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Paper 41
Date: June 7, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

MEMORYWEB, LLC,
Patent Owner.

PGR2022-00006
Patent 11,017,020 B2

Before LYNNE H. BROWNE, KEVIN C. TROCK, and JASON M. REPKO, *Administrative Patent Judges.*

REPKO, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision

Determining Some Challenged Claims Unpatentable
35 U.S.C. § 328(a)

Denying Patent Owner's Motion to Exclude
37 C.F.R. § 42.64

I. INTRODUCTION

Apple Inc. ("Petitioner") filed a petition to institute a post-grant review of claims 1–59 of U.S. Patent No. 11,017,020 (Ex. 1001, "the '020 patent"). Paper 1 ("Pet."). MemoryWeb, LLC ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp."). With the Board's authorization, Petitioner filed a Reply (Paper 10) and Patent Owner filed a Sur-reply (Paper 11).

On May 17, 2022, we instituted a post-grant review of all challenged claims based on all grounds in the Petition. Paper 12 ("Inst. Dec."). Patent Owner filed a Response. Paper 20 ("PO Resp."). Petitioner filed a Reply. Paper 26 ("Reply"). Patent Owner filed a Sur-reply. Paper 31 ("Sur-reply"). An oral hearing was held on March 14, 2023. A transcript of that hearing has been entered into the record. Paper 40 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued under 35 U.S.C. § 328(a). For the reasons that follow, Petitioner has shown by a preponderance of the evidence that claims 1–12, 17–44, and 49–59 are unpatentable, but has not shown that 13–16 and 45–48 are unpatentable.

A. Related Matters

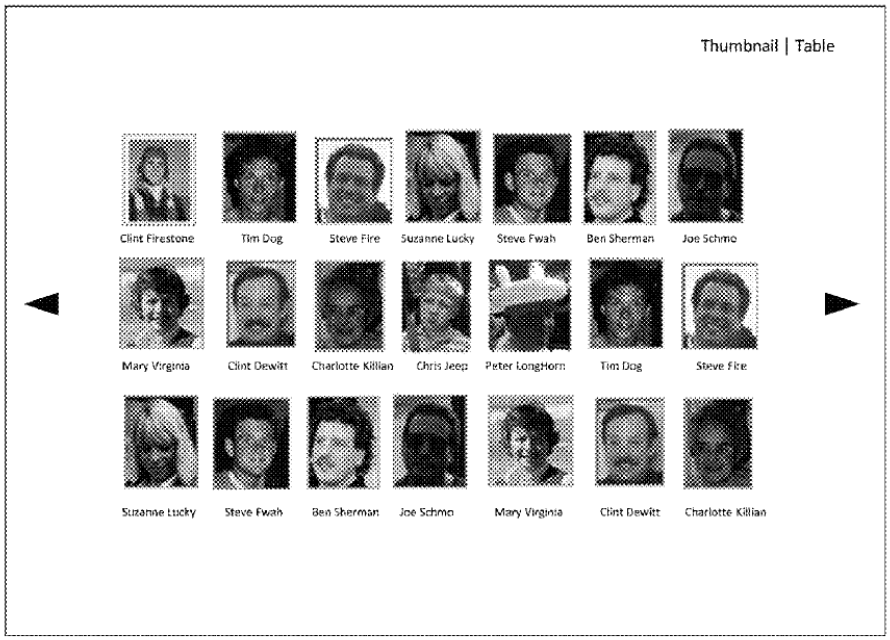
According to the parties, the '020 patent is, or has been, involved in the following proceedings: *MemoryWeb, LLC v. Apple Inc.*, No. 6-21-cv-00531 (W.D. Tex.); *MemoryWeb, LLC v. Samsung Electronics Co., Ltd. et al.*, No. 6-21-cv-00411 (W.D. Tex.); *MyHeritage (USA), Inc. et al. v. MemoryWeb, LLC*, No. 1-21-cv-02666 (N.D. Ill.); IPR2022-00111; IPR2022-00033; IPR2022-00032; IPR2022-00031; and IPR2021-01413. Pet. 3; Paper 6, 2–3 (Mandatory Notices).

Patent Owner also identifies the following proceedings as related: IPR2022-00222; IPR2022-00221. Paper 6, 2.

B. The '020 Patent

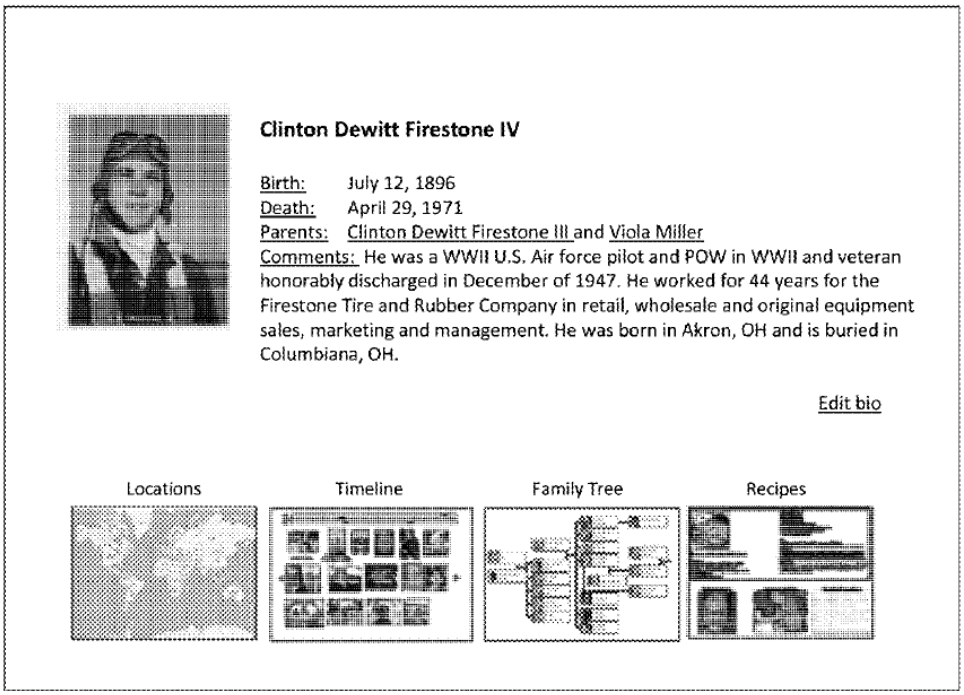
The '020 patent relates to a platform for managing and using digital files, such as digital photographs. *See* Ex. 1001, 1:22–24. Through the platform's interface, a user can tag and select files to create views. *See id.* at 5:40–45. For example, the "people view" is shown below. *Id.* at 6:24–26, Fig. 6.

FIG. 6



The people view, above, shows thumbnail photos of all the people in the system. *Id.* Clicking on the thumbnail causes a "profile view," shown below, to be displayed. *See id.* at 6:24–30.

FIG. 7



The profile view, above, displays a person's image, date of birth, date of death, parents' names, and other biographical information. *Id.* at 6:26–30. The profile view also displays links to other views containing information about the person: Locations, Timeline, Family Tree, and Recipes. *Id.* The Locations view, for example, has an interactive map showing where the digital files were taken. *Id.* at 6:18–23.

C. Claims

Of the challenged claims, claims 1 and 31 are independent. Claim 1 is reproduced below.

1. A method comprising:

causing an interface to display a people view, the people view including:

a first thumbnail image associated with a first person,

a first name associated with the first person,

a second thumbnail image associated with a second person, and

a second name associated with the second person;

responsive to an input that is indicative of a selection associated with the first person, causing a first person view to be displayed on the interface, the first person view including:

a first digital file associated with the first person,

the first name associated with the first person, and

a first map image;

responsive to an input that is indicative of a selection of the first map image in the first person view, causing a first location view to be displayed on the interface, the first location view including:

an interactive geographic map,

a first indication positioned at a first location on the interactive geographic map, and

a second indication positioned at a second location on the interactive geographic map; and

responsive to an input that is indicative of a selection of the first digital file in the first person view, causing a slideshow to be displayed on the interface, the slideshow including a plurality of images associated with the first person.

Ex. 1001, 35:17–45.

D. Evidence

Name	Reference	Exhibit No.
A3UM	Aperture 3 User Manual, Apple Inc. (2010)	1005

E. Asserted Grounds

Petitioner asserts that claims 1–59 are unpatentable on the following grounds. Pet. 3.

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1–59	103	A3UM
6, 7, 38, 39	112(a)	Written Description

II. ELIGBILITY FOR POST GRANT REVIEW

The parties agree that the '020 patent is eligible for post-grant review. *See* Pet. 9; Prelim. Resp. 6. For the reasons stated in our Decision on Institution, we determine that the '020 patent is eligible. *See* Inst. Dec. 6–8.

III. ANALYSIS

A. Status of A3UM as a Printed Publication

1. The Petition

Petitioner challenges claims 1–59 as obvious over A3UM. *See* Pet. A3UM is a user manual for Apple's Aperture 3 product. *Id.* at 16. The Aperture 3 product is digital-image management software. *Id.* at 15 (citing Ex. 1005, 1–4). Petitioner asserts that A3UM is a "printed publication that was publicly disseminated in February 2010." *Id.* Thus, Petitioner asserts that A3UM is prior art under section 102. *Id.*

According to Petitioner, the A3UM was published in two forms: an HTML file set and a PDF file. *Id.* at 16. The challenges in the Petition are based on the HTML file set. *Id.* (citing Ex. 1005). In this Decision, we refer to those files as "the A3UM HTML file set."

Petitioner obtained the A3UM HTML file set from an Aperture 3 installation DVD. *See id.* at 17–18. According to Petitioner, "Dr. Terveen inspected Aperture 3 retail boxes obtained from Apple and from two independent sources and confirmed that the installation DVD in each was the same as the version disseminated in February of 2010 (*i.e.*, v.3.0)." *Id.* at 17 (citing Ex. 1003 ¶¶ 74–85). Dr. Terveen testifies that Exhibit 1005 "is a true and correct copy of the HTML file set both on the Aperture 3 installation DVDs and as copied to computers during Aperture 3's installation." *Id.* at 17–18 (citing Ex. 1003 ¶¶ 72, 89, 96–97).

To show that the A3UM HTML file set was publicly disseminated, Petitioner primarily relies on the declaration of Matthew Birdsell. *Id.* at 16. Mr. Birdsell "is an Apple employee with personal knowledge of the publication and dissemination of the Aperture 3 User Manual in early 2010." *Id.* (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.

a. The Locally Stored A3UM HTML File Set

Mr. Birdsell testifies that the A3UM HTML file set "was included on the installation DVD in retail packages of Aperture 3 that were sold and distributed within the United States in early 2010 and was copied to local storage of a computer during installation of Aperture 3." Pet. 16 (citing Ex. 1020 ¶¶ 12–16).

Petitioner asserts that users can access the locally stored A3UM HTML file set "by selecting 'Help>Aperture Help' from the menu while Aperture was running and clicking 'Aperture 3: User Manual' on the page that appeared." *Id.* at 18 (citing Ex. 1003 ¶¶ 85–96, 98); *see also* Reply 3 (citing Ex. 1003 ¶¶ 86–89; Ex. 1020 ¶ 12(b)). According to Petitioner, contemporaneous Apple publications explain that the A3UM HTML file set is accessible through internal Aperture's help function. Pet 18 (citing Ex. 1051, 7, 159). Patent Owner does not dispute this. *See generally* PO Resp.; Sur-reply. We determine that Petitioner's assertion (Pet. 18) and Dr. Terveen's testimony (Ex. 1003 ¶¶ 85–96) is sufficiently supported by the evidence of record. *See* Ex. 1020 ¶ 12(b); Ex. 1051, 7 ("Open Aperture, then choose Help > Aperture Help. Then click the link to the user manual"), 159

(providing a similar explanation). Thus, we credit Dr. Terveen's testimony on this issue. *See* Ex. 1003 ¶¶ 85–96.

In addition to the internal help function, 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." Pet. 18. Dr. Terveen testifies that, to access the content of A3UM, a skill artisan could open the A3UM HTML file set with a web browser. *Id.* (citing Ex. 1003 ¶¶ 77–84, 90–96). Petitioner asserts that the user "would see the same content and interface when opening the HTML file sets obtained from the installer DVD or as placed on local storage during installation of Aperture 3." *Id.* at 18–19 (citing Ex. 1003 ¶¶ 90–96).

b. The A3UM HTML File Set on Apple's Website

Mr. Birdsell testifies that the A3UM HTML file set "was also published on the www.apple.com website." 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. 19 (citing Ex. 1020 ¶¶ 9–11). Petitioner asserts 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 ¶¶ 102; Ex. 1021, 6). 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 19–20 (citing Ex. 1003 ¶¶ 100–102; Ex. 1021; Ex. 1020 ¶¶ 18–19).

Petitioner submits a screen capture of Apple.com from *the Internet Archive's Wayback Machine*[1] showing Aperture 3 for sale in February 2010, and a table of contents for the user manual. *Id.* at 16 (citing Ex. 1021); Reply 3.

Petitioner also includes three articles discussing Aperture 3 software and its February 9, 2010, release date. Pet. 17 (citing Exs. 1044, 1045, 1048); *see also* Reply 3 (citing 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 argues 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. 17.

For the reasons that follow, we determine that Petitioner has shown that the A3UM HTML file set (1) was sufficiently disseminated through the Aperture 3 installer DVD that was sold by Apple, and (2) was sufficiently publicly accessible via Apple's website at the relevant time to meet the requirements to be a "printed publication" under 35 U.S.C. § 102. *See id.* at 16–20.

2. Analysis

A person is not entitled to a patent if their invention was "described in a printed publication . . . before the effective filing date of the claimed invention." 35 U.S.C. § 102(a)(1). The determination of whether a document is a "printed publication" under 35 U.S.C. § 102 "involves a case-by-case

[1] *The Internet Archive's Wayback Machine,* from Archive.org, archives webpages. Ex. 1022, 1 (Archive.org affidavit); Pet. 16 n.1.

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)).

"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 897, 898–99 (Fed. Cir. 1986)). "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)).

a. Is A3UM an executing software program?

Patent Owner argues that the A3UM HTML file set is not a "printed publication" as that term is used in Section 102. *See* PO Resp. 52–55; Sur-reply 5–6. Patent Owner argues that, because users can only access the contents for A3UM when running the software program or following installation of the Aperture 3 application, A3UM "is part of an executing software program," which "cannot be the basis of an IPR[[2]]." PO Resp. 55

[2] This proceeding is a post grant review. Unlike a petition for *inter partes* review (IPR), which can be based on "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," a petition for post grant review may be

(citing *Ex Parte Nelson*, No. 2020-004978, 2020 WL 8186425, at *15 (PTAB Dec. 31, 2020); *Capsugel Belgium NV v. Innercap Techs., Inc.*, IPR2013-00331, Paper 9 at 15 (PTAB Dec. 9, 2013); *Supercell Oy v. GREE, Inc.*, IPR2021-00501, Paper 7 at 6 (PTAB Aug. 17, 2021)); Sur-reply 5–6.

We disagree that the A3UM HTML file set is an executing software program. The files can be read and rendered by software, including but not limited to Aperture 3. *See, e.g.*, Ex. 1089, 98:5–99:10; Ex. 2023, 80:2–81:6. In the context of the printed publication requirement of Section 102, there is not a meaningful difference between the A3UM HTML file set and other documents stored on a computer. Indeed, "[t]he traditional process of 'printing' is no longer the only process synonymous with 'publication.'" *In re Wyer*, 655 F.2d. 221, 226 (CCPA 1981).

The files themselves are linked by their content, source, and organization to form the Aperture 3 user manual. *See* Ex. 1005. The A3UM HTML file set has a coherent organization, and the files collectively function as a single document separate from the executing software itself (Aperture 3). *See id.* For example, the text "Aperture 3 User Manual" appears in the header of each page, and "/aperture/usermanual/" appears in the footers. *See id.* Also, the manual's index page contains embedded hyperlinks to help the user navigate the manual's sections. *See, e.g.*, Ex. 1003 ¶¶ 101.f, 102; Ex. 1020 ¶ 19.f; Ex. 1021, 8. Based on its form and

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based on any ground that could be raised under paragraph (2) or (3) of 35 U.S.C. § 282(b) relating to invalidity. *Compare* 35 U.S.C. § 321(b), *with* 35 U.S.C. § 311(b). Still, the basis for Petitioner's challenge is that A3UM is a "printed publication" under § 102(a)(1). *Id.* at 15. So that is the focus of our analysis.

purpose, the A3UM HTML file set should be considered a single document that is separate from the executing software itself.

Patent Owner argues that the A3UM HTML file set was hidden on the installation disk and required "a convoluted series of steps that likely proved challenging even to Petitioner's expert" to find. PO Resp. 50–51 (citing *Cisco Sys., Inc. v. Centripetal Networks, Inc.*, IPR2018-01436, Paper 40 at 23 (PTAB Jan. 23, 2020)). In Patent Owner's view, because the A3UM HTML file set is embedded within Aperture 3, there is not a "bright line demarcation" between the product and user manual. *Id.* at 51 (citing *Cisco*, IPR2018-01436, Paper 40 at 23).

We disagree. Both Petitioner and Patent Owner demonstrate that the A3UM HTML file set can be opened from the DVD installer disk before installation and from local storage after installation. Ex. 1020 ¶¶ 12–16; Ex. 1003 ¶ 94; Ex. 1089, 27:4–7, 98:5–99:10; Ex. 1071, 5; Ex. 2023, 80:2–81:6; Ex. 2026, 71:11–72:8. Although the user manual is accessible through the actual Aperture 3 software in the internal help functionality after installation, that does not necessarily make it part of a product. Rather, 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.

The evidence does not show that finding the files required "a convoluted series of steps," as Patent Owner argues. PO Resp. 50. As discussed in detail below, the files could be located and revealed with only a few commands. *See, e.g.*, Reply 16. Also, the A3UM HTML file set was available on the Aperture 3 website. *See, e.g.,* Ex. 1021. This shows that the user manual functioned as a standalone document outside the Aperture 3 software. *See id.* So, although the A3UM HTML file set could be viewed by executing Aperture 3, that was only one of several ways to view the files.

Thus, we determine that the A3UM HTML file set is not executing software or inseparable from it. Rather, the A3UM file set is read and displayed by an executing software program, which is not meaningfully different from any other document stored on a computer.

b. Was the A3UM HTML file set publicly accessible via distribution of the Aperture 3 DVD?

i. Sales of the Aperture 3 DVD

Petitioner asserts that Apple sold and distributed the Aperture 3 DVD, which installed A3UM HTML file set on a user's computer. Pet. 16 (citing Ex. 1020 ¶¶ 12–16). Petitioner relies on the testimony of Mr. Birdsell to support this argument. *See id.* 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. According to Mr. Birdsell's testimony, website analytics for *documentation.Apple.com* corresponded to sales figures, and website access volume for Aperture 3 indicated that about 100,000 people had purchased the product. Ex. 2026, 51:16–20; 54:6–22.

Patent Owner argues that Petitioner's evidence of sales is insufficient to show that the A3UM HTML file set was publicly accessible. PO Resp. 40–41. Patent Owner argues that Mr. Birdsell "merely 'believe[s]' that a number of customers purchased and were using the Aperture 3 product before June of 2010." *Id.* at 41. Patent Owner argues that Mr. Birdsell's testimony on sales of Aperture 3 is offered "without any evidentiary support or conducting a personal investigation" and "[m]ere speculation about the number of Aperture 3 purchases falls short of the preponderance of the evidence burden Petitioner is required to meet." *Id.* at 51–52 (citing Ex.

1020 ¶¶ 5–7; Ex. 2026, 53:16–55:17, 61:15–62:3; *Instradent USA, Inc. v. Nobel Biocare Servs. AG*, IPR2015-01786, Paper 106 at 33 (PTAB Feb. 15, 2017); *Samsung Elecs. Co. v. Infobridge Pte. Ltd.*, 929 F.3d 1363, 1373 n.3 (Fed. Cir. 2019)). Patent Owner argues that Petitioner's evidence, at best, only shows offers for sale. *Id.* at 52 (citing Ex. 1021, 1–2; Ex. 2026, 56:23–57:9).

But "a petitioner need not establish that specific persons actually accessed or received a work to show that the work was publicly accessible." *Samsung*, 929 F.3d at 1374. "In fact, a limited distribution can make a work publicly accessible under certain circumstances." *Id.* (citing *GoPro, Inc. v. Contour IP Holding LLC*, 908 F.3d 690, 694 (Fed. Cir. 2018)).

Here, Patent Owner does not dispute Petitioner's evidence that Apple offered to sell Aperture 3, or that a copy of A3UM was included on the Aperture 3 installer DVD sold in the relevant timeframe. *See* PO Resp. 40–41, 51–52. Rather, Patent Owner disputes whether there were actual sales of the DVD with the A3UM HTML file set. *Id.* at 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); *Paint Point Med. Sys., Inc. v. Blephex, LLC*, IPR2016-01670, Paper 44 at 19–20 (PTAB Feb. 28, 2018)); *see also id.* at 52 (disputing whether there were actual sales). Yet, even if the number of sales cannot be directly corroborated, Patent Owner has not offered any evidence beyond attorney argument that suggests Mr. Birdsell's testimony that there were over 100,000 sales is unreliable. *See id.* at 3, 40–41, 51–52.

On the other hand, Petitioner's evidence is beyond mere speculation. Rather, we determine Petitioner has shown that Apple sold a sufficient

number of DVDs that contained the A3UM HTML file set. Mr. Birdsell's testimony on this issue is credible and adequately supported by corroborating evidence. Ex. 1020 ¶ 7. For instance, Aperture 3 was marketed as shown by a press release (Exhibit 1048) and a feature on the home page of Apple (Exhibit 1021). Patent Owner's expert noted that Apple's website was "probably" one of the most visited websites in the world in 2010. Ex. 1089, 188:9–16. In fact, Mr. Birdsell testified that that the presence of Aperture 3 on the Apple home page meant that it received "top billing." Ex. 2026, 57:3–12. Also, Petitioner has provided two articles about Aperture from 2010 that discuss using an installed copy. *See* Ex. 1044, 2 ("Installation of Aperture 3 took ages."), 1045, 3 ("Before I installed Aperture 3 . . . .").

We agree with Petitioner that the 100,000 copies sold "far exceeds the number of disclosures recognized under the relevant dissemination law for printed publications." Pet. 17 (quoting *Cisco,* IPR2018-01436, Paper 40 at 23–31 (finding 586 copies to be sufficient for being publicly available through dissemination); citing *Mass. Inst. of Tech. v. AB Fortia*, 774 F.2d 1104, 1109 (Fed. Cir. 1985) (determining six copies sufficient for dissemination)); Reply 4.

Patent Owner argues that Petitioner is "unable to distinguish between users who purchased retail boxes of Aperture 3 versus those who upgraded from Aperture 2 to Aperture 3" without having the Aperture 3 DVD. PO Resp. 41 (citing Ex. 2026, 62:23–63:20; 65:5–13); *see also id.* at 52. In Patent Owner's view, customers who purchased the DVD would not have navigated to the website. *Id.* at 41.

Yet, even without the knowledge of the exact number of users that purchased Aperture 3 retail boxes with the DVD instead of upgrading from Aperture 2 without the DVD, it is far more likely than not that a sufficient

number of the over 100,000 people that purchased Aperture 3 did so by purchasing the DVD for it to be considered publicly disseminated. Ex. 1020 ¶ 7. That is, under a preponderance of the evidence standard, Petitioner has shown that Apple publicly disseminated the A3UM HTML file set in "thousands of retail boxes containing the Aperture 3 installation DVD to users between February 2010 and June 9, 2010." Pet. 16 (citing Ex. 1020 ¶ 7; Ex. 1021, 2; Ex. 1044; Ex. 1045; Ex. 1048).

Patent Owner argues that Dr. Terveen, an alleged person of ordinary skill in the art, had no knowledge of any Aperture 3 sales prior to this case. PO Resp. 41; Ex. 2023; 49:14–19; *see also id.* at *33*–34 (citing Ex. 2023, 49:4–50:11, 51:9–20; 52:2–4). But Petitioner need not show specific persons accessed Aperture 3, let alone that every person of ordinary skill in the art knew about Aperture 3 or its sales. *See Nobel*, 903 F.3d at 1374.

Patent Owner argues that "*Klopfenstein* did not hold that 'sales are not required;' the court noted that '[p]rotective measures' like 'license agreements' prohibiting copying weigh against a finding of accessibility." Sur-reply 3 (citing *In re Klopfenstein*, 380 F.3d at 1351). Patent Owner argues that "Aperture 3 users were bound by a license agreement" that prohibits copying A3UM as part of the software program, so actual sales are required. *Id.* (citing Ex. 2007, 1–2). Even assuming this is true, for the reasons discussed above, Petitioner has provided sufficient evidence concerning actual sales. So Patent Owner's argument here is unavailing.

Thus, Petitioner has shown that the A3UM HTML file set was sufficiently disseminated on the Aperture 3 installer DVD that was sold by Apple. *See* Pet. 16–20.

ii. Indexing of the A3UM HTML File Set

"[I]ndexing is not required to show that a work is publicly accessible." *Samsung,* 929 F.3d at 1369. "When a reference is uploaded to a website or deposited in a library, the fact that the reference is indexed or cataloged in some way can indicate that it is publicly accessible." *Id.*

Patent Owner analogizes finding the files on the Aperture 3 DVD to locating books in a physical library:

> The physical analogy would be requiring a person to know about the existence of a hidden section of a library (the *pkg. files), know how to access the hidden section of the library (i.e., unhiding the hidden files), know to move a portion of the hidden library section to another location (decompressing the Archive.pax.gz file), then know to navigate through thousands of shelves to collect a particular set of 746 books (the HTML file set).

PO Resp. 49; *see also* Sur-reply 6 (arguing that finding the files is like "being told that a book has been hidden in the library and then being asked to find it without guidance") (citing Ex. 1089, 409:2–19). According to Patent Owner, Petitioner failed to establish that "the installation DVD included any search functionality for locating the HTML file set" or that "a POSITA[3] would somehow look for hidden files, locally save and decompress one, then navigate through numerous sub-folders." PO Resp. 49.

Patent Owner argues that the HTML file set was intentionally "hidden" or "invisible" on the installation DVDs and that Petitioner's own expert was unable to "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." *Id.* at 42–43 (citing Ex. 2023, 63:23–64:5, 64:19–66:10; 67:8–19; 73:10–22, 79:10–15);

[3] A person of ordinary skill in the art.

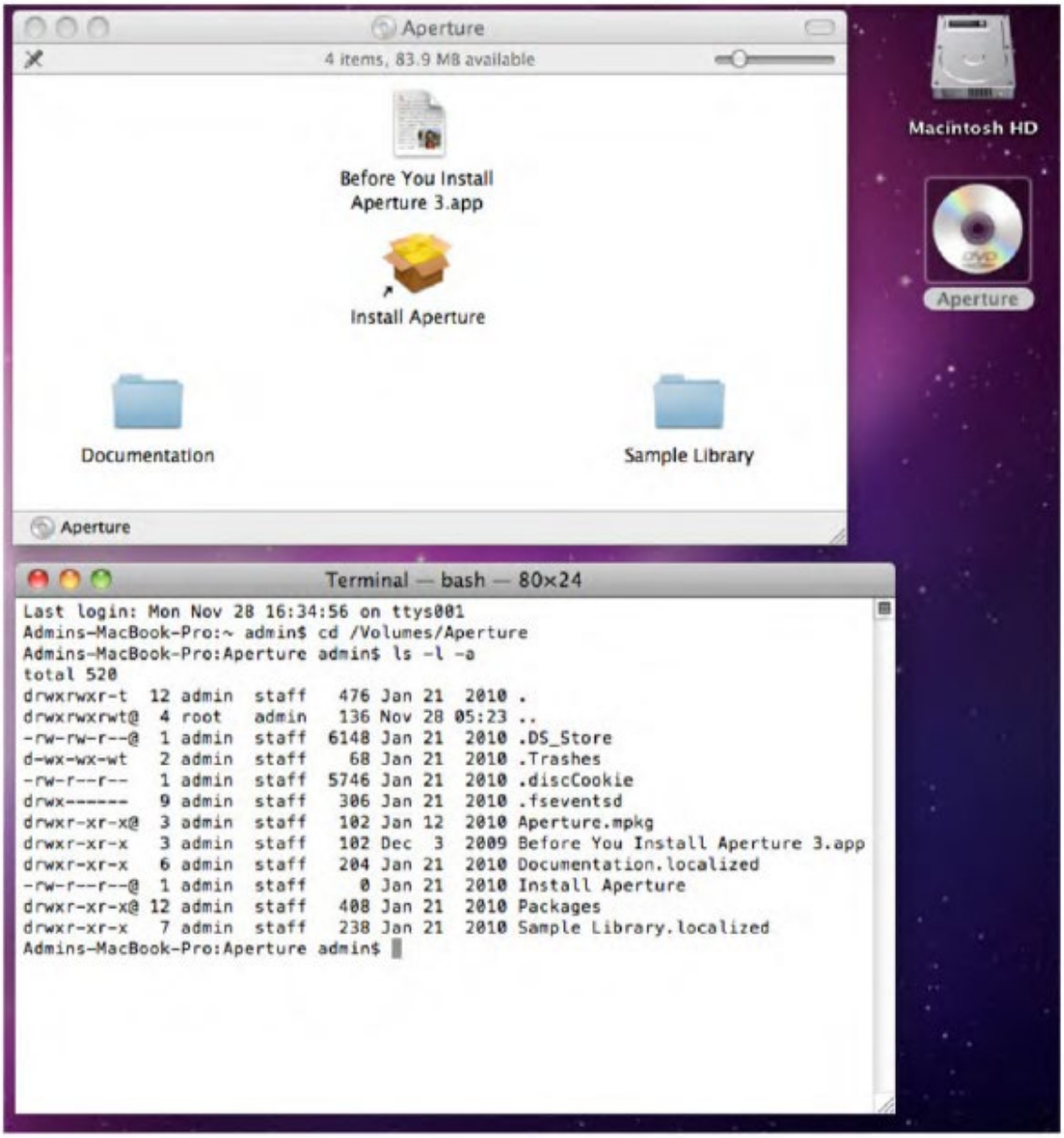
Sur-reply 4–5 (arguing that hidden files are not publicly accessible). Patent Owner argues that Dr. Terveen took many steps to locate the files. PO Resp. 44–49. Patent Owner argues that, when questioned, Dr. Terveen could not recall how long the process took. *Id.* at 49 (citing Ex. 2023, 101:11–102:20). Patent Owner argues that, to find the files, a person of ordinary skill in the art needed to already know what to look for and where to look, or needed to expand and inspect every single folder. *Id.* at 48.

Yet "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, 1365 (Fed. Cir. 2014). For the reasons explained in Section III.A.2.b.i, the A3UM HTML file set was sufficiently disseminated through use of the help functionality on the Aperture 3 installer DVD that anyone could purchase, even if the files were not visible on the DVD itself. That is, even without considering whether the reference was sufficiently indexed, Petitioner's has shown that A3UM was sufficiently disseminated.

Still, Petitioner's evidence of indexing is sufficient and bolsters its case that A3UM was accessible. The relevant inquiry here is whether the reference was made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could locate it. *SRI*, 511 F.3d at 1194.

Patent Owner's arguments focus on "hidden" files. PO Resp. 42–43. "Hidden" files may not be visible in certain views of a directory. *See, e.g.*, Reply 16–17. According Dr. Terveen, the default view of a folder may hide files to reduce the number of files that are shown to the user. Ex. 2023, 65:23–68:24. For example, Dr. Terveen testified that configuration files could be "hidden." *See id.* 67:25.

But Petitioner has shown that "hidden" files appear in other views of MacOS. Reply 17. Such a view is shown in the screenshot below.



In the screenshot from MacOS, above, the same directory is shown in two ways. *Id.* The top screenshot shows the "Aperture" directory in a window with two folder icons, captioned "Documentation" and "Sample Library," along with two other files represented by icons captioned "Before You Install Aperture 3.app" and "Install Aperture." *Id.* The bottom screenshot

shows a window titled "Terminal" displaying the same directory as text. *Id.* But, unlike the top window, the "Terminal" window also displays the names of "hidden" files. *Id.*

The "Terminal" window displays the command "ls -l -a." *Id.* Petitioner explains that the command "ls -l -a" shows the "hidden" files in the "Terminal" window. Reply 16 (citing Ex. 1069, 112; Ex. 1089, 72:21–24, 73:18–74:4, 108:18–21; Ex. 1073, 6; Ex. 1084; Ex. 1085). In sum, Petitioner has shown that "hidden" files are simply files that are excluded for convenience in some views but are shown in other views, e.g., the "Terminal" window shown above. *See id.*

Patent Owner's expert testified that it "would be a reasonable assumption" that a person of ordinary skill in the art would figure out how to unhide files, for example, by looking at books or searching the internet if interested. Ex. 1089, 138:11–139:14. As such, the "hidden files" could be viewed by navigating to the directory and typing a single command to list the files ("ls -l -a"). *See* Reply 16 (citing Ex. 1069, 112; Ex. 1089, 72:21–24, 73:18–74:4, 108:18–21; Ex. 1073, 6; Ex. 1084; Ex. 1085). Typing a few commands in "Terminal" is not an unreasonable amount of effort. *See id.*

As for locating the directory where the files are stored, Petitioner has provided references that a person of ordinary skill in the art would be able to consult to familiarize themselves with a MacOS application's[4] organization and distribution methods. *See, e.g.,* Ex. 1089, 56:17–57:17 (MacOS application bundles), 79:19–80:15 (hierarchical structure), 59:13–23 ("Resources" folder). These references provide the basic principles for navigating a MacOS application's file structure. According to Dr. Terveen,

[4] Aperture 3 is a MacOS application. *See, e.g.*, 2025 ¶ 112.

one of ordinary skill in the art would expect an application's help files in HTML format to be in the Resources subfolder of the application bundle. Ex. 1003 ¶ 93. Dr. Terveen's testimony here (*id.*) is adequately supported by the cited references, so we credit Dr. Terveen on this point. In sum, this evidence shows that the HTML file set was indexed in a meaningful way in the MacOS filesystem such that an interested person of ordinary skill in the art would be able to find it with no more than reasonable effort.

We do not credit the Surati Declaration on these issues because he does not give sufficient weight to the evidence about how MacOS applications are organized and distributed, and for reasons similar to those discussed above in connection with Patent Owner's arguments. *See* Ex. 2025 ¶¶ 109–122; *see also* Reply 13–15 (discussing Dr. Surati's testimony).

Patent Owner argues that Petitioner has not shown why a person of ordinary skill in the art would navigate to various subfolders or manipulate the files. Sur-reply 4–5 (citing Ex. 2025 ¶¶ 118–119, 121; Ex. 1071). We disagree. The Petition explains that a user has multiple ways of viewing the files because they "would see the same content and interface when opening the HTML file sets obtained from the installer DVD or as placed on local storage during installation of Aperture 3." Pet. 18–19 (citing Ex. 1003 ¶¶ 90–96). Dr. Terveen's original testimony submitted with the Petition shows that, to access the HTML file set outside of Aperture 3, one of ordinary skill in the art would navigate the subfolders because they would expect an application's help files in HTML format to be in the Resources subfolder of the application bundle. Ex. 1003 ¶ 93. In fact, there was specific guidance on how to do this. *See* Ex. 1070, 15–16 (a programming guide describing the bundle structure used to store resources and code); Ex. 1071,

5–6 (a programming guide describing bundle resources). So the record shows that users had multiple options to view the files and had ample guidance on how to use those options. *See* Pet. 18–19; Ex. 1003 ¶ 93.

Although Petitioner was not required to show that the A3UM HTML file set was sufficiently indexed to establish that it was publicly accessible, we determine that Petitioner has produced sufficient evidence that it was sufficiently indexed. And we disagree with Patent Owner's arguments that the "hidden" files or the structure of the files weighs against Petitioner's showing that the A3UM HTML file set was accessible. PO Resp. 41–50; Sur-reply 4–5.

iii. Aperture 3 DVD - Conclusion

For the reasons discussed above, we disagree with Patent Owner's arguments about the sale of Aperture 3. *See* PO Resp. 40–41, 51–52. As explained above, we also disagree with Patent Owner's arguments about the accessibility of the A3UM HTML file set. *Id.* at 41–50; Sur-reply 4–5. Rather, considering the totality of the evidence, Petitioner has sufficiently shown that the A3UM HTML file set was publicly accessible through the sales and distribution of the Aperture 3 DVD, and the A3UM HTML file set was sufficiently indexed. *See* Pet. 16. We credit the testimony of Matthew Birdsell (Ex. 1020 ¶¶ 5–7) and Dr. Terveen (Ex. 1003 ¶¶ 90–96) on these issues. For reasons similar to those discussed in connection with Patent Owner's arguments, we assign little weight to the Surati Declaration on these issues. *See* Ex. 2025 ¶¶ 109–122.

c. Was the A3UM HTML file set publicly accessible via Apple's website?

In addition to proving by a preponderance of the evidence that A3UM was "publicly accessible" through distribution of public sales of the Aperture 3 software, Petitioner also has shown that the A3UM HTML file

set was "publicly accessible" via the Aperture 3 website. Pet. 19 (citing Ex. 1020 ¶¶ 9–11).

Mr. Birdsell testified that the HTML file set was loaded onto a staging server the night before Aperture 3's launch, and he verified that "the files were live and accessible to customers and that all the links worked" on the website on launch day. Ex. 2026, 51:16–20, 54:6–22, 55:20–56:11; *see also* Ex. 1020 ¶ 7. Also, Patent Owner's expert, Dr. Surati, testified that, because Apple had published a press release and marketed Aperture 3 on its home page, a person of ordinary skill in the art using a search engine such as Google to find photo management and editing software could find the Aperture 3 support page containing A3UM. *See* Ex. 1089, 187:12–188:8, 202:12–204:4, 205:17–206:2.

Patent Owner argues that (1) consumers did not know about Aperture 3 to look for it on Apple.com in the first place; (2) if they did go to Apple.com, they would not find it, exercising reasonable diligence; (3) A3UM was not available on Apple's website for long enough; and (4) Exhibit 1005 does not accurately represent the website's version of the Aperture 3 manual before June 2010. PO Resp. 31–40. Patent Owner's arguments are unavailing. Our reasoning follows.

i. Knowledge of Aperture 3

Patent Owner argues that a person of ordinary skill in the art exercising reasonable diligence would not have known to search for Aperture 3 or A3UM. PO Resp. 32; Sur-reply 6. In Patent Owner's view, it is not enough to show whether a person of ordinary skill in the art interested in Apple software would have visited the Apple.com website. PO Resp. 32. According to Patent Owner, Petitioner must show that a person of ordinary

skill in the art would have known to navigate to Apple.com and then look for the Aperture 3 user-manual page in search of A3UM. *Id.* at 33.

Patent Owner argues that there is no evidence that consumers who knew about Aperture 3 were persons of ordinary skill in the art, or that a person of ordinary skill in the art interested in this subject matter would have known of Aperture 3. *See id.*; *see also* Sur-reply 6 (arguing no evidence that Apple was known for photo management). In Patent Owner's view, "The 'Aperture' Product name is not descriptive of photo management technology." PO Resp. 33. Patent Owner argues that Petitioner offers no evidence a person of ordinary skill in the art, including Dr. Terveen, would have known of or looked for information about Aperture 3. *Id.* at 34–33 (citing Ex. 2023, 49:4–50:11, 51:9–20; 52:2–4).

We disagree. Mr. Birdsell's testimony shows that approximately 95% of traffic accessing Aperture 3 came from search engines. Ex. 2026: 67:13–20. This suggests that a person did not need *a priori* knowledge of the reference in order to access it. *See Samsung*, 979 F.3d at 1374. Because Petitioner has demonstrated accessibility, Petitioner had no requirement to show the specific number of people who actually accessed it. *Id.*; *Constant v. Adv. Micro-Devices, Inc.*, 848 F.2d 1560, 1569 (Fed. Cir. 1988) ("Accessibility goes to the issue of whether interested members of the relevant public could obtain the information if they wanted to.").

ii. Indexing

Patent Owner argues "a POSITA exercising reasonable diligence would not have found the website version of A3UM on Apple.com." PO Resp. 32, 36–37. Patent Owner argues that "the Aperture 3 user manual page could be found only after executing several steps such as knowing to search for 'Aperture' or 'Aperture 3' in the search box or by navigating through a

number of links on Apple.com" and that "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.* at 34–35 (citing Ex. 1020 ¶ 18; Ex. 2026, 67:21–69:11; Ex. 1003 ¶ 101).

Patent Owner does note that "[w]hile users could have theoretically navigated to the product manual page, analytics evidence tracking the number of users who did so is unavailable and not in evidence." *Id.* at 34 n.3 (citing Ex. 2026, 69:20–23). Patent Owner contends, even if a person of ordinary skill in the art accessed "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 36 (Ex. 1003 ¶ 101; Ex. 1020 ¶ 19; Ex. 2026, 67:21–69:11). Patent Owner argues, because "the website's structure is critical in determining whether a reference is publicly accessible or merely technically accessible," Petitioner's argument lacks evidence of meaningful indexing and shows technical accessibility at best. *Id.* at 36–37 (citing *Salesforce.com, Inc. v. WSOU Inv., LLC*, IPR2022-00428, Paper 10 at 14 (July 13, 2022); *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 773 (Fed. Cir. 2018); *Samsung*, 929 F.3d at 1373).

We disagree. There is sufficient evidence that a person of ordinary skill could have reasonably found the website and then found the reference on that website. *See* Ex. 1089, 188:9–16 (testifying that Apple was probably one of the most visited sites in the world). Dr. Terveen was able to find the Aperture 3 support page on Apple.com in a few clicks by navigating to pages describing photo management and editing. Ex. 1003 ¶ 101; *see generally* Exs. 1021 (archived screenshots from Apple.com); 1074 (collection of screenshots of web pages advertising Aperture 3). For example, Dr. Terveen explained that the Apple.com website provided a

"straightforward path" to access the web-hosted version of A3UM, which included links mentioning the Aperture 3 product and other helpful information to guide the user: Click "Introducing *Aperture 3*," Click "Resources," Click the "Learn more" link below "Aperture Support page," Click "Aperture 3 User Manual." Ex. 1003 ¶ 101 (emphasis added). Dr. Terveen explained that the navigation involved five clicks after navigating to Apple.com, which is not an unreasonable number. *See id.* This evidence suggests that a person of ordinary skill in the art in 2010 could have found the Aperture 3 software through reasonable diligence without needing to run text-based searches on the website. We credit Dr. Terveen's Declaration on this issue. *Id.*

iii. The Date that A3UM was Available on the Website

Patent Owner argues that Petitioner has not demonstrated that Exhibit 1005 was on Apple.com in February 2010. PO Resp. 37–40. Patent Owner alleges that the version of the A3UM Table of Contents shown in the archived version of the website (Ex. 2010) has a copyright date of 2011, indicating that the A3UM HTML file set may not have been available on the website until after the critical date. *Id.* at 40 n.6; *compare* Ex. 2010, *with* Ex. 1021; Sur-reply 7.

But Mr. Birdsell's testimony indicates that the text of Exhibit 2010 also has a different font than the one used on Apple.com. *See, e.g.*, Ex. 2026, 49:1–13. Neither party fully explains why this and other minor discrepancies exist in the versions that were archived by the *Wayback Machine*. *See* PO Resp. 39–40.

Considering all the evidence and arguments, we determine that Petitioner has sufficiently explained, by a preponderance of the evidence, that the extended URL accurately reflects the date that the *Wayback*

Machine archived the page. Pet. 16 n.1 (citing Ex. 1022, 1). For example, "the extended URL http://web.archive.org/web/19970126045828/http://www.archive.org/ would be the URL for the record of the Internet Archive home page HTML file (http://www.archive.org/) archived on January 26, 1997 at 4:58 a.m. and 28 seconds (1997/01/26 at 04:58:28)"). *Id.* The extended URL for the last page of the file with the title Aperture 3 User Manual is "https://web.archive.org/web/20100217035925/http://documentation.apple.com/en/aperture/usermanual/." Ex. 1021, 8. So, according to the Internet Archive's extended URL ("20100217035925"), the archived date is February 17, 2010. *See* Ex. 1022, 1. This is consistent with Mr. Birdsell's testimony that Aperture 3.0 was distributed in February 2010. Ex. 1020 ¶ 5. Thus, we credit the declarations of Dr. Terveen and Mr. Birdsell on this issue. Ex. 1003 ¶ 102, Ex. 1020 ¶ 5.

Patent Owner argues that Exhibit 1005 was created using the HTML file set from the DVD, not from the archived version of Apple.com that existed in 2010. PO Resp. 37–38; Sur-reply 2. Patent Owner argues that Petitioner has been unable to provide the version that existed on the website. PO Resp. 37–38. In Patent Owner's view, Dr. Terveen's and Dr. Birdsell's depositions indicate that they do not know how Exhibit 1005 was prepared, and that neither could testify that it is a true-and-correct copy of the website's version. *Id.* at 38–39; Sur-reply 2 (citing Ex. 2023, 57:10–59:10; Ex. 2026, 20:5–6, 44:15–17, 44:21–23). Patent Owner argues that there are inconsistencies that cannot be resolved by looking at the exhibits because Exhibit 1021 is incomplete. PO Resp. 39–40.

Both Mr. Birdsell and Dr. Terveen, however, individually compared Exhibit 1005 to the HTML file set and found no discrepancies in the content itself. Ex. 2026, 41:14–16; Ex. 2023, 61:13–17. Also, the path for each file

is shown in the bottom-left corner of each page of Exhibit 1005. *See* Ex. 1005. The file path is consistent with the file path given above for the help files. *See id.* Also, 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. All this evidence taken together indicates that Exhibit 1005 is the same as the HTML file set. Apart from speculation, we have no evidence from Patent Owner to suggest otherwise.

iv. Duration of Dissemination

In determining whether interested persons could have accessed the publication, the duration of dissemination can be one of the factors that is considered. *Centripetal Networks, Inc. v. Cisco Sys., Inc.*, 847 F. App'x 869, 877 (Fed. Cir. 2021) (citing *GoPro*, 908 F.3d at 694–95). For references that were never distributed to the public or indexed, "[d]uration of display is important in determining the opportunity of the public in capturing, processing and retaining the information conveyed by the reference." *In re Klopfenstein*, 380 F.3d at 1350. The more transient the duration that a reference was displayed, for example, "the less likely it is to be considered a 'printed publication.'" *Id.*

Here, for all the reasons discussed above, Petitioner has shown that the A3UM HTML file set was sufficiently distributed and indexed. *See, e.g.*, §§ III.A.2.c.ii–iii *supra*.

Even so, Patent Owner argues that "the reference to Aperture 3 only existed on the Apple.com homepage for only a matter of 'weeks,'" and such "limited duration of accessibility is a strong indication that the user manual through Apple.com website was not publicly accessible." PO Resp. 35–36

(citing Ex. 2026, 56:23–57:9; *Centripetal Networks*, 847 F. App'x at 876–77).

Although Aperture 3 was marketed for weeks on the home page, Aperture 3's product page remained for much longer. For example, Mr. Birdsell testified that he verified access to A3UM in 2010 and removed A3UM from the Apple website at the beginning of the COVID-19 pandemic in 2020. Ex. 2026, 66:4–12. Thus, Petitioner has proven by a preponderance of the evidence that A3UM was "publicly accessible" by a POSITA for a sufficient amount of time. *See Klopfenstein*, 380 F.3d at 1351–52 (determining that three days was long enough to consider a reference "publicly available").

v. Apple Webpage - Conclusion

Thus, based on the totality of the evidence, the Apple webpage, more likely than not, displayed the A3UM HTML file set in 2010, and Petitioner has shown that the A3UM HTML file set was publicly accessible via Apple's website at the relevant time.

3. Mr. Birdsell's Testimony

Patent Owner argues that Mr. Birdsell's testimony lacks credibility, and that we should consider the fact that he is an Apple employee in assessing his testimony. PO Resp. 55–56; Sur-reply 3.

Yet Patent Owner has offered little evidence beyond attorney argument that suggests Mr. Birdsell's testimony is unreliable on the basis of his employment or otherwise. On the other hand, Petitioner has provided corroborating evidence, for example, to show that Aperture 3 was marketed, including a press release (Exhibit 1048), featured on Apple's home page (Exhibit 1021), and reviewed by three separate reviewer (Exhibits 1044, 1045, 1048), which is consistent with Mr. Birdsell's testimony. In Sections

III.A.2.b–c, above, we discuss other instances in which we credit Mr. Birdsell's testimony because it is sufficiently persuasive and supported by the record.

Also, we disagree with Patent Owner's suggestion that Mr. Birdsell's situation is sufficiently similar to the specific circumstance in *Parrot S.A. v. Qfo Labs, Inc.* IPR2018-01690, Paper 40 at 63–64 (PTAB Feb. 20, 2020). PO Resp. 55–56; Reply 3. Patent Owner has provided no evidence to suggest that Mr. Birdsell has a financial stake in the outcome of this matter, such as by losing employment for example. *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). But we do not disagree with Patent Owner on the more general point that we should consider the fact that Mr. Birdsell is an Apple employee when weighing his credibility. *See* PO Resp. 55–56.

That is, we disagree with Patent Owner to the extent that it argues Mr. Birdsell's testimony should be given no weight on the basis that he is employed by Apple. *Id.*; Sur-reply 3. Rather, we give Mr. Birdsell's testimony the appropriate weight where it is sufficiently persuasive and corroborated. *See supra* §§ III.A.2.b–c.

4. Conclusion

Petitioner has proven by a preponderance of the evidence that A3UM is a printed publication under Section 102.

B. Level of Ordinary Skill in the Art

According to Petitioner,

> A person of ordinary skill in the art in 2011 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. 12 (citing Ex. 1003 ¶¶ 44–46).

In the Institution Decision, we applied Petitioner's proposed definition. Inst. Dec. 12. Patent Owner does not dispute Petitioner's proposed level of ordinary skill in the art. PO Resp. 7. We continue to find that the skill level identified by Petitioner (Pet. 12) is consistent with the record. Thus, we use the same definition here that we used in the Institution Decision.

C. Claim Construction

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

1. Digital File

Claim 1 recites, in part,

> responsive to an input that is indicative of a selection associated with the first person, causing a first person view to be displayed on the interface, the first person view including:
>
> a first *digitalfile* associated with the first person . . . .

Ex. 1001, 35:25–31 (emphasis added).

Petitioner has two alternative rationales for how the prior art teaches or suggests the "digital file" recited in the claims. Pet. 31, 35–36. The first rationale assumes that "digital file" is a full-size image. *Id.* at 31. The second rationale assumes that the "digital file" is a reduced-size image. *Id.* at 35–36.

Patent Owner disagrees that the claimed "digital file" must be a full-size image. PO Resp. 76 n. 3 (citing Pet. 31; Ex. 2023, 200:1–11).

As discussed in Section III.C, we need not determine the precise contours of what a "digital file" means to resolve the patentability issues in this case because Petitioner has shown that the A3UM teaches or suggests the recited "digital file" under either interpretation. Even so, we determine that a digital file at least encompasses both a full-size or a reduced-size image.

The claim merely recites "digital file" without reference to any sizes. The claim only requires an association with a person, which does not require any particular size. The claim also recites thumbnails, but we see no reason why a digital file could not also encompass thumbnails as well as other files stored in digital forms.

Neither party directs us to any relevant parts of the written description or prosecution history on this point. The '020 patent, though, provides the following explanation: "Digital Files—An electronic file that can be in various file formats (e.g., PNG, JPEG, PDF, TIFF, MP3, MP4, WAY, and GIF) that are of items such as photos, videos, audio files, and documents." *See* Ex. 1001, 10:49–57. This description is consistent with how the term is used throughout the '020 patent. *See, e.g.*, *id.* at 1:44–47 ("Today, virtually every personal computing device contains some kind of photo, movie or other type of digital file creator/player/viewer/storer/etc."); 1:65–66 (referring to "digital files, including documents, photos, videos, and audio . . . ."); 13:22 (same), 4:40 ("digital files such as photos"). Likewise, Dr. Terveen testified that, generally, a digital file "is literally just a file stored in a digital form on a computer." Ex. 2023, 192:17–19.

We see nothing in the written description that would prescribe a particular size to the digital file to limit the recited digital file to a full-size or reduced-size image. Rather, the patent explains that "[t]he user may choose

to present the digital files in any of the various types of ways disclosed herein." Ex. 1001, 8:1–2. And the patent explains that digital files can be enlarged. *Id.* at 6:1–2. These sections combined with the broad description of a digital file elsewhere suggest that the recited digital file is not limited to a particular size.

Thus, we disagree with Patent Owner and determine that the recited "digital file" encompasses reduced- and full-size images. *See* PO Resp. 76; Pet. 31, 35–36.

2. Group Image

Claims 11 and 43 recite, in part, "the first person includes a first group image." Ex. 1001, 36:15–16 (claim 11), 39:1–2 (claim 43).

Patent Owner argues that "group image" means "an image including content associated with a group of people." PO Resp. 16. In Patent Owner's view, the word "group" must define the "image" content, otherwise it would add nothing to distinguish it from the other images. *Id.*; *see also* Sur-reply 12–13 (arguing that its construction gives meaning to all the words). Patent Owner argues that its construction is consistent with the "people profile view" of Figure 7. *Id.* Figure 7 is shown below with Patent Owner's annotations. PO Resp. 17.

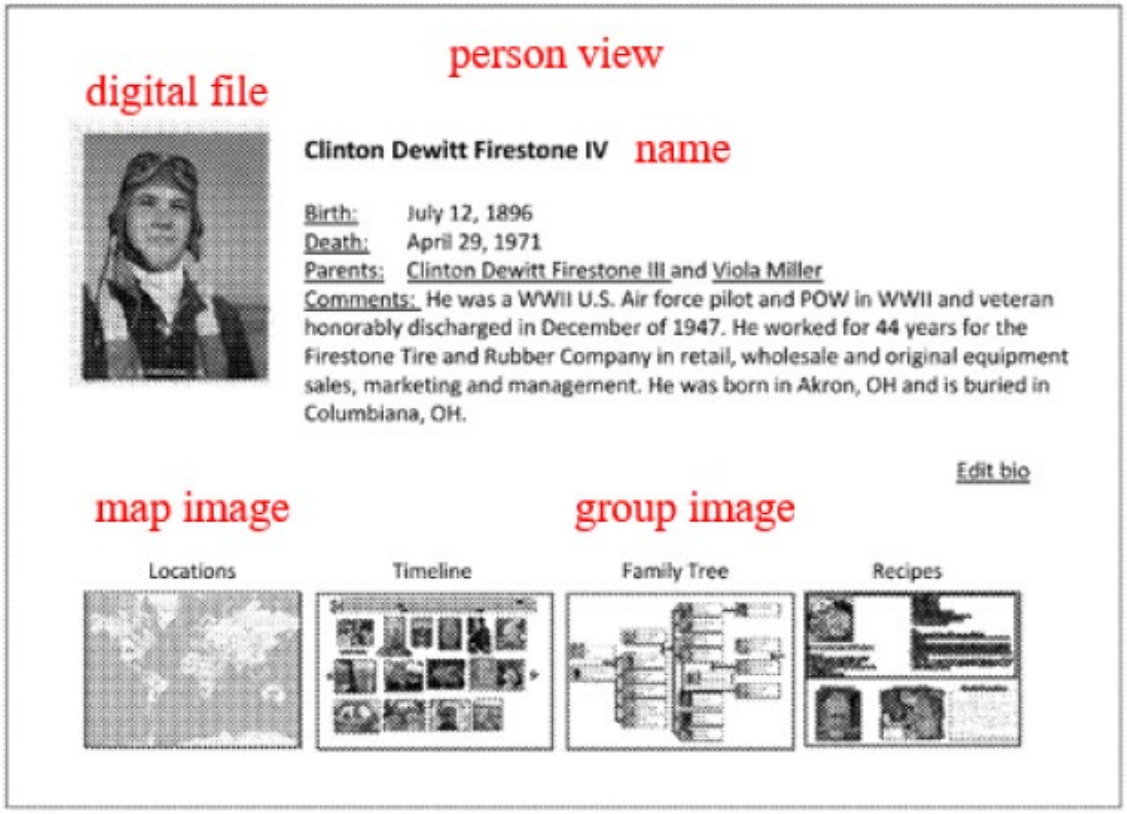


Figure 7 above shows the person view, with a digital file and a row of images at the bottom: locations (labeled "map image"), timeline, a "family tree" (labeled "group image), and recipes. *Id.* Next to the digital view is the person's name and biographical information. *Id.*

According to Patent Owner, "The image labeled 'Family Tree' is a 'group image' because its content (a depiction of a family tree) is tied to a group of people (a family)." *Id.* (citing Ex. 2025 ¶ 147). In Patent Owner's view, a person of ordinary skill in the art would understand that selecting the family-tree image displays the family view in Figure 8, an example of the "group view." *Id.* at 17–18 (citing Ex. 1001, 6:24–35; Ex. 2025 ¶ 148).

Petitioner argues that "[t]he correct construction of 'group image' is 'an interface element associated with a group of images.'" Reply 6. Petitioner argues that term "group image" only appears in the claims, not in

the rest of the patent. *Id.* at 5–6. Petitioner argues that the role of the "group image" that Patent Owner identifies "is to indicate to a user that clicking it will display the 'group view.'" *Id.* at 6. Petitioner argues that "the content of the visual element is non-functional descriptive matter not entitled to any patentable weight." *Id.* (citing *In re Yeager*, 527 F. App'x 859, 861 (Fed. Cir. 2013)).

Having considered the parties' arguments and the evidence, we agree with Petitioner's construction of the recited "group image": "an interface element associated with a group of images." *See* Reply 6.

Claims 11 and 43 do not recite what the group image includes. Rather, the claims recite (1) where the group image is located, "the first person view," and (2) that the image can be selected—i.e., "responsive to an input that is indicative of a selection of the first group image." Ex. 1001, 36:15–16 (claim 11), 39:1–2 (claim 43). The recited selection is consistent with Petitioner's construction that the group image is an "interface element," and its role "is to indicate to a user that clicking it will display the 'group view.'" Reply 6.

The claims recite what the "group view" includes: "one or more digital files associated with another person that is associated with the first person." Ex. 1001, 36:17–19 (claim 11), 39:4–5 (claim 43). This is consistent with Petitioner's construction that the group image is "associated with a group of images." Reply 6.

The intrinsic record of the '020 patent provides no basis for construing the term "group image" to require the particular content that Patent Owner argues for. PO Resp. 16–17. In fact, the intrinsic record provides no additional context regarding the meaning of this term. *See* Ex. 1001. The patent's written description does not use the term "group

image" outside of the claims, and it provides no definition—explicit or implicit—for it. *Id.*

Even so, the intrinsic record better supports Petitioner's construction. *See* Reply 6. In particular, the patent explains that Figure 7's shows a "people profile view." Ex. 1001, 6:26–27. Although the patent does not use the term "group image," this view shows "links to other views that contain that individual in the system." *Id.* at 6:26–30. As Patent Owner explains (PO Resp. 17–18), clicking on the Family Tree interface element ("group image") takes the user to the Family Tree Application View. *See* Ex. 1001, 6:24–35; Ex. 2025 ¶ 148. The "Family Tree Application View" is "where the individual people that have been created within the application can be displayed with family relationships." *Id.* at 34:35–38. In this way, the group-image interface element is associated with a group of images, as in Petitioner's construction. *See* Reply 6.

We disagree with Patent Owner that Petitioner's interpretation renders the word "group" meaningless. PO Resp. 16; Sur-reply 12–13. Rather, under Petitioner's construction, the interface element must be associated with a group of images. Reply 6. Because of this association, the construction gives meaning to the word "group." *Id.*

The interface elements at issue and discussed in this proceeding are rendered on a computer screen. In this way, adding the word "image" to Petitioner's construction, as Patent Owner's appears to argue (Sur-reply 12–13), would be redundant. Also, it is unclear how Patent Owner's argument (*id.*) has any bearing on the issues here.

Patent Owner's construction further adds that the group image "is associated with a group of *people*." PO Resp. 16 (emphasis added). We note that, for the reasons discussed below, Petitioner has shown that the prior art

teaches or suggests a group image even adding Patent Owner's limitation about "people" to the group image. Specifically, the claim expressly requires an association to the people in the "group view" via the recited selection's effect: "causing a first group view to be displayed on the interface." *See* Ex. 1001, 36:15–16 (claim 11), 39:1–2 (claim 43). So the "group of people" aspect of Patent Owner's construction adds little to what the claim already recites.

Thus, we construe "group image" as "an interface element associated with a group of images." *See* Reply 6. But our analysis below would be the same even if we construed group image to be an interface element that is an image associated with a group of people.

D. Obviousness over A3UM

Petitioner asserts that the subject matter recited in claims 1–59 would have been obvious over A3UM. Pet. 24–91.

1. A3UM

A3UM is a user manual for Apple's Aperture 3 digital-image management software. Ex. 1005. Aperture provides photographers with image management and adjustment tools. *Id.* at 1. For example, Faces is a face-detection and face-recognition tool provided in Aperture. *Id.* at 28. Faces can identify and track people through all the images in a digital library. *Id.* Places is also a tool provided in Aperture that organizes images by location. *Id.* at 81. In Places, a user can search for image locations on a map and zoom to view those locations in detail. *Id.* The Slideshow Editor allows the user to create slideshows. *Id.* at 84. These slideshows may include images, video, and audio clips. *Id.*

2. Claim 1

a. Preamble and People View

Claim 1 recites, in part,

1. A method comprising:

causing an interface to display a people view, the people view including:

a first thumbnail image associated with a first person,

a first name associated with the first person,

a second thumbnail image associated with a second person, and

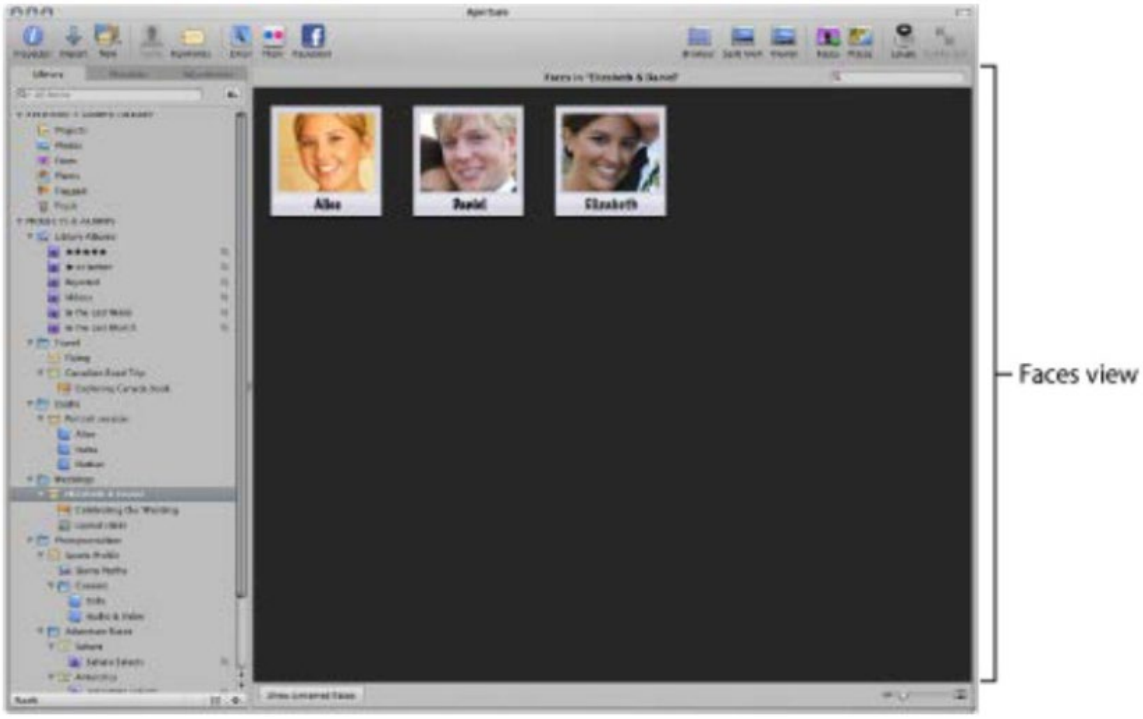
a second name associated with the second person . . . .

Ex. 1001, 35:17–24.

Petitioner asserts that A3UM teaches a "people view" because the application window in A3UM displays a Faces view. Pet. 25 (citing Ex. 1005, 28–29, 78–80, 417–428; Ex. 1003 ¶ 11).

Patent Owner does not specifically rebut these assertions. *See generally* PO Resp.; Sur-reply.

Considering the totality of the evidence, Petitioner has shown that A3UM teaches or suggests the preamble and the people view. *See* Pet. 24–27. In particular, the Petition reproduces an image of the A3UM interface, which is shown below. *Id.* at 25.



The figure above shows an interface displaying three images in a window. *Id.* Each image shows a person's face. *Id.* A name appears underneath each image. *Id.* The names "Alice" and "Daniel" are associated with a first and a second person. *Id.* at 26. In this way, Petitioner sufficiently shows that A3UM teaches or suggests the recited thumbnail images and names.

Petitioner explains that, to the extent that the recited "thumbnail image" must be a "reduced-size version of the original photo (*i.e.*, uncropped)," it would have been obvious to modify A3UM to have this feature. *Id.* at 25–26.

We determine that Petitioner's obviousness rationale is adequately supported by the current record, including the relevant parts of the Terveen Declaration. *See id.* According to the Terveen Declaration, using a scaled and cropped version of a photo was known, and modifying A3UM to use a version like this would be an arrangement of old elements performing their known function with expected results: A3UM displaying uncropped

thumbnails of people in the Places view. Ex. 1003 ¶¶ 113–115, *cited in* Pet. 25–26.

Thus, we determine that Petitioner has shown that A3UM teaches or suggests the preamble and the people-view limitations of claim 1, and that the recited subject matter would have been obvious over A3UM alone. *See* Pet. 24–27.

b. First Person View

i. "digital file"

Claim 1 recites, in part,

> responsive to an input that is indicative of a selection associated with the first person, causing a first person view to be displayed on the interface, the first person view including:
>
> a first *digital file* associated with the first person . . . .

Ex. 1001, 35:25–31 (emphasis added).

Petitioner asserts that A3UM's interface will display confirmed and unconfirmed images containing a person's face responsive to a user selecting a snapshot. Pet. 28–29 (citing Ex. 1005, 79, 418–419; Ex. 1003 ¶¶ 120–121).

Petitioner has two alternative rationales for how A3UM's display of confirmed and unconfirmed images teaches or suggests that the first person view includes the recited digital file. Pet. 31, 35–36. The first rationale assumes that "digital file" must be a full-size image. *Id.* at 31. The second rationale assumes that the "digital file" can be a reduced-size image. *Id.* at 35–36.

Patent Owner disagrees that the claimed "digital file" must be a full-size image. PO Resp. 76 n. 3 (citing Pet. 31; Ex. 2023, 200:1–11).

As discussed in Section III.C, Petitioner has shown that the A3UM teaches or suggests the recited "digital file" under either interpretation—i.e., a reduced- or full-size image. Our analysis follows.

(a) Full-Size Version

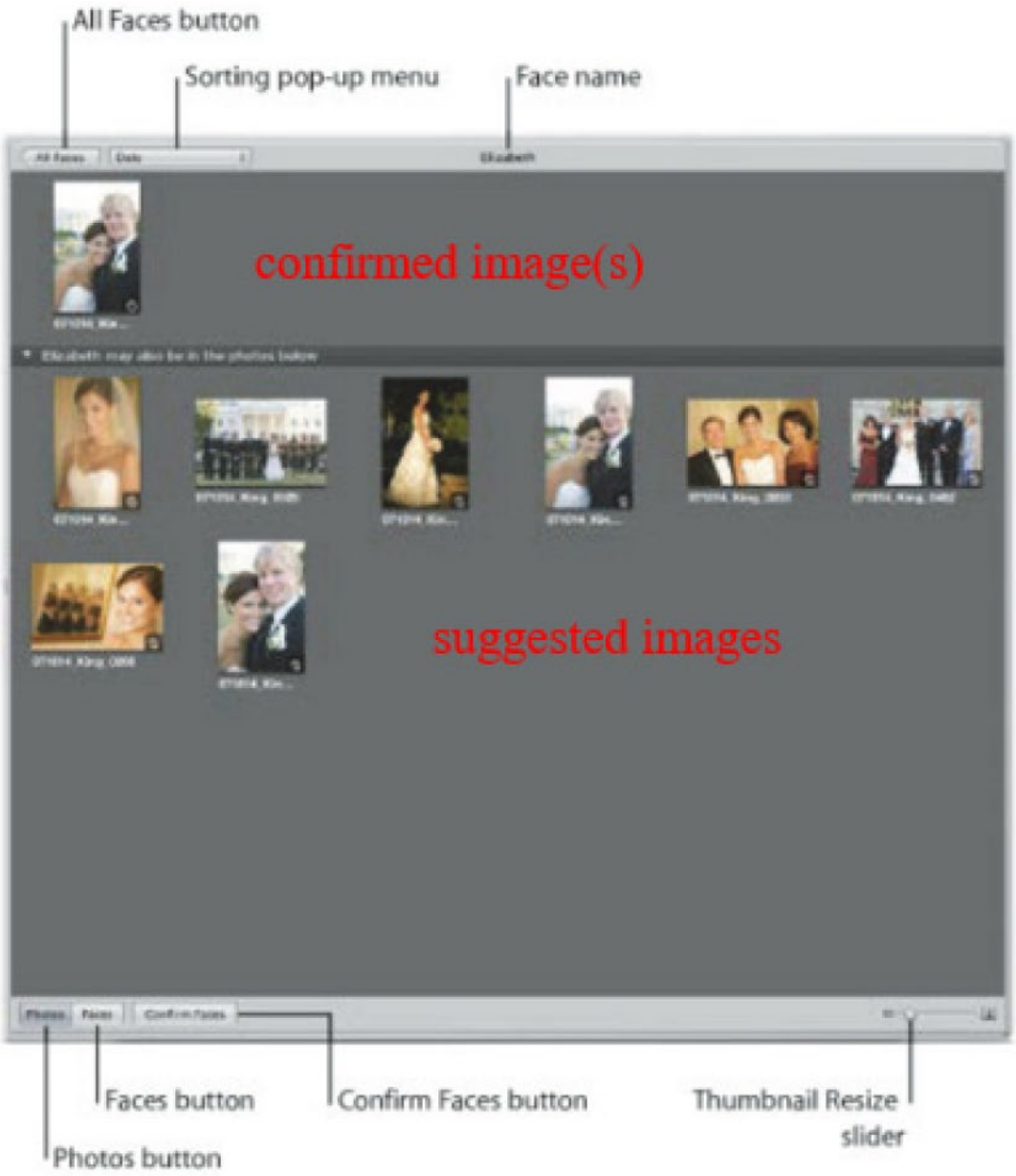
Assuming that "digital file" means a full-size image, Petitioner asserts that A3UM's first person view does not include the recited digital file. Pet. 31. Rather, in Petitioner's view, A3UM displays "thumbnails or scaled versions of underlying digital files containing the selected person's face," not "the digital files themselves." *Id.*

According to the Petition, it would have been obvious "to modify A3UM to display at least one of the images containing the selected person's face at its full-size" in the Faces browser." *Id.* (citing Ex. 1003 ¶¶ 126–134). That is, under this rationale, the recited "digital file" means "an image at its full size." *Id.* Petitioner provides multiple reasons why one of ordinary skill in the art would have made this modification. *See, e.g.*, *id.* at 33–35. In sum, Petitioner relies on a combination of A3UM's Faces, Viewer, and Browser interfaces to arrive at the claimed first person view including a digital file. *See id.* at 32–35.

Patent Owner does not present specific arguments directed to the issue of whether A3UM's images are digital files, as recited in claim 1. *See generally* PO Resp.; Sur-reply. Patent Owner, though, argues that Petitioner's proposed modification "would radically modify the A3UM Faces browser by replacing the entire view with the unrelated split Viewer/Browser interface shown elsewhere in A3UM." PO Resp. 69 (citing Pet. 31–32; Ex. 1003 ¶ 127).

In Patent Owner's view, "the unmodified Faces browser is specifically and intentionally designed to display confirmed images of a person

simultaneously with suggested images of the person to facilitate a process of tagging images with people." PO Resp. 68. Patent Owner argues that, to accomplish this, the Faces browser is divided into two sections. *Id.* To illustrate, Patent Owner annotates A3UM's Faces browser, shown below. *Id.* at 69.



The screenshot above shows A3UM's Faces browser as annotated by Patent Owner. *Id.* at 69. The Faces browser has various buttons ("All Faces,"

"Faces," "Photos," "Confirm Faces"), a *Sorting* menu, and a slider for resizing the thumbnail images. *Id.* Patent Owner's annotates the browser's top section as "confirmed image(s)" and the bottom section as "suggested images." *Id.*

We largely agree with Patent Owner's description of this interface: In A3UM, a user can view all the images in a photo library that include a particular person. Ex. 1005, 29. To start this process, the user double-clicks the person's snapshot in Faces view. *Id.* A confirmed image of the person appears in the browser's top section. *Id.* Aperture compares the person's face with other faces in the photo library. *Id.* It then offers suggested images for the user to confirm or reject as matches. *Id.* Suggested images appear in the browser's bottom section. *Id.* When the user confirms a suggested image, it moves from the bottom section to the top section of the browser. *See id.*; PO Resp. 69.

Patent Owner argues that Petitioner's proposed modification would "radically" modify and "frustrate the entire purpose" of A3UM's Faces browser, which is to compare confirmed and suggested images. PO Resp. 69–72. Patent Owner argues that, under its proposed combination, Petitioner does not explain what would happen to the suggested images, and that Dr. Terveen admitted this alleged failure. *Id.* at 69–71 (Pet. 31–35; Ex. 1003 ¶¶ 129–134; Ex. 2025 ¶¶ 187–189; Ex. 2023, 210:5–211:2, 212:24–213:9). Patent Owner argues that, for this reason, Dr. Terveen's analysis is incomplete and should be afforded no weight. *Id.* at 71. Patent Owner evaluates options for where the suggested images might go and concludes that those options "would be impractical and reduce the usability of the interface." *See id.* at 71–72 (citing Ex. 2025 ¶¶ 190–192; Ex. 1005, 29, 207).

We disagree with Patent Owner's arguments for at least the reason that they do not squarely address Petitioner's rationale. In particular, Petitioner proposes using A3UM's Viewer-Browser interface to display both confirmed and suggested images. *See* Pet. 31, 35.[5] The Petition states that it would have been obvious "to modify A3UM's Faces browser to display *confirmed* images of a person using A3UM's Viewer and Browser interfaces." *Id.* at 32 (citing Ex. 1003 ¶ 129) (emphasis added). The Petition also states that the modification displays "unconfirmed images 'at full size' before confirming them." *Id.* at 35 (Ex. 1003 ¶ 133; Ex. 1005, 419–420, 424–425).

We disagree with Patent Owner's argument that it is unclear what happens to the suggested images or whether the suggested images are displayed in the modified interface at all. *See* PO Resp. 69–72; Sur-reply 18–19.

Dr. Terveen's testimony makes clear that the proposed modification displays both suggested and confirmed images:

> I'm saying it would have been obvious to have a modification where you would display a full-size image for *both* the confirmed and unconfirmed . . . they weren't exclusive, you know, one or the other.

Ex. 2023, 206:11–16 (emphasis added). Patent Owner mischaracterizes the proposed combination as having only a "single row of images." *Id.* at 72. Dr. Terveen, however, explained "I'm proposing a Browser where you're

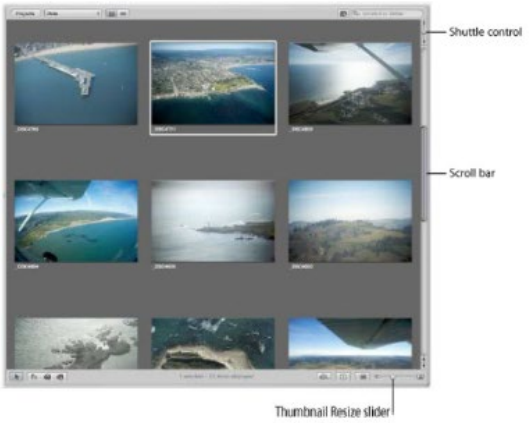
[5] In the Reply, Petitioner argues that the suggested images "remain in the library but are not displayed—A3UM teaches that the Faces browser can select/display desired images (e.g., confirmed using keywords)." Reply 27. We, however, agree with Patent Owner that this is clearly inconsistent with the Petition, and Dr. Terveen's testimony. Sur-reply 18–19 (citing Pet. 35; Ex. 2023, 208:19–209:16).

showing thumbnails *and* a viewer where you're showing one image at full size." *Id.* at 213:10–11 (emphasis added). That is, both suggested and confirmed images are in their own Viewer/Browser. This testimony is consistent with the Petition because it discusses displaying both confirmed and unconfirmed images using the Viewer/Browser. *See* Pet. 32, 35.

The Viewer/Browser is reproduced below. *Id.* at 32

The Viewer/Browser, above shows sets of images from a folder, project or album. *Id.* (citing Ex. 1005, 47). Unlike the Faces browser, the images shown above, though, do not appear to contain faces. *Id.* Essentially, the Petition proposes using this interface to "display another set of images maintained by A3UM's system: images containing faces of a selected person." *Id.* at 33 (citing Ex. 1003 ¶ 129). The Petition discusses not only "confirmed" faces but also "unconfirmed" images. *Id.* at 31, 35

Apart from the Petition's discussion of "unconfirmed" images (*id.* at 35), the Petition also compares the grid of thumbnail images in the Viewer/Browser*'s* Grid view to the Faces browser (*id.* at 33–34). The comparison is shown below.



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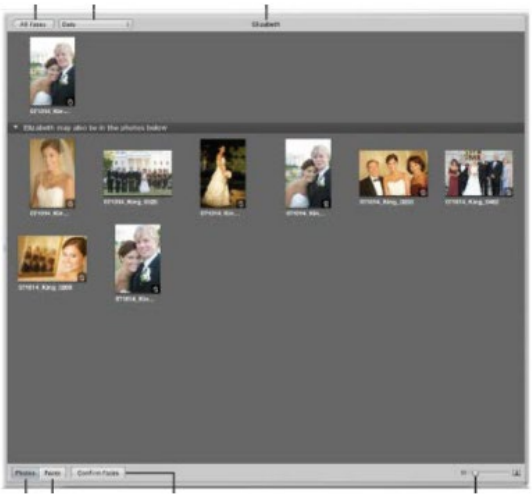

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The above figure are an excerpt from the Petition that shows that Viewer/Browser's Grid view on the left and the Faces browser on the right. *Id.* at 34. As the Petition points out, "both display a grid of thumbnail images." *Id.* at 33. In the screenshot on the right, "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." Ex. 1005, 79. Notably, the top of the Faces browser has only a single image. Pet. 34. The grid that the Petition refers to is apparent only when including images from the suggested-image section. *Id.* Thus, the Petition indicates that the suggested images are to be considered as well in this analysis. *Id.*

Considering the totality of the evidence, the Petition sufficiently explains that both confirmed and suggested images are displayed in the

Viewer/Browser in proposed modification. *See* Pet. 34. Thus, we disagree with Patent Owner's arguments that are directed to modifications that do not involve displaying suggested images in this way. *See* PO Resp. 69–72. And we disagree with Patent Owner's argument that Dr. Terveen's analysis is incomplete. *Id.* at 71.

Also, the Petition shows that the similarity between the two interfaces further supports the obviousness rationale. *See* Pet. 33–34. For example, both the Viewer/Browser and Faces browser organize and display a collection of images. *Id.* These different views were merely alternatives for performing the same function. *Id.* at 34–35 (citing Ex. 1003 ¶ 131). Thus, we agree with Petitioner that the proposed "modification would arrange known elements performing the same function each had been known to perform individually—the images in A3UM's Faces browser displayed with A3UM's Viewer interface—to yield expected results, with no change in the Faces browser other than adopting the visual interface of A3UM's Viewer." *Id.* at 34.

As Dr. Terveen explains, both ways of viewing the images have their benefits. Ex. 1003 ¶ 131. And the Petition sufficiently explains what those benefits were:

> A skilled artisan also would have been motivated to modify the Faces browser to adopt a Viewer/Browser arrangement that displays selected images "at full size" to give users other known benefits of the Viewer: (1) "examine an image at its full size"; (2) "apply adjustments, keywords, and metadata to an image in the Viewer"; (3) customize how images are displayed, such as "at full resolution" and with "metadata," and (4) use the Loupe tool, i.e., a magnifying glass.

Pet. 35 (citing Ex. 1005, 51, 260, 266; Ex. 1003 ¶ 132).

As for the first benefit, Patent Owner argues that "Petitioner fails to identify a benefit to showing the images at 'full size.'" PO Resp. 76. We disagree. The Petition explains that examining the image at its full size would help the user confirm images. *Id.* (citing Ex. 1003 ¶ 133; Ex. 1005, 419–420, 424–425). Dr. Terveen testifies that "being able to view an image at 'full size' when confirming whether it contains a specific detected face" would be beneficial. Ex. 1003 ¶ 133. We credit this testimony because it is supported by A3UM, which shows that the images in the Faces browser occupy less space than those in the Viewer. *See, e.g.*, Pet. 32 (showing the Viewer), 34 (showing Faces browser). The record shows that, for example, A3UM teaches that it is easier to identify a person's face in a larger image. Ex. 1005, 425.

Patent Owner argues that this benefit is already in the unmodified Faces browser. PO Resp. 75–76. Patent Owner argues that the Faces browser has a tool to show only faces in the thumbnails. *Id.* at 76. Patent Owner argues that A3UM has a thumbnail resizer to provide larger images. *Id.* (citing Ex. 1005, Ex. 2025 ¶¶ 199–200; Ex. 2023, 130:13–131:24, 137:4–11, 142:8–15).

We disagree with Patent Owner's argument (*id.*) and assign little weight to Dr. Surati's Declaration on this issue (Ex. 2025 ¶¶ 199–200, 205) because the record shows that Viewer/Browser and thumbnail-resizer slider work differently. In particular, Dr. Terveen explained that the thumbnail-resizer slider has a different effect than the Viewer/Browser because the slider enlarges all thumbnails. Ex. 2023, 215:10–16. Dr. Terveen explained that, by contrast, the Viewer/Browser provides the user with "more screen real estate to one particular thing as opposed to dividing it up among all the thumbnails as they got bigger." *Id.*

Indeed, A3UM supports Dr. Terveen's testimony. For example, A3UM explains, "As the number of confirmed images of a person grows, it can be difficult to identify a person's face in a small thumbnail image." Ex. 1005, 425, *discussed in* PO Resp. 76. A3UM explains that dragging the thumbnail-resize slider changes "the size of the thumbnail images shown in the Faces browser." Ex. 1005, 80. Also, "[t]o make it easier to identify a person's face in an image, [A3UM's user] can either make the thumbnail images larger or switch from showing whole images to showing only faces." *Id.* at 425. This feature only further supports Dr. Terveen's testimony because it shows that A3UM recognizes that enlarging the faces aids identification. *Id.* at 80, 425, *discussed in* PO Resp. 76. We credit Dr. Terveen's testimony about the benefits of enlarging the images of faces (Ex. 1003 ¶ 132; Ex. 2023, 215:10–16) because it is consistent with A3UM (Ex. 1005, 80, 425).

Patent Owner argues that there is no need to display the images at full size to confirm a face "because users recognize faces very quickly." PO Resp. 76 (citing Ex. 2025 ¶¶ 203–204; Ex. 2030, 110, 115). Dr. Surati cites "Designing with the Mind in Mind," a user-interface design textbook, states that "people recognize human faces very quickly—usually in a fraction of a second." Ex. 2025 ¶ 204 (citing Ex. 2030, p. 110).

We do not credit Dr. Surati on this issue because it is unclear how the speed at which a person recognizes a human face relates to the A3UM interface. *Id.* Dr. Surati provides insufficient support for the assertion that "[w]hether an image is displayed as a thumbnail or 'full size' will have very little, if any, impact on how quickly a user will recognize a face." *Id.* To the contrary, A3UM teaches enlarging the images makes it "easier to identify a

person's face in an image." Ex. 1005, 425. Thus, we assign little weight to Dr. Surati's testimony on this issue. Ex. 2025 ¶ 204.

Thus, Petitioner sufficiently supports its rationale that it would have been obvious to modify the Faces browser to allow users to examine an image at its full size. Pet. 35.

As for the benefits other than viewing the images at full size, Patent Owner argues that the Faces browser can already (1) add adjustments, keywords, and metadata, and (2) allow users to invoke the Loupe tool. PO Resp. 76–77. We note that these other benefits are cumulative in Petitioner's rationale, and we determine that Petitioner has sufficiently shown that the proposed modification would at least improve A3UM in one way. Pet. 35. Even so, if true, Patent Owner's argument (*id.*) only bolsters Petitioner's argument that the "modification would arrange known elements performing the same function each had been known to perform individually . . . to yield expected results, with no change in the Faces browser other than adopting the visual interface of A3UM's Viewer." Pet. 35 (citing Ex. 1003 ¶ 134).

Patent Owner essentially argues that the toolbar and Library inspector would be unchanged in the proposed combination. *See* PO Resp. 76–77. Specifically, Patent Owner argues that the Library inspector's metadata and adjustment tab would provide the same functionality without being modified. *See id.* (citing Ex. 2025 ¶¶ 205–208; Ex. 1005, 54, 58, 61; Ex. 2023, 146:17–147:1). Likewise, Patent Owner argues that the Loupe tool is included by default in the toolbar in the unmodified version of the Faces browser. *Id.* at 77 (citing Ex. 2025 ¶¶ 211–212; Ex. 1005, 29, 65, 247; Ex. 2023, 146:9–16). This somewhat undermines its other argument that the proposed modification would "radically modify the A3UM Faces browser" (*id.* at 69), frustrate the entire purpose of the A3UM Faces browser

(*id.* at 72, 75), or require substantial reconstruction (*id.* at 75). Rather, the record better supports Petitioner that the viewing functions are interchangeable, requiring no change to the Faces browser other than adopting a new visual interface. *See* Pet. 35. Thus, we disagree with Patent Owner's arguments and assign little weight to Dr. Surati's testimony on these issues. *See* PO Resp. 69, 72, 74–78; Ex. 2025 ¶¶ 127, 130–131, 179–186, 191–192, 195–198.

For similar reasons, we disagree with Patent Owner's argument that the proposed modification would reduce usability. PO Resp. 69–77. Patent Owner assumes various configurations not proposed in the Petition. *See id.* For example, Patent Owner discusses using only a single row of images without distinguishing between confirmed and suggested images (*id.* at 72, 74–75) or not showing the suggested images at all (*id.* at 70–71). Patent Owner also speculates about where the buttons for confirming faces would be placed in Petitioner's combination. *Id.* at 73 (Ex. 1003 ¶¶ 129–134; Ex. 2025 ¶¶ 193–194). In making these arguments, Patent Owner does not squarely address the Petition's rationale of displaying each section of the confirmed and suggested images in its own Viewer/Browser. *See, e.g.*, Pet. 32, 35; *see also* Ex. 2023, 206:11–16, 213:10–11. For similar reasons, we do not credit the corresponding parts of Dr. Surati's Declaration. Ex. 2025 ¶¶ 185–186, 191–194, 197–198.

Thus, Petitioner has shown that A3UM teaches or suggests the recited "digital file" under its first rationale that "digital file" means a full-size image. Pet. 31.

(b) Reduced-Size Version

Alternatively, Petitioner asserts that, if the causing limitation is interpreted to cover displaying a reduced-size version of a digital file,

A3UM meets this limitation because the Faces browser displays all "confirmed and unconfirmed images in reduced-size form." *Id.* at 35–36 (citing Ex. 1005, 79; Ex. 1003 ¶ 135). That, this second rationale is based on A3UM's Faces browser alone. *Id.* at 36.

Patent Owner disagrees with the interpretation that the claimed "digital file" must be a full-size image. PO Resp. 76 n.11. Patent Owner argues that "[e]ven if the Board were to adopt Petitioner's alternative argument for limitation 1[c] that does not require modifying the A3UM Faces Browser to meet the claims (*see* [Pet. 35–36]), Petitioner would still fail to meet its burden for claim 1." *Id.* at 78. n.12. Patent Owner, though, does not specifically present arguments or evidence directly rebutting Petitioner's assertion that A3UM's Faces browser includes digital files under the reduced-size rationale. *See generally* PO Resp.; Sur-reply.

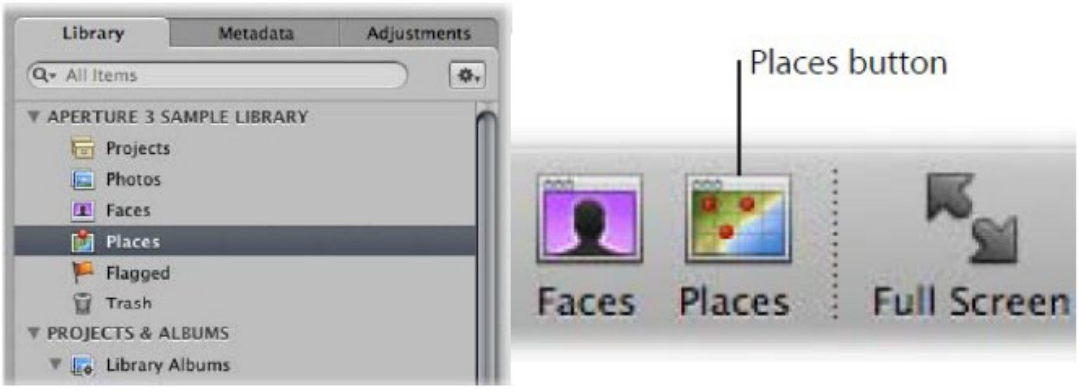
Considering the totality of the evidence and arguments, we agree with Petitioner that the A3UM's Faces browser includes digital files. Pet. 35–36. As discussed in Section III.C, the term "digital file" at least encompasses a reduced-size image, as relied upon in Petitioner's second rationale. *See id.* It is undisputed that A3UM at least shows images associated with a person of some size in the Faces browser—i.e., the confirmed and unconfirmed images. *See id.*; *see generally* PO Resp.; Sur-reply. We agree with Petitioner on this point and determine that this assertion is sufficiently supported by the evidence of record because the images in the Faces browser show a person's face. *See* Ex. 1005, 79; Ex. 1003 ¶ 135. In this additional way, Petitioner has shown that A3UM's confirmed and unconfirmed image teach the recited "digital file." Pet. 35–36.

Thus, considering the totality of the evidence, Petitioner has shown that A3UM teaches or suggests "a first digital file associated with the first person," as recited in claim 1.

ii. "map image"

Claim 1 recites, in part, "responsive to an input . . . causing a first person view to be displayed on the interface, first person view including . . . a first *map image*." Ex. 1001, 35:25–31 (emphasis added).

As for the map image, Petitioner asserts, "A3UM's interface includes two selectable links with miniature map icons . . . , the Places link in the Library inspector and the Places button in the toolbar, that can be selected to display the Places view." Pet. 30 (citing Ex. 1005, 81, 435). The icons from A3UM are reproduced below, as shown in the Petition. *Id.*



The screenshot above shows the Library inspector pane on the left, and the "Places" button on the tool bar on the right. *Id.* In the Library inspector pane, the "Places" option is highlighted to distinguish it from the other options in the "APERTURE 3 SAMPLE LIBRARY": "Projects," "Photos," "Faces," "Flagged," and "Trash." *Id.* Beside each option is an icon. *Id.* The "Places" option has an icon representing a map. *Id.* The right-hand side of the screenshot shows the "Places" button on a toolbar between the "Faces" button and the "Full Screen" button. *Id.* The buttons have icons

above their name. *Id.* The icon associated with the "Places" button is a miniature map. *Id.*

Petitioner argues that the Places icons in each view "represent maps and a skilled artisan would consider them to be '*map images[s]*.'" *Id.* Petitioner asserts that "these icons can be selected as part of the Places link and Places button." *Id.* at 30–31 (citing Ex. 1005, 81, 435; Ex. 1003 ¶ 123).

Patent Owner argues that neither icon is "caused to be displayed 'responsive to' selecting one of the snapshots in the Faces view"—i.e., the input that Petitioner asserts indicates that the first person is selected. PO Resp. 61 (citing Ex. 2025 ¶¶ 159–164). In Patent Owner's view, "those buttons are in exactly the same state on the interface *regardless of any input* in a Faces view." *Id.* (citing Ex. 2003, 180:20–183:4, 184:17–185:23, 187:15–189:21). In other words, unlike the claimed "map image," Patent Owner views A3UM's Places buttons as static elements that are continuously displayed between views. *See, e.g.*, *id.* at 61–65. Thus, Patent Owner argues that A3UM lacks a map image that is displayed in response to any input in the Faces view. *Id.* at 61.

But the claim does not require causing a map image to be displayed on the interface in response to an input. Rather, the claim recites "responsive to an input that is indicative of a selection associated with the first person, causing *a first person view* to be displayed." Ex. 1001, 35:25–31.

Patent Owner disagrees and argues that "[t]he claims define the first person view as including (1) a first digital file, (2) the first name, and (3) *the first map image*." Sur-reply 15 (citing Ex. 2026 ¶ 124). So, in Patent Owner's view, "all three of these—including the first map image—must be displayed 'responsive to the input.'" *Id.* (citing Ex. 2026 ¶ 125). Patent Owner argues that "all three elements of the first person view are displayed

together to make up the first person view; they are not displayed independently." *Id.*

We agree that the first person view must include a map view. Although Patent Owner identifies other views where the A3UM Places link/button (the recited "map image") appears (*see, e.g.,* PO Resp. 62 (Ex. 1005, 6, 64–65)), we disagree that the claim precludes other views from also including a map view. Specifically, claim 1's method uses the term "comprising," indicating that additional unrecited views may also contain a map image. Under this understanding of the claim, the map view need not be displayed independently, as Patent Owner argues. Sur-reply 15. Thus, we disagree with Patent Owner's argument that adds an unrecited limitation to the claim. *Id.*

Rather, the claim is satisfied if at least the first person view contains the map view, along with the other recited elements. And A3UM teaches that same view displays the first name a first digital file associated with the first person (the image in the Faces Browser), the first name associated with the first person (A3UM's Face name) also displays the map image (the icon associated with Places). Pet. 28–31.

Patent Owner argues that the claimed causal relationship is meaningful in human-interface design. PO Resp. 63 (citing Ex. 2021, 26, 39–41; Ex. 2025 ¶ 166). Patent Owner argues that Petitioner has not shown a cause and effect. *See id* at 61; *see also id.* at 11–12, 62 (analogizing the recited cause-and-effect to a drought causing prairie fires). We disagree with Patent Owner's argument for at least the reason that Patent Owner focuses on an effect that is not recited: the only time the map image appears is in response to the input. We assign little weight to the Surati Declaration about the causal relationship because Dr. Surati relies on Patent Owner's reasoning

that the only time that the map image appears is in response to the input. *See* Ex. 2025 ¶¶ 154–170.

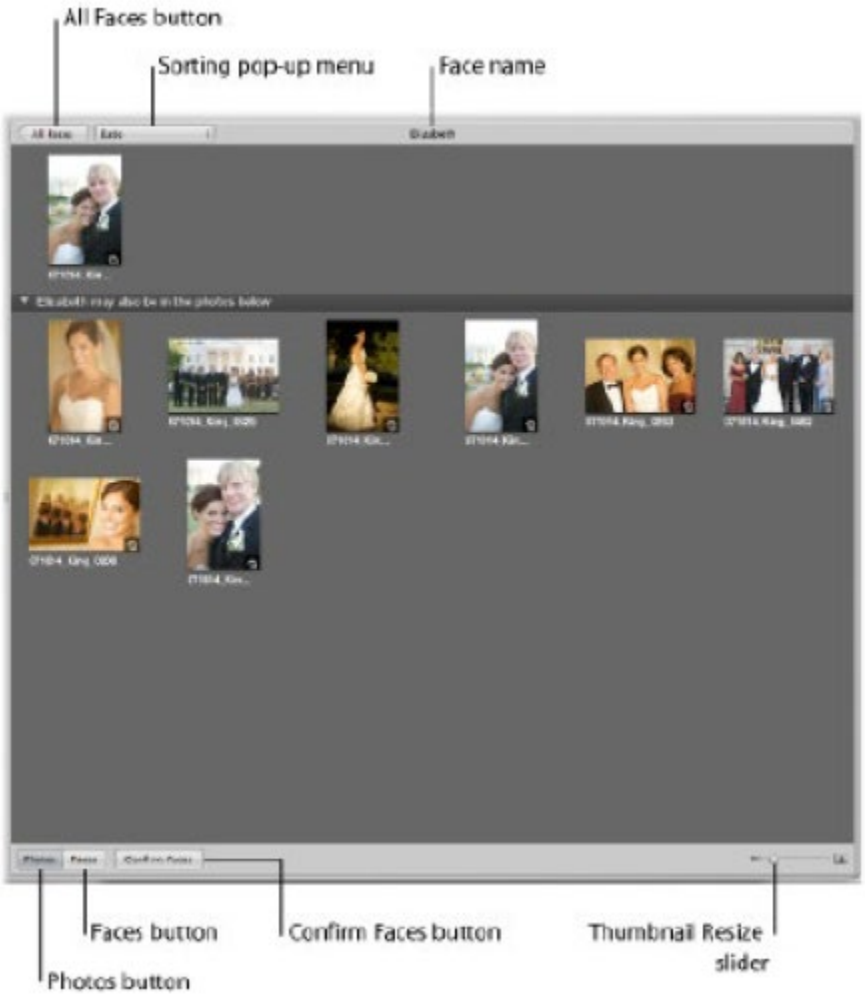
iii. "responsive to"

Even under Patent Owner's construction of "responsive to," Petitioner has shown that A3UM teaches or suggests the first person-view limitation. In particular, Patent Owner argues that "responsive to" means "a cause-effect relationship between (i) an input that is indicative of a selection associated with the first person and (ii) causing a first person view to be displayed on the interface." PO Resp. 8.

As for part (i) of the construction, Patent Owner does not dispute that double clicking a faces thumbnail on A3UM's Faces view is "an input that is indicative of a selection associated with the first person." *See, e.g.*, *id.* at 68. Indeed, we agree with Petitioner that A3UM teaches that double clicking a photo in the Faces view ("an input") will display a view of the images, the toolbar, and the inspector panes (the recited "first person view" as modified under Petitioner's combination). Pet. 28–29. For example, A3UM states, "If you double-click a person's snapshot in Faces view, Aperture presents suggested images of the person at the bottom of the Faces browser." Ex. 1005, 419. Here, A3UM describes a cause-effect relationship between the input and the display of a view of the images, the toolbar, and the inspector panes. *See id.* We credit Dr. Terveen's testimony, which is consistent with this disclosure. *See* Ex. 1003 ¶¶ 120–122.

As for part (ii) of Patent Owner's construction, Petitioner has shown a A3UM's Viewer, toolbar, and inspector panes are the recited "first person view." Patent Owner does not dispute Petitioner's assertion that A3UM displays "a first digital file associated with the first person, the first name associated with the first person," as required by the claim. Pet. 28–30.

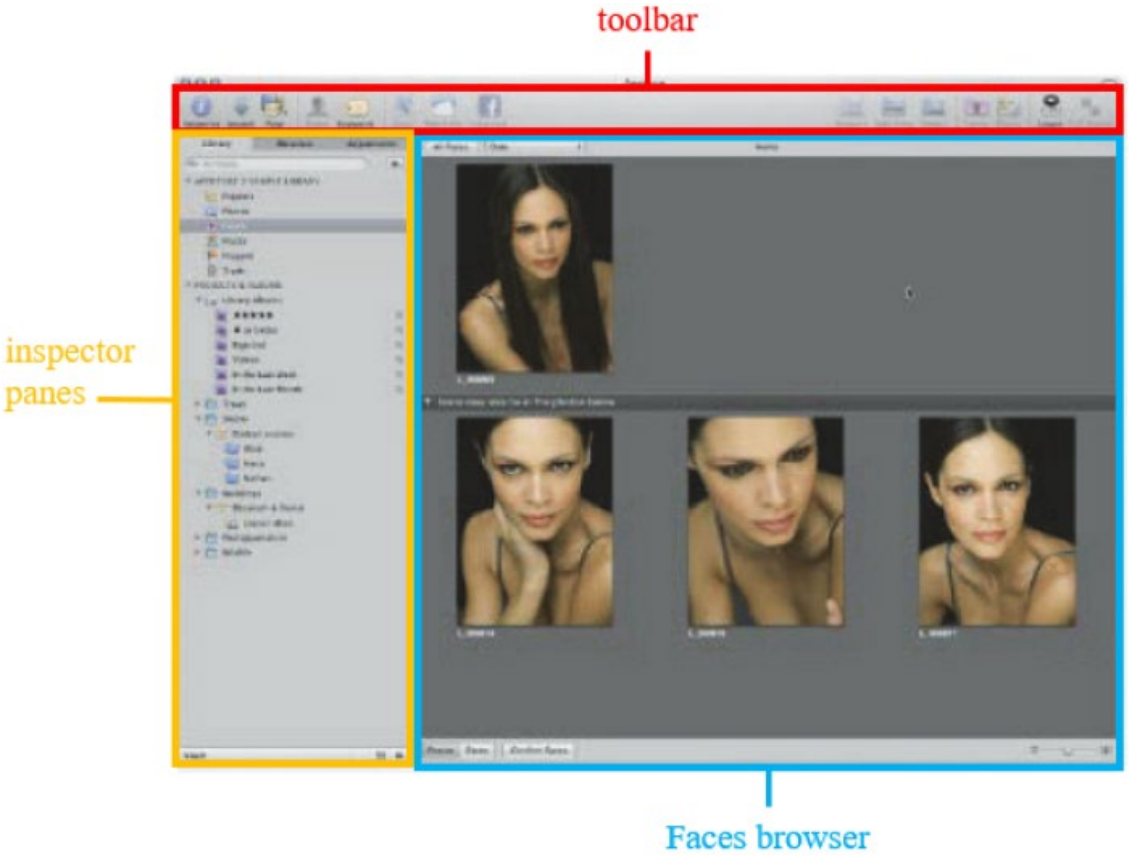
Petitioner shows that A3UM's view displays the first name in the title bar as the "Face name." *Id.* An example of A3UM interface is shown below.



The screenshot above shows part of the interface in A3UM. *Id.* at 30 (citing Ex. 1005, 79–80; Ex. 1003 ¶ 122). In particular, the screenshot shows various buttons ("All Faces," "Faces," "Photos," "Confirm Faces"), a Sorting menu, and a slider for resizing thumbnails. *Id.* The interface is divided into an upper and lower part, each showing images. *Id.* The "Face name" appears in the title bar. *Id.* According to A3UM, "The title bar contains the name of the person in the images." Ex. 1005, 80, *cited in* Pet. 30. Thus, Petitioner has shown that A3UM's "first person view"

includes "a first digital file associated with the first person, the first name associated with the first person." Pet. 28–30. We credit Dr. Terveen's testimony, which is consistent with this disclosure. *See* Ex. 1003 ¶ 122.

In addition to the Faces view, Petitioner asserts that the toolbar and inspector panes are also part of the recited "first person view." Pet. 28–30. We agree. For example, we reproduce the rest of the A3UM interface with Patent Owner's annotations below. PO Resp. 59.



The annotated screenshot above shows a toolbar highlighted in red, the Library inspector pane highlighted in yellow, and a Faces browser highlighted in blue. *Id.* As discussed in detail above, purported map image appears in Library inspector pane on the Left, and the "Places" button on the tool bar on the right. *Id.* The interface is divided into an upper and lower part, each showing images of the person with the "Face name" at the top. *Id.*

In sum, Petitioner has shown that A3UM teaches, "response to an input . . . causing a first person view to be displayed on the interface, first person view including . . . a first map image." *See* Pet. 28–36.

c. First Location View

Claim 1 recites,

> responsive to an input that is indicative of a selection of the first map image in the first person view, causing a first location view to be displayed on the interface, the first location view including:
>
> an interactive geographic map,
>
> a first indication positioned at a first location on the interactive geographic map, and
>
> a second indication positioned at a second location on the interactive geographic map . . . .

Ex. 1001, 35:32–40.

Petitioner asserts that A3UM's Places view is displayed within the Aperture user interface as a whole, which is collectively a "first location view." Pet. 38. According to the Petition, "A3UM describes a Places view comprising an embedded Google Map ('interactive geographic map') that is displayed when a user clicks or taps ('responsive to an input that is indicative of a selection of the first map image in the first person view') on either (1) the 'Places' item in the Library Inspector ('first map image') or (2) the Places button in the toolbar (another 'first map image')." *Id.* at 36 (citing Ex. 1003 ¶¶ 138–140; Ex. 1005, 81, 435).

As for the first and second indications, Petitioner asserts that the Places view displays pins at locations on an interactive map where the photos were taken. *Id.* at 37–38 (citing Ex. 1005, 30, 65, 81–83, 429–466, 1115; Ex. 1003 ¶ 138).

Patent Owner does not specifically dispute these assertions. *See generally* PO Resp.; Sur-reply.

Considering the entire record, Petitioner's assertions are adequately supported. For example, we agree with Petitioner's characterization of the A3UM's Places view (Pet. 36–38), which is displayed below.

The figure above is a screenshot of the interface described in A3UM. Ex. 1005, 437. The interface contains a map. *Id.* In the figure, the interface is annotated with a line identifying a "location pin" within the map. *Id.* According to A3UM,

> Depending on the zoom setting in Places view, Aperture might use a single pin to represent a group of images shot in close

> proximity. However, you can view the precise location where each image in the group was shot.

Id. The bottom of the interface displays five images. *Id.* The annotation below the images says, "Images shot in the selected location." *Id.*

Thus, Petitioner has shown that A3UM teaches or suggests the first location-view limitations of claim 1.

d. Slideshow

Claim 1 recites,

> responsive to an input that is indicative of a selection of the first digital file in the first person view, causing a slideshow to be displayed on the interface, the slideshow including a plurality of images associated with the first person.

Ex. 1001, 35:41–45.

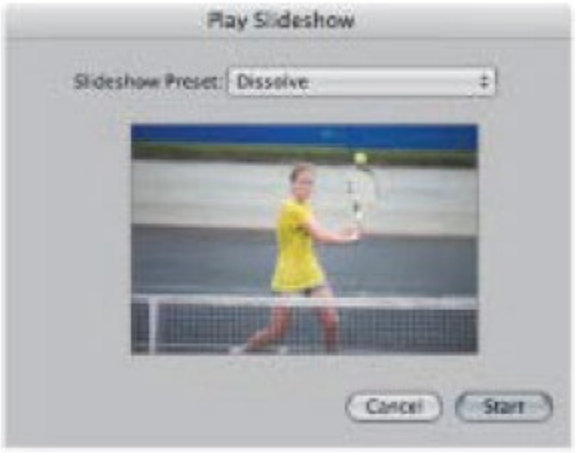
In its analysis, Petitioner refers to the combination discussed in connection with the person-view limitation. Pet. 38–39 (referring to § VII.B.1.b. of the Petition); *see supra* § III.D.2.b. Petitioner asserts that, under its proposed modification, the Faces browser would use the functionality from the Viewer. *Id.* at 38 (emphasis omitted). Under this rationale, the Viewer would be above "a Browser of images that can be selected to display the image in full resolution," which "would allow a user to view the set of images containing the selected person's face, such as by selecting one of the images in the Browser to display it in the Viewer." *Id.* at 38–39 (citing Ex. 1005, 251; Ex. 1003 ¶ 143). Petitioner's assertions and obviousness rationale are sufficiently supported, as discussed in Section III.D.2.b.

In the sections that follow, we analyze each part of the limitations directed to the slideshow limitation under Petitioner's proposed Faces browser modified with the Viewer-Browser features. *See id.*

i. "responsive to"

Petitioner explains that A3UM's "user can select multiple images in the Browser (comprising photos of a specific person), including the image currently displayed in the Viewer, and then start a 'slideshow' by choosing File->Play Slideshow, or by pressing Shift-S." *Id.* at 40 (Ex. 1003 ¶ 146; Ex. 1005, 36, 828). According to the Petition, "That prompts the Play Slideshow dialog, which allows the user to 'specify how you want images displayed by choosing a slideshow preset.'" *Id.* Petitioner asserts that "[o]nce the user selects a preset and clicks 'Start,' A3UM will cause a 'slideshow' (*'causing a slideshow to be displayed on the interface'*) to display the selected images (*'the slideshow including a plurality of images associated with the first person'*)." *Id.* (citing Ex. 1003 ¶ 146; Ex. 1005, 830–831).

A3UM's "Play Slideshow" dialog is shown below. Ex. 1005, 830.



The "Play Slideshow" dialog above shows an image of a person, a "Cancel" button, a "Start" button, and a "Slideshow Preset" dropdown showing "Dissolve" as the current item. *Id.*

We determine that A3UM's description of creating a slideshow sufficiently supports Petitioner's assertion that A3UM teaches or suggests

"an input that is indicative of a selection of the first digital file in the first person view," as recited. Pet. 40. For example, A3UM teaches that a user "can also create a slideshow *by selecting the images* that [they] want to show in the Browser and then choosing File > Play Slideshow." Ex. 1005, 36 (emphasis added), *cited in* Pet. 40. That is, A3UM's user selects images that are included in the slideshow. *See id.* In fact, A3UM specifically tells the user how to select the images for the slideshow:

> To create and play a slideshow . . .1. Select a set of images by doing one of the following: . . . Select an item in the Library inspector. . . . Select individual images or image stacks in the Browser. . . .

Id. at 830. Step 2 is "Choose File > Play Slideshow (or press Shift-S)." *Id.* Step 3 is "Choose a preset." *Id.* Step 4 is "Click Start"—i.e., start the slideshow. *Id.* at 831.

Patent Owner argues that the term "responsive to" means that there are no intervening actions between the input and the slideshow display. Sur-reply 21. Under this interpretation, Patent Owner argues that A3UM's slideshow does not meet the limitation because selecting an image in the Browser (Step 1) does not start the slideshow. *Id.* at 20–21 (citing Ex. 2025 ¶¶ 222–223).

We agree that, at least, steps 2 ("Choose File > Play Slideshow") and 3 ("Choose a preset") are intervening steps between selection (Step 1) and the actual presentation of the slideshow itself. *See* Ex. 1005, 830. Even so, we disagree with Patent Owner's argument that "responsive to" excludes any events between the cause and the effect. In particular, the proper construction of "responsive to" in claim 1 does not exclude A3UM's method simply because there are other steps in the chain of causation, e.g., "Click Start" in Step 4. Ex. 1005, 830–831.

The plain and ordinary meaning of "responsive to . . . causing" that is found in Patent Owner's Response, as opposed to its Sur-reply, is largely consistent with this view. *See* PO Resp. 8–12, 15–16. In particular, Patent Owner argues, "The plain and ordinary meaning of the phrase 'responsive to . . . causing' requires a causal relationship between the cause . . . and the effect . . . ." PO Resp. 8. Patent Owner argues that the surrounding claim language confirms this construction. *Id.* at 9–10. Patent Owner argues that the Board and numerous courts have likewise understood the phrase to require a cause-effect relationship. *Id.* at 10–11. Patent Owner also introduces dictionary definitions in support of its argument about "a cause-effect relationship." *Id.* at 11–12.

None of this evidence suggests that the cause-effect relationship excludes intervening events. *Id.* at 8–12. For example, Patent Owner illustrates its construction from its Response by analogy:

> The word "responsive" is defined by dictionaries as "saying or doing something as a reaction to something or someone" and "constituting a response or made in response to something." Ex. 2028; Ex. 2029; Ex. 2025, ¶¶129-30. To illustrate its meaning, the Webster's Third New International Dictionary uses "responsive" in the following example: "prairie fires sprang up [responsive] to the drought." Ex. 2029; Ex. 2025, ¶130. This confirms that the plain meaning of "responsive to" defines a cause-effect relationship where in the dictionary example, the drought is the "cause" and prairie fires are the "effect."

Id. at 11–12. Notably, Patent Owner's prairie-fire example contemplates a causal event (drought) that triggers a sequence of events culminating in the effect (fires). *Id.*

Nor do the examples in the '020 patent's written description preclude intervening events. Patent Owner identifies Figure 17's embodiment in which "the user can click on the digital file to start a slideshow feature." PO

Resp. 15 (citing Ex. 1001, 7:15–18, Ex. 2025 ¶ 136). But the patent describes other ways to start a slideshow. For example, the user can select a digital file in any Application View, and then use the Slideshow View's features to start the slideshow. Ex. 1001, 21:58–62, 22:1–25, *cited in* Reply 1–2. In this example, the user selects file in one view, and must also interact with another view. *See id.* at 21:58–62, 22:1–25. And, similar to A3UM's start button, the user starts the slideshow by clicking the "play sign." *Id.* at 22:14–20.

Patent Owner argues that this alternative embodiment does not "outweigh" the claim language. Sur-reply 9–10 (citing *Tip. Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008)).

But we disagree that the claim language is inconsistent with the embodiments involving the "play sign." *See, e.g.*, Ex. 1001, 22:14–20. Instead, we agree with Petitioner that "'causing' a specified action (e.g., starting a slideshow) may be 'responsive to an input indicative of a selection' even if there are intervening events (e.g., display of a new window and/or user interactions)." Reply 4. That is, in the context of the slideshow limitation, Patent Owner explains "the plain meaning of 'responsive to' requires a causal relationship between (i) the input that is indicative of a selection of the first digital file in the first person view (the cause) and (ii) the slideshow to be displayed on the interface (the effect)." PO Resp. 15 (citing Ex. 2025 ¶ 135). Likewise, in A3UM, selecting the images for the slide show (Step 1) is the cause, and the resulting slideshow is the effect. Pet. 38–40. In this way, Petitioner has shown that A3UM teaches the slideshow limitation even under Patent Owner's construction from its Response. *See* PO Resp. 15.

In its Sur-reply, Patent Owner argues that Petitioner's construction conflicts with a purpose of the invention: saving a user significant time and providing significant information with minimal screen space to enhance the user experience. Sur-reply 10 (citing Ex. 1001, 13:19–23; Ex. 2025 ¶ 63). Patent Owner argues that Petitioner's construction is antithetical to these objectives and allows for an infinite number of actions between the relevant input and display. *Id.* But Patent Owner's Sur-reply argument does not address the similarities between the '020 patent's Figure 31 and A3UM's operation. *See id.* That is, if Petitioner's construction conflicts with a purpose of the invention, then Figure 31 would also conflict with the purpose of the invention because it too has intervening events. *Id.* We disagree with Patent Owner argument because it makes no attempt to resolve this tension and does not give sufficient weight to Figure 31. *Id.*

We assign little weight to the testimony of Dr. Surati on this issue for the same reasons that we disagree with Patent Owner's arguments. *See* Ex. 2025 ¶¶ 218–221. In particular, Dr. Surati's Declaration does not give sufficient weight to the embodiment described in Figure 31 of the patent. *See id.*

ii. "in the first person view"

Under similar reasoning, Patent Owner argues that "choosing File->Play Slideshow or pressing Shift-S" is different from the input recited in the claims. PO Resp. 79 (citing Ex. 2025 ¶¶ 218–220). According to Patent Owner, the claim recites that the input must be "in the first person view," but selecting "File->Play Slideshow requires navigation outside of" the view that Petitioner identified as the first person view. *Id.* (Ex. 2025 ¶ 220; Ex. 2023, 228:14–229:8, 230:4–231:7); *see also* Sur-reply 21–22. Patent Owner similarly argues that the key combination of "Shift-S" is not associated with

any view. PO Resp. 79. Patent Owner argues that, apart from not being in the first person view, "selecting the File or Play slideshow button or Shift-S is not an input indicative of a selection of the first digital file." *Id.* (citing Ex. 2025 ¶ 221).

We disagree with Patent Owner's argument because it does not squarely address Petitioner's rationale. Pet. 40. In particular, Petitioner identifies the user's selection of multiple images as the input. *See id.* at 39 ("A3UM discloses that selecting a thumbnail in the Browser ('*responsive to an input*')"); *see also* Reply 29 ("Both start with a user selecting a set of digital images/files in a 'first person view.'"); 30 ("Starting a slideshow as A3UM describes is responsive to an input indicative of a selection—the user selects images and displays the 'Play Slideshow' window . . . ."). That is, Petitioner's rationale relies on selections made "in the Browser." Pet. 39. And, for the reasons discussed in Section III.D.2.b, Petitioner has shown that A3UM teaches or suggests the recited first person view.

Patent Owner's argument (PO Resp. 79) is also unpersuasive for similar reasons to those discussed in connection with its claim construction arguments. *See supra* III.D.2.d.i. In particular, Patent Owner's argument does not give sufficient weight to the patent's description of Figure 31. Referring to the Slideshow View in Figure 31, the patent describes that the user can start a slideshow by clicking a play button 757, or clicking on a thumbnail 758. *See* Ex. 1001, 22:14–18. Neither of these selections is in the person view. *Id.* Similarly, Petitioner asserts that "[o]nce the user selects a preset and clicks 'Start,' A3UM will cause a 'slideshow,'" not the "File>Play Slideshow" or "Shift-S." *See* Pet. 40. That is, we disagree with Patent Owner's argument because, like the example from Figure 31 of the '020 patent, the claim does preclude intervening events between the image

selection (Step 1) and the slideshow for the reasons discussed above. We do not credit Dr. Surati's testimony on this issue for the same reasons. Ex. 2025 ¶¶ 218–221.

In sum, Petitioner has sufficiently shown that A3UM teaches "causing a slideshow to be displayed on the interface, the slideshow including a plurality of images associated with the first person," as recited in claim 1, under A3UM's slideshow-preset method. Pet. 40 (citing Ex. 1003 ¶ 146; Ex. 1005, 830–831).

Thus, we determine that Petitioner has sufficiently shown that the subject matter recited in the slideshow limitations would have been obvious. Because we determine that Petitioner's A3UM's slideshow-preset is sufficient, we need not address Petitioner's alternative rationale under the scrolling and shuttle control. *See id.* at 38–40.

e. Conclusion

Petitioner provides articulated reasoning, supported by rational underpinnings, why one of ordinary skill in the art would have combined the cited parts of A3UM, as discussed above. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

We conclude that Petitioner has shown that the subject matter recited in claim 1 is unpatentable.

3. Claim 31

Claim 31 recites limitations similar in scope to those of claim 1, except that instead of displaying a slideshow, claim 31 recites grouping digital files based on year, month, and day:

> responsive to receiving a year input, grouping a plurality of digital files based on year and causing at least one of the plurality of digital files to be displayed on the interface;

> responsive to receiving a month input, grouping the plurality of digital files based on month and causing at least one of the plurality of digital files to be displayed on the interface; and
>
> responsive to receiving a day input, grouping the plurality of digital files based on day and causing at least one of the plurality of digital files to be displayed on the interface.

Ex. 1001, 38:13–26.

Petitioner asserts that the subject matter recited in claim 31 is obvious in view of A3UM. *See* Pet. 24–47.

In its arguments, Patent Owner analyzes the limitations of claim 31 together with those of claim 1. *See, e.g.*, PO Resp. 8 (discussing "limitations l[b] and 31[b]"), 12 (discussing "[l]imitations 1[c] and 31[c]"), 16 (discussing the "group image" in claims 1 and 31), 57 (discussing "limitations 1[a] and 31[a]"), 60 (discussing "limitations 1[b] and 31[b]"); Sur-reply 8 (discussing "responsive to . . . causing" recited in claim 31), 13–20 (discussing the "first person view" recited in claim 31).

Our analysis of the subject matter recited in claim 1 that is also recited in claim 31 applies to our assessment of Petitioner's challenge to claim 31. *See supra* §§ III.C (claim construction) & III.D.2 (claim 1). That is, for the reasons described in Sections III.C and III.D.2, we disagree with Patent Owner's arguments that apply to the subject matter recited in both claim 1 and claim 31, and we determine that Petitioner has shown that A3UM teaches or suggests that subject matter. *See id.* Also, for the reasons discussed in connection with claim 1, Petitioner provides articulated reasoning, supported by rational underpinnings, why one of ordinary skill in the art would have combined the cited parts of A3UM that relate to the limitations common to both claim 1 and 31. *See KSR*, 550 U.S. at 418.

Patent Owner does not separately address Petitioner's evidence or arguments about the subject matter recited in the limitations to the year-month-day grouping recited only in claim 31. *See generally* PO Resp.; Sur-reply.

From our assessment of the entire record, we determine that Petitioner sufficiently shows that A3UM teaches or suggests the year-month-day grouping limitations recited in claim 31. Petitioner asserts that A3UM's Smart Albums group sets of images by search criteria that includes a date range. Pet. 41–44. Petitioner's assertions are supported by Dr. Terveen's testimony. Ex. 1003 ¶¶ 149–152, 154. The cited parts of A3UM that describe the Smart Albums are consistent with Petitioner's assertions and Dr. Terveen's testimony. *See* Ex. 1005, 472–476, 505–510, *cited in* Pet. 41–44.

In particular, users set the Smart-Album search criteria using the Smart Settings HUD. *Id.* at 508. "The controls in the Smart Settings HUD are nearly identical to the Filter HUD." *Id.* The "Calendar selection criteria" in the Filter HUD allows the user to enter a date range. *Id.* at 475. To find images taken on a specific date, users select the Calendar checkbox along with a date or range of dates. *Id.* at 472–474. As for the recited month, day, and year input, the user enters the date range by selecting the starting and ending year, month, and day. *See id.* 474. We credit Dr. Terveen's testimony on this subject matter, which is consistent with these parts of A3UM. *See* Ex. 1003 ¶¶ 149–152.

Petitioner also sufficiently explains how A3UM groups the images "responsive to receiving" an "input." Pet. 42–43. After filtering, the Browser displays the images that meet the search criteria—i.e., "[t]he images taken on the dates" specified by the user. Ex. 1005, 474; *see also id*. at 505. We

credit Dr. Terveen's testimony about this subject matter. *See* Ex. 1003 ¶¶ 149–152, 154. Thus, we agree with Petitioner that "A3UM thus discloses receiving Calendar search criteria in the Smart Settings HUD which can be used to create groupings of images in the form of Smart Albums," and in this way, A3UM creates "a first Smart Album responsive to a first set of date-range inputs and a second Smart Album responsive to a second set of date-range inputs." Pet. 43–44. Thus, Petitioner has shown claim 31 is unpatentable under the first rationale. *See id.*

Also, Petitioner has shown claim 31 is unpatentable under an alternative obviousness rationale. *Id.* at 44–47. In particular, Petitioner argues that "it would have been obvious to modify A3UM's Browser to visually 'group' digital files by '[*year/month/day*],' such as visually grouping the associated thumbnails by date (*i.e.*, day/month/year) in a Smart Album's Browser in response to a user's '[*year/month/day*] *input*.'" *Id.* at 44 (citing Ex. 1003 ¶¶ 155–160).

We agree that A3UM already discloses sorting images in the Browser by date. *Id.* Petitioner further argues that it was well known to visually group user-interface (UI) elements by date. *Id.* (citing Ex. 1003 ¶ 156; Ex. 1009 ¶¶ 86, 90–91, Figs. 19C–D; Ex. 1059, 8:29–30, 10:50–61, 12:35–64; Ex. 1060 ¶¶ 208–210, Figs. 42b, 46,). We agree that A3UM groups some UI elements by date. *See* Ex. 1005, 152 ("In Projects view, choose Group by Year from the Sorting pop-up menu. The projects are grouped by year."), *cited in* Pet. 45–46. To the extent that some additional grouping beyond what A3UM already discloses is required, Petitioner has provided sufficient

evidence that such grouping was known: Arrouye[6] describes grouping files, including images, by date. *See* Ex. 1009 ¶¶ 86, 90–91, Figs. 19C–D. Matsumoto[7] discloses grouping thumbnails by date. *See* Ex. 1059, 8:29–30, 10:50–61, 12:35–64, Fig. 25. And Berger[8] displays groups as a row of images below a date formatted as a day, month, and year. Ex. 1060 ¶¶ 208–210, Figs. 42b, 46. We credit corresponding parts of the Terveen Declaration. Ex. 1003 ¶ 156.

Petitioner provides articulated reasoning, supported by rational underpinnings, why one of ordinary skill in the art would have grouped the digital files in a Smart Album by date "by visually grouping the associated thumbnails once they are sorted in the Browser." Pet. 46 (citing Ex. 1003 ¶ 158). Specifically, Petitioner sufficiently explains why there would have been a reasonable expectation of success, and why a person of ordinary skill in the art would have been motivated to make this modification. *Id.* at 46–47 (citing Ex. 1003 ¶¶ 158–160; Ex. 1005, 214, 218; Ex. 1009 ¶ 86). Thus, Petitioner has shown claim 31 is unpatentable under the second rationale. *See id.*

In sum, we are persuaded that Petitioner has demonstrated that claim 31 is unpatentable for the reasons discussed in Section III.D.2, analyzing claim 1, and from our assessment of the arguments and evidence specific to claim 31 discussed in this section.

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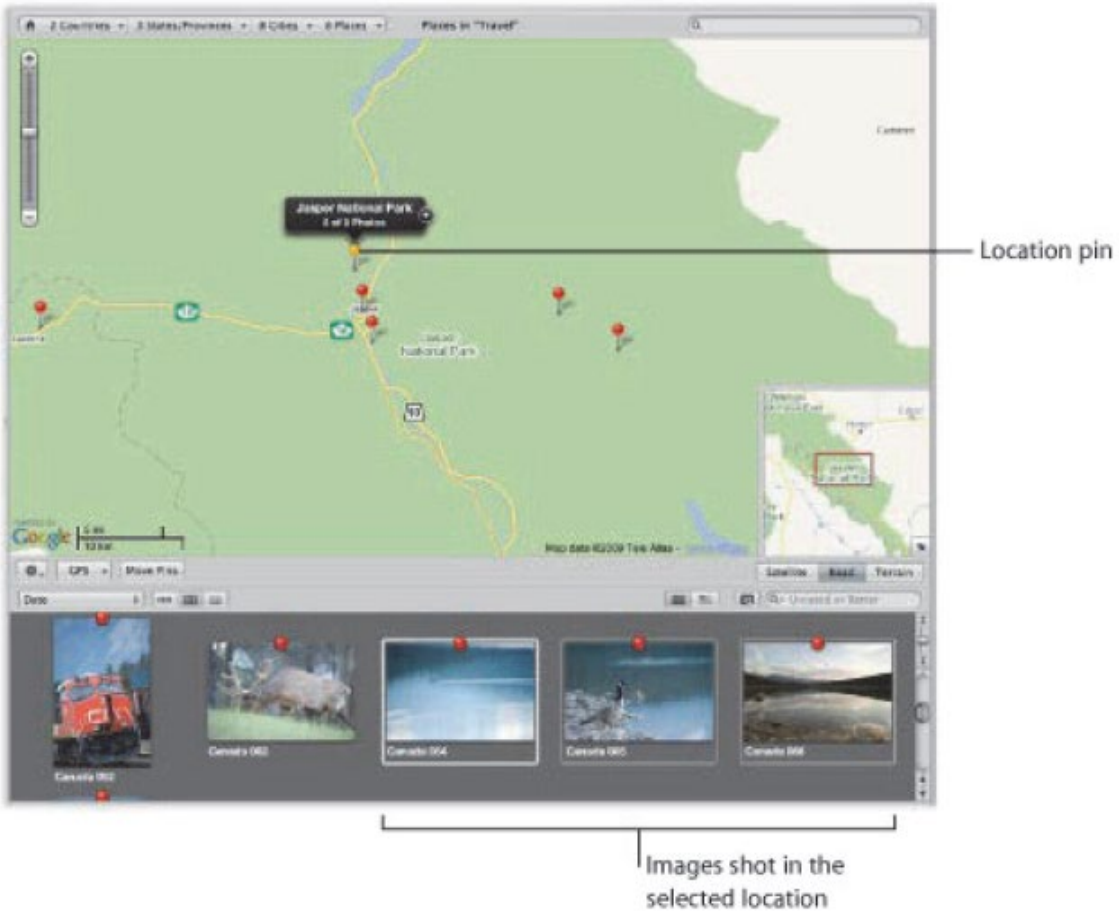
[6] Exhibit 1009 is US Patent Application Publication No. 2010/0257178 A1 to Arrouye (published October 7, 2010).
[7] Exhibit 1059 is US Patent 6,590,608 B2 to Matsumoto (published July 8, 2003).
[8] Exhibit 1060 is US Patent Application Publication No. 2012/0210200 A1 to Berger (published August 16, 2012).

4. Claims 2 and 34

Claim 2 recites, "The method of claim 1, wherein the first indication is associated with a first set of digital files and the first location, and the second indication is associated with a second set of digital files and the second location." Claim 34 recites the same limitations, but depends from claim 31. *See* Ex. 1002, 578 (changing the dependency from claim 30 to 31 via a Certificate of Correction issued on May 25, 2021).

Petitioner asserts that A3UM discloses this limitation. Pet. 47–48. A screenshot of A3UM's interface is shown below. Ex. 1005, 436–438.



The interface shows a map with locations marked with red pins, a selected location marked with a pin in orange, and a browser below the map showing images shot in the selected location. *Id.*

Petitioner asserts that, when A3UM's user selects a red pin, the interface focuses on that information for that location. Pet. 47. According to Petitioner, "the 'selected pin turns orange, and the image or images associated with the location marked by the orange pin are selected in the Browser' and displayed." *Id.* at 47–48 (citing Ex. 1005, 436–437; Ex. 1003 ¶ 163). As for how the recited first and second indication are associated with the first and second set of digital files and the first and second locations, Petitioner asserts that "[e]ach location pin is associated with a different location and thus a different set of '[i]mages shot in the selected location.'" *Id.* at 48 (citing Ex. 1005, 437; Ex. 1003 ¶ 163).

Patent Owner does not substantively address Petitioner's arguments and evidence about claim 2. *See generally* PO Resp.; Sur-reply.

From the totality of the evidence, we determine that Petitioner has shown by a preponderance of the evidence that A3UM teaches or suggests the subject matter recited in claims 2 and 34.

5. Claims 3 and 35

Claim 3 recites, "The method of claim 2, wherein the first set of digital files and the second set of digital files are associated with the first person." Claim 35 recites similar limitations.

Petitioner asserts that A3UM's Places view has "location information for images across the entire Aperture Library," not just files associated with the first person. Pet. 49 (citing Ex. 1005, 81; Ex. 1003 ¶ 167).

According to the Petition, "It would have been obvious to a skilled artisan in 2010 to modify A3UM so that the Places toolbar button (a *"first map image"* and also part of the *"first person view"*) could be selected to display the photos of the selected person in the Places view (*"wherein the first set of digital files and the second set of digital files are associated with*

the first person")." *Id.* (citing Ex. 1003 ¶ 167). That is, Petitioner proposes "using the Places toolbar button to display maps that display locations for only a subset of the user's library." *Id.* (citing Ex. 1003 ¶¶ 168; Ex. 1005, 81, 428, 436).

Petitioner argues that A3UM supports this modification. *Id.* at 49–50. In particular, Petitioner asserts that A3UM's a user can "select an item in the Library inspector, then click the Places button in the toolbar" to show the location information for images in a specific Library-inspector item: Projects, folders, albums, and Smart Albums. *Id.* at 49 (citing Ex. 1005, 81, 436). Petitioner asserts that "Smart Albums" are albums defined by search criteria. *Id.* (citing Ex. 1005, 113, 116–118, 506–507). Petitioner asserts that "It 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.* at 50 (citing Ex. 1033, 2; Ex. 1003 ¶ 169).

In Petitioner's view, "A skilled artisan would have been motivated to make this modification to improve the user experience and to allow exploring the locations of pictures of a given person." *Id.* (citing Ex. 1003 ¶¶ 170–171; Ex. 1033, 2). Petitioner argues that A3UM discloses several grouping-specific Places views, and person-specific Smart Albums. *Id.* (citing Ex. 1005, 81, 116–118, 428, 436, 506–507; Ex. 1003 ¶ 170). Petitioner asserts that the proposed modification "would simply extend A3UM's grouping-specific Places maps to one additional grouping," which "would 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 ¶¶ 170–171).

In Patent Owner's view, Petitioner's modification would cause different results when the user selects the Places toolbar without providing

sufficient context to the user because clicking on A3UM's Places toolbar button normally shows all locations for the entire album. PO Resp. 85–86; Sur-reply 23. According to Patent Owner, "Petitioner's proposed modification would render the interface unpredictable and more difficult to use given that the inconsistent function of the Places toolbar button," which is contrary to the *Apple HI Guidelines*. PO Resp. 86–87 (citing Ex. 2021, 35, 51; Ex. 2023, 35:14–38:1, 40:4–43:20, 46:11–47:9; Ex. 2025 ¶ 241). Patent Owner also argues that the textbook *The Essential Guide to User Interface Design* (Ex. 2022) states that "[t]he same action should always yield the same result" and "[t]he function of elements should not change." *Id.* at 87 (citing Ex. 2022, 48; Ex. 2025 ¶ 242). Patent Owner points to other passages that emphasize consistency and uniformity in design. *Id.* In Patent Owner's view, "A POSITA would have followed this guidance, and would not have made the modification proposed by Petitioner because it would lead to inconsistent behavior of the Places button in the toolbar." *Id.* (citing Ex. 2025 ¶¶ 239–242).

We disagree with Patent Owner's arguments because they mischaracterize Petitioner's rationale. Petitioner is proposing to select a subset of images—those associated with a selected person—before clicking on the Places toolbar button. Pet. 49–50. Petitioner is not proposing to repurpose the Places toolbar button. Rather, under Petitioner's proposed combination, selecting the Places toolbar button would still display the selected images on the Places map. *Id.* Thus, we disagree with Patent Owner's argument. *See* PO Resp. 85–87; Sur-reply 23. For the same reasons, we assign little weight to Dr. Surati's testimony about this issue. Ex. 2025 ¶¶ 239–242.

We also disagree with Patent Owner's argument that "Petitioner proposes modifying its behavior for one situation to show less than all locations for the album without context to inform the user of this difference." Sur-reply 23; *see also* PO Resp. 86–87. Under Petitioner's proposed combination, the user selects a subset of images before clicking on the Places toolbar button. Pet. 49–50. In this case, there would be no need to inform the user about the difference because the user's selection indicates their intention to view only a subset of images. *See id.*

We also agree with Petitioner that Patent Owner and Dr. Surati misquote and mischaracterize the *Apple HI Guidelines*. PO Resp. 86–87. In particular, the part relied upon by Patent Owner states, "A toolbar can also contain icons that represent *recognizable interface elements from elsewhere in the system* (such as the Colors window icon or the iDisk icon) . . . ." Ex. 2021, 152 (emphasis added). Here, the guidance does not apply to all icons, as Patent Owner's argument suggests. Instead, the guidance here applies to a particular subset—icons that are "recognizable" and "elsewhere." PO Resp. 86. Other recognizable icons found elsewhere include the standard MacOS X icons: "the Numbers toolbar [that] contains the Colors window and Fonts window icons, which are *standard icons used throughout* Mac OS X." Ex. 2021, 153 (emphasis added). The *Guidelines* then state that clicking on these toolbar icons behave "just as users would expect." *Id.* Likewise, the *Guidelines* state that "[u]sers expect *such icons* to mean the same thing in every context." *Id.* at 152–153. Here, "such icons" refers to icons that are recognizable and found elsewhere—e.g., the "iDisk icon." *Id.*

Petitioner is not proposing to repurpose the Places icon, let alone recognizable interface elements from elsewhere in the system. Pet. 49–50.

Under Petitioner's proposed combination, selecting the Places toolbar button would still display the selected images on the Places map. *See id.* Even if Petitioner were to propose changing the Places icon, which we disagree is the case, there is insufficient evidence to conclude that the Places icon is used elsewhere in the system for a different purpose. *Id.* Thus, we disagree with Patent Owner's argument about the *Apple HI Guidelines* (PO Resp. 86–87) and assign little weight to Dr. Surati's corresponding testimony about the *Guidelines* specifically and consistent behavior generally (Ex. 2025 ¶¶ 239–242).

From the totality of the evidence, we determine that Petitioner has shown by a preponderance of the evidence that A3UM teaches or suggests the subject matter recited in claims 3 and 35.

6. Claims 11 and 43

Claim 11 recites, "The method of claim 1, wherein the first person view includes a first group image, and responsive to an input that is indicative of a selection of the first group image, causing a first group view to be displayed on the interface, the first group view including one or more digital files associated with another person that is associated with the first person." Ex. 1001, 36:14–19. Claim 43 recites a similar limitation. *Id.* at 39:1–6.[9]

Petitioner asserts that A3UM's "Smart Albums are displayed as selectable user interface elements including an icon ('*first group image*')."

[9] In the certificate of correction dated May 25, 2021, the word "croup" at column 39, line 5 was deleted and "group" was inserted.

Pet. 59–60.[10] A screenshot of A3UM's user interface is shown below. *Id.* at 60.

The screenshot above shows an interface element for entering a name for the Smart Album, a Smart Settings HUD button, and a purple icon next to the Smart Album name. *Id.* Petitioner explains that "A3UM's interface as a whole when displaying the Faces browser (the 'first person view') would also display the Library inspector pane." *Id.*

As discussed in Section III.C.2, a "group image" is "an interface element associated with a group of images." We agree with Petitioner that the icon is an interface element because it appears in the A3UM interface. Pet. 59–60.

We also agree that it is "associated with a group of images." Specifically, Petitioner has shown that users can create a Smart Album

[10] In the Reply, Petitioner states that "[t]he Petition showed A3UM teaching use of a visual element containing a folder icon plus a unique string of text for a 'smart folder.'" Reply 35. Patent Owner argues that including the unique string of text is a new rationale. Sur-reply 25–26. It is undisputed, though, that Petitioner relied on the icon in the analysis in the Petition. The rationale in the Petition, without relying on anything from the Reply, is sufficient to teach or suggest the first group image for the reasons discussed in this section.

including at least two people because "[u]sers can repeatedly add 'additional person[s]' to the definition of the Smart Album." *Id.* at 60–61 (citing Ex. 1005, 428; Ex. 1003 ¶¶ 207–208). A Smart Album can be used to collect photos of particular people—e.g., family members. Ex. 1005, 428, *cited in* Pet. 60. User's configure a Smart Album by entering the name of the person they want to include or dragging a person's snapshot in the Faces view to the Library inspector. *Id.*

As for the recited "input that is indicative of a selection of the first group image," Petitioner asserts, and we agree, that a user can select the Smart Album from the Library inspector. Pet. 61 (citing Ex. 1005, 31, 506–507; Ex. 1003 ¶ 209). For example, A3UM instructs users to "[s]elect a Smart Album to see its contents in the Browser." Ex. 1005, 506.

This passages also supports Petitioner's assertion that the Smart-Album selection causes the Browser and Viewer to display the associated images, which shows that A3UM teaches the recited group view that is displayed as a result. *Id.*

Petitioner has shown that A3UM teaches "the first group view including one or more digital files associated with another person that is associated with the first person." *Id* at 61. In particular, we agree with Petitioner that the user in A3UM selects images that are "displayed in the Viewer, [Ex. 1005, 51], meaning that a user that selects such a Smart Album will then be able to display images that contain one or both of the people selected when defining the Smart Album." *Id.*

Our analysis would be the same even if we construed group image to be an interface element that is an image associated with a group of people, as in Patent Owner's construction, because Petitioner has shown that A3UM's Smart Albums are at least associated with photos of family members (Ex.

1005, 428) and represented in the interface by an icon, which is an image. Pet 60.

On these issues, we credit Dr. Terveen's testimony because it is consistent with the cited passages of A3UM. Ex. 1003 ¶¶ 207–208.

We disagree with Patent Owner that "[t]he Smart Album icon is not a 'first group image' – it is a generic, default icon used for every Smart Album regardless of its content." PO Resp. 94 (citing Ex. 1005, 506; Ex. 2025 ¶¶ 276; Ex. 2024: 285:4–11). Patent Owner argues that the Smart-Album icon's "content has no connection whatsoever to any group that is displayed responsive to selectin the icon." *Id.* at 94–95 (citing Ex. 2025 ¶¶ 276–78).

We disagree with Patent Owner's construction for the reasons discussed in Section III.C.2 on the correct construction of "group image."

But, even under Patent Owner's construction, it is unclear why the recited "first group image" could not encompass such a default icon. Patent Owner's construction only requires that the content of the "first group image" must be associated with a group of people. *Id.* As discussed in Section III.C.2, the claim already recites an association. Patent Owner has not pointed to anything in the patent's written description or elsewhere in the record that requires, for example, the "group image" to be an image that depicts a specific group of people. Rather, we agree with Petitioner that both the claims and the patent's written description better support the position that the group image serves as an interface element that is selectable.

We assign little weight to Dr. Surati's testimony about claims 11 and 43 because it is based on Patent Owner's incorrect construction and for reasons similar to those discussed in connection with Patent Owner's arguments. *See* Ex. 2025 ¶¶ 276–278.

From the totality of the evidence, we determine that Petitioner has shown by a preponderance of the evidence that A3UM teaches or suggests the subject matter recited in claims 11 and 43.

7. Claims 13–16 and 45–48

Claim 13 recites,

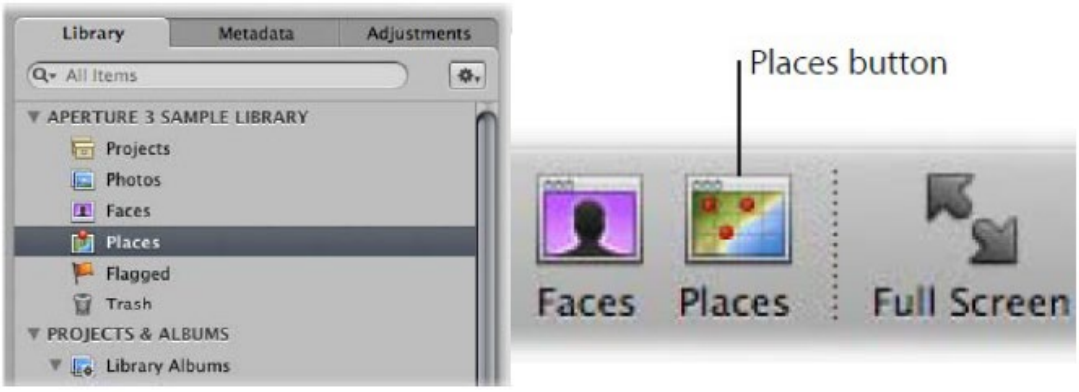
> The method of claim 3, further comprising responsive to an input that is indicative of a selection associated with the second person, causing a second person view to be displayed on the interface, the second person view including the second digital file associated with the second person, the second name associated with the second person, and *a second map image*.

Ex. 1001, 36:22–28 (emphasis added). Claim 45 recites a similar limitation.

Petitioner challenge is based on the premise that A3UM treats all faces in the same way:

> A3UM discloses providing the same functionality for each face identified by the system, including showing that person in Faces view, displaying their name within A3UM's overall user interface. EX1003, ¶215; EX1005, 418-420. Because A3UM discloses or renders obvious these features with respect to a "*first person*" (claims 1 and 31), A3UM discloses or renders obvious these features with respect to a "*second person.*" *See* § VII.B.1.b; EX1003, ¶215.

Pet. 62–63. Here, Petitioner refers to Section VII.B.1.b. of the Petition which analyzes the "first person view." *See id.* at 28–36. In the analysis of the first person view, Petitioner asserts that the "first map image" is taught by A3UM's miniature map icons in the Places link in the Library inspector and the Places button in the toolbar. Pet. 30 (citing Ex. 1005, 81, 435). Those icons are reproduced below, as shown in the Petition. Pet. 30 (citing Ex. 1005, 81, 435).



The screenshot above shows the Library inspector pane on the Left, and the "Places" button on the tool bar on the right. *Id.* Although Petitioner asserts the map icon is the recited map image in its challenge to independent claim 1, Petitioner does not discuss "a second map image" in its challenge to dependent claim 13. *Id.* at 62–63.

Patent Owner argues that the Petition does not identify how A3UM teaches a "second map image." PO Resp. 88. Patent Owner argues that, by default, A3UM's interface always displays the Places link in the Library inspector and the Places button in the toolbar. *Id.* (citing Ex. 2025 ¶ 262; Ex. 1005, 6, 64–65). In Patent Owner's view, the first and second map images cannot be the same, and "Petitioner's failure to identify a 'second map image' distinct from the alleged 'first map image' is fatal to its challenges to claims 13 and 45 and their dependent claims." *Id.*

We need not determine whether the recited first and second map images can be the same because the Petition as originally filed lacks any discussion of a second map image or how A3UM teaches or suggests this subject matter. *See* Pet. 62–63. The Petitioner discusses a first and second person, which it interprets as different people. *See id.*; *see also id.* at 26 (identifying "Alice" and "Daniel" as the first and second person). The Petition, though, does not explain how A3UM teaches or suggests different

map images. *Id.* at 62–63. Nor does it explain whether (1) both the first and second map images encompass a single instance of the icon, (2) each of the first and second map images encompass both instances (i.e., in the toolbar and the Library inspector), or (3) one map image corresponds to one instance. *See id.* at 62–63; *see also id.* at 30 (identifying the map icons of the Places button as the first map image).

During his deposition, Dr. Terveen explained that the second map image would be the same feature in the A3UM interface:

> I've been talking about the Place toolbar button as being the map image, satisfying the map image, and I think it would be in this case when we talk about the second map image, it would be the same button that I would be referring to. That's what I – that's the *implication of what I wrote for claim 13.*

Ex. 2024, 288:16–291:19 (emphasis added). But there is little evidence that the Petition even implicitly asserted this. For example, the Petition maps the first and second person to different people shown in A3UM. *Id.* at 26 (identifying "Alice" and "Daniel" as the first and second person). During his deposition, Dr. Terveen's confirmed that the terms "first" and "second" understood to refer to different things in the analysis of other claimed features. *See, e.g.*, Ex. 2024, 286:21–288:5. So the Petition does not consistently use the terms "first" and "second" to be the same thing throughout its challenges such that we could even infer that it believed the first and second map images were the same. *See id.*

In sum, the Petition is completely silent—or at best unclear—about what Petitioner regards as the first and second map images in its challenges to claim 13 and 45.

For the first time, in its Reply, Petitioner suggests that the second map image could be mapped to the same feature in A3UM as the first map image.

Reply 4–5 (proposing a construction for first and second map image), 35. But even this is unclear. For example, Petitioner explains that "Patentee's response on these claims presumes that the first/second map image cannot be the same image, and that visual aspects of the first and second map have patentable significance," but "[n]either is true." *Id.* at 35. Yet, even assuming—without deciding—that it is possible that the first and second map images cover the same feature in A3UM, there is no indication in the Petition that this interpretation is the basis for the challenge. Pet. 62–63.

"[A]n IPR petitioner may not raise in reply 'an entirely new rationale' for why a claim would have been obvious." *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1331–32 (Fed. Cir. 2019). Rather, Petitioner is required to "identif[y], in writing and with particularity . . . the grounds on which the challenge to each claim is based" in the petition. 35 U.S.C. § 312(a)(3). Thus, to the extent that Petitioner argues in the Reply that the first and second map image correspond to the same icon for the Places button, then it would be an entirely new rationale that has no basis in the Petition as originally filed. *See* Reply 4–5, 35.

Still, there are multiple possible mappings to the features of A3UM even if we adopt Petitioner's construction in the Reply. *See id.* at 5 ("If a construction of '[first/second] map image' is necessary, it is 'the map image in the [first/second] person' view.'"). For instance, both the first and second map images could be a single instance of the icon, each of the first and second map images could be both the icon in the toolbar and the Library inspector, or one map image corresponds to only one instance. So even under this new rationale, the basis for Petitioner's challenge is remains unclear. *Id.*

Thus, Petition has not shown that claims 13 and 45 are unpatentable. Nor has Petitioner shown that claims 14, 15, 16, 46, 47, and 48 are unpatentable because those claims incorporate the first and second map image subject matter through a dependency from either claim 13 or 45.

8. Claim 24

Claim 24 recites, "The method of claim 3, wherein the first set of digital files includes a photo, a video, and an audio file." Ex. 1001, 37:25–26. Claim 24 depends from claim 3, which inherits the limitations of claims 1 and 2. *Id.* at 37:25, 35:17–52 (claims 1–3). Claims 1, 2, and 3 recite that the first set of digital files are "associated with the first person" (claim 3) and "associated with" the "first indication" (claim 2) on the "interactive geographic map" (claim 1). *Id.* at 35:36 (claim 1), 35:46–47 (claim 2), 35:50–52 (claim 3).

To address claim 1, Petitioner's challenge relies on A3UM's Faces view in combination with other views. *See supra* § III.D.2. To address claim 3, Petitioner proposes modifying that combination by adding a Places toolbar button that, when selected, displays the photos of a person in the Places view. Pet. 49 (citing Ex. 1003 ¶ 167); *see supra* § III.D.5. That is, under this combination, the Places toolbar button displays maps with locations for only a subset of the user's library. *Id.* (citing Ex. 1003 ¶ 168; Ex. 1005, 81, 428, 436); *see supra* § III.D.5.

To address claim 24, Petitioner's challenge discusses both the Places and Faces views. As for the Places view, Petitioner asserts that it would have been obvious to geotag videos to link them to geographic locations via metadata. Pet. 77–81. As for the Faces view, Petitioner asserts that it would have been obvious to modify A3UM to detect faces in video to allow videos to be associated with faces in the same way as photos. *Id.* at 83–84.

In this obviousness analysis, Petitioner provides articulated reasoning, supported by rational underpinnings, why one of ordinary skill in the art would have made the proposed combination. *See KSR*, 550 U.S. at 418. Our reasoning follows.

a. Faces View

In Petitioner's view, A3UM already has extensive support for videos: the Browser displays videos in-line with photos, and users can interact with videos as if they were images, until they press "play" on the video. Pet. 83–84 (citing Ex. 1005, 51, 157, 166, 185, 250–251, 271, 413, 793; Ex. 1003 ¶¶ 282–283). Petitioner asserts that "detecting faces in videos was well known, including by extracting keyframes and identifying faces in them." *Id.* at 84 (citing Ex. 1003 ¶ 283; Ex. 1049 ¶¶ 14–19, 51–53, Fig. 3; Ex. 1050, 1:6–15, 2:17–27, Fig. 1A). According to the Petition,

> Allowing 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. . . . 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. at 84 (citing Ex. 1003 ¶¶ 283–284; Ex. 1005, 23, 28–29).

Patent Owner argues that "Petitioner's references do not support its contention as [Kim[11] (Ex. 1049)] seemingly describes the opposite order (detecting faces in every frame then determining keyframes) and [Casillas[12] (Ex. 1050)] does not mention keyframes at all." PO Resp. 99 (citing Ex. 2025 ¶¶ 299–230).

[11] US Pub. No. 2007/0030391 A1 to Kim et al.
[12] US Patent No. 7,978,936 B1 to Casillas et al.

Yet neither Petitioner's obviousness rationale nor Dr. Terveen's testimony is limited to a particular technique or order of operations. Instead, the Petition and corresponding parts of the Terveen Declaration are based on a broader point: The technique of detecting faces from a subset of video frames was known. *See* Pet. 83–84. In particular, Petitioner relies on Dr. Terveen's testimony that it was known to detect faces in "still frames, "representative images," or "keyframes." Ex. 1003 ¶¶ 282–283. Here, "still frames, "representative images," and "keyframes" are all subsets of the entire video sequence. *Id.* Kim and Casillas both adequately support the Petitioner's reasoning about detecting faces in a subset of frames. Pet. 83–84.

Kim's videos are a sequence of frames. *See* Ex. 1049 ¶¶ 14–19, 51–53. To identify a subset of frames belonging to a scene, Kim's pre-processing unit detects scene changes. Ex. 1049 ¶ 14. To obtain a number of main characters, a face-detection unit detects faces in the frames belonging to each scene. *Id.* In this way, the face-detection unit does not operate on the entire video sequence. *See id.*; *see also id.* ¶ 53. Because Kim describes processing frames selected to represent a scene, it is consistent with Dr. Terveen's testimony about processing representative frames. Ex. 1003 ¶ 283. Thus, we credit Dr. Terveen on this issue. *See id.*

Patent Owner's argument about Casillas is also unavailing. PO resp. 99. Casillas supports Dr. Terveen's testimony and Petitioner's assertion about detecting faces in single images. *See* Ex. 1003 ¶¶ 283–284; Pet. 84 (citing Ex. 1050, 1:6–15, 2:17–27, Fig. 1A). Petitioner relies on Casillas's Figure 1A, reproduced below. Ex. 1050, Fig. 1A, *cited in* Pet. 84.

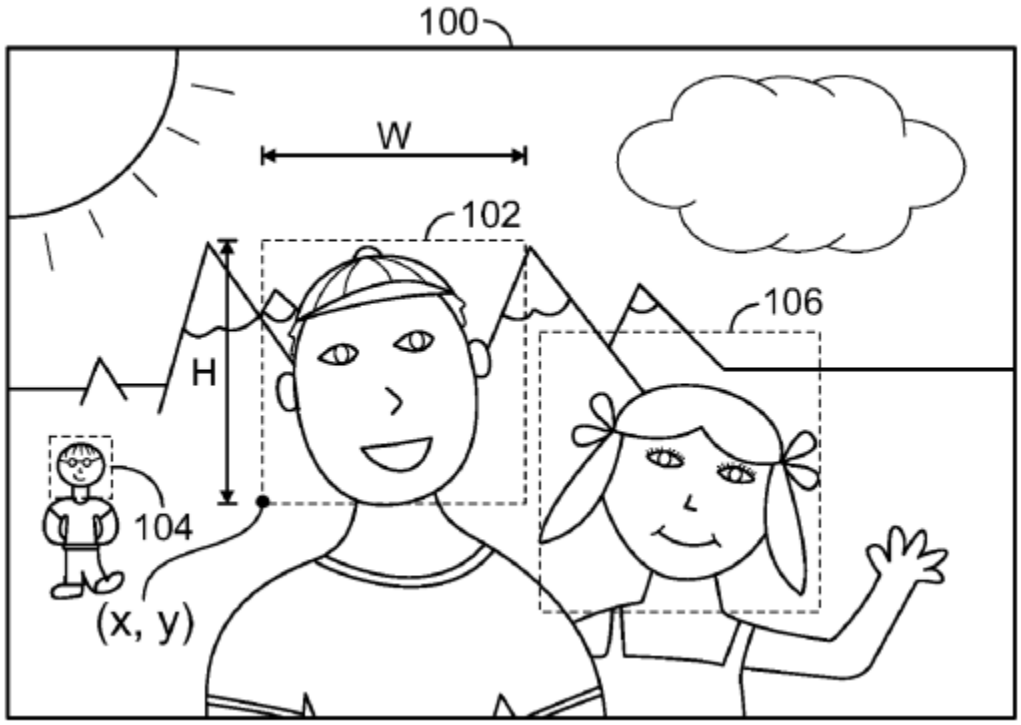


Figure 1A above shows image 100 "including objects resulting from a detection process." *Id.* at 2:17–18, *cited in* Pet. 84. "[I]mage 100 may be a frame of video." *Id.* at 2:26–27, *cited in* Pet. 84. Likewise, Dr. Terveen explained that detecting faces in video was known, and a user would have been motivated to detect faces in a still frame of video. Ex. 1003 ¶¶ 283–284. Because his testimony is supported by Casillas's description of image 100, we credit Dr. Terveen's testimony on this point. *See id.*

Patent owner argues 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. 99 (citing Pet. 83–84; Ex. 2025 ¶ 297). According to Patent Owner, the "A3UM's facial recognition was not even successful for still images, let alone videos." *Id.* (citing Ex. 1044; Ex. 1045; Ex. 2025 ¶¶ 298–301). According Dr. Surati, "the documented problems for still images would be just as bad for videos, but with the added problem that analyzing video frames would

require more computational resources." *Id.* at 100; Ex. 2025 ¶¶ 300–302; *see also* Sur-reply 26–27 (discussing performance and processor burden). Patent Owner argues that, in view of these problems, one of ordinary skill would "would not have been motivated to further extend that unreliable functionality to videos." PO Resp. 100 (citing Ex. 2025 ¶¶ 292–297); Sur-reply 27.

We disagree with Patent Owner's arguments because "the expectation of success need only be reasonable, not absolute." *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1364, 1367–68 (Fed. Cir. 2007). That is, even considering all Patent Owner's evidence and arguments, Patent Owner has at most shown that the Faces feature did not always detect faces in images or video. PO Resp. 99–100; Sur-reply 26–28. Petitioner, though, is not required to show "absolute predictability of success." *See OSI Pharms., LLC v. Apotex Inc.*, 939 F.3d 1375, 1385 (Fed. Cir. 2019); *see also Acorda Therapeutics, Inc. v. Roxane Lab., Inc.*, 903 F.3d 1310, 1333 (Fed. Cir. 2018) ("This court has long rejected a requirement of '[c]onclusive proof of efficacy' for obviousness.").

For similar reasons, we disagree that Aperture's software license agreement supports Patent Owner's view. PO Resp. 99–100 (citing Ex. 2007, 1; Ex. 2025 ¶ 302). Patent Owner argues that the "agreement requires users to acknowledge that 'results from the use of the Faces feature may vary.'" *Id.* This part of the agreement, though, provides scant additional information about why or under what specific conditions. *Id.* So it is unclear how this part of the agreement is relevant to Petitioner's proposed combination or the specific techniques described in the evidence that Petitioner cites to support it. *See* Exs. 1049, 1050. At best, the license agreement suggests that the Faces feature may not perform with absolute

success, which Petitioner is not required to show. *See Pfizer*, 480 F.3d at 1364, 1367–68.

In fact, Patent Owner's evidence about users that were purportedly dissatisfied with the performance of Aperture's face detection tends to favor Petitioner's obviousness rationale. PO Resp. 99 (citing Ex. 1044; Ex. 1045; Ex. 2025 ¶¶ 298–301). "A 'court must ask whether the [claimed] improvement is more than the predictable use'—a 'predictable variation'—'of prior art elements according to their established functions,' considering whether more is involved than 'the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art *ready for the improvement*.'" *See KSR*, 550 U.S. at 417 (emphasis added). "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id.*

Here, even if we accept that at least some users were dissatisfied with Aperture's performance, it would tend to show that Petitioner's combination is nothing more than applying a known face-detection technique, such as those disclosed in Kim and Casillas, to a known method that is ready for an improvement. Pet. 84. We disagree with Patent Owner's argument that one of ordinary skill would be discouraged from exploring other, better ways to detect faces. PO Resp. 100. Rather, Patent Owner's evidence, if accepted, tends to show that other more capable methods might satisfy a recognized need to improve Aperture's face-detection feature. Indeed, Petitioner provides evidence that other known face-detection methods had even greater capabilities—such as the ability to successfully detect faces both images and video. *See, e.g.*, Pet. 84 (citing Exs. 1049, 1050); Ex. 1003 ¶ 284.

We see little support for Dr. Surati's argument that one of ordinary skill would have been discouraged from making this improvement by the increased computational resources that it would require. PO Resp. 100; Ex. 2025 ¶¶ 300–302; *see also* Sur-reply 26–27. This argument does not address Dr. Terveen's testimony that faces could be detected in individual video frames in the same way as single images. Pet. 84; Ex. 1003 ¶¶ 283–284 (discussing detecting faces in a single still image of the video). The Petition's reasoning is supported by Casillas's teaching that image 100 may be a video frame or a single image. Ex. 1050, 2:26–27, *cited in* Pet. 84.

Also, Dr. Surati's testimony (Ex. 2025 ¶¶ 296–302) does not give sufficient weight to Petitioner's evidence that A3UM already supports "videos and displays them in-line with photos in the Browser." Pet. 84 (citing Ex. 1005, 157, 166, 185, 250, 413, 793). In particular, Petitioner has shown that A3UM allows users to interact with videos as if they were images by identifying several examples where Aperture applies the same management and browsing techniques to both video and images. *See id.* at 81–84. For instance, A3UM displays both videos and photos in a Browser and elsewhere. *See, e.g.*, Ex. 1005, 51, 251, 271, *cited in* Pet. 84; *see also* Ex. 1003 ¶¶ 282–283 (discussing this functionality). The examples show that the proposed modification would simply extend existing functionality to an already supported file type—expanding the set of media made easily accessible through Faces view. Pet. 84 (citing Ex. 1003 ¶ 284; Ex. 1005, 28–29). Considering the cited examples in A3UM (*id.* at 81–84), we credit Dr. Terveen's testimony on this issue (Ex. 1003 ¶¶ 282–284) and assign little weight to Dr. Surati's corresponding testimony (Ex. 2025 ¶¶ 296–302).

From the totality of the evidence, Petitioner has shown that it would have been obvious to modify A3UM such that "the first set of digital files

includes a photo, a video, and an audio file," as recited in claim 24. Although Petitioner has other rationales related to claim 24, we need not reach them because Petitioner rationale based on modifying A3UM is sufficient. *See Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x 984, 990 (Fed. Cir. 2020) (non-precedential) (recognizing that the "Board need not address issues that are not necessary to the resolution of the proceeding").

b. Places View

First, Petitioner asserts that A3UM teaches applying geotags to videos and displaying them in the Places view. Pet. 77–79. Second, Petitioner also asserts that it would have been obvious to do so. *Id.* at 79–81 (citing Ex. 1043, 1; Ex. 1028 ¶¶ 18, 30, 34; Ex. 1007, 1:25–45, 6:60–64, 5:31–38, 12:5–26, Fig. 11; Ex. 1038, 6; 1037, 17, 31, 37, 38, 47). That is, Petitioner relies upon two rationales: a first based on an unmodified Places view, and second involving modifying the Places view to incorporate video.

Apart from the arguments and evidence discussed in Section § III.D.8.a that generally apply to claim 24, Patent Owner does not directly dispute Petitioner's reasoning about A3UM's Projects in connection with videos in the Places view. *See generally* PO Resp.; Sur-reply.

For the reasons that follow, we are persuaded by Petitioner's arguments and evidence under both rationales.

As for the first rationale, Petitioner assertion that A3UM's Projects contain both photos and videos, and applies a geotag to the project, which in turn, geotags the associated videos and photos. Pet. 77–81 (citing Ex. 1003 ¶¶ 266–268). Petitioner's assertion is adequately supported by A3UM. *See id.* In particular, there is abundant evidence that A3UM's libraries contain both photos and video. *See, e.g.*, Ex. 1005, 157, 166, 185,

250, 413, 793, *cited in* Pet. 78–79. Petitioner identifies an example of a project in A3UM, the "Sports Profile," that contains both photos and video. *See* Pet. 77–78 (citing Ex. 1005, 9, 23, 413; Ex. 1003 ¶ 270). A3UM states that "you can manually enter location information for single photos or *entire projects*." Ex. 1005, 30 (emphasis added). This is consistent with Dr. Terveen's testimony about adding location information to a project and its associated videos and photos. Ex. 1003 ¶¶ 266–268, 270. Thus, we credit Dr. Terveen's testimony on this issue. *Id.*

Based on the totality of the arguments and evidence here, Petitioner has shown that A3UM teaches applying geotags to videos and displaying them in the Places view. Pet. 77–79.

As for the second rationale based on modifying the Places view, we also agree that, to the extent that it could be argued that A3UM does not add geotags to videos, doing so would have been obvious. Pet. 79–81 (citing Ex. 1043, 1; Ex. 1028 ¶¶ 18, 30, 34; Ex. 1007, 1:25–45, 6:60–64, 5:31–38, 12:5–26, Fig. 11; 1037, 17, 31, 37, 38, 47; Ex. 1038, 6).

Petitioner has shown that A3UM supports the metadata standard IPTC. *Id.* at 80 (citing Ex. 1037, 17, 47; Ex. 1005, 397–398). In particular, A3UM has a Metadata view for "IPTC Core," which displays the information IPTC subject codes, location, city, state/province, country, and ISO country code. Ex. 1005, 397–398.[13] The IPTC standard supports embedding geotags in video files, including the "Audio plus Moving Video" (AVI) format, and using location related metadata codes. Ex. 1037, 17, 31,

[13] IPTC stands for International Press Telecommunications Council. Ex. 1005, 378.

37, 38 (describing the codes); *id* at 47 (describing the file formats).[14] Thus, Petitioner has adequately shown that it would have been obvious to a person of ordinary skill in the art to "enable geotagging of video files" because A3UM supports generic GPS metadata tags and the IPTC codes. Pet. 80 (citing Ex. 1003 ¶ 273; Ex. 1005, 397–398, 1110). We credit the Terveen Declaration on this issue (Ex. 1003 ¶ 273) because it is consistent with A3UM's teachings on IPTC and GPS metadata (Ex. 1005, 397–398, 1110) and the IPTC teachings about codes and file formats (Ex. 1037, 17, 31, 37, 38, 47).

We have also reviewed the other arguments and evidence and determine that it also supports Petitioner's obviousness rationale. *See* Ex. 1043, 1 (describing the Flickr interface); Ex. 1028 ¶¶ 18, 30, 34 (describing digital images with associated location information, displaying thumbnails on maps); Ex. 1007, 1:25–45, 6:60–64, 5:31–38, 12:5–26, Fig. 11 (describing photos and videos presented on a map); Ex. 1038, 6 (describing metadata about "where . . . the image was taken.").

Thus, Petitioner has shown that claim 24 is unpatentable as obvious in view of A3UM.

9. Claims 6, 7, 38, and 39

Because Petitioner has shown that claims 6, 7, 38, and 39 are unpatentable as lacking adequate written-description support (*see infra* § III.D.11), we need not reach the issue of whether those claims are obvious over A3UM. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding that a petitioner "is entitled to a final written decision addressing all

[14] Exhibit 1037 is Comité International des Télécommunications de Presse, IPTC – NAA Information Interchange Model (4th Ed. Rev. 1 1999).

of the claims it has challenged"); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x 984, 990 (Fed. Cir. 2020) (non-precedential) (recognizing that the "Board need not address issues that are not necessary to the resolution of the proceeding" and, thus, agreeing that the Board has "discretion to decline to decide additional instituted grounds once the petitioner has prevailed on all its challenged claims").

10. Claims 4, 5, 8–10, 12, 17–23, 25–30, 32, 33, 36, 37, 40–42, 44, and 49–59

Petitioner argues that the combination of A3UM teaches the recited limitations of dependent claims 4, 5, 8–10, 12, 17–23, 25–30, 32, 33, 36, 37, 40–42, 44, and 49–59. *See* Pet. 51–90.

Patent Owner does not separately address Petitioner's evidence or arguments directed to dependent claims 4, 5, 8–10, 12, 17–23, 25–30, 32, 33, 37, 40–42, 44, and 49–59. *See generally* PO Resp.; Sur-reply. Rather, Patent Owner relies on its arguments against the obviousness rationale based on A3UM.

We have considered Petitioner's evidence and arguments with respect to dependent claims 4, 5, 8–10, 12, 17–23, 25–30, 32, 33, 36, 37, 40–42, 44, and 49–59, as well as the testimonial evidence of Dr. Terveen. Based on the totality of the record, we are persuaded that Petitioner has demonstrated that these claims are unpatentable.

11. Written Description: Claims 6, 7, 38, and 39

Petitioner asserts that claims 6, 7, 38, and 39 are unpatentable as lacking adequate written-description support. Pet. 91–93.

Claim 6 recites, in part, "The method of claim 4, wherein, in the people view, the first name is displayed adjacent to the first digital file associated with the first thumbnail image and the second name is displayed

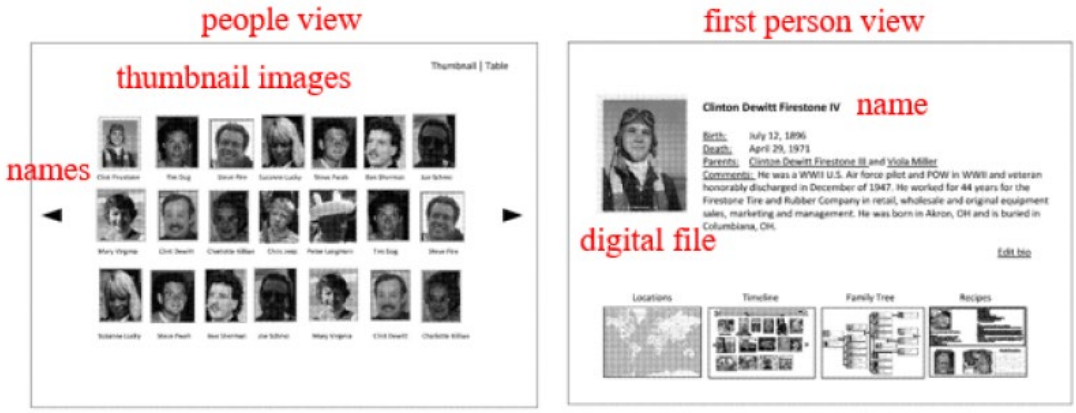
adjacent to the second thumbnail image." Ex. 1001, 35:59–62. Claim 38 recites similar limitations. *See id.* at 38:47–50. Claim 7 depends from claim 6, and claim 39 depends from claim 38. *Id.* at 35:63–65 (claim 7), 38:51–53 (claim 39).

> Petitioner asserts that claims 6 and 38 require that
>
> the "people view" includes at least the following: (i) "a first thumbnail image associated with a first person," (ii) "a first name associated with the first person," (iii) "a second thumbnail image associated with a second person," (iv) "a second name associated with the second person," and (v) a "first digital file associated with the first person."

Pet. 91. Petitioner argues that the '020 patent lacks written-description support for a people view with these features. *Id.* at 92 (citing Ex. 1003 ¶ 315).

Under Petitioner's interpretation, digital files are "plainly distinct" from thumbnails because claims 6 and 38 recite that "'the first digital file' is 'associated with the first thumbnail image.'" *Id.* (emphasis omitted). Petitioner argues that Figures 6 and 32 of the '020 patent show people views. *Id.* But neither figure shows a view that displays a thumbnail and a first digital file associated with both the first person and the first thumbnail image. *Id.* (citing Ex. 1003 ¶ 316). Petitioner argues that, "while Figure 6 discloses duplicate thumbnails in the people view, it does not show any 'digital files' being displayed in the people view with those thumbnails." *Id.* According to Petitioner, "The absence of any illustration or description of a 'people view' including a 'digital file' associated with both a 'first person' and the 'first thumbnail image' demonstrates a lack of possession of the process as it is defined by claims 6-7 and 38-39." *Id.* at 92–93 (citing Ex. 1003 ¶ 317).

Patent Owner argues that claims 6 and 38 require a "'people view' includes the 'first thumbnail image associated with the first person' and the 'first person view' includes the 'first digital file associated with the first person.'" PO Resp. 101. Patent Owner illustrates this by annotating Figures 6 and 7, shown below.



Ex. 1001, FIGS. 6-7 (annotated)

In annotated Figures 6 and 7 above, the people view (right) has thumbnail images and names, and the first person view (left) has the digital file and a name. *Id.* Patent Owner argues that, although the claim recites "in the people view, the first name is displayed adjacent to the *first digital file* associated with the *first thumbnail image*," it should be interpreted as "in the people view, the first name is displayed adjacent to the *first thumbnail image* associated with the *first digital file*." PO Resp. 101–103. In other words, "the first digital file" and "the first thumbnail image" should be switched in the claim.

Patent Owner explains that "the wording was inadvertently transposed." *Id.* at 102–103. In Patent Owner's view, "[w]hile the words in the claim appear to be inadvertently transposed, that does not mean the

Board cannot adopt an interpretation consistent with how a POSITA would read the claim." *Id.* at 103. Patent Owner asserts that "[n]othing in the specification or prosecution history suggests that the claims should be interpreted as argued by Petitioner." *Id.* at 104.

In sum, both parties agree that the nothing in the descriptive part of the '020 patent's specification says anything about a people view where "the first name is displayed adjacent to the *first digital file* associated with the *first thumbnail image*." Pet. 92–93; PO Resp. 104. This feature is only recited in claims 6 and 38. That is, the parties argue that (1) we should determine that claims 6 and 38 do not satisfy the written-description requirement of Section 112, as set forth in the Petition, or (2) interpret the claims as covering a different people view—i.e., one where the first name is displayed adjacent to a thumbnail, not the digital file—recognizing that the claim terms were "inadvertently transposed." *See* Pet. 92–93; PO Resp. 104.

The test for written-description sufficiency "is whether the specification 'reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of [the relevant time].'" *In re Glob. IP Holdings LLC*, 927 F.3d 1373, 1376–77 (Fed. Cir. 2019) (quoting *Ariad Pharms, Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010)) Claims 6 and 38 are original claims. *See* Ex. 1002, 4, 473. "Original claims are part of the original specification and *in many cases* will satisfy the written description requirement." *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1297 (Fed. Cir. 2017) (citing *Ariad*, 598 F.3d at 1349) (emphasis added). This is not one of those cases.

The Petition states that "neither Figure 6 nor Figure 32 *nor any other portion of the '020 patent disclosure* describes a 'people view'" with the

recited features. Pet. 92 (citing Ex. 1003 ¶ 316) (emphasis added). This is undisputed. *See* PO Resp. 102–104.

We decline to adopt Patent Owner's interpretation that we should switch the "inadvertently transposed" terms "first digital file" and "first thumbnail image" in the claim so that the claims encompass the disclosed embodiments. *Id.* at 102–103. The mere fact that the patent discloses an embodiment "does not outweigh the language of the claim." *Tip. Sys.,* 529 F.3d at 1373. Indeed, "the claims of the patent need not encompass all disclosed embodiments." *Id.*

Because there is no support for the people view with the recited feature, Petitioner has shown that claims 6, 7, 38, and 39 are unpatentable under the written-description requirement of Section 112. Pet. 91–93.

IV. MOTION TO EXCLUDE

Patent Owner filed a motion to exclude A3UM (Exhibit 1005). Paper 35 ("Motion" or "Mot."). According to Patent Owner, Petitioner has not properly authenticated Exhibit 1005 as a true and correct copy of A3UM. Mot. 1.[15]

Patent Owner acknowledges that its objections were untimely under 37 C.F.R. § 42.64(b). *Id.* Patent Owner, though, "requests the Board waive the service requirement of 37 C.F.R. § 42.64(b) as Patent Owner's delay did not prejudice Petitioner." *Id.* Patent Owner argues that "Patent Owner's request for waiver of Rule 42.62(b) is in 'the interests of justice.'" *Id.*

[15] Patent Owner's Motion does not have page numbers. In this Decision, we refer to the pages in numerical order, excluding the cover page.

Petitioner argues that "Patent Owner failed to timely object to Exhibit 1005, so it has waived its objection." Paper 36 ("Opp") (citing Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767 (Aug. 14, 2012)).

"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). Here, A3UM was submitted with the Petition. The institution of trial was June 10, 2022. Patent Owner's objection to evidence was made on June 28, 2022. Paper 14. Thus, Patent Owner's objection was not filed in time, and thus, it is waived.

The rules are designed to promote fairness and efficiency. Patent Owner argues that we should waive the rules in this case in the interests of justice, but provides no specific reasons for doing so. *See* Mot. Thus, we have no basis for accepting Patent Owner's untimely objection in this case.

Thus, we deny Patent Owner's Motion to Exclude.

V. CONCLUSION

Petitioner has shown by a preponderance of the evidence that claims 1–12, 17–44, and 49–59 are unpatentable, but has not shown that claims 13–16 and 45–48 are unpatentable.[16]

[16] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding after this decision issues, 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).

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–59	103	A3UM	1–5, 8-12, 17–37, 40–44, 49–59	13–16, 45–48
6, 7, 38, 39	112	Written Description	6, 7, 38, 39	
Overall Outcome			1–12, 17–44, 49–59	13–16, 45–48

VI. ORDER

It is

ORDERED that Petitioner has shown that claims 1–12, 17–44, and 49–59 of U.S. Patent 11,017,020 B2 are unpatentable;

FURTHER ORDERED that Petitioner has not shown that claims 13–16 and 45–48 of U.S. Patent 11,017,020 B2 are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude is denied; and

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

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