to be distinct from each other.” *Id.* (citing *id.* at 4–6). According to Petitioner, “[t]he Petition explained that A3UM describes a user’s selection of person’s snapshot in the Faces view causing display of a different view—a ‘person

view’—that includes images containing the person’s face with the viewer, toolbar and inspector” and that the Petition “also showed that ‘[first/second] person view’ includes display of a person-location-selectable element (the places link buttons).” *Id.* (citing Pet. 62–64). Petitioner asserts that “[b]ecause it is a different, ‘person view’ displayed responsive to the user’s input, and it includes the ‘location’ element, it satisfies the claim.” *Id.*

Petitioner replies that Patent Owner’s argument that modifying the Places toolbar in the manner proposed in the Petitioner is an improper hindsight reconstruction “ignores the evidence showing that modification of the toolbar ‘would be the predictable combination of techniques already disclosed by A3UM,” such as the variety of grouping-specific Places views . . . and person-specific smart albums that can be enabled to display a person-specific Places view.” Pet. Reply 31 (citing Ex. 1005, 81, 113, 116–118, 428, 436, 506–507). Petitioner replies further that Patent Owner “ignores that A3UM describes the Places toolbar button as being designed to display selected items when it is clicked” and that this description refutes Patent Owner’s argument. *Id.* (citing Ex. 1005, 65).

In response, Patent Owner addresses some aspects of its prior arguments. PO Sur-reply 22–24. First, Patent Owner contends that “the Places link is not displayed ‘responsive to’ selecting the first/second thumbnail in the people view,” because “the alleged ‘[first/second]-person-location selectable element’ is displayed *before* the click/tap in the people view and remains displayed after; it is not caused to be displayed after some intervening input.” *Id.* at 23 (citing PO Resp. 72–75; *id.* at 20–22).

Second, Patent Owner contends that “Petitioner effectively concedes that A3UM does not disclose distinct ‘first’ and ‘second’ person-location-

selectable elements; Petitioner merely argues this is not required.” PO Sur-reply 23 (citing Pet. Reply 30; *id.* at 22–24; Ex. 2024, 334:11–335:12). Patent Owner contends further that “[w]hile the Places link is shown in what Petitioner contends are different person views, the Places link is a single element that never changes. A3UM does not display, for example, distinct selectable Places links in separate views.” *Id.* at 23–24. In addition, Patent Owner contends that “Petitioner also does not dispute that (1) the ‘[first/second]-person-location selectable element’ and ‘location selectable element’ must be distinct and (2) that it is relying on the singular Places link for all three claim elements.” *Id.* at 24 (citing Pet. Reply 29–31; PO Resp. 75–76).

Third, Patent Owner contends that Petitioner’s obviousness argument fails because “the Places toolbar button is always displayed by default, i.e., not ‘responsive to’ a click/tap in the people view under either party’s construction.” PO Sur-reply 24 (citing PO Resp. 8, 72–73). Patent Owner contends further that “[t]he proposed modification also does not change Petitioner’s mapping of the same element in A3UM onto multiple claim elements.” *Id.* (citing PO Resp. 76–79). Regarding Petitioner’s reasoning in support of the proposed modification, Patent Owner contends that “in Petitioner’s modification, the Places toolbar button would display different types of results in different contexts for the same library item, which renders the interface non-intuitive and unpredictable.” *Id.* (citing PO Resp. 78).

Considering, Patent Owner’s first argument that the “responsive to” limitation of claims 8 and 11 is not met by A3UM, we note that the “responsive to” requirement is recited in claim 7 and pertains to “displaying a *first person view*, the displaying the first person view including displaying

(i) the name associated with the first person and (ii) a scaled replica of each of the digital photographs and videos in the third set of digital photographs.” Ex. 1001, 36:58–62. We agree with Petitioner that all claims 8 and 11 require is “that *the person view* further *includes* displaying the specified element—it does not require independently displaying those elements.” Pet. Reply 30.

Turning to Patent Owner’s second argument, we note that claim 11 depends from claim 10 which in turn depends from claim 7, not claim 8. Thus, even though claim 8 refers to a “first-person-location selectable element” and claim 11 refers to a “second-person-location selectable element,” the “first-person-location selectable element” is not part of claim 11 and is not imputed to it. Accordingly, there is nothing in claims 8 and 11 that precludes the requirements for a first-person-location selectable element and a second-person-location selectable element from being met by the same element of A3UM.

We further see nothing that precludes the Places tab from being both the selectable location element required by claim 1, and either the first-person-location selectable element required by claim 8 or the second-person-location selectable element required by claim 11. We understand the recitation of a first-person-location selectable element in claim 8 and the recitation of a second-person-location selectable element in claim 11 to merely further define the selectable location element recited in claim 1, not to introduce another selectable location element. For these reasons, we agree with Petitioner that claims 8 and 11 read on A3UM.

We also agree with Petitioner that “it would have been obvious to modify A3UM so that the Places toolbar button (another ‘*[first/second]*’-

person-location selectable element’ and part of the ‘*[first/second] person view*’) could be selected to display the photos of the selected person in the Places view.” Pet. 63 (citing Ex. 1003 ¶¶ 252–256). Specifically, we agree that as explained in detail in the Petition, A3UM suggests the proposed modification. *Id.* at 64. Further, we do not find this explanation to be “contrary to fundamental user interface design and illogical” as argued by Patent Owner. PO Resp. 78, *see also* PO Sur-reply 24. Rather, we credit Dr. Terveen’s testimony that such a modification would have been obvious to one of ordinary skill in the art. Ex. 1003 ¶¶ 252–257.

Having considered the evidence, testimony, and arguments in the record, we determine that Petitioner has demonstrated by a preponderance of the evidence that the combined teachings of A3UM and Belitz would have rendered claims 8 and 11 obvious to a person of ordinary skill in the art at the time of the invention.

6. *Dependent Claims 12–15*

Patent Owner did not present separate arguments for claims 12–15. *See generally* PO Resp. We have reviewed the evidence and testimony in support of Petitioner’s challenge to these claims and determine that Petitioner has shown by a preponderance of the evidence that claims 12–15 are unpatentable over the combined teachings of A3UM and Belitz.

G. Ground 2 – Obviousness of Claims 3 and 4 Over A3UM, Belitz, and Rassmussen

Claim 3 requires the method of claim 1, “further comprising responsive to a click or tap of a first one of the displayed scaled replicas in the first location view, displaying a first digital photograph associated with the first scaled replica in the first location view and a first map image

indicating the geographic coordinates of the first geotag.” Ex. 1001, 36:15–20. Claim 4 requires the method of claim 3, “further comprising responsive to a click or tap of a first one of the displayed scaled replicas in the second location view, displaying a first digital photograph associated with the first scaled replica in the second location view and a second map image indicating the geographic coordinates of the second geotag.” *Id.* at 36:21–27.

Petitioner asserts that “Belitz teaches that each graphical object can be represented by a thumbnail of a photograph (*‘scaled representations’*) associated with the location” and that “A3UM allows a user to click or tap on Places map markers to cause the Places view to focus on that specific location: ‘To view the images associated with a location ... Select a red pin.’” Pet. 75–76 (citing Ex. 1006 ¶¶ 60, 62; Ex. 1005, 436–438). Petitioner asserts further that in A3UM “[o]nce a pin is selected, ‘the images or images associated with the location . . . are selected in the Browser’ and displayed” and that “[w]hen implemented as Belitz describes, this would include the photograph used to generate the thumbnail.” *Id.* at 76 (citing Ex. 1003 ¶¶ 194–195; Ex. 1005, 436–438; Ex. 1006 ¶ 62). Petitioner asserts that “A3UM further discloses an interface comprising a ‘Metadata Inspector’ which displays metadata . . . via an optional Map Pane, such as location information for a selected image.” *Id.* (citing Ex. 1005, 21).

Petitioner asserts that

A3UM explains that the Metadata Inspector displays metadata values for a selected image, as well as, optionally, a small Map Pane (“a [*first/second*] map image”) that includes “a red pin in the center of the map indicating where the image was shot” along with text within a tab linked to that location identifying, for example, the street address of the location (“1600

pennsylvania ave NW”) and the count of photos at that location (“1 Photo”).

Pet. 77 (citing Ex. 1005, 458–459; Ex. 1003 ¶ 196; Ex. 1040, 42). Petitioner asserts further that “The Metadata inspector can be displayed for any selected image by clicking the Metadata tab or using the keyboard, after which the Map Pane can be displayed by selecting the Map Pane button.” *Id.* at 77–78 (citing Ex. 1005, 58–60; Ex. 1003 ¶ 197). Based on these assertions, Petitioner reasons that “a skilled artisan would have found it obvious to modify A3UM’s Places view to incorporate Belitz’s thumbnails to show a preview of the photos accessible from a given marker and location.” *Id.* at 75 (citing Ex. 1003 ¶¶ 119–137; *id.* at 24–30).

Specifically, for the requirement that the map images be displayed in claims 3 and 4, Petitioner asserts that “A3UM’s disclosure encompasses a scenario where a user had previously selected the Metadata inspector, displayed the Map Pane, and then used the Places view” and that “[i]n such a scenario, selecting one of the photos in the Browser would, with a single click, display (i) the photo in the Viewer and (ii) the photo’s information (and map) in the Metadata inspector.” Pet. 78 (citing Ex. 1003 ¶ 198; Ex. 1005, 51, 58–60, 251, 458–459).

Alternatively, Petitioner asserts that “[a] skilled artisan would have appreciated the value of including small maps as ancillary UI elements in photo organizers, such as A3UM’s Map Pane . . . and optionally-displayed Overview Map pane on the Places view.” Pet. 78–79 (citing Ex. 1005, 82, 439–440, 458–459; Ex. 1003 ¶ 200). Petitioner asserts further that “[s]mall maps were known and useful UI elements in image management systems before 2010” and that displaying a “map pane ‘can further enhance the [photo] browsing experience.’” *Id.* at 79 (citing Ex. 1003 ¶ 201; Ex. 1008,

3:42–45). Based on these assertions, Petitioner reasons that “[a] skilled artisan would have been motivated to make this modification because it would have improved the user’s experience.” *Id.* (citing Ex. 1003 ¶ 202). Petitioner asserts that “[t]his modification would have been well within a skilled artisan’s abilities and suggested by A3UM’s disclosure of automatically displaying certain UI elements if desired” and that “[m]odifying A3UM as stated would arrange old elements to perform their known function to yield no more than one would expect from such an arrangement.” *Id.* (citing Ex. 1003 ¶¶ 203–204).

For the requirement that the geographic coordinates of the geotags be indicated in claims 3 and 4, Petitioner admits that A3UM’s Metadata Inspector “does not ‘*indicat[e] the geographic coordinates of the [first/second] geotag.*’” Pet. 81. Petitioner asserts, however, that “a skilled person would consider placement of the same ‘*geographic coordinates*’ values on the Metadata Inspector pane in a different layout (*i.e.*, overlaid on the small map) to have been a routine design choice” because A3UM “teaches displaying descriptive location information (*e.g.*, street address) overlaid on the small map, and displaying other descriptive metadata about the location (*e.g.*, GPS latitude/longitude/altitude values) would have been an obvious alternative.” *Id.* at 81–82 (citing Ex. 1003 ¶ 208). Petitioner asserts further that “providing such a display was suggested by Rasmussen . . . which teaches display of ‘*geographic coordinate*’ values in a callout window (215) linked to the location of a map marker on a Google Map.” *Id.* at 82–83 (citing Ex. 1025, Fig. 2; 10:25–29, Ex. 1053, 138, Ex. 1003 ¶¶ 209–210).

Petitioner reasons that “[a] skilled artisan would have been motivated to modify A3UM’s Map Pane marker to additionally display GPS coordinates (‘*geographic coordinates*’) in view of Rasmussen” because “[d]oing so would address known user preferences for display of GPS data with other image metadata when using an interactive Google Map.” Pet. 83 (citing Ex. 1003 ¶ 210). Petitioner asserts that “as Dr. Terveen explains, ‘skilled artisan would understand the benefits of simultaneously displaying a place name (memorable but imprecise) and the geographical coordinates (precise but not memorable to most).’” *Id.*

Patent Owner responds that “Petitioner failed to show that A3UM, Belitz, and Rasmussen render obvious these claims for four reasons.” PO Resp. 79. First, Patent Owner contends that “Petitioner fails to address all of the claim limitations.” *Id.* Patent Owner asserts that “[w]hile Petitioner discusses the ‘map image’ portion of claims 3-4, it does not address the claim requirement of ‘displaying a first digital photograph . . . in the [first/second] location view’” because “[m]erely citing to an expert declaration for an explanation as to how that claim language is allegedly met amounts to impermissible incorporation by reference.” *Id.* (citing Pet. 75–78; C.F.R. § 42.6(a)(3); *Cisco Sys., Inc. v. C-Cation Techs., LLC*, IPR2014-0054, Paper 22 at 9 (PTAB Aug. 29, 2014) (informative)).

Second, Patent Owner contends that “Dr. Terveen’s description of how A3UM’s Places feature functions is plainly wrong: selecting an image in the Browser below the map does **not** replace the map with a full-size version of the selected image in the Places view.” PO Resp. 80. According to Patent Owner, “Dr. Terveen asserts that “[s]electing a thumbnail in the Browser then prompts the display of the original digital image in the Viewer,

which replaces the Places map view” which “is demonstrably wrong.” *Id.* at 80–81 (citing Ex. 1003 ¶ 194). Patent Owner contends that “[t]he Places map view in the Viewer persists and is not replaced” and “[n]owhere in connection with the Places view does A3UM show a selected image in the Browser replacing the map with a full-size version.” *Id.* at 81 (citing Ex. 2025 ¶¶ 198–199). Patent Owner contends that “Dr. Terveen conceded during his deposition that A3UM does **not** disclose that the Places map is replaced with an image in response to selecting an image in the Browser below the map.” *Id.* at 81–82 (citing Ex. 2023, 152:10–154:22; Ex. 2024, 323:7–324:16).

Third, Patent Owner contends that “the alleged [first/second] map image (i.e., the map pane map) in A3UM is not displayed ‘responsive to’ the relevant input as required in the claims.” PO Resp. 80. According to Patent Owner, “Petitioner concedes this alleged ‘[first/second] map image’ is only displayed after a user takes multiple steps that do not involve selecting anything in the Browser, including: (1) ‘clicking the Metadata tab or using the keyboard’ and (2) ‘selecting the Map pane button’ to show the Map Pane.” *Id.* at 83 (citing Pet. 77–78) (internal citations omitted).

Fourth, Patent Owner contends that “even if Petitioner’s other arguments were accepted (which they should not be), a POSITA would never modify A3UM in the manner Petitioner proposes.” PO Resp. 80. Specifically, Patent Owner contends that “given that A3UM’s Places map remains displayed when an image is selected in the Browser, a POSITA would not modify A3UM to automatically show the Map Pane (alleged [first/second] map image) when selecting an image below the Places map

because it is illogical to display two maps.” *Id.* at 85 (citing Ex. 2025 ¶¶ 210–211).

In reply to Patent Owner’s first argument, Petitioner asserts that it “explained [that] a skilled artisan would have been motivated to modify A3UM to meet *all* claim limitations of claims 3 and 4.” Pet. Reply. 32 (citing Pet. 75–84) (internal citation omitted). In reply to Patent Owner’s second argument, Petitioner asserts that Patent Owner’s argument that one paragraph of Dr. Terveen’s testimony is demonstrably wrong “is irrelevant, as two bases *set forth in the Petition* each demonstrate why claims 3-4 are obvious.” *Id.* (citing PO Resp. 80–81). In reply to Patent Owner’s third argument, Petitioner asserts that “[t]he display of the small map is *directly* responsive to the selection of the thumbnail—the Metadata Inspector displays metadata associated with the digital image file represented by the thumbnail that has been selected, including the location metadata in the image.” *Id.* at 34. And, in reply to Patent Owner’s fourth argument, Petitioner asserts that Patent Owner “does not respond with explanations or evidence, but contends the artisan would not modify A3UM as proposed because it would present redundant information.” *Id.* at 35. Petitioner asserts further that “[t]he information is not redundant—the label provides additional information—and regardless, would be a known and predictable alternative and therefore obvious.” *Id.*

Patent Owner responds that “[t]he Petition did not explain how A3UM allegedly meets the claim requirements of ‘displaying a first digital photograph . . . in the [first/second] location view’” and that “[a] generic assertion that A3UM and Belitz ‘meet all claim limitations,’ is insufficient because the petition must identify the challenge with particularity.” PO Sur-

reply 24–25 (citing Pet. 75–78, PO Resp. 80’ Pet. Reply 32; *Intelligent Bio-Sys.*, 821 F.3d at 1369).

Patent Owner contends that in its Reply, Petitioner makes a new argument that “it would be obvious to modify A3UM to replace the Places view map with an image” which “exceeds the permissible scope of a reply.” PO Sur-reply 26 (citing *Intelligent Bio-Systems*, 821 F.3d at 1369–70). Patent Owner contends further that “even if Petitioner’s new argument is considered, it is not supported by Dr. Terveen’s testimony or any other evidence.” *Id.* (citing Ex. 1003 ¶¶ 194–195). Patent Owner contends that “Dr. Surati explained that a POSITA would not modify A3UM’s interplay between the Places map and Browser, where (1) selecting a pin on the map highlights the corresponding image in the Browser and (2) selecting an image in the Browser highlights the corresponding pin.” *Id.* at 26–27 (citing Ex. 2025 ¶¶ 213–216).

In addition, Patent Owner reiterates its argument that “A3UM’s map pane is not displayed ‘responsive to a click or tap of a first one of the displayed scaled replicas in the [first/second] location view’ as required in claims 3-4.” PO Sur-reply 27 (citing PO Resp. 76–77).

Considering Patent Owner’s first argument, that the Petition fails to address all of the limitations of claims 3 and 4, although we agree with Patent Owner that A3UM does not display a first/second map image in the first/second location view as required by claims 3 and 4, we do not agree that Petitioner’s alternative obviousness theory fails to address all of the limitations. PO Resp. 80. In A3UM the first/second map image is displayed in the Metadata Inspector, not the Browser. Pet. 76; Ex. 1005, 58–60, 458–459. Thus, we agree with Patent Owner that A3UM does not disclose this

limitation. In its alternative theory based on obviousness, however, the Petition asserts that “it would have been obvious to modify A3UM such that selecting a photo in the Browser, in addition to displaying that photo in the Viewer, would display A3UM’s Map Pane at the bottom of the Inspector pane.” Pet. 78 (citing Ex. 1003 ¶¶ 199–204). The Petition also provides reasoning in support of the proposed modification, as discussed above. *See id.* at 78–80. Thus, the Petition addresses all of the limitations of claims 3 and 4.

Considering Patent Owner’s second argument, that Dr. Terveen’s testimony is flawed, we agree with Petitioner that even if Dr. Terveen’s testimony in paragraph 194 of Exhibit 1003 “is demonstrably wrong,” this testimony was not relied upon in its obviousness theory, and thus, is “irrelevant” to that theory.

Considering Patent Owner’s third argument, that displaying of the first/second map image is not “responsive to” a click or tap of a first/second one of the displayed scaled replicas, we note that this argument is also not applicable to the Petition’s obviousness theory which proposes modification of A3UM’s Browser to include the display of both the photo and a map pane. Pet. 78.

Considering Patent Owner’s fourth argument, that a POSITA would not have modified A3UM in the manner proposed by the Petition because such modification would result in the display of two maps, we determine that Patent Owner mischaracterizes the proposed modification. The modification proposed by the Petition results in the display of a photo in the Viewer with a map at the bottom in an Inspector pane. *Id.*

Having considered the evidence, testimony, and arguments in the record, we determine that Petitioner has demonstrated by a preponderance of the evidence that the combined teachings of A3UM, Belitz, and Rassmussen would have rendered claims 3 and 4 obvious to a person of ordinary skill in the art at the time of the invention.

H. Motion to Exclude

Patent Owner filed a Motion to Exclude A3UM (Ex. 1005) on February 17, 2023. Paper 34. A3UM is the primary reference in this proceeding and was filed and served with the Petition on November 3, 2021. Paper 1. “Any objection to evidence submitted during a preliminary proceeding must be filed within ten business days of the institution of the trial.” 37 C.F.R. § 42.64(b)(1). Trial was instituted in this proceeding on May 20, 2022. Paper 12. The deadline to file objections to Exhibit 1005 was May 30, 2022. Patent Owner’s objections to Exhibit 1005 were not filed until June 6, 2022. Paper 14. Patent Owner has provided no reason for its delay in filing its objections to Exhibit 1005. Because Patent Owner’s objections to Exhibit 1005 were untimely filed, Patent Owner’s Motion to Exclude is denied. 37 C.F.R. § 42.64(b)(1), (c).

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–15 of U.S.

Patent No. Patent 10,423,658 B2 are unpatentable on the bases set forth in the following table.⁵

Claims	35 U.S.C. §	References	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 2, 5–15	103(a)	A3UM, Belitz	1–15	
3, 4	103(a)	A3UM, Belitz, Rasmussen	3, 4	
Overall Outcome			1–15	

⁵ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Final Decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that Petitioner has demonstrated by a preponderance of the evidence that claims 1–15 of U.S. Patent No. Patent 10,423,658 B2 are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude (Paper 34) is *denied*; and

FURTHER ORDERED that because this is a Final Written Decision, any party to the proceeding seeking judicial review of this Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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