

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FACEBOOK, INC., ATCLASSIAN CORP. PLC, ATCLASSIAN, INC.,
EBAY INC., EXPEDIA, INC., HOMEAWAY.COM, INC., PINTEREST,
INC., SQUARESPACE, INC., WIX.COM, LTD., WIX.COM, INC., and
GOOGLE LLC,¹
Petitioner,

v.

EXPRESS MOBILE, INC.,
Patent Owner.

IPR2021-01224
Patent 6,546,397 B1

Before JEFFREY S. SMITH, MITCHELL G. WEATHERLY, and
DANIEL J. GALLIGAN, *Administrative Patent Judges*.

GALLIGAN, *Administrative Patent Judge*.

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

¹ Atlassian Corp. PLC., Atlassian, Inc., eBay Inc., Expedia, Inc., Homeaway.com, Inc., Pinterest, Inc., Squarespace, Inc., Wix.com, Ltd., and Wix.com, Inc. filed a motion for joinder and a petition in Case IPR2022-00570. Google LLC filed a motion for joinder and a petition in Case IPR2022-00598. All of these parties have been joined as petitioners in IPR2021-01224.

I. INTRODUCTION

In this *inter partes* review, Facebook, Inc., Atlassian Corp. PLC., Atlassian, Inc., eBay Inc., Expedia, Inc., Homeaway.com, Inc., Pinterest, Inc., Squarespace, Inc., Wix.com, Ltd., Wix.com, Inc., and Google LLC (collectively “Petitioner”) challenge the patentability of claim 1 of U.S. Patent No. 6,546,397 B1 (Ex. 1001, “the ’397 patent”), which is assigned to Express Mobile, Inc. (“Patent Owner”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during the trial in this *inter partes* review. For the reasons discussed below, we determine that Petitioner has proven by a preponderance of the evidence that claim 1 of the ’397 patent is unpatentable. *See* 35 U.S.C. § 316(e) (2018) (“In an *inter partes* review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”).

A. Procedural History

Facebook, Inc. filed a Petition (Paper 1, “Pet.”) challenging claim 1 of the ’397 patent on the following grounds:

Claim Challenged	35 U.S.C. §	References/Basis
1	103(a)	Reynolds, ² Bernardo, ³ Meyer, ⁴ Witkowski ⁵
1	103(a)	Reynolds, Bernardo, Meyer, Witkowski, Coombs ⁶

² US 6,052,717, issued Apr. 18, 2000 (Ex. 1003).

³ US 6,684,369 B1, issued Jan. 27, 2004 (Ex. 1004).

⁴ J. Meyer and T. Downing, *Java Virtual Machine*, © 1997 (Ex. 1005).

⁵ US 6,125,360, issued Sept. 26, 2000 (Ex. 1007).

⁶ J. Coombs et al., *Setting Up an Internet Site for Dummies*, 3rd ed. © 1998 (Ex. 1006).

Pet. 11. Patent Owner filed a Preliminary Response. Paper 6. With our authorization, Facebook filed a reply to the Preliminary Response (Paper 7) addressing discretionary denial issues, and Patent Owner filed a sur-reply (Paper 9). A trial was instituted on the asserted grounds of unpatentability. Paper 10 (“Inst. Dec.”) at 30.

During the trial, Patent Owner filed a Response (Paper 21, “PO Resp.”), Facebook filed a Reply (Paper 23, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 32, “PO Sur-reply”).

After institution, Atlassian Corp. PLC., Atlassian, Inc., eBay Inc., Expedia, Inc., Homeaway.com, Inc., Pinterest, Inc., Squarespace, Inc., Wix.com, Ltd., and Wix.com, Inc. filed a motion for joinder and a petition in Case IPR2022-00570. Google LLC filed a motion for joinder and a petition in Case IPR2022-00598. We joined all of these parties as petitioners in this proceeding. Papers 26, 27.

An oral hearing was held on October 13, 2022, a transcript of which appears in the record. Paper 44 (“Tr.”).

Petitioner relies on testimony from Dr. Vijay K. Madiseti. Exs. 1002 (Declaration), 1030 (Reply Declaration). Patent Owner relies on testimony from Dr. Sam Malek. Ex. 2009. The parties have entered in the record transcripts for depositions of these declarants. Exs. 2011 (Madiseti First Deposition), 2014 (Madiseti Second Deposition), 1031 (Malek Deposition).

Before institution, Patent Owner relied on testimony from Mr. Glenn Weadock (Ex. 2001), but Patent Owner has not relied on this testimony during the trial. *See* PO Resp.; PO Sur-reply.

B. Real Parties in Interest

The following are the identified real parties in interest on the petitioner side of the proceeding, accounting for all of the joined parties:

Facebook, Inc., Atlassian Corp. PLC., Atlassian, Inc., Atlassian (UK) Limited, Atlassian (UK) Holdings Limited, eBay Inc., Expedia, Inc., Homeaway.com, Inc., Expedia Group, Inc., VRBO Holdings, Inc., Pinterest, Inc., Squarespace, Inc., Wix.com, Ltd., Wix.com, Inc., and Google LLC.
Pet. 1; IPR2022-00570, Paper 1 at 1; IPR2022-00598, Paper 1 at 1.

Patent Owner identifies itself as the real party in interest. Paper 4 at 1.

C. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), the parties identify various related matters. Pet. 1–8; Paper 4, 1–9; IPR2022-00570, Paper 1 at 1–9; IPR2022-00598, Paper 1 at 1–9. Among the identified related matters are *BigCommerce, Inc. v. Express Mobile, Inc.*, IPR2018-00750 (“the ’750 IPR” or “the BigCommerce IPR”) and ex parte reexamination Control No. 90/014,615 (“the ’615 Reexam”). Pet. 2; Paper 4 at 2, 9. A Decision on Appeal issued in the ’615 Reexam affirming the Examiner’s rejection of claim 1 of the ’397 patent. Ex. 1035. Also, we are concurrently issuing a final written decision in IPR2021-01226, involving U.S. Patent 7,594,168 B2, which is a continuation of the ’397 patent.

D. The ’397 Patent and Challenged Claim 1

The ’397 patent states that it “is directed to computing systems, and more particularly to methods and apparatus for building a web site using a browser-based build engine.” Ex. 1001, 1:6–8. Independent claim 1, which is the sole challenged claim, is reproduced below.

1. A method to allow users to produce Internet websites on and for computers having a browser and a virtual machine capable of generating displays, said method comprising:

(a) presenting a viewable menu having a user selectable panel of settings describing elements on a website, said panel of settings being presented through a browser on a computer adapted to accept one or more of

said selectable settings in said panel as inputs therefrom, and where at least one of said user selectable settings in said panel corresponds to commands to said virtual machine;

(b) generating a display in accordance with one or more user selected settings substantially contemporaneously with the selection thereof;

(c) storing information representative of said one or more user selected settings in a database;

(d) generating a website at least in part by retrieving said information representative of said one or more user selected settings stored in said database; and

(e) building one or more web pages to generate said website from at least a portion of said database and at least one run time file, where said at least one run time file utilizes information stored in said database to generate virtual machine commands for the display of at least a portion of said one or more web pages.

II. ANALYSIS

A. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) any secondary

considerations, if in evidence.⁷ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Citing the testimony of its declarant, Dr. Vijay Madiseti, Petitioner contends that

[a] person of ordinary skill in the art as of December 1999 would have possessed at least a bachelor's degree in software engineering, computer science, computer engineering, or electrical engineering with at least two years of experience in web-based software application development, including experience in developing software and systems for storing, retrieving, and transmitting information (such as text and images) over a computer network such as the Internet (or equivalent degree or experience). (EX1002, ¶17.) A person could also have qualified as a person of ordinary skill in the art with some combination of (1) more formal education (such as a master's of science degree) and less technical experience or (2) less formal education and more technical or professional experience in the fields listed above. As the '397 patent makes clear, a person of ordinary skill in the art would have had a working knowledge about various ways to implement websites using browser-based input and provide those websites to browsers upon request. (*Id.*)

Pet. 13.

Patent Owner's declarant, Dr. Sam Malek, testifies that

a person of ordinary skill in the art of the patent-in-suit would include someone who had a bachelors or graduate degree in computer science, mathematics, engineering, or a similar discipline together with knowledge of software development and web design, together with approximately two or three years of experience in the field relating to web design and development. The required levels of educational and industry experience are

⁷ Patent Owner does not present any objective evidence of nonobviousness (i.e., secondary considerations) as to any of the challenged claims.

on a sliding scale relative to each other. For example, a person of ordinary skill could potentially have no educational degree but more industry experience or, conversely, could have something higher than an undergraduate degree with fewer years of industry experience.

Ex. 2009 ¶ 2.⁸ This is the same skill level that Patent Owner presented before institution. Ex. 2001 ¶ 18.

The parties' assessments are substantially similar. Both call for a technical degree and some practical experience, but both also acknowledge that more experience can offset less formal education. Petitioner's proposed assessment, however, limits the technical degree to one of four disciplines. We are not persuaded that the educational requirements should be so restrictive, and we favor Patent Owner's assessment as it acknowledges that a person of ordinary skill in the art may have a degree in a "similar discipline" to computer science, math, or engineering. In addition, Petitioner's use of the language "at least" expands the ranges of education and experience indefinitely without an upper bound. The Institution Decision applied Patent Owner's proposed construction, and Petitioner did not further address this issue during trial. *See* Inst. Dec. 10–12.

Thus, consistent with the Institution Decision and for the reasons stated above, we apply Patent Owner's assessment. We also note that we would reach the same determinations on Petitioner's patentability challenges in §§ II.D–E below if we adopted Petitioner's assessment.

⁸ Pages 4–9 of Exhibit 2009 contain paragraphs 1–14 with some background information. On page 10, the paragraph numbering restarts at 1; therefore, paragraph numbers 1–14 are used twice. Any references in this Decision to paragraphs 1–14 of Exhibit 2009 are to the paragraphs at pages 10–16.

C. Claim Construction

We interpret claim terms using

the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.100(b) (2021).

Petitioner argues that no express constructions are necessary but provides various constructions or proposed constructions from district court litigations “for purposes of providing complete disclosure.” Pet. 15–18. Patent Owner argues that “[t]he Petition and Dr. Madisetti’s opinions violate all constructions” of “substantially contemporaneously,” “run time file,” and “building one or more web pages.” PO Resp. 13–16. These arguments are directed to whether the prior art teaches the subject matter and do not raise any claim construction disputes.

We determine that there are no claim construction disputes that require resolution to render a decision on the patentability of claim 1. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Obviousness over Reynolds, Bernardo, Meyer, and Witkowski

Petitioner asserts that claim 1 is unpatentable under 35 U.S.C. § 103(a) over the combined teachings of Reynolds, Bernardo,

Meyer, and Witkowski. Pet. 11, 20–69. Patent Owner opposes. PO Resp. 16–52; PO Sur-reply 4–25.

1. Overview of the Prior Art

Reynolds is a U.S. Patent with a filing date of October 23, 1996. Ex. 1003, at code (22). Reynolds discloses “techniques for creating and viewing material on the World Wide Web in the form of an interactive Web book.” Ex. 1003, 1:6–8. Reynolds explains that its interactive Web book (“ibook”) “is a self-extending, self-sustaining information-redistributing Web robot, which is resident on a data network such as the Internet or an intranet,” and that “[m]aterial in an ibook is preferably organized in the form of Web pages.” Ex. 1003, 1:27–30.

Bernardo is a U.S. Patent with a filing date of June 19, 1998. Ex. 1004, code (22). Bernardo discloses a software tool for creating web sites that presents, among other things, options to a web site creator via menus. Ex. 1004, code (57), 9:48–53.

Meyer discloses information about the Java Virtual Machine. Ex. 1005, 17 (p. 5).⁹ Petitioner presents evidence that Meyer was published before the December 2, 1999, filing date of the application for the ’397 patent. *See* Ex. 1024 ¶¶ 40–46.

Witkowski is a U.S. Patent with a filing date of July 2, 1998. Ex. 1007, code (22). Witkowski relates to database systems. Ex. 1007, 1:15–17.

Petitioner asserts that “[e]ach reference cited in this Petition qualifies as prior art because each reference was either filed (in the case of patent

⁹ We cite the exhibit page numbers followed parenthetically by a reference’s internal page numbers when they are different.

references) or published long before the December 1999 application filing date of the '397 patent.” Pet. 20 (citing Ex. 1024 ¶¶ 40–54). Patent Owner does not challenge the prior art status of any of the applied references. Based on the filing dates of Reynolds, Bernardo, and Witkowski and based on Petitioner’s evidence regarding the publication of Meyer, we determine that these references are prior art to the '397 patent.

2. *Claim 1*

a) Preamble and Recitation 1(a)

Claim 1 is directed to “[a] method to allow users to produce Internet websites on and for computers having a browser and a virtual machine capable of generating displays.” Petitioner argues that Reynolds’s disclosure of allowing users to produce ibooks made up of web pages teaches “[a] method to allow users to produce Internet websites on and for computers having a browser.” Pet. 22–24 (citing Ex. 1003, code (57), 1:5–8, 3:46–47, 5:13–14, 5:31–33, 5:41–42, 7:2–3, 7:35–36, Fig. 3; Ex. 1002 ¶¶ 56–58).¹⁰ Petitioner argues that the combination of Reynolds and Meyer teaches the recited “browser and a virtual machine capable of generating displays.” Pet. 24 (citing Ex. 1002 ¶¶ 59–60). For a browser that generates displays, Petitioner relies on Reynolds’s disclosure of browser 82 running plug-ins 80 that form the ibook tools. Pet. 24–26 (citing Ex. 1003, 1:10–11, 1:30–38, 3:40–43, 5:28–31, 5:35–37, 7:2–3, 11:31–40; Ex. 1002 ¶¶ 59–60). For the “virtual machine,” Petitioner relies on Meyer’s disclosure of the Java Virtual Machine (JVM) in combination with Reynolds. Pet. 26–28 (citing Ex. 1005, 14, 16–18, 47 (pp. 2, 4–6, 36); Ex. 1002 ¶¶ 61–62). Petitioner

¹⁰ The parties emphasize reference names, claim recitations, and numerals designating elements in references. We omit such emphasis when quoting the parties’ arguments in this Decision.

provides various reasons to combine Meyer's JVM teachings with Reynolds, including that Reynolds expressly discloses the use of Java. Pet. 28–31 (citing Ex. 1003, 1:5–8, 4:48–50, 7:2–4, 9:52–58; Ex. 1005, 14–17, 47–53 (pp. 2–5, 36–42); Ex. 1002 ¶¶ 64–68); *see* Ex. 1003, 9:56–58 (disclosing that an ibook passage may be a Java program).

Claim 1 recites that the method comprises “(a) presenting a viewable menu having a user selectable panel of settings describing elements on a website, said panel of settings being presented through a browser on a computer adapted to accept one or more of said selectable settings in said panel as inputs therefrom.” Pet. 32. Petitioner relies on Reynolds's authoring tool 86, which includes editing tool 136, to teach an interface through which a user can create and modify material. Pet. 32–34 (citing Ex. 1003, 7:2–7, 7:24–28; Fig. 3, 6). Petitioner notes that “Reynolds does not describe specific details on the user interface for authoring tool 86 or editing tool 136 and thus does not expressly disclose ‘presenting a viewable menu having a user selectable panel of settings describing elements on a website.’” Pet. 34. Petitioner argues that “it would have been obvious to adapt authoring tool 86 of Reynolds based on Bernardo to implement the claimed viewable menu.” Pet. 34 (citing Ex. 1002 ¶¶ 71–81). In particular, Petitioner argues that Bernardo discloses menus through which input from a website creator is received. Pet. 34–42 (citing Ex. 1004, 1:23–27, 4:45–46, 4:49–50, 5:28–37, 6:32–34, 6:57–59, 6:54–56, 6:58–7:10, 7:37–39, 7:42–44, 8:38–42, 8:56–62, 8:67–9:12, 9:48–64, 22:23–30, 22:56–61, Figs. 5, 8–10; Ex. 1002 ¶¶ 73–78, 80). Petitioner provides various reasons to combine Bernardo's menu teachings with Reynolds, including that such a combination would have improved the user experience. Pet. 42–46 (citing

Ex. 1003, 7:24–31, 8:5–10; Ex. 1004, 1:25–27, 7:24–37, 8:57–62, 9:48–64; Ex. 1009, 6:16–58, Figs. 14, 15; Ex. 1002 ¶¶ 81–89).

Claim 1 further recites “where at least one of said user selectable settings in said panel corresponds to commands to said virtual machine.” Pet. 47. Petitioner argues that it would have been obvious to implement the viewable menu as a Java applet based on the combined teachings of Reynolds, Bernardo, and Meyer. Pet. 47–52. According to Petitioner’s “proposed combination, a Java applet would perform the functionality of (1) presenting the claimed ‘viewable menu’ having user selectable settings, and (2) responding to the user selection by providing the functionality specified by the user’s selection from the viewable menu.” Pet. 48 (citing Ex. 1002 ¶ 92). Petitioner provides various reasons to make this combination, noting that Java provides various benefits that would have motivated a person of ordinary skill in the art. Pet. 48–52 (citing Ex. 1003, 5:28–31, 7:24–28; Ex. 1004, 8:56–60, 12:11–26, 12:34–40; Ex. 1005, pp. 2–4, 8–9; Ex. 1002 ¶¶ 93–96).

Patent Owner offers several arguments against Petitioner’s contentions for the preamble and recitation 1(a). *See* PO Resp. 16–52; PO Sur-reply 4–24. We address these arguments below.

(1) Combining Teachings of Bernardo and Reynolds

Patent Owner makes various arguments alleging that Petitioner’s proposed combination of Bernardo’s viewable menu teachings and Reynolds’s ibook creation teachings is infeasible and that the references’ teachings are incompatible. PO Resp. 23–33; PO Sur-reply 4–7. We disagree with Patent Owner’s arguments.

At the outset, we disagree with Patent Owner's suggestion that Petitioner proposes physically combining Reynolds's and Bernardo's systems. For example, Patent Owner argues that

Petitioner offers no explanation why a [person of ordinary skill in the art] would combine the system of Reynolds (a platform to control viewing and revision of ibooks which Reynolds defines as "a self-extending, self-sustaining information redistributing Web robot" (Ex. 1003, abstract)) with the system of Bernardo (which is directed to web site creation, and is a standalone tool for creating such sites).

PO Resp. 27. Patent Owner further argues the following:

For Reynolds to integrate the template-and-menu system of Bernardo would either require gutting the entire system of Reynolds to only allow limited, specific pre-designed and pre-contemplated templates that bear no connection to Reynolds, or force the [person of ordinary skill in the art] to create a system that is not contemplated in Bernardo at all.

PO Resp. 29 (citing Ex. 2009 ¶¶ 66–74); *see also* PO Resp. 28 ("[S]uch a wholesale import of the menus into Reynolds, based on the disclosure of both references, is neither relevant to Reynolds nor even possible.").

These arguments mischaracterize the proposed combination and require more than the law requires to show obviousness. The Federal Circuit has

consistently held . . . that "[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art."

MCM Portfolio LLC v. Hewlett-Packard Co., 812 F.3d 1284, 1294 (Fed. Cir. 2015) (quoting *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Thus,

Petitioner is not required to show how to combine the entirety of two systems, and Petitioner's contentions are not based on such a wholesale combination.

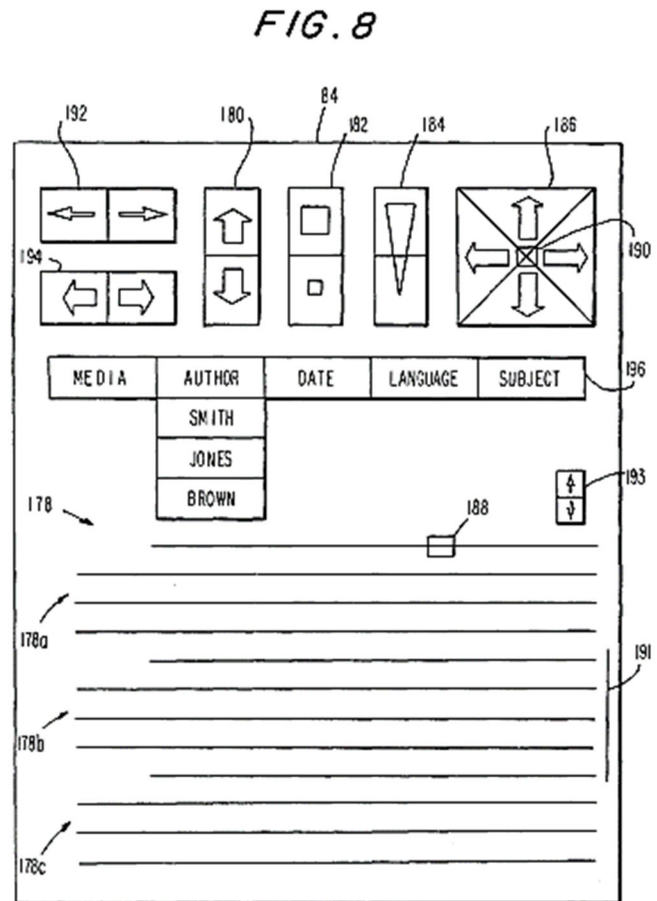
Petitioner's proposed combination is based on Reynolds's disclosure of an authoring tool that runs within a web browser by which a user creates and modifies material in an ibook. Pet. 32–34 (citing Ex. 1003, 7:2–7, 7:24–28; Fig. 3, 6). Reynolds discloses that, “[t]o create or modify material in an ibook, a contributor uses ibook authoring tool 86 (FIG.3).” Ex. 1003, 7:2–3, *quoted in* Pet. 33. Reynolds explains that authoring tool 86 is one of client plug-ins 80, which “are downloadable executable program modules that can be run on client 60 in conjunction with Web browser 82 to add additional capabilities to Web browser 82.” Ex. 1003, 5:28–31, 5:35–37, *cited in* Pet. 25. Reynolds further explains that authoring tool 86 includes editing tool 136, which “is used to enter original material.” Ex. 1003, 7:3–7, Fig. 6; *see* Pet. 33–34 (discussing this disclosure). Reynolds discloses that “editing tool 136 preferably supports standard word processing functions for entering text and source code and supports graphics, animation, audio, and video editing functions for creating and modifying multimedia material.” Ex. 1003, 7:24–28, *quoted in* Pet. 34. Thus, Reynolds discloses an authoring tool that supports expansive functionality, but, as Petitioner correctly notes, “Reynolds does not describe specific details on the user interface for authoring tool 86 or editing tool 136 and thus does not expressly disclose” a viewable menu. Pet. 34. Given the functionality that Reynolds discloses for its authoring and editing tool, Petitioner contends that it would have been obvious that the authoring and editing tool would include a viewable menu, for which Petitioner relies on Bernardo. Pet. 34–35.

Patent Owner argues that “Petitioner fails to identify any particular problems or shortcomings of Reynolds that such a combination would address.” PO Resp. 27–28. Petitioner acknowledges that Reynolds discloses expansive functionality for its authoring and editing tools but does not disclose the particular details by which the tools implement that functionality. Pet. 34. Thus, Patent Owner’s contention that “the Reynolds system already allows users to fully accomplish the aim of Reynolds—adding text, images, or video into a[n] ibook for users to read and modify further” (PO Resp. 28) is not disputed. Still, Petitioner contends that Reynolds does not expressly disclose using a viewable menu to gather input from a user to create an ibook and that using such a menu would have been an obvious implementation of Reynolds’s authoring and editing tools. Pet. 42–46.

We agree with Petitioner that viewable menus were well-known at the relevant time. Pet. 45 (citing Ex. 1002 ¶ 87). Indeed, Patent Owner recognizes that Reynolds actually discloses viewable menus, but not as part of its authoring tool. *See* PO Resp. 28 (citing Ex. 1003, 10:35–38). Reynolds discloses that “[a]n additional navigation control feature provided by navigation tool 84 is drop-down menu 196. The user can make selections with drop-down menu 196 that aid in navigating ibook passages 152.” Ex. 1003, 10:35–38.

Reynolds's Figure 8,
reproduced on the right, illustrates
ibook navigation tool 84 with drop-
down menu 196 and other controls
for navigating ibook content.
Ex. 1003, 9:48–49, 10:1–4
(describing cursor keys in Figure 8),
10:35–38 (describing drop-down
menu 196).

Patent Owner contends that
this disclosure in Reynolds of a
viewable menu undermines
Petitioner's contentions because
"Reynolds was aware of viewable
menus, and explicitly chose not to
implement them for modifying content." PO Resp. 28. But Reynolds does
not disclose any specific details about the user interface for the authoring
and editing tools. *See* Pet. 34. As discussed above, Reynolds focuses on the
functionality that the authoring and editing tools provide, not on the
particular implementation details by which they provide that functionality.
Ex. 1003, 7:3–7 (disclosing that authoring tool 86 contains editing tool 136,
which "is used to enter original material"), 7:23–31 (disclosing various
"functions provided by authoring tool 86" and editing tool 136, including
"standard word processing functions for entering text"). The
implementation details are left up to the person of ordinary skill, and we
disagree with Patent Owner that it would have been impossible to implement



viewable menus in the authoring tool when they are disclosed in another plug-in, navigation tool 84, in the same browser.

Bernardo teaches various ways for a user to input information to modify website content:

To facilitate modifying the site the content composer may be presented various views by the tool to add or modify pages. The view may be any type of graphical or text arrangement that provides a user with several options. For example, view may include a drop down or pop up menu, a list of options to be selected using a radio button selector, a text entry box, or other suitable graphical selection interface. Options present a user with various choices regarding the creation of a Web site and can be based on stored templates. For example, options may include choices regarding editing of text, colors, graphics or other objects, as well as, choices regarding positioning of objects, creation of new objects, deleting objects, adding links to other sites, security provisions, and other choices.

Ex. 1004, 9:48–61; *see* Pet. 35–36 (discussing this disclosure). This disclosure shows features that are directly applicable to functionality that Reynolds discloses for its editing tool. For example, a menu that presents “options [that] may include choices regarding editing of text, colors, graphics or other objects” (Ex. 1004, 9:51–56) complements Reynolds’s teaching that “editing tool 136 supports standard word processing functions for entering text . . . and supports graphics, animation, audio, and video editing functions for creating and modifying multimedia material.” (Ex. 1003, 7:24–28).

Petitioner also refers to Bernardo's Figure 8, reproduced below. *See* Pet. 37–39 (discussing Bernardo's Figure 8).

Buttons

Explanatory Text

Frame Settings

Frame Layout: Explanatory text regarding frame layout

Frame Style: Explanatory text regarding frame style

Logo: Explanatory text regarding logo style

Document Settings

Background Logo: Explanatory text regarding backgrounds attached to a Site Image document.

Background Color: Explanatory text regarding background color

Text Color:

FIG. 8

Bernardo's Figure 8, reproduced above, "is an illustration depicting a screen showing a selection menu." Ex. 1004, 4:45–46. Figure 8 "provides a screen from which the user is prompted to decide on the options for the design of the web page, for example, by selecting colors, background images, frame styles, and logos." Ex. 1004, 8:57–60, *quoted in* Pet. 38. One of the

depicted selectable settings is “Text Color” (Ex. 1004, Figure 8), which is consistent with Reynolds’s editing tool’s text entry functionality. *See* Ex. 1003, 7:24–28. Figure 10 of Bernardo, which we do not reproduce here, is another “illustration depicting a screen showing a selection menu” and specifically “depicts a view that enables a content composer to add site images or to view/update site images,” each option being displayed on the viewable menu. Ex. 1004, 4:49–50, 9:61–64; *see* Pet. 39–40 (discussing Bernardo’s Figure 10). Adding images is consistent with Reynolds’s disclosure that its editing tool “supports graphics.” Ex. 1003, 7:24–28.

The disclosures of Bernardo highlighted above, and others discussed in the Petition (*see* Pet. 35–41), show that Bernardo teaches “presenting a viewable menu having a user selectable panel of settings describing elements on a website.”

Petitioner’s reasoning to combine is persuasive. In particular, Petitioner argues that viewable menus “had known benefits and were standard fixtures of graphical user interface (GUI) implementations since at least the early 1980s.” Pet. 45 (citing Ex. 1002 ¶ 87). Dr. Madisetti provides credible testimony that a person of ordinary skill in the art would have been aware of the benefits of viewable menus to select settings, citing a patent issued in 1984 to Apple that outlines some of those benefits long before the filing of the ’397 patent. Ex. 1002 ¶¶ 87–88 (citing Ex. 1009 (U.S. Patent No. 4,464,652 (“Lapson”)), 6:16–54, Figs. 14, 15). Lapson illustrates a “pull down” menu in its Figure 14 and explains that, with such a menu, “it is possible for a user to select and execute a variety of commands without the necessity of inputting characters on a keyboard, as is commonly required in the art.” Ex. 1009, 6:55–58, Fig. 14; *see* Pet. 46 (discussing this disclosure). Lapson expressly states that such menus are suited for “a word

processing system or the like, wherein large blocks of text or other data may be manipulated or operated upon simply by” moving the cursor and pressing a switch.” Ex. 1009, 58–64. Thus, Lapson’s disclosure of the benefits of viewable menus for word processing is further evidence that a person of ordinary skill in the art would have been motivated to use viewable menus in Reynolds’s editing tool, which “supports standard word processing functions.” Ex. 1003, 7:24–28. Dr. Madisetti testifies that “[v]iewable menus provide a clear user experience advantage by allowing a user to make a selection by simply choosing from a menu of displayed options—thus allowing the user to quickly make a selection without having to type or key in the selection (for example using a keyboard).” Ex. 1002 ¶ 87. We credit this testimony because it is consistent with the evidence discussed above, including Lapson.

We also agree with Petitioner that a person of ordinary skill in the art would have had a reasonable expectation of success in combining Bernardo’s viewable menu teachings with Reynolds. *See* Pet. 46 (citing Ex. 1002 ¶ 89). As Dr. Madisetti credibly testifies, “the user interface techniques described in Bernardo were well-known long before December 1999, and could have been implemented using conventional programming techniques.” Ex. 1002 ¶ 89. This testimony is supported by Lapson’s disclosures of viewable menus in 1984, discussed above. Ex. 1009, 6:16–58, Figs. 14, 15. And as Patent Owner acknowledges and as discussed above, Reynolds discloses viewable menus for another client plug-in, navigation tool 84. *See* PO Resp. 28 (citing Ex. 1003, 10:35–38). Thus, an ordinarily skilled artisan would have been able to implement viewable menus in Reynolds’s authoring tools.

(2) Combining Teachings of Bernardo, Reynolds, and Meyer

Patent Owner argues that Petitioner’s proposed combination involving Meyer fails because Bernardo and Meyer “are incompatible and could not be combined from a technical standpoint.” PO Resp. 2 (citing Ex. 2009 ¶¶ 35, 41–43); *see also* PO Resp. 33 (“[T]he combination of Meyer and Bernardo is technically incompatible.”). According to Patent Owner, Bernardo’s menus “could not be transformed into a Java applet and executed using a Java virtual machine” because Bernardo’s menus are generated on the server side whereas a Java applet runs on the client and cannot run on a server. PO Resp. 24–25 (citing Ex. 2009 ¶¶ 42–43). Petitioner’s contentions, however, are not premised on whether Bernardo’s menus are located on its client or server. In Petitioner’s proposed combination, Reynolds’s authoring tool 86 would have been implemented as a Java applet, as taught in Meyer, and the applet would present the viewable menu. *See* Pet. 48–49 (explaining the Java implementation of the viewable menu).

Patent Owner also argues that “Reynolds teaches away from using a Java applet” because Reynolds discloses downloading client plug-ins using file transfer protocol (FTP), which, according to Patent Owner, “is fundamentally incompatible with the proposed Java applet.” PO Resp. 15 (citing Ex. 2009 ¶¶ 63–65, 77); *see* Ex. 2009 (Malek Declaration) ¶ 63 (identifying Reynolds’s FTP disclosure in column 5, lines 28–36). Dr. Malek also identifies Reynolds’s disclosure of FTP as a reason that Reynolds and Meyer “are technologically incompatible.” Ex. 2009 ¶¶ 63–65.

We disagree with Patent Owner’s argument and Dr. Malek’s testimony. The relevant disclosure of Reynolds provides that “[d]ownloading of client plug-ins 80 can be accomplished using standard

techniques, such as the standard Internet file transfer protocol (FTP).” Ex. 1003, 5:33–35. Thus, Reynolds identifies FTP as an exemplary technique for downloading plug-ins, not as the only technique that can be used, a point Patent Owner acknowledges. *See* PO Resp. 51 (noting that “Reynolds does not explicitly limit the ‘navigation tool’ transfer only to FTP”). Furthermore, Petitioner does not rely on Reynolds’s FTP disclosure; rather, Petitioner cites Meyer’s disclosure that Java applets “are downloaded over the Internet on the fly.” Ex. 1005, 16 (p. 4); *see* Pet. 27 (discussing this disclosure).

Dr. Malek further testifies that a person of ordinary skill in the art “reviewing Reynolds’ disclosure of downloading the ‘navigation tool’ via FTP (Ex 1003, 5:28-36) would understand this statement to plainly indicate that the ‘navigation tool’ is not a Java applet.” Ex. 2009 ¶ 77. Petitioner, however, does not contend that Reynolds discloses that the navigation tool *is* a Java applet. Rather, Petitioner contends that it would have been obvious “to implement Reynolds’ navigation tool 84 and authoring tool 86 as Java applets that rely on the Java Virtual Machine to generate their associated displays at the client.” Pet. 27; *see also* Pet. 48 (“[I]t would have been obvious to combine Reynolds with Meyer’s teachings on Java applets, predictably resulting in a Java applet implementation of Reynolds’ authoring tool 86 as adapted to include a viewable menu as taught by Bernardo.” (citing Ex. 1002 ¶ 93)).

Petitioner’s reasoning to combine the teachings of Reynolds and Bernardo, discussed in the preceding section, with Meyer’s Java teachings is persuasive. As Petitioner correctly notes, Meyer expressly discloses benefits of Java that would have motivated a person of ordinary skill in the art. Pet. 30–31 (citing Ex. 1005, 14 (p. 2); Ex. 1002 ¶¶ 66–67). Meyer explains

that “Java offers many tantalizing benefits to the application developer,” such as portability. Ex. 1005, 14–15 (pp. 2–3); *see* Pet. 30 (discussing portability as an advantage that would have motivated a person of ordinary skill in the art to use Java). Meyer explains Java’s portability as follows: “You can run the same Java binary (or class file, as it’s more correctly known) on a wide range of computers, from small personal computers up to million-dollar graphic supercomputers.” Ex. 1005, 14 (p. 2). Other benefits of Java include that it is efficient and that it is a “dynamic language” such that “classes are loaded dynamically as they are needed, possibly even over the network,” which “means that programs only grow as large as they need to be at runtime.” Ex. 1005, 15 (p. 3); *see* Pet. 30 (identifying Meyer’s disclosures that Java is efficient and dynamic as additional benefits that would have motivated the combination). We find that these benefits of Java expressly disclosed in Meyer would have motivated a person of ordinary skill in the art to use Java to implement Reynolds’s authoring tool, as asserted by Petitioner. *See* Pet. 48 (arguing that the asserted combination would have “predictably result[ed] in a Java applet implementation of Reynolds’ authoring tool 86 as adapted to include a viewable menu as taught by Bernardo”). In particular, we agree with Petitioner that Java’s portability would have been particularly desirable in implementing Reynolds’s authoring tool because it “would enable different web browsers to display the authoring tool and its viewable menu in the same manner.” *See* Pet. 49–50 (citing Ex. 1005, 20–21 (pp. 8–9); Ex. 1002 ¶ 94; Ex. 1004, 12:34–40); *see also* Ex. 1005, 21 (p. 9) (“Virtual machines have many advantages. They are great for portability. You only have to port the virtual machine and associated support libraries to a new architecture once, and then all of the applications built on top of the virtual machine run unchanged.”).

Additionally, Meyer discloses that Java “[a]pplets can be used to create interactive data displays.” Ex. 1005, 16 (p. 4). We agree with Petitioner that such displays are “precisely the type of interactive web-based application contemplated in Reynolds and the ‘viewable menu’ features of Bernardo,” further supporting Petitioner’s rationale to combine. *See* Pet. 50 (citing Ex. 1005, 16 (p. 4); Ex. 1002 ¶ 95).

We also agree with Petitioner, and we find, that a person of ordinary skill in the art would have had a reasonable expectation of success in making the proposed combination. *See* Pet. 31 (citing Ex. 1002 ¶ 68). As Petitioner correctly points out (Pet. 29), Meyer describes how to embed Java applets in a web page. Ex. 1005, 47–53 (pp. 36–42). Dr. Malek testifies that “Ppetitioner does not explain how a Java applet downloaded to the user’s local machine can execute.” Ex. 2009 ¶ 64. We disagree because Petitioner explains how Java applets are executed in web browsers. *See* Pet. 26–27 (citing Ex. 1005, 16–17, 47 (pp. 4–5, 36)). Meyer discloses that “applets are Java programs which can be embedded in an HTML page and then viewed within a Web browser.” Ex. 1005, 47 (p. 36). With one caveat, this is consistent with Dr. Malek’s testimony that “[a] Java applet can *only* execute when it is embedded in an HTML file that is loaded in a web browser.” Ex. 2009 ¶ 64 (emphasis added). In particular, Meyer explains that an applet can also be run in “appletviewer,” which suggests that embedding an applet in a web page is not the “only” way to execute an applet. Ex. 1005, 47 (p. 36) (“[A]pplets are Java programs which can be embedded in an HTML page and then viewed within a Web browser (alternatively you can use appletviewer to view applets).”), 48 (p. 37) (disclosing as an alternative to using a web browser that “you can type: % appletviewer Hello.html to see the applet running in appletviewer. Figure 2-1 shows the applet running.”).

Thus, it was known in the art, and Meyer expressly describes, how to run a Java applet.

Furthermore, we agree with Petitioner's assertion that, "[b]y December 1999, Java was a mature, well-documented, and well-known technology." Pet. 31 (citing Ex. 1002 ¶ 168). This is consistent with the prior art of record. Meyer is a 1997 book about Java, and Reynolds itself discloses the use of Java in its system for ibook passages, evidencing the knowledge of a person of ordinary skill in the art. *See* Ex. 1003, 9:56–58 ("Each style is controlled by an ibook passage (e.g., a Java program) which implements that style."); Ex. 1005, 3 (copyright page of Meyer showing 1997 date); *see also* Ex. 1024 ¶¶ 40–46 (testimony showing that Meyer is a 1997 publication). Indeed, Dr. Malek testified at deposition that "a [person of ordinary skill in the art] would have had knowledge of Java because Java was a very popular programming language, especially in the late '90s, and they would have had knowledge of Java and its role in web developments." Ex. 1031, 18:6–14.

(3) Determination for Preamble and Recitation 1(a)

Based on Petitioner's persuasive argument and evidence, summarized and addressed above, we determine that the subject matter of the preamble and recitation 1(a) would have been obvious to a person of ordinary skill in the art based on the asserted combination of prior art. In particular, we find that Reynolds's ibook creation disclosures teach "[a] method to allow users to produce Internet websites on and for computers having a browser." Reynolds "relates to the Internet, and more particularly, to techniques for creating and viewing material on the World Wide Web in the form of an interactive Web book." Ex. 1003, 1:5–8; *see* Pet. 22 (discussing this disclosure). Furthermore, "[m]aterial in an ibook is preferably organized in

the form of Web pages.” Ex. 1003, 1:30–31, *cited in* Pet. 25–26. Reynolds further discloses that an ibook client computer has a web browser. Ex. 1003, 5:31–33, Fig. 3; *see* Pet. 23–24 (discussing this disclosure).

As discussed above, Petitioner’s proposed combination with Meyer to implement Java is persuasive, and, therefore, the combination teaches a virtual machine because the “Java Virtual Machine is the name of the engine that actually executes a Java program” and “is at the core of the Java programming language.” Ex. 1005, 17 (p. 5); *see* Pet. 26 (discussing this disclosure).

As discussed in detail above, the asserted combination teaches “presenting a viewable menu” of selectable settings, as in recitation 1(a). And we agree with Petitioner that, because the viewable menu is implemented in a Java applet, the selectable settings in the menu “correspond[] to commands to said virtual machine,” as in recitation 1(a). *See* Pet. 48.

For the reasons discussed above, Petitioner has presented persuasive reasoning to combine the references in the manner asserted.

b) Recitation 1(b)

Claim 1 recites that the method comprises “(b) generating a display in accordance with one or more user selected settings substantially contemporaneously with the selection thereof.” Petitioner argues that Bernardo’s “preview” feature teaches this subject matter. Pet. 52–54 (citing Ex. 1004, 4:19–21, 8:56–62, 10:5–13, Fig. 8; Ex. 1002 ¶¶ 97–99). Bernardo explains that its web page creation tool “permits authorized content creators to preview proposed content as it is being created by rendering pages on-the-fly.” Ex. 1004, 4:19–21, *quoted in* Pet. 52. Bernardo further explains that its “preview function may enable the user to view the Web page as it is

created” and “enables pages/objects to be rendered on-the-fly.” Ex. 1004, 4:19–21, 10:6–13; *see* Pet. 52 (discussing this disclosure). Petitioner contends that Bernardo’s preview feature meets each of the following constructions for “substantially contemporaneously”: “happening at the same period of time from a human perspective,” “occurring immediately after,” and “substantially in the same time period, from a human perspective.” Pet. 53; *see also* Pet. 17 (identifying these constructions).

Petitioner argues that a person of ordinary skill in the art would have been motivated to include Bernardo’s preview feature in the ibook creation system of Reynolds to improve the user experience by providing “immediate visual feedback on the appearance of ibook webpages” to ibook creators and contributors. Pet. 54–56 (citing Ex. 1002 ¶¶ 101–102).

Patent Owner argues that Bernardo does not disclose a substantially contemporaneous display because any preview is provided upon a separate request that must be made by a user after the user selects a setting. PO Resp. 35–40. According to Patent Owner, “[n]owhere does Bernardo suggest that as a setting for the design of a web page is selected, a visual preview is updated in real time and contemporaneously presented to the user.” PO Resp. 36 (citing Ex. 2009 ¶¶ 46–50). We find, however, that this is precisely what Bernardo teaches by disclosing that its “preview function may enable the user to view the Web page as it is created,” such that, “as various options are selected, a preview of the option(s) selected may be displayed for a user to observe.” Ex. 1004, 10:6–9. Thus, Bernardo expressly discloses generating a preview as options are selected.

Patent Owner speculates that “additional user intervention” is required to generate a preview. PO Resp. 36. Patent Owner contends that Bernardo discloses a static, HTML-only system that “does not do anything without a

user taking an action, such as clicking on a button or a hyperlink,” and that “[a] user of Bernardo would, accordingly, need to click on a link or a button in order to save and retrieve a new page from the web server.” PO Resp. 37 (citing Ex. 2009 ¶¶ 44–52). But this argument ignores the fact that the user in Bernardo does take action by selecting options—“as various options are selected, a preview of the option(s) selected may be displayed for a user to observe.” Ex. 1004, 10:7–9.

Patent Owner’s arguments focus on various disclosures in Bernardo about clicking a “Submit” button to make changes. PO Resp. 37–38 (citing Ex. 1004, 22:19–29, 23:7–14, Fig. 10). Patent Owner argues that, “[a]s changes are not displayed until after a user presses ‘Submit,’ ‘Next,’ or a similar button, the display does not occur substantially contemporaneously with the changes being made, and may not occur at all.” PO Resp. 38. The cited passages discuss publishing pages once they pass security approval. *See* Ex. 1004, 22:32–35 (“When finished, select Process, then click Submit. If the Security/Approval profile for the area specifies zero approval steps, then the new document becomes public immediately.”), 23:12–16 (“After the desired changes have been made, select Yes to Republish the Page, then click Submit. According to another aspect of the invention, when a user edits and republishes a page, the page may become public immediately. It is not necessary to repeat the approval process . . .”). Thus, these passages are about publishing the finished pages, not about “preview[ing] proposed content as it is being created by rendering pages on-the-fly,” as additionally disclosed by Bernardo. *See* Ex. 1004, 4:18–20.

Patent Owner also argues that “Bernardo’s system must communicate with a server over the Internet to send and receive information for the display.” PO Resp. 38–39 (citing Ex. 1004, 5:30–37). According to Patent

Owner, “[g]iven the internet capabilities at the time of Bernardo, numerous requests back and forth during one sitting would be cumbersome and delayed due to slow network speeds,” which allegedly shows that a user of Bernardo makes changes and then “separately requests an updated display.” PO Resp. 39 (citing Ex. 2009 ¶ 50; Ex. 1004, 23:7–14).

Patent Owner’s argument fails because it is based on the incorrect premise that communication in Bernardo “must” occur over the Internet. The specific passage of Bernardo cited by Patent Owner (Ex. 1004, 5:30–37) does not mention the Internet at all much less as the only network used by Bernardo’s clients to communicate with a server. Bernardo later states that user “[t]erminal 126 and server 114 can be in communication via a network 154 (e.g., Internet, Intranet or other network).” Ex. 1004, 5:59–61; *see* Pet. Reply 15 (citing Ex. 1030 ¶ 33; discussing Bernardo’s “intranet” disclosure). Dr. Madisetti testifies that local area networks (LANs) would have provided faster speeds than the public Internet because computers in LANs communicate over shorter distances through a controlled network that does not have the complexity associated with routing communications over the Internet. Ex. 1030 ¶ 33. Dr. Madisetti further explains that a configuration in which processing occurs at the server rather than at the client (a so-called “thin client”/“fat server” arrangement) might actually provide faster page displays because a server in a LAN might have much greater processing and storage than the client, which would more than make up for delays communicating over the LAN. Ex. 1030 ¶ 33 (citing Ex. 1034 at 7 (“fat server”), 12 (“thin client”) & n.7. This evidence shows that any network speed issues do not undermine Bernardo’s express disclosure that a preview is generated “as various options are selected.” Ex. 1004, 10:7–9.

For all of the above reasons, we find that Bernardo teaches “generating a display in accordance with one or more user selected settings substantially contemporaneously with the selection thereof” under all three proposed constructions of “substantially contemporaneously”: “happening at the same period of time from a human perspective,” “occurring immediately after,” and “substantially in the same time period, from a human perspective.”

We additionally note that, even if a user in Bernardo had to click an extra button to create a preview, this does not distinguish over the claimed subject matter. For example, Patent Owner’s attempted distinction over Bernardo is that a preview “would only happen after a user made multiple selections and requested an updated preview.” PO Resp. 36. But clicking a “Submit” button can be considered the selection of multiple settings at once, which is encompassed by the claim’s recitation of “generating a display in accordance with one *or more* user selected settings” (emphasis added). Indeed, two of the parties’ proposed constructions provide that whether something is displayed “substantially contemporaneously” is determined “from a human perspective,” and a human very well may perceive that he or she is simultaneously selecting more than one setting when clicking a “Submit” or “OK” button after marking individual settings to be changed.

In view of the foregoing and based on Petitioner’s persuasive contentions and evidence, we find that Bernardo discloses “generating a display in accordance with one or more user selected settings substantially contemporaneously with the selection thereof.” We also are persuaded by Petitioner’s contentions that it would have been obvious to combine Bernardo’s preview feature with Reynolds’s ibook creation teachings to “improve[] the user experience of Reynolds’ system by providing ibook

creators and contributors with immediate visual feedback on the appearance of ibook webpages.” *See* Pet. 55 (citing Ex. 1002 ¶ 101). Based on Petitioner’s persuasive argument and evidence, summarized and addressed above, we determine that the subject matter of recitation 1(b) would have been obvious to a person of ordinary skill in the art based on the asserted combination of prior art.

c) Recitation 1(c)

Claim 1 recites that the method comprises “(c) storing information representative of said one or more user selected settings in a database.” Petitioner argues that “Reynolds discloses the claimed ‘database’ in the form of ibook Web pages database 76.” Pet. 56 (citing Ex. 1003, 7:36–39, 11:31–40). Petitioner contends that, “[i]n the combination of Reynolds and Bernardo, it would have been obvious to ‘stor[e] information representative of said one or more user selected settings in a database,’ by storing the user selections made through the viewable menus (*see* claim 1[a] above) in Web pages database 76 of Reynolds.” Pet. 56 (citing Ex. 1002 ¶ 104). Petitioner also cites Witkowski to satisfy a “longer definition” of database and provides reasons that a person of ordinary skill in the art would have combined Witkowski’s database teachings with Reynolds, including that Reynolds discloses the use of a relational database, thereby “provid[ing] an express motivation.” Pet. 58–60 (citing Ex. 1003, 15:30–37; Ex. 1007, 1:20–25; Ex. 1002 ¶¶ 107–108).

Patent Owner argues that Petitioner’s contentions are “inconsistent and difficult to discern” because Petitioner relies on Reynolds alone, the combination of Reynolds and Bernardo, and the combination of Reynolds and Witkowski for the subject matter of recitation 1(c). PO Resp. 42. According to Patent Owner, Petitioner does not address what settings would

be stored in the database or how they would be stored. PO Resp. 43–44. And Patent Owner refers to its arguments for recitation 1(a) that the combination does not teach “user selected settings.” PO Resp. 42–43.

We disagree with Patent Owner’s characterization of Petitioner’s contentions as “inconsistent and difficult to discern.” *See* PO Resp. 42. Petitioner’s contentions, summarized above, are set forth with specificity and are straightforward. *See* Pet. 56–60. Patent Owner acknowledges that “Reynolds discusses the storage of passage content in the database.” PO Resp. 43 (citing Ex. 1003, 9:27–47). Petitioner’s contention is simply that any user-selected settings for website elements would be stored in the database with the elements, which are passages in the case of Reynolds. Pet. 56–57 (citing Ex. 1002 ¶ 104). This makes sense in the context of Reynolds. For example, as discussed above in § II.D.2.a, Reynolds discloses passages that are text and an authoring tool that provides “standard word processing functions for entering text” (Ex. 1003, 7:24–28), and Bernardo discloses “Text Color” as one option for text (Ex. 1004, Fig. 8). We agree with Petitioner that it would have been obvious to store information representative of a setting, such as a text color selection, in a database with the element to which the setting pertains. *See* Pet. 56–57 (citing Ex. 1002 ¶ 104).

Patent Owner faults Petitioner for not explaining “how exactly [the settings] would be stored in a database.” PO Resp. 43 (citing Ex. 2009 ¶¶ 53–56); *see* Ex. 2009 ¶ 56 (“[T]o assert that because storing X in a database is disclosed, that storing Y in the same database would be obvious, is not substantiated in the general case without additional explanation. There is no disclosure in Reynolds or Witkowski of storing information representative of one or more user selected settings describing elements of a

website in a database.”). Demonstrating obviousness of the subject matter does not require proposing a specific design for a database; rather, “the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *MCM Portfolio*, 812 F.3d at 1294.

Reynolds’s express disclosure of storing passage content in a database, as acknowledged by Patent Owner (PO Resp. 43), teaches, or at least suggests, storing data pertaining to the passages as well. *See* Ex. 1003, 9:30–32 (“Information regarding the content of passages 152 (‘passage characteristics’) is preferably also stored during passage creation.”).

Claim 1 recites “a database,” and Patent Owner acknowledges that “Reynolds discusses the storage of passage content in the database.” PO Resp. 43 (citing Ex. 1003, 9:27–47). Thus, there is no dispute that Reynolds teaches a database. Petitioner relies on Witkowski to teach a database under a “longer definition” of that term, but neither party advocates for this construction. Because there is no dispute that Reynolds teaches a database, we need not rely on Witkowski’s additional database disclosures.

Nevertheless, we agree with Petitioner that Reynolds’s express disclosure of storing passage information in a relational database provides a reason to combine Witkowski’s relational database teachings with Reynolds’s teachings. *See* Pet. 59 (“Reynolds itself provides an express motivation by explaining that information concerning ibook passages could be stored using any number of techniques, including ‘as a set of relations and tables in a suitable relational database.’ (Reynolds, 15:30-37.)” (emphasis omitted)); *see also* Ex. 1007, 1:20–25 (Witkowski’s disclosures with respect to “relational database systems”).

Based on Petitioner’s persuasive argument and evidence, summarized and addressed above, we determine that the subject matter of recitation 1(c)

would have been obvious to a person of ordinary skill in the art based on the asserted combination of prior art.

d) Recitations 1(d) and 1(e)

Claim 1 recites that the method comprises

(d) generating a website at least in part by retrieving said information representative of said one or more user selected settings stored in said database; and

(e) building one or more web pages to generate said website from at least a portion of said database and at least one run time file, where said at least one run time file utilizes information stored in said database to generate virtual machine commands for the display of at least a portion of said one or more web pages.

Petitioner argues that “Reynolds’ navigation tool 84 running in the browser generates an ibook website by retrieving passages from Web pages database 76, which include content representing selections made by the user.” Pet. 60; *see* Pet. 60–63 (citing Ex. 1003, 7:24–31, 7:57–8:11, 8:53–55, 11:24–26, 11:28–39, Fig. 7; Ex. 1002 ¶¶ 109–111). Petitioner argues that Reynolds’s ibook web pages are built with passages from the ibook database, thereby teaching “building one or more web pages to generate said website from at least a portion of said database,” as recited in step (e). Pet. 63–64 (citing Ex. 1003, 1:29–30, 7:36–37, 11:24–39, Fig. 7; Ex. 1002 ¶ 112). Referring to its contentions for the “virtual machine” in recitation 1(a), Petitioner argues that “it would have been obvious to implement navigation tool 84 of Reynolds as a Java applet.” Pet. 66 (citing Ex. 1002 ¶ 115). According to Petitioner, Reynolds’s navigation tool 84, when executed in the browser, “(a) downloads passages from ibook Web pages database 76, (b) builds web pages from the passages, and (c) presents those web pages to the user,” and, therefore, the combination teaches “at

least one run time file utilizes information stored in said database . . . for the display of at least a portion of said one or more web pages,” as recited in step (e). Pet. 66 (citing Ex. 1003, 11:24–40; Ex. 1002 ¶ 114). Furthermore, Petitioner contends that navigation tool 84, implemented as a Java applet, would “generate virtual machine commands,” as recited in step (e). Pet. 66 (citing Ex. 1002 ¶ 115).

Patent Owner interprets Petitioner’s contention to be that “a user request to view a specific passage or passages” using the navigation tool is the recited “content representing selections made by the user.” PO Resp. 45 (citing Pet. 63). Based on this interpretation, Patent Owner contends that “Petitioner improperly conflates ‘user selections’ with ‘user selected settings.’” PO Resp. 45. Patent Owner misinterprets the Petition, which is referring to selections of settings made by the user with respect to recitation 1(a). *See, e.g.*, Pet. 62 (“As combined with Bernardo, Reynolds’ system generates the web pages for an ibook website by retrieving user selections from ibook Web pages database 76. (EX1002, ¶110-111.).”).

As to recitation 1(e), Patent Owner argues that the district court constructions of “run time file” “contain the limiting phrase ‘downloaded or created [...] when a browser is pointed to a web page.’” PO Resp. 47 (alterations by Patent Owner; citing Pet. 16). Patent Owner argues that Reynolds’s navigation tool does not qualify as a “run time file” because it is downloaded separately “*before* a user decides to connect to any ibook server or system in order to read content,” not “when a browser is pointed to a web page.” PO Resp. 47 (Ex. 1003, 5:28–35). This argument, however, fails to account for Petitioner’s contentions that “it would have been obvious to implement navigation tool 84 of Reynolds as a Java applet.” Pet. 66 (citing Ex. 1002 ¶ 115). Meyer explains that “[a]pplets are mini-applications

written in the Java language that are downloaded over the Internet on the fly, and executed on the user's local computer.” Ex. 1005, 16 (p.4); *see* Pet. 26–27 (discussing this disclosure). Thus, in a Java applet implementation, the navigation tool would be downloaded “on the fly” when needed, i.e., “when a browser is pointed to a web page or website.”

In its Sur-reply, Patent Owner argues that, although the Petition includes the argument that it would have been obvious to implement Reynolds navigation tool as a Java applet, “the Petition proposed no modifications to Reynolds relating to delivery of that Java applet.” PO Sur-reply 3 (citing Pet. 66). As discussed in the preceding paragraph, however, Meyer explains how Java applets are loaded, and Petitioner relies on this disclosure in its proposed combination. *See* Pet. 26–27 (citing Ex. 1005, 16 (p. 4)). Thus, a module implemented as a Java applet would be downloaded as prescribed in Java. *See* Ex. 1005, 16 (p. 4) (“Applets are mini-applications written in the Java language that are downloaded over the Internet on the fly . . .”).

As to Patent Owner's arguments that there would have been no reason to combine Meyer's Java teachings and Reynolds's teachings (PO Resp. 47, 50–52), we disagree for the reasons discussed in § II.D.2.a.2 above.

Patent Owner also argues that Petitioner's obviousness theory is at odds with a previous Board decision. PO Resp. 47–50 (citing IPR2018-00750, Paper 10 (Ex. 1032)). Patent Owner quotes the following language from that decision: “if SilverStream stores and retrieves pre-built webpages from the database to meet steps (c) and (d) as Petitioner asserts, then Petitioner has not shown how SilverStream can also satisfy step (e)'s requirement of building those webpages.” PO Resp. 48–49 (quoting Ex. 1032, 15). Patent Owner argues that Petitioner's contentions are

similarly faulty because Reynolds “at most stores *pre-built* HTML pages of previously created or modified ibook passages and related content.” PO Resp. 49.

We disagree with Patent Owner’s argument because Reynolds discloses retrieving passages that are part of a web page in order to generate the web page. Reynolds discloses that “[m]aterial in an ibook is preferably organized in the form of Web pages” and that, “[w]ithin each Web page, material may be organized in passages.” Ex. 1003, 1:29–30, 1:33–34; *see also* Ex. 1003, 7:36–37 (“The material contributed to an ibook is contained in one or more Web pages.”), 7:66–67 (“Web pages 142, 144, 146, 148, and 150 are preferably organized in the form of one or more passages 152.”). Reynolds explains how the navigation tool displays passages as follows:

As the user navigates through an ibook using navigation tool 84, navigation tool 84 transmits certain access information to server 56, making requests to view material. The steps involved in processing and storing the access information are shown in FIG. 9. At step 198, the user at client 60 determines which passage is to be viewed, for example, by using the various buttons provided by navigation tool 84 (FIG. 8). Navigation tool 84 preferably generates a request to view a desired passage and transmits this request to server 56 at step 200. Server application 64 at server 56 receives the request and locates the requested passage in ibook Web pages database 76 at step 202. At step 204, server 56 records information about the access request, such as a time and date entry identifying when the requested access took place. Server 56 transmits the requested passage to client 60 at step 206. Client 60 displays the passage and may make a time and date entry in local access database 92 at step 208.

Ex. 1003, 11:24–40. Referring to this passage, Petitioner argues that “generating the website includes building the web pages that make up that website, which in turn involves combining passages to build those web

pages.” Pet. 64 (citing Ex. 1002 ¶ 112; Ex. 1003, Figs. 7, 8). We agree with Petitioner because the quoted passage from Reynolds shows that the navigation tool requests and receives a desired passage and displays that passage so as to generate the web page the user is viewing. This disclosure specifically says that passages, not pre-built web pages, are retrieved. Thus, we disagree with Patent Owner’s attempted distinction.

Based on Petitioner’s persuasive argument and evidence, summarized and addressed above, we determine that the subject matter of recitations 1(d) and 1(e) would have been obvious to a person of ordinary skill in the art based on the asserted combination of prior art.

e) Conclusion for Claim 1

For the reasons discussed above and based on Petitioner’s contentions and evidence, we are persuaded that the subject matter of claim 1 would have been obvious to a person of ordinary skill in the art based on the combined teachings of Reynolds, Bernardo, Meyer, and Witkowski.

*E. Obviousness over
Reynolds, Bernardo, Meyer, Witkowski, and Coombs*

Petitioner asserts that claim 1 is unpatentable under 35 U.S.C. § 103(a) over the combined teachings of Reynolds, Bernardo, Meyer, Witkowski, and Coombs. Pet. 69–75.

Coombs, titled *Setting up an Internet Site for Dummies*, describes steps for setting up a web site. Ex. 1006, 22, 38–48 (pp. 3, 29–39). Petitioner presents evidence that Coombs was published before the December 2, 1999, filing date of the ’397 patent. See Ex. 1024 ¶¶ 47–54; Pet. 20. Patent Owner does not challenge the prior art status of Coombs. Based on Petitioner’s evidence regarding the publication of Coombs, we determine that it is prior art to the ’397 patent.

Petitioner notes that “Reynolds does not expressly use the word ‘website’ to describe the collection of ibook web pages” and argues that, “to the extent that Patent Owner were to argue that ‘website’ requires web pages be accessed using a separate and dedicated domain name (such as ‘www.domainname.com’),” this would have been obvious. Pet. 71 (emphasis omitted). In particular, Petitioner argues that “it would have been obvious to a skilled artisan to implement the ibook system” based on the asserted combination “under a separate domain name,” which “would have predictably resulted in the ibook web pages being accessible under a dedicated domain name, for example, a URL in a form such as <http://www.reynoldsibook.com>.” Pet. 72 (citing Ex. 1002 ¶¶ 124–128). Petitioner argues that a person of ordinary skill in the art would have had various reasons to apply Coombs’s teachings in this manner, including that “a domain name provides a simple and easy way for visitors to reach a website” and allows a user to register the website with search engines. Pet. 73–75 (citing Ex. 1002 ¶¶ 125–128; Ex. 1003, 3:17–21, 14:15–21; Ex. 1006, 34, 95, 98, Fig. 12-2 (pp. 25, 246, 249)).

Patent Owner argues that Petitioner’s reliance on Coombs shows that Petitioner is “implicitly conceding that the Reynolds tool is directed to ibooks, not websites, and certainly not to user-selectable settings of website elements or dynamically building webpages at runtime based on those settings.” PO Resp. 52–53. Petitioner did not concede that Reynolds fails to teach producing websites; rather Petitioner argues that “Reynolds thus discloses ‘[a] method to allow users to produce Internet websites,’ as recited in the preamble.” *See* Pet. 23 (alteration by Petitioner). For the reasons discussed above in § II.D.2.a, Petitioner’s contention is persuasive. Therefore, Coombs’s disclosure is not necessary to conclude that claim 1 is

unpatentable. Nevertheless, Petitioner's contentions based on Coombs are persuasive, and we conclude that it would have been obvious to a person of ordinary skill in the art to make Reynolds's ibook accessible under a separate and dedicated domain name in light of Coombs's teachings for the reasons given by Petitioner. *See* Pet. 69–75.

Based on Petitioner's persuasive contentions and evidence, we conclude that the subject matter of claim 1 would have been obvious to a person of ordinary skill in the art based on the combined teachings of Reynolds, Bernardo, Meyer, Witkowski, and Coombs.

F. Other Arguments

Patent Owner argues that we should reject Petitioner's challenges based on the number of prior art references asserted in the proposed combinations. PO Resp. 53–58. According to Patent Owner,

[e]ven if Petitioner's Grounds 1 and 2 were not deficient for the reasons discussed above, they should still be denied because both fail to show a likelihood that it was obvious to combine this large number of references (four in the case of ground 1, five in the case of ground 2) in order to allegedly meet the claims.

PO Resp. 53.

We disagree. Patent Owner identifies no per se limit on the number of references in a combination that may demonstrate obviousness. *Cf. In re Gorman*, 933 F.2d 982 (Fed. Cir. 1991) (affirming a rejection based on 13 references and rejecting the argument that the number of references “itself weighs against a holding of obviousness”). According to the Supreme Court, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

We have addressed Petitioner’s rationales to combine the references in the manner asserted, and we find them persuasive for the reasons discussed in detail above.

Furthermore, Patent Owner’s argument overstates the nature of Petitioner’s reliance on four or five references. Petitioner relies on Witkowski to address a potential interpretation of “database” that neither party advocates. *See* Pet. 57–58. As discussed above, in § II.D.2.c, there is no dispute that Reynolds discloses a database, and, therefore, Witkowski is not even necessary in the combination, leaving essentially a three-reference combination. And as noted above in § II.E, Coombs’s disclosure is not necessary to conclude the claims are unpatentable because Petitioner has shown that Reynolds teaches a website.

Thus, we decline Patent Owner’s invitation to reject Petitioner’s patentability challenges based on the number of references asserted.

Patent Owner also criticizes Petitioner and Dr. Madisetti for allegedly engaging in impermissible hindsight and not evaluating the references fully. PO Resp. 16–23. For the reasons explained in detail above, we find that Petitioner has provided adequate rationales to combine the asserted prior art references, and, therefore, we disagree that Petitioner relied on impermissible hindsight.

Patent Owner also criticizes Dr. Madisetti for answers he gave at deposition. PO Resp. 20–22 (citing Ex. 2011, 80:7–13, 96:22–97:5, 99:2–9, 100:10–15, 102:12–18, 103:9–16, 106:15–107:18, 131:16–21). For example, Patent Owner argues the following:

When asked why one would look to use Bernardo’s template-and-menu system in Reynolds, Petitioner’s expert stated, “this way you would be able to provide the user a selectable panel of settings of a – a menu from which they can

select from.” [Ex. 2011], 80:7-13. In other words, ***the benefit of Bernardo, according to Petitioner’s expert, is solely that it picked up a missing piece of claim 1.*** This is the definition of impermissible hindsight analysis and gap filling.

PO Resp. 22. But Bernardo expressly discloses presenting a menu “[t]o facilitate modifying the site.” Ex. 1004, 9:48–54; *see* Pet. 35–36 (discussing this disclosure). Thus, Bernardo itself identifies such a benefit. We have reviewed the other deposition exchanges cited by Patent Owner, and we find that they do not undermine Dr. Madisetti’s credibility.

Patent Owner further argues that pages 11–14 of Petitioner’s Reply contains impermissible new argument concerning Bernardo’s Figure 25 that the Petition does not rely on. PO Sur-reply 1–4. Petitioner relies on Bernardo’s Figure 25’s disclosure of Java in its Reply to respond to Patent Owner’s argument that Bernardo is an HTML-only system that cannot be combined with Reynolds and Meyer. Pet. Reply 11–14 (citing PO Resp. 25–26). Because we do not rely on Bernardo’s Figure 25 embodiment in our analysis above, Patent Owner’s concerns about impermissible new argument are moot.

G. Due Process

Patent Owner includes a section in its Response titled “Substitution of Judges in This Proceeding is a Violation of Express Mobile’s Due Process Rights.” PO Resp. 58–59. After institution, a Panel Change Order issued, stating that, “[d]ue to unavailability, Administrative Patent Judge Mitchell G. Weatherly replaces Administrative Patent Judge Kristi L. R. Sawert on the panel.” Paper 14 at 2. Patent Owner states that this change “implicates due process concerns,” and Patent Owner “reserves all rights with respect to the PTO’s decision to reconstitute the composition of the panel in this case,

and with respect to any panel expansion that has already occurred or might occur in this proceeding.” PO Resp. 58–59. Patent Owner, however, has not alleged any specific due process violation stemming from the unavailability of one of the panelists, and 35 U.S.C. § 6(c) requires that each “inter partes review shall be heard by at least 3 members of the Patent Trial and Appeal Board,” necessitating a replacement panelist for the unavailable panelist. Therefore, we consider any argument by Patent Owner asserting a due process violation to have been forfeited. *See* Paper 11 at 9 (“Patent Owner is cautioned that any arguments not raised in the response may be deemed waived.”).

III. CONCLUSION¹¹

For the reasons discussed above, we determine that Petitioner has proven, by a preponderance of the evidence, that claim 1 of the ’397 patent is unpatentable, as summarized in the following table:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1	103(a)	Reynolds, Bernardo, Meyer, Witkowski	1	
1	103(a)	Reynolds,	1	

¹¹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

		Bernardo, Meyer, Witkowski, Coombs		
Overall Outcome			1	

IV. ORDER

Accordingly, it is

ORDERED that claim 1 of the '397 patent has been shown to be unpatentable; and

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

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