

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

SPRING VENTURES LTD.,
Patent Owner.

Case IPR2017-01653
Patent 8,661,094 B2

Before MICHAEL R. ZECHER, MINN CHUNG, and SCOTT E. BAIN,
Administrative Patent Judges.

BAIN, *Administrative Patent Judge.*

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

I. INTRODUCTION

Google Inc. (“Petitioner”), filed a Petition requesting an *inter partes* review of claims 1–16 of U.S. Patent No. 8,661,094 B2 (Ex. 1001, “the ’094 patent”). Paper 1 (“Pet.”). Spring Ventures, Ltd. (“Patent Owner”), filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). In our Decision on Institution (Paper 11, “Dec. on Inst.”), we determined that the information presented in the Petition and Preliminary Response established a reasonable likelihood that the Petitioner would prevail in its challenge of claims 1–13, 15, and 16 of the ’094 patent as unpatentable under 35 U.S.C. § 103 and, accordingly, we instituted *inter partes* review as to those claims. *See* 35 U.S.C. § 314(a).¹ Subsequently, pursuant to *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018) and the Office’s April 26, 2018 Guidance on the Impact of *SAS* on AIA Trial Proceedings, we issued an Order modifying the Decision on Institution to institute “on all of the challenged claims . . . on all grounds presented in the Petition.” Paper 16.

During the course of trial, Patent Owner filed a Patent Owner Response (Paper 22, “PO Resp.”), and Petitioner filed a Reply to Patent Owner Response (Paper 42, “Pet. Reply”). Patent Owner also filed a contingent Motion to Amend (Paper 23, “Amend Mot.”), to which Petitioner filed an Opposition (Paper 43, “Amend Opp.”) and Patent Owner filed a Reply (Paper 51, “Amend Reply”). Petitioner also filed a Motion to Exclude Evidence (Paper 53, “Pet. Mot. Excl.”), Patent Owner filed a Motion to

¹ We initially declined to institute an *inter partes* review as to claim 14 because we were unable to ascertain the scope and meaning of one limitation in the claim. Paper 11, 23.

Exclude Evidence (Paper 55, “PO Mot. Excl.”), and both parties filed an Opposition to the other’s Motion to Exclude Evidence (Paper 59, Paper 60). Petitioner filed Observations (Paper 57) and Patent Owner also filed Observations (Paper 58). Each party also filed a response to the other’s Observations. Papers 61, 62. A hearing was held on October 18, 2018, and a transcript of the hearing is included in the record. Paper 67 (“Tr.”).

This decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–16 of the ’094 patent. We have jurisdiction under 35 U.S.C. § 6. For the reasons discussed below, we hold that Petitioner has demonstrated by a preponderance of the evidence that claims 1–16 of the ’094 patent are unpatentable under § 103(a). In addition, we *deny* each party’s Motion to Exclude Evidence, and we *deny* Patent Owner’s Motion to Amend.

A. Related Matters

The parties represent that the ’094 patent is involved in a district court case captioned *Spring Ventures Ltd. v. Google Inc.*, No. 1:16-cv-00470-GMS (D. Del.). Pet. 4; Paper 3, 2. Also, in addition to this Petition, Petitioner filed another petition challenging the patentability of claims 1–16 of the ’094 patent, but trial was not instituted in that case. Case IPR2017-01652, Paper 10.

B. The ’094 Patent

The ’094 patent, titled “WWW Addressing,” issued February 25, 2014, from U.S. Patent Application No. 12/316,050, filed on December 8, 2008. Ex. 1001 at [54], [45], [21], [22]. The ’094 patent is a continuation of U.S. Patent Application No. 09/529,792, which was filed as No.

PCT/IL99/00055 on January 28, 1999 and is now U.S. Patent No. 7,596,609 B1. *Id.* at [63].

The '094 patent generally relates to worldwide web (“WWW”) page retrieval and, in particular, to performing such retrieval using a minimally restrictive syntax. Ex. 1001, 1:11–13. As background, the '094 patent discloses that the worldwide web is a set of protocols allowing a user to exchange information (web pages) between the user’s computer and other computers, typically using a program called a browser. *Id.* at 1:17–19. The user may retrieve (download) a web page stored on a different “host” computer on the Internet, by opening the browser on the user’s computer and entering a URL (“Uniform Resource Locator”). *Id.* at 1:17–23. According to the '094 patent, a host is mapped to one or more domain names, and a URL includes the domain name of the host (i.e., the website) where the web page is located. *Id.* at 1:23–32. The '094 patent further discloses that (under then-current Internet standards) the naming conventions for domains, websites, and URLs are restricted, such as allowing only the alphanumeric characters from the Latin Character Set (“ISO Latin 1”) and the hyphen character in a web address. *Id.* at 1:33–46. A website address may identify the website owner (e.g., “http://www.ibm.com”). *Id.* at 1:46–52.

The '094 patent discloses that at least one problem in many countries is that English is not the native language and the Latin alphabet is not used, and, as a result, “[m]eaningful WWW addresses in such countries are typically created by transliterating the name of the site owner into Latin letters.” *Id.* at 1:57–60. Unfortunately, many native languages do not have an acceptable and widely known standard of transliteration. *Id.* at 1:60–61. There may be several plausible transliterations for a single name, thereby

resulting in several possible meaningful addresses, only one of which is correct. *Id.* at 1:61–63.

Another problem addressed by the '094 patent is that “the current [WWW] address name scheme is not user friendly.” Ex. 1001, 1:65–66. In countries where most people do not speak English, the use of certain letters and/or English spelling conventions may be burdensome to many users, especially inexperienced users. *Id.* at 1:66–2:2. In many cases, there is no direct relationship between the name of the website owner and the address of the owner’s website. *Id.* at 2:2–4. Nor is guessing the address typically an option. *Id.* at 2:4–5. In countries where transliteration is required, even if a meaningful WWW address is created, there is still no guarantee that a user will correctly transliterate that name from the user’s native language. *Id.* at 2:5–9. In many cases, the website address may be a mnemonic so that it is easier to remember. *Id.* at 2:9–11. Nonetheless, it is often impossible to reconstruct the correct address (in Latin characters) from the name of the website owner. *Id.* at 2:11–12.

The '094 patent purports to address these and other problems by enabling a user to retrieve a website by entering a “substantially free-form designation of [the site], preferably in the user’s native language,” instead of having to enter the exact address of the site or using a search engine. Ex. 1001, 8:43–48. This free-form information is entered by the user in the same way in which a standard URL would be entered. *Id.* at 5:50–52. As one example, this free-form information may be “entered into a window overlaying [the] browser” window. *Id.* at 5:52–55.

Figure 3 of the '094 patent, reproduced below, illustrates a schematic block diagram of a website “translator” configuration in accordance with one embodiment of the invention. Ex. 1001, 8:24–26.

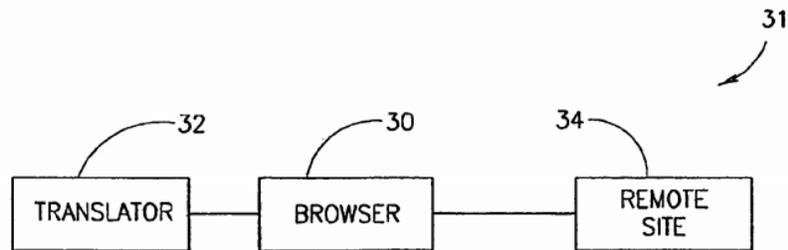


FIG. 3

Figure 3 illustrates system 31 that includes translator 32 acting as a front end to browser 30, which, in turn, downloads web pages from remote site 34. *Id.* at 9:35–37. In one embodiment, translator 32 includes a separate input window overlaid on at least a portion of the browser window. *Id.* at 9:37–40. This separate window remains on top of the browser window and has a fixed relationship to at least one feature of the browser display. *Id.* at 9:40–42. This separate input window also provides font and data entry support for non-Latin character sets, even if the underlying browser and operating system do not. *Id.* at 9:42–45.

C. The Challenged Claims

Claims 1 and 13 are independent. Each of independent claims 1 and 13 is directed to “[a] method of WWW page retrieval for enabling a user using a computer having a web browser with a browser window having a URL entry field running on the computer and a connection to the Internet to retrieve a desired webpage to the browser.” Ex. 1001, 15:14–18, 16:26–30. Claims 2–12 directly or indirectly depend from independent claim 1; and

claims 14–16 directly depend from independent claim 13. Independent claim 1 is illustrative of the challenged claims and is reproduced below:

1. A method of WWW page retrieval for enabling a user using a computer having a web browser with a browser window having a URL entry field running on the computer and a connection to the Internet to retrieve a desired webpage to the browser, comprising:

(a) enabling a translator input window to be overlaid on a portion of the browser window for allowing a user to enter an input of a non-URL-address text string therein;

(b) enabling a translator entity having software operable on a computer, which translator entity is operatively coupled to the browser and to said translator input window overlaid on the browser window for receiving information of one or more words of an input text string that is not a URL address entered by a user through the translator input window overlaid on a portion of the browser window,

(c) said translator entity being operative to determine a URL address for a web page which is most likely to be a desired webpage associated with the input text string information received from the user, based on statistical data of web pages in web search results for said information; and

(d) said translator entity being operative for sending the URL address to the web browser of the user's computer to enable retrieval of the web page responsive to the URL address to be directly displayed on the user's browser, without any additional user intervention beyond the entry of said input text string information.

Ex. 1001, 15:14–41.

D. Prior Art References Relied Upon

Petitioner relies upon the prior art references set forth in the tables below:

Inventor²	U.S. Patent No.	Relevant Dates	Exhibit No.
Osaku	6,061,738	issued May 9, 2000, filed Oct. 28, 1997	1005
Belfiore	6,009,459	issued Dec. 28, 1999, filed Jan. 10, 1997	1019
Breese	6,006,218	issued Dec. 21, 1999, filed Feb. 28, 1997	1004
Sotomayor	5,842,206	issued Nov. 24, 1998, filed Aug. 20, 1996	1023

Non-Patent Literature	Exhibit No.
Serge Koren, <i>EchoSearch 2.0 finds just what you're looking for</i> , INFO WORLD, May 19, 1997 at 84F (“Koren”)	1022

E. Asserted Grounds of Unpatentability

Petitioner challenges claims 1–16 of the '094 patent based on the asserted grounds of unpatentability (“grounds”) set forth in the table below. Pet. 7–8, 20–63.

References	Basis	Challenged Claims
Belfiore, Koren, and Sotomayor	§ 103(a)	1, 2, 5, 8, 9, and 10
Belfiore, Koren, Sotomayor, and Osaku	§ 103(a)	7, 13, and 14
Belfiore, Koren, Sotomayor, and Breese	§ 103(a)	3, 4, 6, 11, and 12
Belfiore, Koren, Sotomayor, Osaku, and Breese	§ 103(a)	15 and 16

² For clarity and ease of reference, we only list the first named inventor.

II. ANALYSIS

A. *Claim Construction*

In an *inter partes* review proceeding filed before November 13, 2018, claim terms of an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2016); Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (to be codified at 37 C.F.R. pt. 42). Under the broadest reasonable interpretation standard, claim terms are generally given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art, in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In the Decision on Institution, we determined that the only term requiring construction was “translator input window . . . overlaid on a portion of the browser window,” as recited in each of independent claims 1 and 13. Dec. on Inst. 8–11. We construed this term to require “an input window [for translator input] that is separate from the browser window” and “overlays—at least in part—the browser window.” *Id.* at 11. We rejected Patent Owner’s *broader* proposed definition of a “viewing area on a screen” separate from the “input *fields* displayed by the web browser.” *Id.* at 9 (emphasis added). We reasoned that Patent Owner’s proposed definition conflated a “window” with a “field” and would read on a translator input *field within* a browser window, contrary to the plain language of the claims and the specification of the ’094 patent. *Id.* Our construction was consistent

with the construction adopted by the federal district court in the parties' related case. Ex. 1036, 1; *id.* n.2.³

During the trial in this proceeding, the parties have not disputed our prior construction of “translator input window . . . overlaid on a portion of the browser window.” We construed that term to mean “an input window [for translator input] that is separate from the browser window” and “overlays—at least in part—the browser window.” Dec. on Inst. 11. We discern no reason to address or alter that construction for purposes of this Final Written Decision. Our claim construction analysis below focuses only on the additional terms proposed by Patent Owner during the trial.

In its Patent Owner Response, Patent Owner proposes construction of three additional claim terms, which we will discuss together. PO Resp. 10–15. First, Patent Owner contends the term “enabling” a translator input window to be overlaid, as recited in claims 1 and 13, means “*activating a function or feature of software configured to overlay a translator input window over a portion of a browser window whenever a user is able to enter a non-URL-address text string into the translator input window for a web page search.*” *Id.* at 10 (emphasis added). In other words, Patent Owner contends “enabling” means the “overlay occurs . . . as a result of a function designed into or configured by the software, *not as a result of ordinary desktop or user operations*” such as Windows Operating System operations.

³ Our Decision on Institution also declined Petitioner’s invitation to construe the phrase “domain name server sends the web page responsive to the URL address to the user’s web browser,” as recited in claim 14. Dec. on Inst. 12–13. We revisit this issue in our patentability analysis, below (*supra* Sect. II.C).

Id. at 11 (emphasis added). Patent Owner relies on the specification's disclosure that "[i]n a preferred embodiment . . . a resident portion of the translator is activated whenever the browser is started." Ex. 1001, 12:55–57; *id.* at 13:50–52, 13:61–63 ("[i]n a preferred embodiment . . . the translator performs password entry for sites that require a password" or "a user is required to enter a single password to activate this feature"); PO Resp. 10. Patent Owner also relies on a general purpose dictionary (Ex. 2032), which states that one definition of "enable" is "to activate," and on expert testimony that "enabling" software means activating it. PO Resp. 10 (citing Ex. 2028 ("Weadock Decl.") ¶¶ 18–21).

Next, Patent Owner asserts "translator entity," as recited in claims 1 and 13, means an "entity that performs the functions for the 'translator entity,'" which must be "software provided separately from the browser program." PO Resp. 12–13. Patent Owner asserts this construction is consistent with the claim language, which requires "operatively coupling" the translator entity with the browser, and is supported by the disclosures in the specification. PO Resp. 13 (citing Ex. 1001, 7:8–9, 9:35–40, 12:51–54, 13:64–66).

Finally, Patent Owner asserts "operatively coupled" to the browser and to the translator input window should be construed as, "configured to be able to exchange information with both the browser and the translator input window *whenever the input window is overlaid on the browser window to receive the input text string.*" PO Resp. 14–15 (emphasis added). Patent Owner contends the parties "agree that 'operative coupling' in the relevant field refers to the ability of software units to exchange information with other software units." *Id.* at 14. Patent Owner argues that, according to the

disclosures in the specification, the “translator entity is . . . configured to exchange information with the browser not only at [2] for the browser to receive from the translator entity the URL responsive to the input text, but also at [1] the time the translator input window is overlaid over the browser for the translator entity to receive the input text.” *Id.* (citing Ex. 1001, 9:57–61). Patent Owner further relies on expert testimony to support its proposed construction. *Id.* (citing Ex. 2028 ¶ 31; Ex. 2029 (“Wells Decl.”) ¶ 46; Ex. 2051 (“Schnell Decl”) ¶¶ 45–46).

Petitioner responds that Patent Owner’s proposed constructions improperly “rewrite the claims.” Pet. Reply 3. Petitioner asserts that the plain meaning of “enabling” is “providing a capability” to do something, and that the claim language (as well as the testimony of Patent Owner’s expert, Mr. Weadock) confirms this meaning in the context of these claims. Pet. Reply 4 (citing Ex. 1042, 29:19–30:20). Petitioner argues that “enabling” cannot mean “activating” in the claims, as Patent Owner argues, because it would render nonsensical the preamble of claim 1, which recites “enabling a user . . . to retrieve a desired web page.” *Id.* at 4–5. Further, Petitioner argues that Patent Owner’s proposed requirement that “the browser window must be open whenever the translator input is activated” is not recited in the claims themselves, nor are the additional terms in Patent Owner’s proposed constructions of “translator entity” and operatively coupled.” *Id.*

Upon weighing all of the evidence bearing on the foregoing claim limitations, we adopt Petitioner’s construction of “enabling,” and we decline to further construe “translator entity” and “operatively coupled,” beyond the undisputed meanings of those terms, as discussed below.

Regarding the term “enabling” (in claim element 1(a)), we are persuaded by Petitioner’s contention that enabling means allowing or providing a capability of doing something, not “activating” as argued by Patent Owner. The plain language of the claims dictates this meaning. Claim 1, for example, recites a method of “*enabling* a user using a computer . . . to retrieve a desired webpage to the browser.” Ex. 1001, 15:19–20 (emphasis added). In context, this term refers to steps that allow or provide the user capability of retrieving a page. It would make no sense to refer to “activating a user” to retrieve a web page, as Patent Owner’s proposed construction would require. The specification further confirms that “enabling” means allowing or providing the capability of doing something. The specification discloses that one aspect of the invention is “enabling a user to enter a substantially free-form designation [text] of a WWW site.” Ex. 1001, 8:44–45. The extrinsic evidence also supports this construction of “enabling.” Patent Owner’s expert, Mr. Weadock, testified in his deposition that “enable” in claim 13 means “providing a capability.” Ex. 1042, 29:19–30:2. Thus, notwithstanding Patent Owner’s other expert testimony and extrinsic evidence that “enable” can, in some contexts, mean “to activate,” we determine that “enabling” a translator input window to be overlaid in the context of the claims and specification of the ’094 patent means providing the capability of doing so, or allowing that to happen, not “activating” the overlay. Ex. 1001, 15:19–20 (claim 1).

Regarding the terms “translator entity” and “operatively coupled,” Patent Owner’s proposed “claim constructions” do not shed meaning on these terms and are not supported by the record. There is no dispute on this record that the plain and ordinary meaning of “operatively coupled” in

software refers to the ability of software units to exchange information with other software units, and that is the meaning we adopt. PO Resp. 14; Pet. Reply 8–9. Patent Owner’s proposed additional temporal or causal requirement (i.e., “whenever the input window is overlaid”) has nothing to do with the term “operatively coupled” itself. We further discuss this issue in the obviousness analysis below. Similarly, it is undisputed that the plain and ordinary meaning of a “translator entity” is an entity that performs translating. Patent Owner’s further proposed definition (i.e., “an *entity* that performs the functions for the ‘translator *entity*’”) is redundant and nonsensical. Patent Owner’s further argument regarding the alleged “configuration” of a translator entity does not shed meaning on the term “translator entity,” but rather, relates to whether the prior art teaches other limitations in the claims. PO Resp. 12–13. We address these questions in the obviousness analysis below.

*B. Obviousness over Belfiore, Koren, and Sotomayor
(Claims 1, 2, 5, and 8–10)*

1. Principles of Law

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

(i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We analyze the asserted grounds with the above-identified principles in mind.

2. *Level of Skill in the Art*

Relying on the testimony of their respective experts, the parties agree that one of ordinary skill in the art would have had at least an undergraduate degree in computer science or software engineering, and two years of experience with interactive software applications such as web-oriented software or browsers. Pet. 13–14 (citing Ex. 1002 ¶ 11); PO Resp. 17 (citing Ex. 2005 ¶ 14). We adopt this assessment and apply it to the obviousness analysis below.

Patent Owner further argues that a person whose experience constitutes “merely using” web browsers or search engines has less than the level of ordinary skill. PO Resp. 18. Patent Owner asserts that one of ordinary skill, therefore, necessarily should have experience actually “designing, writing, or implementing web based applications.” *Id.* Although we agree with Patent Owner’s premise that “merely using” the foregoing tools (e.g., as an Internet user) does not impart a level of ordinary skill in the art (and does not satisfy our finding in the preceding paragraph), we do not agree that Patent Owner’s conclusion follows that premise. As explained below in our discussion of Patent Owner’s Motion to Exclude Petitioner’s expert testimony, there are other ways of acquiring a level of ordinary skill in the art (and “experience” with interactive software applications) besides “designing, writing, or implementing web based applications,” as Patent Owner alleges. We, therefore, decline to adopt Patent Owner’s additional requirements for one of ordinary skill in the art.

3. Overview of Belfiore (Ex. 1019)

Belfiore discloses automatically initiating a search to locate resources within a distributed environment, particularly those on the worldwide web, in response to a user entering text via a user interface element. Ex. 1019, [57]. In one embodiment, Belfiore discloses an enhanced web browser that includes a search capability. *Id.* The web browser includes a text box in which the user may enter a URL. *Id.* When the user enters a valid URL, the web browser accesses the corresponding website. *Id.* When the user enters text that is *not* a valid URL, however, the web browser may automatically format a search engine query using such text and forward the query to an Internet search engine. *Id.* The search engine then locates webpages containing the query terms and, as one option, may redirect the web browser to the most relevant website discovered in the search. *Id.* An example is shown in Belfiore Figures 11A and 11B, reproduced below.



Fig. 11A

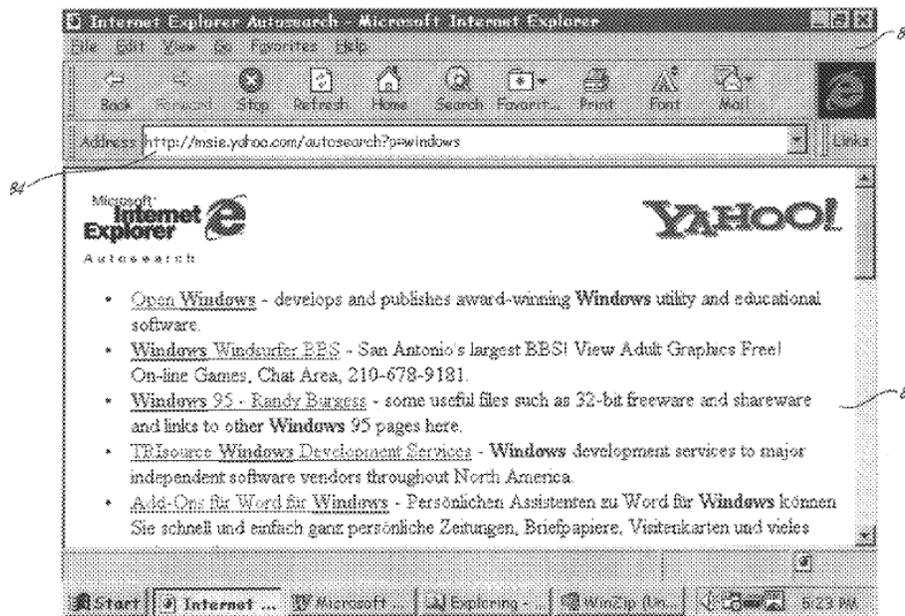


Fig. 11B

Figure 11A depicts browser window 80 with “address” text box 84, in which a user has entered the phrase “Find windows” rather than entering a URL. Ex. 1019, 6:65–7:5. Figure 11B illustrates the resulting page returned to the user, displaying search results for the term “windows.” *Id.* Alternatively, instead of receiving a list of search results, Belfiore discloses that the user can be brought directly to a particular website, such as the highest scoring site in response to the search. *Id.* at 7:5–7:20.

4. Overview of Koren (Ex. 1022) and Sotomayor (Ex. 1023)

The Koren publication and Sotomayor patent both disclose the same “EchoSearch” software program. Koren describes EchoSearch as a stand-alone application that “communicates with the user’s web browser” to display search results *from multiple search engines* via a single interface. Ex. 1022, 2. Koren includes an illustration, reproduced below as it appears in the record (which we label “Figure 1” for reference).

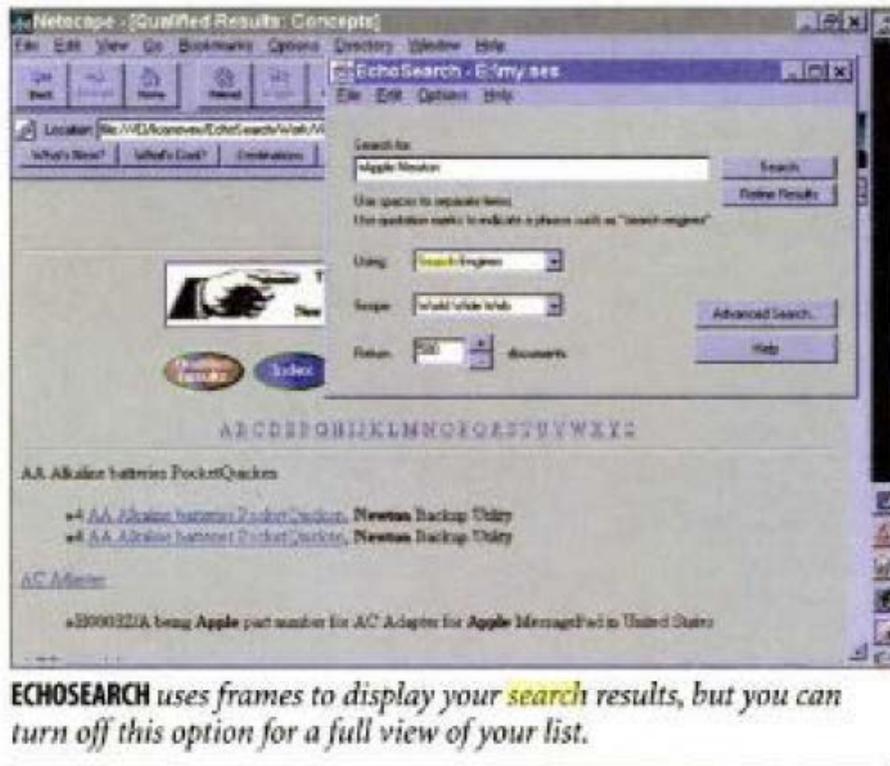


Figure 1

Figure 1 of Koren illustrates an EchoSearch window partially overlaying a Netscape browser window. *Id.* The EchoSearch window includes a text input box, with a corresponding “Search” button, among other selections and menus. *Id.*

Sotomayor further discloses and claims various features of the EchoSearch software. In particular, Sotomayor discloses that the EchoSearch software is “written in Java and is capable of being run on” computers having operating systems that utilize multiple windows, such as “Windows 95, Windows NT, UNIX, or Macintosh.” Ex. 1023, 4:3–7.

*5. Challenged Claims 1, 2, 5, 8, 9, and 10
(Obviousness over Belfiore, Koren, and Sotomayor)*

a. Claim 1

Petitioner argues that independent claim 1 of the '094 patent is unpatentable under § 103(a) over the combined teachings of Belfiore, Koren, and Sotomayor. Pet. 20–39. Petitioner contends that Belfiore teaches a browser enhanced to handle non-URL text input triggering a search and (in coordination with a search engine) directly retrieving a web page from the search results. *Id.* at 21–23. Petitioner further contends that Koren (EchoSearch) teaches a “translator input window” that “overlays” a browser window (with Sotomayor confirming the compatibility of EchoSearch with windows-based operating systems), and in response to non-URL text input, utilizes multiple search engines to search and return results in the browser window. *Id.* at 23–26; Ex. 1022, 2. Petitioner argues it would have been obvious to a person of ordinary skill in the art to combine Belfiore’s enhanced browser with the advanced interface of EchoSearch in order to utilize multiple search engines per query, Pet. 26–29, resulting in a method having all of the elements recited in claim 1, *id.* at 29–39. Further, Petitioner argues a person of ordinary skill in the art using EchoSearch (as taught in Koren and Sotomayor) would recognize the benefits of a method using more focused search results (namely, a redirect to the highest scoring page from a search) as taught in Belfiore. *Id.* at 27; Pet. Reply 15.

In response, Patent Owner argues that the prior art does not teach “*enabling* a translator input window to be overlaid” on a portion of the browser window, as recited in claim 1 (claim element 1(a) as denoted above), because any overlap of EchoSearch with a browser window is due to

“placement . . . by the user” instead of “functionality built into EchoSearch.” PO Resp. 28–29 (emphasis added). Patent Owner further argues that the prior art does not teach a “translator entity . . . *operatively coupled* to the browser and to said translator input window” (claim element 1(b)), because Belfiore’s “Autosearch” functionality is “implemented within the browser software itself.” *Id.* at 30 (emphasis added); *see also id.* at 29–33. Patent Owner further argues the prior art does not teach a translator entity being operative for *sending the URL address to the web browser* of the user’s computer to enable retrieval of the web page responsive to the URL address to be directly displayed on the user’s browser, *without any additional user intervention* (e.g., claim element 1(d)), because (as stated above) Belfiore’s Autosearch is already within the browser itself, and because retrieving a desired page in Belfiore requires a “user choice.” *Id.* at 34–36. Finally, Patent Owner argues that Petitioner has not presented a sufficient motivation or rationale for why one of ordinary skill would have combined the references. *Id.* at 37–49.

Upon consideration of the parties’ arguments and evidence in the record, we find Petitioner has demonstrated by a preponderance of the evidence that Belfiore, Koren, and Sotomayor teach or suggest every element of claim 1, and that one of ordinary skill in the art would have combined the teachings in the references in the manner asserted by Petitioner. We address the parties’ arguments regarding each claim element, in turn.

Claim 1 [preamble]: A method of WWW page retrieval for enabling a user using a computer having a web browser with a browser window having a URL entry field running on the computer and a connection to the Internet to retrieve a desired webpage to the browser . . .

Petitioner asserts that Belfiore teaches the foregoing elements in its description and illustration of a Microsoft Internet Explorer browser including a “browser window having a URL entry field.” Pet. 29–30; Ex. 1002 ¶ 53. Specifically, Petitioner cites Belfiore’s Figure 11A (*see supra* Section II.B.3), which illustrates the foregoing browser with URL entry field and Internet web page displayed. Patent Owner does not contest Petitioner’s assertions regarding this claim element. We agree with Petitioner’s unopposed description of the browser shown in Belfiore Figure 11A, and we find Petitioner has demonstrated by a preponderance of evidence that Belfiore teaches or suggests the elements in the preamble of claim 1.

Claim 1[a]: enabling a translator input window to be overlaid on a portion of the browser window for allowing a user to enter an input of a non-URL-address text string therein . . .

Petitioner asserts that Koren teaches this claim element, because Koren’s Figure 1 (*see supra* Section II.B.4) plainly shows the EchoSearch window overlaying (overlapping on top of) a portion of a Netscape browser window, and the EchoSearch window accepts user input of a “non-URL-address text string” to be translated into an Internet search. Pet. 31–32; Ex. 1002 ¶ 56. According to Petitioner, Sotomayor further confirms that EchoSearch works in windows-based environments (to the extent not readily apparent in Koren). Pet. 31–32.

Patent Owner disputes Petitioner’s contentions. Patent Owner argues that the overlapping windows illustrated in Koren merely are “due to the placement of the EchoSearch interface *by the user* in the standard Windows environment and not because of any functionality built into EchoSearch.” PO Resp. 28 (citing Ex. 1022, 2; Ex. 2043, 158:13–159:14; Ex. 2028 ¶¶ 61–67; Ex. 2029 ¶¶ 46–54; Ex. 2051 ¶¶ 54–55). According to Patent Owner, this claim element requires the translator input window to be overlaid purposely and automatically on the browser window whenever the translator input window is displayed for a search function. PO Resp. 28. Patent Owner argues that “enabling” the overlay requires built-in functionality of the *translator* and further requires “activating” such functionality *whenever* a user is able to enter a non-URL-address text string. PO Resp. 28–29.

We are persuaded by Petitioner’s arguments and evidence. Contrary to Patent Owner’s assertions, there is no requirement in claim 1 that “enabling” must occur independently of the computer’s operating system (such as Windows) and must be limited to operations within the translator program. In other words, the recited “method of . . . enabling” the translator input window to be overlaid may occur via operations of the computer’s operations system running a browser and another program such as EchoSearch. It is immaterial whether a user may have dragged the EchoSearch window over the Netscape browser in Koren’s Figure 1 (and there is no indication in Koren that a user did so) or whether the window opened that way. In either case, Koren plainly depicts enabling a translator input window to be overlaid on a portion of the browser window. Ex. 1022, 2 (Fig. 1). Further, as discussed in our claim construction section (*see supra* Section II.A), “enabling” means providing the capability of doing so, or

allowing that to happen. “Enabling” is not limited to “activating” in the context of the claims and specification of the ’094 patent, as that would be nonsensical.

As Petitioner further demonstrates, Koren discloses that the computer’s operating system recognizes the EchoSearch window as a separate window, corresponding to a “stand-alone application,” Ex. 1022, 2, and Sotomayor confirms that EchoSearch may be run on windows-based operating systems. Ex. 1023, 4:1–7. Moreover, it is undisputed that the input in EchoSearch is a non-URL text string that triggers a search process. Ex. 1022, 2; Ex. 1023, [57]. Similarly, Belfiore teaches a non-URL text string input that triggers a search process for translation of non-URL text.⁴ Accordingly, applying our claim construction of “enabling,” we find Petitioner has demonstrated by a preponderance of evidence that the prior art teaches or suggests claim element 1[a].

⁴ We discuss the rationale for combining the teachings of Belfiore, Koren, and Sotomayor below.

Claim 1[b]: enabling a translator entity having software operable on a computer, which translator entity is operatively coupled to the browser and to said translator input window overlaid on the browser window for receiving information of one or more words of an input text string that is not a URL address entered by a user through the translator input window overlaid on a portion of the browser window . . .

Petitioner asserts that Belfiore teaches a translator entity, in its discussion of Autosearch in combination with a search engine. Pet. 33 (citing Ex. 1002 ¶ 59). Petitioner further asserts that this translator entity, in combination with EchoSearch as taught in Koren or Sotomayor, satisfies this claim limitation because the advanced EchoSearch search window communicates information with the translator entity (in order to translate the search request and perform the search) and the browser (to display results). Pet. 33–34; Ex. 1019, Fig. 4.

Patent Owner disputes Petitioner’s contentions. Patent Owner argues that Petitioner’s “own construction” of Belfiore requires that the “translator input window” of Belfiore “excludes the address box incorporated into a browser tool bar,” and, therefore, “any interaction between Belfiore’s address box and Autosearch/the search engine is not an operative coupling.” PO Resp. 30. Further, Patent Owner argues that Belfiore’s Autosearch functionality must be implemented within the browser software itself and, because the browser cannot be “coupled with” itself, Belfiore cannot teach or suggest this claim limitation. *Id.* at 30–31. Patent Owner cites the testimony of Petitioner’s expert, Dr. Shamos, in support of Patent Owner’s arguments. *Id.* (citing Ex. 2043, 108:22–110:25). Finally, Patent Owner argues that EchoSearch, as taught in Koren and Sotomayor, is not operatively coupled to “the browser” and does not teach sending to the

browser “the most relevant web page . . . to enable retrieval without any additional user intervention.” *Id.* at 32.

We are persuaded by Petitioner’s arguments and evidence. As Petitioner asserts, Belfiore teaches a user-inputted text string into a URL entry field, automatically formatting a search engine query using that text string, forwarding that query to an Internet search engine, and automatically redirecting the browser to the most relevant content. Ex. 1019, [57], Fig. 8B, 6:7–29, 7:5–20. Internet browsers and search engines are, indisputably, comprised of software operable on a computer (whether client, remote server, or otherwise). Ex. 1002 ¶ 59. Accordingly, Belfiore teaches enabling a translator entity having software operable on a computer.

Belfiore further teaches, in combination with Koren and Sotomayor, that the translator entity is operatively coupled to the browser and to the translator input window. The flowchart disclosed in Belfiore’s Figure 4 indicates that, after processing text entered by a user to determine if “Autosearch” must be initiated (because the text is not a valid URL), Autosearch passes a processed version of the entered text to a search engine in order to obtain a list of results or, alternatively, a given web page. Ex. 1019, Fig. 4, 5:13–19. Similarly, Koren and Sotomayor teach that EchoSearch accepts user input for a search, and is separate from an Internet browser. Ex. 1022, 2. In Petitioner’s proposed combination, the translator entity (processing the user input for search, and performing the search) is coupled to the translator input window in order to obtain that user input, and is coupled to the browser in order to output the result. Ex. 1019, Fig. 4; Ex. 1022, 2; Ex. 1002 ¶¶ 61–62. As taught in Belfiore, Koren, and

Sotomayor, all three elements are in communication with one another and, thus, are “operatively coupled.”

Patent Owner argues the browser of Belfiore cannot be coupled to itself, but this argument ignores that in the *combination* of references, the input window is the advanced search window of Koren (the EchoSearch window) and the resulting web page (from the search) would be displayed in the browser of Belfiore. Ex. 1002 ¶ 61. Similarly, Patent Owner argues that Koren and Sotomayor fail to teach that EchoSearch provides the user’s search results in a browser coupled to EchoSearch, but this argument fails to take account of the aforementioned teachings of Belfiore. PO Resp. 31–32. In other words, we find Patent Owner’s arguments unpersuasive because they rest essentially on purported deficiencies in each reference individually, rather than addressing the combined teachings of the references. *See In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) (“The test for obviousness is what the combined teachings of the references would have [taught or] suggested to one of ordinary skill in the art.” (citation omitted)).

Accordingly, we find Petitioner has demonstrated by a preponderance of evidence that the prior art teaches or suggests claim element 1[b].

Claim 1[c]: said translator entity being operative to determine a URL address for a web page which is most likely to be a desired webpage associated with the input text string information received from the user, based on statistical data of web pages in web search results for said information . . .

Petitioner asserts Belfiore teaches this limitation in the following disclosure:

A second alternative is depicted in FIG. 8B. In this second alternative, instead of returning search results, the search engine calls the server for the highest scoring web site in the search

results. In this second alternative, the search engine initiates a search using the terms that were passed in the template to produce search results. These search results are scored or weighted. The scoring attempts to identify which search results are most likely to be of interest to the user. *The search engine locates the highest scoring web page as the most likely web page desired by the user* (step 102 in FIG 8B). The search engine then tells the browser of the server that holds the most likely web page so that the browser may request that the web page be forwarded to the client computer 30 (step 104 in FIG 8B). The server returns the web page to the client computer (step 106 in FIG 8B).

Ex. 1019, 7:6–18 (emphasis added); Pet. 36–37. Patent Owner does not contest Petitioner’s assertion.

We are persuaded by Petitioner’s arguments and evidence. As Petitioner argues, Belfiore teaches that search results are “scored” or “weighted” before the system selects the highest scoring page, meaning that the most likely desired web page is based on statistical data regarding web pages obtained in web search results. Ex. 1019, 7:11–12; Ex. 1002 ¶ 65. Belfiore further teaches that this highest scoring page is returned to the client computer. Ex. 1019, 7:16–18. Accordingly, we find Petitioner has demonstrated by a preponderance of evidence that the prior art teaches or suggests claim element 1[c].

Claim 1[d]: said translator entity being operative for sending the URL address to the web browser of the user’s computer to enable retrieval of the web page responsive to the URL address to be directly displayed on the user’s browser, without any additional user intervention beyond the entry of said input text string information.

Petitioner asserts that Belfiore teaches Autosearch working in coordination with the user’s web browser to generate a URL and directly retrieving a page corresponding to the user’s search, without further user

intervention. Pet. 38–39 (citing Ex. 1019, Fig. 4, 5:13–19). Specifically, according to Petitioner, Belfiore teaches that the user enters an input text string that is not a URL address, and the input text string (query terms) are passed automatically to one or more search engines. Ex. 1019, Fig. 4, 5:13–19. Then, the “search engine locates web pages containing the query terms and either (1) returns a list of the search results (including URL addresses) or (2) *redirects the user’s browser to the most relevant web site discovered in the search.*” Ex. 1019, [57] (emphasis added). Petitioner further argues that, to the extent there is any question in Belfiore regarding additional user intervention, Koren and Sotomayor (i.e., EchoSearch) teach a “Search” button in the EchoSearch window which, once pressed by a user, causes an “entry” to be sent and, subsequently, a web page to be returned, without any additional user action. Pet. 39–40 n.7 (citing Ex. 1022, 2; Ex. 1002 ¶ 70).

Patent Owner contests Petitioner’s showing. Patent Owner contends that claim 1 requires the translator entity “performs all its claimed functions as software provided separately from the browser,” and because Belfiore’s “Autosearch is not separate from the browser” it cannot teach this claim limitation. PO Resp. 34–35. Patent Owner further argues that Belfiore does not teach “how” the browser may request the desired webpage once informed of the search results. *Id.* at 35.

We are persuaded by Petitioner’s arguments and evidence. Patent Owner’s arguments that Belfiore’s Autosearch is not “separate” from the browser fails to take account of the combination of Belfiore with Koren and Sotomayor. As discussed above, Koren and Sotomayor teach the functionality performed by EchoSearch, in which input is received, translated, and a search activated – none occurring within the browser

window. Exs. 1022, 1023, *supra*. Moreover, Belfiore teaches that “[t]he search engine . . . *tells the browser* of the server that holds the most likely web page so that the browser may request that the web page be forwarded to the client computer 30 (step 104 in FIG. 8B) [and] [t]he server returns the web page to the client computer.” Ex. 1019, Fig. 8B, 7:15–18 (emphasis added). Belfiore further teaches the translator entity “may return a *highest scoring* web page [to the browser] from among those web pages located in the search by the search engine.” *Id.* at 4:3–7 (emphasis added). Thus, contrary to Patent Owner’s argument, Belfiore teaches “how” the direct web page acquisition may occur – simply by selecting the highest scoring page.⁵

Accordingly, we find Petitioner has demonstrated by a preponderance of evidence that the prior art teaches or suggests claim element 1[d].

Combining the References: Belfiore and Koren/Sotomayor

Petitioner argues it would have been obvious to a person of ordinary skill in the art to combine Belfiore’s enhanced browser with EchoSearch, as taught in Koren and Sotomayor, in order to utilize a more advanced interface which allows multiple search engines per query. Pet. 26–29; Ex. 1002 ¶ 47. In addition (or alternatively), Petitioner argues a person of ordinary skill in the art using EchoSearch would recognize the benefits taught in Belfiore, namely, more focused search results (a redirect to the highest scoring page from a search) and would be motivated to incorporate that feature in EchoSearch. *Id.* at 27; Pet. Reply 15.

⁵ The precise manner in which search engines score, or rank, prospective results is not recited in claim 1 and not argued separately by the parties.

Patent Owner argues that Petitioner's reasons for combining the teachings of each reference are based on impermissible hindsight, using the '094 patent itself as a roadmap. PO Resp. 37. Patent Owner provides little explanation for this argument, but further argues that Koren teaches away from the combination because it states, "I would have personally preferred that the configuration and search interface run as a java applet within the browser itself – or as a stand-alone program entirely" and is directed to using a variety of search engines that would provide a range of search results. PO Resp. 38–39 (citing Ex. 1022, 2; Ex. 2043, 135:4–12, 137:6–12). Accordingly, Patent Owner argues, it "would have defied common sense" to limit EchoSearch to one result. *Id.* at 39. Patent Owner further argues that Petitioner's expert testimony is insufficient to rebut the evidence of teaching away in Koren, and insufficient to establish that one of ordinary skill would have "depart[ed] from the well-known separation between browsers and search engines." PO Resp. 40–43.

We find Petitioner's arguments, as well as the supporting testimony of Dr. Shamos, persuasive regarding the rationale to combine the teachings of Belfiore, Koren, and Sotomayor. The parties do not dispute (and could not reasonably dispute) the proffered combination of Koren with Sotomayor because Sotomayor simply is a more detailed disclosure of the same EchoSearch software program described and illustrated in Koren. Ex. 1022, 2; Ex. 1023. Patent Owner does not contest Petitioner's argument that one of ordinary skill, upon reading Koren, would have been motivated to look to Sotomayor for operational details and functions of EchoSearch. Pet. 21–22. We agree with Petitioner's argument. The dispute between the parties

centers on whether one of ordinary skill in the art would have combined the teachings of Belfiore with those of Koren/Sotomayor.

In an obviousness analysis, prior art references must be “considered together with the knowledge of one of ordinary skill in the pertinent art,” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994), and we “take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418. A rationale to combine references also may be found within the references themselves. *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1365 (Fed. Cir. 2006).

Here, the references themselves provide ample rationale and motivation for the proffered combination. Both Belfiore and EchoSearch (Koren/Sotomayor) are directed to the common objective of text search and website retrieval on the Internet. Koren discloses that it was a “common frustration” in this field that “not every engine will return the same information.” Ex. 1022, 2. To get the best result, Koren explains, “you ha[d] to perform the same search using multiple search engines.” *Id.* EchoSearch, as Koren explains, solves that problem because it “can search in multiple engines simultaneously.” *Id.* Accordingly, one of ordinary skill, utilizing the Belfiore enhanced browser, would have recognized the benefits of incorporating the EchoSearch multiple-engine search functionality, as described in Koren and Sotomayor.

Moreover, Koren, like Belfiore, expressly teaches the desirability of focusing the number of search results. Koren explains, “[i]f you’ve ever used a search engine on the World Wide Web, you know how frustrating it can be when your search yields numerous hits that don’t have anything to do

with the topic or concept you're searching for . . . EchoSearch 2.0 addresses this problem *by limiting the amount of dross* you have to wade through.” Ex. 1022, 2 (emphasis added). Thus, Koren teaches the desirability of *limiting* or focusing search results, not just expanding or diversifying the search area, as Patent Owner argues. Accordingly, we are not persuaded by Patent Owner's argument (and testimony offered in support of that argument) that Koren teaches away from Belfiore, because the argument is contradicted by Koren itself. Similarly, we are unpersuaded by Patent Owner's hindsight argument because the prior art references themselves, not the '094 patent, provided one of ordinary skill in the art a rationale and motivation for combining their respective teachings in the manner asserted by Petitioner.

We, therefore, find one of ordinary skill would have been motivated to combine the teachings of Belfiore with those of Koren/Sotomayor. One of ordinary skill in the art, for example, would have been motivated to incorporate Belfiore's “redirect” feature (i.e., directly retrieve the top search result) into EchoSearch because a user would desire a redirect feature for multiple search engine results. Pet. 27 (citing Ex. 1002 ¶ 48). In addition, one of ordinary skill in the art would have been motivated to incorporate the advanced interface of EchoSearch, which utilized multiple search engines, into Belfiore's “intelligent searching” invention because a user would want to focus its search results, yet at the same time ensure no loss in redirect functionality. Pet. 27 (citing Ex. 1022; Ex. 1002 ¶ 49).

Summary

In summary, Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 1 would have been obvious over the combined teachings of Belfiore, Koren, and Sotomayor.

b. Dependent Claims 2, 5, and 8–10

Petitioner argues the same combination of Belfiore, Koren, and Sotomayor teaches or suggests each of the additional elements recited in dependent claims 2, 5, and 8–10. Pet. 40–45. The Petition maps each additional element of the dependent claims to the alleged corresponding teachings or suggestions in the prior art references. *Id.* In response, Patent Owner does not contest Petitioner’s showing regarding the additional elements (beyond those recited in claim 1) of claims 2, 5, and 9. Patent Owner, however, argues briefly that Petitioner’s evidence showing on claim 8 is “conclusory.” PO Resp. 49. Patent Owner further argues briefly that Petitioner has not demonstrated how the prior art teaches the claim 10 limitation of “information entered by the user is a name or descriptor *associated with a web page previously selected by a plurality of users in web searches based on said name or descriptor.*” *Id.* at 50.

We have reviewed Petitioner’s arguments and evidence, and we find Petitioner’s uncontested showing regarding the additional elements recited in claims 2, 5, and 9 demonstrate (along with the discussion above, regarding claim 1) by a preponderance of the evidence that the subject matter of those claims would have been obvious over the combined teachings of Belfiore, Koren, and Sotomayor. We further address claims 8 and 10 as follows.

Claim 8, which depends from claim 1, recites “wherein the translator entity resides remotely on the Internet with a remote server.” Ex. 1001, 16:10–11. As Petitioner asserts (Pet. 42–43), Belfiore discloses a browser that formats a search engine query and then “forwards the query to an Internet search engine.” Ex. 1019, [57]; Ex. 1002 ¶ 75. Belfiore further discloses that, in one example, the “Yahoo! search engine [is] called” (Ex. 1019, 6:35–36), and Belfiore explicitly claims “wherein the determined search engine is disposed at a remotely located server” (*Id.* at 10:33–34 (claim 21)). Pet. Reply 20–21. Moreover, Sotomayor discloses that the “[s]earch engines used by EchoSearch include AltaVista, Excite, Infoseek, Lycos, OpenText, and Webcrawler,” at least some of which are third-party search engines remote from a user. Ex. 1023, 4:49–50. The evidence, therefore, is not “conclusory” as Patent Owner asserts, and Patent Owner provides no evidence that defeats or undermines Petitioner’s contention.⁶

⁶ Patent Owner’s argument regarding claim 8 is ambiguous, but to the extent Patent Owner implies that Belfiore only discloses *some*, not *all*, portions of a “translator entity” are “remote,” we find it would have been obvious to one of ordinary skill in the art to implement remotely the “translator entity” of the Belfiore/Koren/Sotomayor combination. *See, e.g.*, Ex. 1002 ¶¶ 75, 82; Ex. 1052 ¶¶ 24–27. Dr. Shamos, for example, testified that one of ordinary skill would have understood that software modules may be constructed in various, interchangeable (and operatively coupled) ways both within and outside a browser, and each of the prior art references teach a distributed computing environment with client and remote server modules operatively coupled with one another. Ex. 1052 ¶¶ 24–27; Ex. 1019, Fig. 4; Ex. 1022; Ex. 1023, Fig. 3, 5:8–24. Given the finite number of predictable locations for a “translator entity” (i.e., either remotely or locally) and the foregoing teachings, it would have been obvious to one of ordinary skill to locate the translator entity module remotely on the Internet with a remote server or locally with a client. *See also* Sect. II.C, *infra*.

Accordingly, we find Petitioner has demonstrated by a preponderance of evidence that the prior art teaches or suggests the additional elements of claim 8.

Claim 10, which depends from claim 1, recites “wherein the information entered by the user is a name or descriptor associated with a web page previously selected by a plurality of users in web searches based on said name or descriptor.” Ex. 1001, 16:15–19. As Petitioner asserts, Belfiore discloses a URL entry field in which the user can enter *any* text string that is not a URL. Ex. 1019, [57]; Pet. 45. Because *any* text string can be entered, Dr. Shamos testifies—and we agree—that the text string entry could comprise a name or descriptor associated with a web page previously selected by users based on that name or descriptor. Ex. 1002 ¶ 77. Moreover, EchoSearch also discloses returning the pages most likely to be relevant to the text string (words or descriptors) input. Ex. 1022, 2; Ex. 1002 ¶ 77. Patent Owner does not provide any evidence that defeats or undermines Petitioner’s evidence and Dr. Shamos’ supporting testimony. Based on our review of the evidence, we find Petitioner has demonstrated by a preponderance of evidence that the prior art teaches or suggests the additional elements of claim 10.

*C. Obviousness over Belfiore, Koren, Sotomayor, and Osaku
(Claims 7, 13, and 14)*

Petitioner argues that independent claim 13, and dependent claims 7 and 14, are unpatentable under § 103(a) over the combined teachings of Belfiore, Koren, Sotomayor, and Osaku. Pet. 45–54. Osaku is directed to “accessing a network URL through a pre-assigned simplified network address” and “displaying the home page having the URL as its address.” Ex. 1005, [57]. According to Osaku’s disclosure, the invention permits a user to “avoid[] the need to know and input the URL character string” in order to access a home page. *Id.*

Petitioner asserts Osaku teaches “the translator entity resides locally at the user’s computer,” as recited in claim 7 (Pet. 46, 51), and “can receive input from a translator input window by way of a domain name server,” as required in claims 13 and 14 (*id.* at 51–54). Petitioner further asserts that the remaining elements of claims 7, 13, and 14 are redundant to claim 1, and the Petitioner maps these elements to the prior art references. *Id.* at 48–54. Petitioner asserts it would have been obvious to one of ordinary skill in the art to combine Osaku’s translator entity in communication with a domain name server, with the system of Belfiore and Koren/Sotomayor, because one of ordinary skill would have recognized the advantage of increased efficiency (e.g., “when the user wanted to employ a short ‘simplified network address’ for very rapid access to a desired web page”). *Id.* at 52–53; Ex. 1002 ¶¶ 78–86.

Patent Owner contests Petitioner’s proffered motivation for combining the teachings of Belfiore, Koren, and Sotomayor with those of Osaku, but does not separately address whether the combined teachings of

the references account for the limitations of claims 7, 13, and 14 (beyond the arguments already made regarding claim 1). *See generally* PO Resp. 50–52. We have reviewed Petitioner’s explanations and supporting evidence as to how the proffered combination teaches the limitations beyond those already discussed in claim 1, and we agree with and adopt Petitioner’s uncontested analysis on those issues. *See* Pet. 45–54.⁷

Patent Owner contests Petitioner’s rationale in combining the teachings of Belfiore, Koren, and Sotomayor with those of Osaku because, according to Patent Owner, Osaku is directed to a “different, unrelated problem,” namely, recalling the URL of a *known* web page. PO Resp. 50–51; Ex. 2028 ¶¶ 83–84. Relying on the testimony of its expert, Mr. Weadock, Petitioner argues that Belfiore, Koren, and Sotomayor, in contrast, are concerned with the “quality of relevancy determinations by search engines with regard to identifying *unknown* pages online.” PO Resp. 51; Ex. 2028 ¶¶ 83–84. Moreover, Patent Owner argues, “Belfiore’s browser already contained a solution feature that solves Osaku’s problem

⁷ In our original Decision on Institution, we declined to institute trial on claim 14 due to uncertainty in interpreting the phrase “domain name server [DNS] sends the web page responsive to the URL address to the user’s web browser.” *See supra* at 2, n.1; Ex. 1001, 2:36–38 (“A DNS . . . translates textual addresses into numeric addresses.”). We subsequently modified our decision pursuant to *SAS* (*see supra* at 2), and during trial, the parties agreed that one of ordinary skill would have reasonably understood this phrase to mean that the DNS sends the pertinent web page’s Internet Protocol address to the browser for retrieval of the responsive web page (acknowledging that a DNS does not literally send a web page itself). Pet. 54; PO Resp. 16–17. Because neither the meaning of this particular term nor its teaching in the prior art are in dispute, we do not further address this issue.

vis-à-vis bookmarks/autocomplete.” PO Resp. 51; Ex. 2028 ¶ 85; Ex. 2043, 95:7–96:19.

We are persuaded by Petitioner’s arguments and evidence that one of ordinary skill in the art would have combined teachings of Belfiore, Koren, and Sotomayor with those of Osaku in the manner proposed by Petitioner. We do not agree with Patent Owner’s characterization of searches disclosed in the prior art references being directed to “known” versus “unknown” pages. Rather, all of the references relate to finding web pages; some such pages had previously been *visited* by the user, but that does not change the nature of the problem addressed by all of the references – a method for an efficient and useful Internet search. Moreover, as Petitioner asserts, the ’094 patent acknowledges the prior existence in the art of “[w]eb browsers [which] allow a user to maintain a *local* list of preferred locations,” i.e., making use of locally stored data to enhance Internet searching and make it more efficient. Ex. 1001, 2:24–27 (emphasis added). Accordingly, we are persuaded by Petitioner’s assertion, and the testimony of Dr. Shamos, that it would have been obvious to a person of ordinary skill in the art to modify the combination of Belfiore, Koren, and Sotomayor based on the teachings of Osaku, to “allow for client-side application of locally stored data to improve the efficiency of the translation/search results.” Pet. 47; Ex. 1002 ¶ 81. One of ordinary skill would have understood, as is readily evident from all of the references, that efficiency and speed of information access are important characteristics in an Internet search system.

In addition, even if one of ordinary skill in the art would have considered important Patent Owner’s proffered dichotomy of “known” versus “unknown” pages, we find credible Dr. Shamos’ testimony that one

of ordinary skill in the art would still have found it beneficial to find both “unknown” and “known” pages in a search. Ex. 1052 ¶ 56. Again, the ’094 patent itself contradicts Patent Owner’s implication that one of ordinary skill in the art only would want to find “unknown” pages. Ex. 1001, 15:50–57, 16:20–25, 16:60–66. Moreover, there is no indication in the record that EchoSearch (as taught in Koren and Sotomayor) excludes from its search results any “known” pages, as Patent Owner’s argument would suggest.

Finally, Patent Owner’s expert, Mr. Weadock, testified that “the difficulty of entering potentially lengthy URLs for frequently-accessed Web pages . . . had already largely been solved by ‘favorites’ or ‘bookmarks’ in the popular browsers of the day.” Ex. 2028 ¶ 85; PO Resp. 51. The alleged existence of this alternative solution for lengthy URLs, however, does not mean a person of ordinary skill in the art would have had no need for Osaku’s local translator entity. *See In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004) (“[C]ase law does not require that a particular combination must be the preferred, or the most desirable, combination described in the prior art in order to provide [the] motivation [or reason] for the current invention.”).

Accordingly, we find Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 7, 13, and 14 would have been obvious over the combined teachings of Belfiore, Koren, Sotomayor, and Osaku.

*D. Obviousness over Belfiore, Koren, Sotomayor, and Breese
(Claims 3, 4, 6, 11, and 12)*

Petitioner argues that claims 3, 4, 6, 11, and 12 of the ’094 patent are unpatentable under § 103(a) over the combined teachings of Belfiore, Koren, Sotomayor, and Breese. Pet. 54–62. Breese is directed to providing search

results that take into account “knowledge probability estimates” regarding a user’s already-known information, so that known information is not provided near the top of a list of search results. Ex. 1004, [57]. Breese discloses that the knowledge probability estimates may be generated in various ways, using various statistical factors such as popularity of an item, a user’s experience in the subject area being searched, overall salience of the item to the search, and demographic information about the user. *Id.* at 9:58–10:18.

Petitioner asserts that Breese teaches the additional elements of dependent claims 3, 4, 6, 11, and 12 (beyond claim 1, from which all of these claims depend), and maps the teachings of Breese to each element. Pet. 54–62. Petitioner contends it would have been obvious to one of ordinary skill to use Breese’s search methodologies in the system of Belfiore, in order to improve the search methodologies in Belfiore and refine search results presented to the user. *Id.* at 55–56.

Patent Owner contests Petitioner’s proffered motivation for combining the references, but does not separately address whether the combined teachings of the references account for the limitations of claims 3, 4, 6, 11, and 12 (beyond the arguments already made regarding claim 1). PO Resp. 53–54. We have reviewed Petitioner’s explanations and supporting evidence as to how the proffered combination teaches the limitations beyond those already discussed in claim 1, and we agree with and adopt Petitioner’s uncontested analysis on those issues. *See* Pet. 54–62.

Patent Owner argues one of ordinary skill would not have combined the teachings of Breese with those of Belfiore and Koren/Sotomayor, for reasons similar to its argument regarding the combination of Osaku with the

other references. PO Resp. 53–54; *see supra*. Specifically, Patent Owner, relying on the expert testimony of Mr. Weadock, argues that Breese’s filtering of “known information” is incompatible with Belfiore and EchoSearch because Breese’s filter “necessarily keeps the desired page from being returned [in Belfiore and EchoSearch] if there is a likelihood that that user knows about it.” PO Resp. 54; Ex. 2028 ¶ 89.

We are persuaded by Petitioner’s argument and evidence that one of ordinary skill in the art would have been motivated to combine the teachings of Breese with those of Belfiore and Koren/Sotomayor. As Dr. Shamos testified, although the system of Belfiore discloses relying on search engines, Belfiore does not require using any particular search algorithm. Ex. 1002 ¶ 93. Breese, in turn, discloses beneficial search methodologies available to one of ordinary skill in the art, in implementing search technologies. Ex. 1004, [57]; Ex. 1002 ¶ 93. Breese further discloses that “the present invention can be used in conjunction with *a wide range of conventional information retrieval systems, e.g., search engines.*” Ex. 1004, 2:61–64 (emphasis added). Thus, contrary to Patent Owner’s argument and Mr. Weadock’s testimony, Breese teaches that its search methodologies are compatible with (and useful in) third-party search engines, such as those disclosed in Belfiore. Moreover, even if the filter taught in Breese would prevent known pages from being returned to a user of the Belfiore system, Breese teaches that there are known advantages to doing so. *See supra*. Accordingly, we find persuasive Petitioner’s argument that one of ordinary skill in the art would have been motivated to use Breese’s methodologies to improve and refine the search results in the Belfiore, Koren, and Sotomayor combination. Ex. 1002 ¶ 95.

We, therefore, find Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 3, 4, 6, 11, and 12 would have been obvious over the combined teachings of Belfiore, Koren, Sotomayor, and Breese.

E. Obviousness over Belfiore, Koren, Sotomayor, Osaku, and Breese (Claims 15 and 16)

Petitioner argues that claims 15 and 16 of the '094 patent are unpatentable under § 103(a) over the combined teachings of Belfiore, Koren, Sotomayor, Osaku, and Breese, for the same reasons that claims 11, 12, and 13 are unpatentable. Pet. 62–63. Petitioner asserts that claims 15 and 16, respectively, add the same limitations to claim 13 that claims 11 and 12 added to claim 1. *Id.* In its Patent Owner Response, Patent Owner likewise asserts that the “same analysis” applies for claims 15 and 16, as for claims 11–13, without further discussion. PO Resp. 55. We have reviewed Petitioner’s explanations and supporting evidence as to how the proffered combination teaches the limitations beyond those already discussed in claim 1, and we agree with and adopt Petitioner’s uncontested analysis on those issues. *See* Pet. 53, 60–63. Accordingly, for the reasons discussed above, we find Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 15 and 16 would have been obvious over the combined teachings of Belfiore, Koren, Sotomayor, Osaku, and Breese.

III. MOTIONS TO EXCLUDE

A. Petitioner’s Motion to Exclude

Petitioner moves to exclude portions of three expert declarations on the grounds that that they are “improperly incorporated by reference” in

Patent Owner's Response. Pet. Mot. Excl. 1. Specifically, Petitioner moves to exclude "Exhibits 2028, 2029, 2051, and any reference to or reliance on them." *Id.* Without excluding this evidence, however, we have determined that Petitioner has demonstrated the unpatentability of all of the challenged claims. Thus, the motion to exclude is denied as moot.

B. Patent Owner's Motion to Exclude

Patent Owner moves to exclude Exhibits 1052–1057. PO Mot. Excl. 1. Our determinations do not rely on Exhibits 1053–1057 and, therefore, we deny Patent Owner's motion to exclude these exhibits as moot.

Exhibit 1052 is a declaration of Petitioner's expert, Dr. Shamos, in support of Petitioner's Reply and Opposition to Motion to Amend. Patent Owner contends Exhibit 1052 should be excluded for two reasons. First, Patent Owner contends Dr. Shamos is not qualified to testify as an expert. PO Mot. Excl. 4–8. Patent Owner characterizes Dr. Shamos as "at best . . . a user of the Internet and browser," with "no experience in designing, writing, or implementing web-based applications." *Id.* at 5. Patent Owner contends Dr. Shamos "did not work in the Internet or browser application field" during the relevant timeframe, and that Petitioner has not established Dr. Shamos as a person of ordinary skill in the art. *Id.* at 4–5. Second, Patent Owner argues Exhibit 1052 "mischaracterizes the testimony" of Patent Owner's experts, and is used by Petitioner in a prejudicial manner to "circumvent the word count" limit in Petitioner's briefs. *Id.* at 8–9. Accordingly, Patent Owner contends Exhibit 1052 should be excluded because it is unfairly prejudicial, confuses the issues, and/or is misleading pursuant to Federal Rule of Evidence ("FRE") 403. *Id.*

We do not agree with Patent Owner's characterizations of Dr. Shamos and his testimony, as set forth in Exhibit 1052. The record demonstrates that Dr. Shamos has designed and taught university courses on design and implementation of user interfaces for Web-based applications. Ex. 1052 ¶ 6. Dr. Shamos also was a technical advisor to the developer of the Internet Search engine Lycos during the relevant timeframe, and was founder and president of two computer software companies. *Id.*; Ex. 2055, 7:15-8:12. He holds "several degrees in Computer Science," including a Ph.D, and is a Distinguished Career Professor at Carnegie Mellon University's School of Computer Science. Ex. 1002 ¶ 2. For these reasons, we are unpersuaded by Patent Owner's argument that Dr. Shamos is unqualified to testify as an expert in this proceeding.

The remainder of Patent Owner's argument goes to the weight that we should accord Dr. Shamos' testimony, not its admissibility. Patent Owner contends that the testimony mischaracterizes the testimony of Patent Owner's own experts, but that testimony also is in the record before us, and we have considered it as is. To the extent testimony of Dr. Shamos is not supported in the record or contradicts other evidence, we have weighed that testimony accordingly. Regarding Patent Owner's argument that Petitioner has used Exhibit 1052 to "circumvent page limits" of the briefs, both parties have cited to expert declarations in the same manner in this proceeding. We are not persuaded that Exhibit 1052 is unfairly prejudicial, misleading, or confusing and, therefore, should be excluded under FRE 403.

Accordingly, we deny Patent Owner's motion to exclude Exhibit 1052.

IV. PATENT OWNER'S MOTION TO AMEND

Patent Owner has filed a contingent Motion to Amend (“Amend Mot.” Paper 23), proposing to replace claims 1, 6, 13, and 14 with substitute claims 17, 18, 19, and 20, respectively, if any of those original claims are found unpatentable. As discussed above, we have determined that Petitioner has demonstrated by a preponderance of the evidence that all of the challenged claims (including claims 1, 6, 13, and 14) are unpatentable. Accordingly, we address Patent Owner’s contingent Motion to Amend. For the reasons discussed below, we find the proposed substitute claims are, like the original claims, unpatentable over the prior art of record. We, therefore, deny the motion.

A. Proposed Substitute Claims

In its Motion to Amend, Patent Owner proposes substitute claims 17–20, reproduced below with underlining and strikethrough indicating the portions amended. Amend Mot. 4–6.

Independent Claim 17 (replacing independent claim 1):

A method of WWW page retrieval for enabling a user using a computer having a web browser with a browser window having a URL entry field running on the computer and a connection to the Internet to retrieve a desired webpage to the browser, comprising:

(a) ~~enabling~~ providing a translator input window configured to be overlaid on a portion of the browser window for allowing a user to enter an input of a non-URL-address text string therein;

(b) ~~enabling~~ providing a translator entity separately from a program for the web browser having software operable on a computer, which translator entity is operatively coupled to the browser and to said translator input window overlaid on the browser window for receiving information of one or more words

of an input text string that is not a URL address entered by a user through the translator input window overlaid on a portion of the browser window and communicating the input text string to a remote site through the browser;

(c) said translator entity being operative to determine a URL address for a web page which is most likely to be a desired webpage associated with the input text string information received from the user, based on statistical data of web pages in web search results for said information; and

(d) said translator entity being operative for sending the URL address to the web browser of the user's computer to enable retrieval of the web page responsive to the URL address to be directly displayed on the user's browser, without any additional user intervention beyond the entry of said input text string information.

Dependent Claim 18 (replacing dependent claim 6):

A method according to claim 1, wherein the determination of the WWW page address by said translator entity is also based on at least one of: determining a geographical location of the user and using the determined geographical location in selecting the WWW page address; analyzing URL associations stored in a database that are logically associated with the user; and user-dependent information stored in a database including at least one of geographical location of the user, a customer club to which the user is associated, user profile, user age, and user browsing habits; ~~and correlating the received information with web pages in previous web searches conducted by the user stored in a database.~~

Independent Claim 19 (replacing independent claim 13):

A method of WWW page retrieval for enabling a user using a computer having a web browser with a browser window having a URL entry field running on the computer and a connection to the Internet to retrieve a desired webpage to the browser, comprising:

(a) ~~enabling~~ providing a translator input window configured to be overlaid on a portion of the browser window for

allowing a user to enter an input of a non-URL-address text string therein;

(b) ~~enabling providing~~ a translator entity separately from a program for the web browser, which is operatively coupled to the browser and to said translator input window overlaid on the browser window and having functionality for receiving input text string information of one or more words that is not a URL address entered by a user through the translator input window overlaid on a portion of the browser window, wherein said translator entity receives said information from a domain name server to enable return to the user's web browser of a URL address for a desired webpage in response to the information and communicating the input text string to a remote site through the browser;

(c) said translator entity being operative to determine a URL address for a web page which is most likely to be a desired webpage associated with the input text string information received from the user, based on statistical data of web pages in web search results for said information; and

(d) said translator entity being operative for sending the URL address to the web browser of the user's computer to enable retrieval of the web page responsive to the URL address to be directly displayed on the user's browser, without any additional user intervention beyond the entry of said input text string information.

Dependent Claim 20 (replacing dependent claim 14):

A method according to claim 13, wherein said translator entity sends the determined URL address to a domain name server and the domain name server sends the IP address for the web page responsive to the URL address to the user's web browser.

B. Analysis of Proposed Substitute Claims

When filing a motion to amend, a patent owner must demonstrate that (1) the amendment responds to a ground of unpatentability involved in the trial; (2) the amendment does not seek to enlarge the scope of the claims of

the patent or introduce new subject matter; (3) the amendment proposes a reasonable number of substitute claims; and (4) the proposed claims are supported in the original disclosure. *See* 35 U.S.C. § 316(d); 37 C.F.R. § 42.121. The patentability of the proposed substitute claims, however, is assessed “without placing the burden of persuasion on the patent owner.” *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1328 (Fed. Cir. 2017) (en banc); *see also Western Digital Corp. v. SPEX Techs., Inc.*, Case IPR2018-00082 (Paper 13) (PTAB Apr. 25, 2018) (informative) (providing guidance regarding the requirements of a motion to amend post-*Aqua Products*).

In its Motion to Amend, Patent Owner asserts that the substitute claims do not enlarge the scope of the original claims, do not introduce new subject matter, and are supported in the original disclosure, and therefore, that the substitute claims comply with 37 C.F.R. § 42.121(a)(2)(ii).⁸ Amend Mot. 2, 6–18. In response, Petitioner argues the Motion to Amend should be denied for any of four reasons: (i) the proposed claims are invalid as lacking written description support (claims 17, 19, and 20) and as indefinite (claim 20) (Amend Opp. 1–6); (ii) the proposed claims improperly broaden the scope of the original claims (Amend Opp. 6–7); (iii) the proposed claims do not recite patent-eligible subject matter under section 101 (Amend Opp. 7–20); and (iv) the proposed claims are unpatentable as obvious over the combinations of prior art asserted in the Petition. Amend Opp. (21–35). In its Reply, Patent Owner disputes each of the foregoing contentions by Petitioner. Amend Reply 1–22.

⁸ The parties do not dispute that the proposed substitution of four claims is a “reasonable number” of substitute claims. 37 C.F.R. § 42.121.

We are persuaded by Petitioner’s arguments and evidence that the substitute claims are unpatentable over the prior art of record and, therefore, we do not reach whether Patent Owner has demonstrated that the substitute claims do not enlarge the scope of the original claims, do not introduce new subject matter, and are supported in the original disclosure.

Regarding proposed substitute claims 17 (for independent claim 1) and 19 (for independent claim 13), Patent Owner proposes three changes: (1) “~~enabling~~ providing a translator input window configured to be overlaid on a portion of the browser window”; (2) “~~enabling~~ providing a translator entity separately from a program for the web browser having software operable on a computer”; and (3) “communicating the input text string to a remote site through the browser.” We address these changes in turn.

As to the first change, substituting the word “providing” for enabling, and adding “configured,” does not alter our analysis set forth in Sections II.A (claim construction) and II.B.5.a (claim 1), *supra*. As discussed above, we construed “enabling” in claim 1 to mean providing a capability of doing something. *See supra* Sect. II.A. Changing the claim from a “method of . . . enabling a translator input window to be overlaid” to a “method of . . . providing a translator input window configured to be overlaid,” does not, in our view, change the meaning of the claim. Moreover, as discussed above, the translator input window in Koren and Sotomayor is “configured to be overlaid on a portion of the browser window.” Figure 1 of Koren shows the translator input window overlaid upon the Netscape browser window (*see supra* Sect. II.B.4), and Sotomayor confirms that EchoSearch runs in various windows-based environments (which, as one of ordinary skill

in the art would have understood, utilizes windows configured to overlay one another). Ex. 1022, 2; Ex. 1023, 4:3–6.

As to the remaining changes in proposed claims 17 and 19, we are persuaded by Petitioner’s arguments and evidence that it would have been obvious, in view of the prior art of record, for a person of ordinary skill in the art to configure the translator entity as a “stand-alone application, a browser plug-in, integrated into a browser’s default functions, or in any other configuration.” Amend Opp. 22. Koren discloses, for example, that functions may be integrated via Java applets within the browser, and further discloses that EchoSearch may run as a stand-alone application communicating with the browser. Ex. 1022, 2. The testimony of both parties’ experts further indicates the ability to augment existing browser capabilities with plug-ins. Ex. 1042, 129:12–130:23, 147:21–148:23, 149:21–150:6; Ex. 1043, 66:3–15; Ex. 1052 ¶¶ 64–75. Thus, modifying the Belfiore, Koren, and Sotomayor combination such that EchoSearch functioned as a plug-in (to the browser) would have been obvious to a person of ordinary skill in the art.

In the modified combination, the translator entity still is “separate[] from a program for the web browser” (as in Koren/Sotomayor), but also “communicat[es] the input text string to a remote site through the browser,” as recited in proposed claims 17 and 19. Dr. Shamos’ testimony further supports our findings in this regard. Ex. 1052 ¶¶ 64–66, 76–77.

In sum, Patent Owner’s proposed changes in claims 17 and 19 essentially move functions between components in a distributed computing system, or move functions between blocks of software in a windows environment. As we explain above, there is sufficient evidence of record to suggest that these design choices would not have been uniquely challenging or otherwise beyond the skill level of one of ordinary skill in the art. (i.e., a person with a computer or software degree and experience with interactive software applications, *see supra* Sect. II.B.2).

Regarding proposed substitute claim 18 (for original claim 6), Patent Owner’s modification removes one option (“correlating the received information with web pages in previous web searches conducted by the user stored in a database”) from its Markush group of “base[s]” for determining “WWW page address by said translator entity.” Amend Mot. 5. As Petitioner argues, however, Breese still teaches one of the remaining options of the Markush group. Amend Opp. 25. Specifically, Breese teaches “analyzing URL associations stored in a database that are logically associated with the user.” Ex. 1004, 9:51–10:18. Breese discloses that its “knowledge probability estimate” for the user’s search may be based on factors such as “user’s occupation,” the “amount of time a user has been on the Internet,” or other “demographic information about the user [such as] age and sex.” *Id.* One of ordinary skill in the art would have combined Breese with Belfiore and Koren/Sotomayor, for the same reasons discussed in Section II.D, *supra*.

Finally, regarding proposed substitute claim 20 (for dependent claim 14), Patent Owner acknowledges that the proposed substitute claim merely “addresses the [prior] concern raised by the Petitioner and the Board by

clarifying that the domain name server . . . sends an *IP address* for the web page . . . and does not in fact send the web page itself.” Amend Mot. 18. As discussed above, however, we have adopted the parties’ position that one of ordinary skill would have reasonably understood the original claim limitation that way. *See* Section II.A, *supra*. Accordingly, under our claim construction, proposed claim 20 is of the same scope as the claim it would replace, and is unpatentable for the same reasons identified above. *See* Section II.C, *supra*.

In summary, because Petitioner has demonstrated by a preponderance of the evidence that the proposed substitute claims are unpatentable over the prior art of record, we *deny* Patent Owner’s Motion to Amend.

V. OBSERVATIONS

Petitioner filed Observations on Cross-Examination of Mr. Weadock (Paper 57, “Pet. Obs.”), and Patent Owner filed a Response thereto (Paper 61, “PO Resp. Obs.”). To the extent Petitioner’s Observations pertain to testimony purportedly impacting the credibility of Mr. Weadock, we have considered the observations and responses in rendering this Final Written Decision, and we have accorded Mr. Weadock’s testimony appropriate weight where necessary. *See* Pet. Obs. ¶¶ 1–8; PO Obs. Resp. ¶¶ 1–5.

Patent Owner filed Observations on Cross-Examination of Dr. Shamos (Paper 58, “PO Obs.”), and Petitioner filed a Response thereto (Paper 62, “Pet. Resp. Obs.”). To the extent Patent Owner’s Observations pertain to testimony purportedly impacting the credibility of Dr. Shamos, we have considered the observations and responses in rendering this Final

Written Decision, and we have accorded Dr. Shamos' testimony appropriate weight where necessary. *See* PO Obs. ¶¶ 1–13; Pet. Resp. Obs. ¶¶ 1–13.

VI. CONCLUSION

Petitioner has demonstrated by a preponderance of the evidence that (1) claims 1, 2, 5, and 8–10 are unpatentable under § 103 over the combined teachings of Belfiore, Koren, and Sotomayor; (2) claims 7, 13, and 14 are unpatentable under § 103 over the combined teachings of Belfiore, Koren, Sotomayor, and Osaku; (3) claims 3, 4, 6, 11, and 12 are unpatentable under § 103 over the combined teachings of Belfiore, Koren, Sotomayor, and Breese; and (4) claims 15 and 16 are unpatentable under § 103 over the combined teachings of Belfiore, Koren, Sotomayor, Osaku, and Breese.

VII. ORDER

In consideration of the foregoing, it is
ORDERED that claims 1–16 of the '094 patent are held to be unpatentable;

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

FURTHER ORDERED that Patent Owner's Motion to Amend substituting claim 17 for claim 1, claim 18 for claim 6, claim 19 for claim 13, and claim 20 for claim 14 is *denied*;

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

IPR2017-01653
Patent 8,661,094 B2

PETITIONER:

Scott A. McKeown
Gabrielle E. Higgins
Keyna Chow
ROPES & GRAY LLP
scott.mckeown@ropesgray.com
gabrielle.higgins@ropesgray.com
keyna.chow@ropesgray.com

Michael Kwun
Asim Bhansali
Kate Lazarus
KWUN BHANSALI LAZARUS LLP
mkwun@kblfirm.com
abhansali@kblfirm.com
klazarus@kblfirm.com

PATENT OWNER:

Seth H. Ostrow
Antonio Papageorgiou
MEISTER SEELIG & FEIN LLP
sho@msf-law.com
ap@msf-law.com