

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FACEBOOK, INC. AND INSTAGRAM, LLC,
Petitioner,

v.

SEARCH AND SOCIAL MEDIA PARTNERS, LLC,
Patent Owner.

IPR2018-01622
Patent 8,719,176 B1

Before SCOTT A. DANIELS, BARBARA A. PARVIS, and
JASON W. MELVIN, *Administrative Patent Judges*.

PARVIS, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background*

Facebook, Inc. and Instagram, LLC (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1, 6, 14, 21, and 27 of U.S. Patent No. 8,719,176 B1 (“the ’176 Patent”). Paper 2 (“Pet.”). Search and Social Media Partners, LLC (“Patent Owner”) filed a Preliminary Response. Paper 5 (“Prelim. Resp.”). Upon consideration of the parties’ contentions and supporting evidence, we instituted an *inter partes* review pursuant to 35 U.S.C. § 314, as to the challenged claims of the ’176 Patent. Paper 8 (“Inst. Dec.”).

After institution, Patent Owner filed a Patent Owner Response (“PO Resp.,” Paper 17); Petitioner filed a Reply (“Pet. Reply,” Paper 20); and Patent Owner filed a Sur-Reply (“PO Sur-Reply,” Paper 22). A transcript of the hearing held on December 4, 2019 has been entered into the record as Paper 30 (“Tr.”).

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has demonstrated by a preponderance of the evidence that the challenged claims of the ’176 Patent are unpatentable.

B. *Additional Proceedings*

As required by 37 C.F.R. § 42.8(b)(2), each party identifies a judicial matter that would affect, or be affected by, a decision in this proceeding. In particular, the parties state that the ’176 Patent, and related U.S. Patent No. 8,620,828 (“the ’828 Patent”), are asserted in *Search and Social Media Partners, LLC v. Facebook, Inc.*, No. 1:17-cv-01120-LPS-CJB (D. Del.)

(“related District Court case”). Pet. 1; Paper 4, 1. Petitioner also states that the district court lawsuit has been stayed. Pet. 1.

Petitioner has also filed a Petition for *inter partes* review of the ’828 Patent, IPR2018-01620.

C. Real Parties-in-Interest

Petitioner names Facebook, Inc. and Instagram, LLC as the only real parties-in-interest. Pet. 1. Patent Owner names Search and Social Media Partners, LLC as the only real party-in-interest. Paper 4, 1.

D. The ’176 Patent

The ’176 Patent relates to facilitating informational and commercial transactions and interactions through use of computers and the Internet.

Ex. 1001, 1:38–41. As background, the ’176 Patent describes:

Under the related art, dynamically priced e-commerce transactions are offered to Web users through the use of dynamically generated web pages that incorporate data drawn from the auctioneer's databases. Current providers of such services include eBay, Amazon, and Yahoo.

Id. at 1:57–61. The ’176 Patent describes that “[t]his approach is not ideal” because a user must visit each individual auction site for a particular item.

Id. at 1:61–67.

The ’176 Patent describes a Universal Electronic Transaction (UET) system and method to address the aforementioned need. *Id.* at 1:43–44, 6:51–53. A UET Company implements the UET system. *Id.* at 6:54–56. An overview of the UET method is provided with respect to Figure 1 of the ’176 Patent, which is reproduced below.

FIG. 1 **Universal Electronic Transaction (UET)
System: Method Overview**

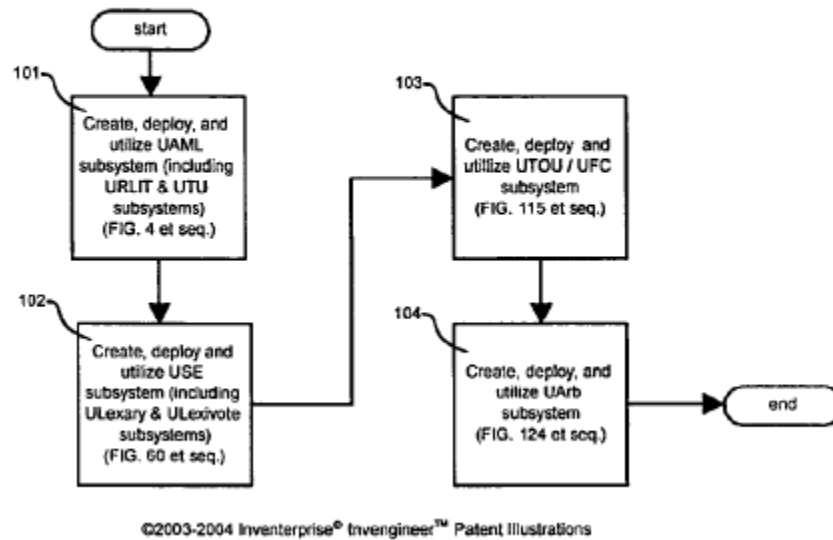


Figure 1 of the '176 Patent, above, illustrates a flowchart of a four-step process by which UET technology is created and deployed. *Id.* at 8:7–9, 16:24–28. In particular, the process involves creation and deployment of Universal Advertisement Markup Language (UAML) subsystem 101, as well as a search engine and other subsystems. *Id.* at 16:24–35.

The '176 Patent describes that UAML subsystem 101 includes Universal Toolbar Utility (UTU). *Id.* at 16:28–29. The UTU appears as a toolbar in a Web browser and serves to establish data connections (push or pull) between a client computer on which the UTU is being used and the UET Company. *Id.* 7:18–22. The '176 Patent describes “iTicker,” which is an optional UTU function, and is described further with respect to Figure 53, reproduced below. *Id.* at 31:27–28.

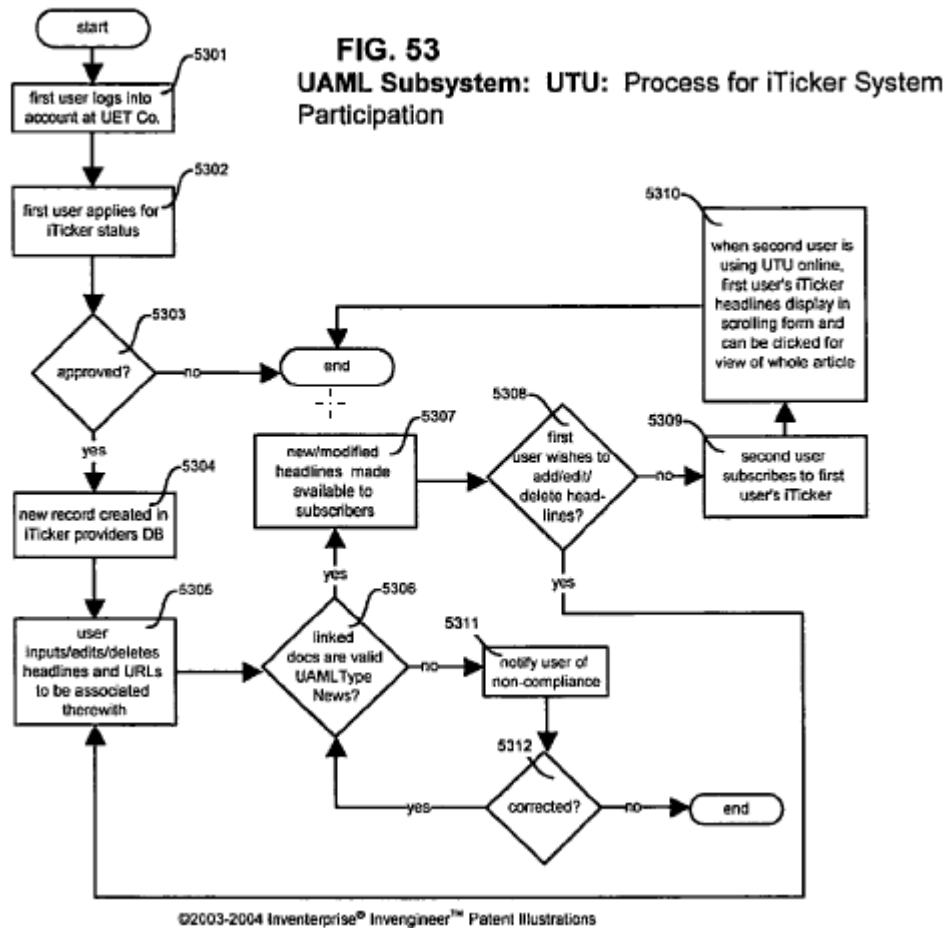


Figure 53 of the '176 Patent, above, illustrates a flow diagram for using the iTicker features of the UTU. *Id.* at 10:6–7.

As shown in Figure 53, an iTicker provider applies for iTicker provider status (step 5302) and if approved (step 5303), a new record is created in the iTicker provider's database (step 5304) and the iTicker provider inputs headlines and URLs to be associated with these headlines into the iTicker provider record (step 5305). *Id.* at 31:36–48. The '176 Patent describes that the iTicker provider maintains and updates the headlines and associated URLs “as often as the iTicker provider wishes so as to keep the content fresh.” *Id.* at 31:48–49.

E. Illustrative Claim

Petitioner challenges independent claims 1, 6, 14, 21, and 27 of the '176 Patent. Pet. 1. Independent claims 1 and 21, reproduced below, are illustrative of the claimed subject matter:

1. A computer-implemented method, said computer-implemented method comprising the following:

- [a] providing for receiving at a first computer, via a computer network, first information, said first information comprising at least (i) first user account information, (ii) first word or phrase information, or (iii) first approval or disapproval information;
- [b] providing for storing at least some of said first information in a first database;
- [c] providing for associating a first item with a first status, said first item comprising or relating to said first information;
- [d] providing for associating a second item with said first status;
- [e] providing for determining a first measure of community approval, said providing for determining said first measure of community approval comprising at least providing for counting a first plurality of submissions, said first plurality of submissions pertaining to said first item;
- [f] providing for comparing said first measure of community approval to a second measure of community approval;
- [g] providing for associating said first item with a second status, said second status being different from said first status, the associating said first item with said second status being performed at least partly according to an outcome of said providing for comparing said first measure of community approval to said second measure of community approval;
- [h] providing for comparing a third measure of community approval to a fourth measure of community approval;

- [i] providing for removing a third item from said second status, the removing said third item from said second status being performed at least partly according to an outcome of said providing for comparing said third measure of community approval to said fourth measure of community approval; and
- [j] providing a plurality of real-time newsfeeds or tickers, said plurality of real-time newsfeeds or tickers comprising at least a first real-time newsfeed or ticker, said first real-time newsfeed or ticker comprising at least a first news item, said first news item being related to said first information.

Ex. 1001, 52:50–53:24.¹

21. A computer-implemented method, said computer comprising at least a processor and a memory and being connected to a first computer network, said memory comprising at least a first news database for storing a plurality of news submissions, the method comprising:

- [a] registering a first user account;
- [b] receiving, via said first computer network, a URL and a first term, said first term comprising a word or phrase;
- [c] providing, via said first computer network, at least one of said URL and said first term to a community of users;
- [d] determining, by computer, a first score, said first score pertaining to at least one of said URL and said first term, said first score being based at least partly on a measurement of popularity; and
- [e] at least partly causing, via said first computer network, display of a first real-time news feed or ticker, said first real-time news feed or ticker comprising or conveying a plurality of real-time news items, said plurality of real-time news

¹ Petitioner refers to the each recitation in claim 1 using the letter designations noted. Pet. 14–37. Herein, we refer to the recitations in claim 1 using Petitioner’s designations.

items comprising at least a first item, said first item relating to said first user account.

Ex. 1001, 56:8–29.²

F. Evidence Relied Upon

Petitioner relies on the following references:

U.S. Patent No. 7,433,832 B1, filed November 17, 2000, issued October 7, 2008 (Ex. 1003, “Bezos”); and

U.S. Patent No. 6,272, 493 B1, filed January 21, 1999, issued August 7, 2001 (Ex. 1004, “Pasquali”).

Additionally, Petitioner relies on the Declaration of Dr. Sandeep Chatterjee (Ex. 1002) and the Reply Declaration of Dr. Chatterjee (Ex. 1014). Patent Owner relies on the Declaration of Mr. Glenn Weadock (Ex. 2009).

G. Ground Asserted

Petitioner asserts the ground of unpatentability set forth below in Table 1 of this Decision below. Pet. 3.

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1, 6, 14, 21, 27	103(a)	Bezos, Pasquali

Table 1 of this Decision summarizes the ground in the instant proceeding.

² Petitioner refers to each recitation in claim 21 using the letter designations noted. Pet. 60–66. Herein, we refer to the recitations in claim 21 using Petitioner’s designations.

II. DISCUSSION

A. *Principles of Law Relating to Obviousness*

A patent claim is unpatentable 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.

35 U.S.C. § 103(a). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). When evaluating a combination of teachings, we also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). We analyze the ground based on obviousness in accordance with the above-stated principles.

B. *Level of Ordinary Skill*

Petitioner contends, relying on the testimony of Dr. Chatterjee, that a person having ordinary skill in the art would have had a Bachelor of Science in “Electrical/Computer Engineering, or Computer Science (or related subjects),” and two years of related technical experience with design and development of distributed computing systems, which could have included, for example, implementing systems for communicating over Local Area Networks (LANs) and Wide Area Networks (WANs) such as the Internet.

Pet. 4 (citing Ex. 1002 ¶¶ 13–16). Petitioner asserts that one could also have qualified as a person of ordinary skill in the art with some combination of (1) more formal education and less technical experience, or (2) less formal education and more technical or professional experience. *Id.* at 4–5 (citing Ex. 1002 ¶¶ 14, 15).

Mr. Weadock testifies that a person having ordinary skill in the art would have had at least a Bachelor of Science degree in computer science or software engineering or a Bachelor of Science degree in a technical field requiring computer science or software engineering courses, as well as two to four years of experience designing, writing, or implementing web-based applications such as Web servers and browsers. Ex. 2009 ¶ 14. Mr. Weadock also testifies that more experience can offset less education. *Id.*

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). The parties’ descriptions of a person of ordinary skill in the art overlap significantly as both encompass a person having at least a Bachelor of Science degree in computer science or software engineering or a Bachelor of Science degree in a technical field requiring computer science or software engineering courses and two years of related technical experience, with related experience including web-based and Internet technologies. Any differences are not material to the analysis in this Decision.

On the record before us, we are persuaded to adopt Petitioner’s proposed level of skill because it is consistent with the problems and

solutions in the prior art of record. We also consider the level of skill implied by the disclosures of the prior art references. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art itself can reflect the appropriate level of skill in the art). However, our conclusions and analysis herein do not turn on which definition is selected and would be the same under Patent Owner’s level of ordinary skill.

C. Claim Construction

The parties provide contentions for the claim term “real-time newsfeed[s] or ticker[s]”³ and claim elements 21[d] and 27[c3]. *See, e.g.*, Pet. 5–8; PO Resp. 10–17, 18–21; Pet. Reply 1–10, 14–15. We discuss the parties’ contentions below.

1. Legal Standards

In this *inter partes* review, we construe claim terms according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2018).⁴ Claim terms are given their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249,

³ Claims 14, 21, and 27 similarly recite “real-time news feed[s] or ticker[s],” which we treat the same herein.

⁴ The claim construction standard to be employed in an *inter partes* review recently changed. *See 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) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018). At the time of the filing of the Petition in this proceeding, however, the applicable claim construction standard was set forth in 37 C.F.R. § 42.100(b) (2018).

1257 (Fed. Cir. 2007). We apply this standard to the claims of the '176 Patent.

2. “*real-time newsfeed[s] or ticker[s]*”

Petitioner argues that, in the context of the specification, the term “real-time” “simply refers to the ability to provide current or up-to-date information.” Pet. 7 (citing Ex. 1002 ¶ 79). Petitioner refers to this also as the “*freshness*” of the information provided, as opposed to the “*timing*” of the information delivery to a user. *Id.* (citing Ex. 1002 ¶¶ 79–80).

At the institution stage, Patent Owner argued that “[i]n the context of the specification, the term ‘real-time’ therefore undoubtedly pertains to the timing of the information that is to be made available to other users via the claimed newsfeed or ticker when such users are online.” Prelim. Resp. 17. Furthermore, Patent Owner argued that the ordinary and customary meaning of “real-time” is an “[i]mmediate response by a computer.” *Id.* at 18–19 (citing Ex. 2008).

Our determinations in our Institution Decision regarding claim construction are set forth below:

At this juncture in the proceeding, as discussed below, we determine that Petitioner has established a reasonable likelihood that it would prevail in establishing that at least one claim is obvious over the combination of Bezos and Pasquali under both parties’ proposals, i.e., that the term “real-time” refers to “the ability to provide current or up-to-date information” (Pet. 7 (citing Ex. 1002 ¶ 79)) and the term “real-time” “pertains to the timing of the information that is to be made available to other users via the claimed newsfeed or ticker when such users are online” (Prelim. Resp. 17). Furthermore, we determine that Petitioner has established a reasonable likelihood that it would prevail in establishing that at least one claim is obvious using the ordinary and customary meaning of

“real-time” provided by Patent Owner, i.e., that “real-time” means an “[i]mmediate response by a computer.” Prelim. Resp. 19 (citing Ex. 2008). Accordingly, we need not make further determinations regarding an express construction for that term.

Inst. Dec. 14–15.

Patent Owner asserts that “the limitation ‘real-time newsfeeds or tickers’ must be construed in its entirety to resolve the ‘differences between the prior art and the claims at issue’ in determining whether the claims at issue are unpatentable under 35 U.S.C. § 103.” PO Resp. 11. Similar to arguments made prior to institution, Patent Owner asserts that “the term ‘real-time’ refers to the timing that the information is made available for distribution to subscribers.” PO Resp. 12. At this stage, Patent Owner’s position differs only in form by interchangeably referring to distribution to subscribers (*id.*) and users that are online, but substantively Patent Owner’s position is the same. Patent Owner further argues as follows:

Accordingly, the term “real-time newsfeed or ticker” pertains to the timing regarding the transmission of information, including at least between the content provider end user and the service provider servers, which make the information available for distribution to respective newsfeeds and/or tickers subscribing users via the claimed newsfeed or ticker when such users are online.

PO Resp. 15. Patent Owner's proposals pertain to both the timing and the end points, the end points being "users" or "subscribers" for example. PO Resp. 12, 15.⁵

Regarding the end points, we point out for our claim construction and subsequent analyses, that an "end user" as Patent Owner uses that term, is generally understood to be a content originator.⁶ PO Resp. 13. In other words, an "end user" can be the person or entity selecting and uploading to a service provider's servers the specific news or content that is to be distributed to subscribers. *See* PO Resp. 11 (explaining that "real-time newsfeeds or tickers" relates to "the timing of the information in a social networking environment at least between the end user that is uploading the information for publication and the newsfeed/ ticker service provider.")). Alternatively, we note that a "subscriber," for example in an auction where a second user, i.e. a "subscriber," inputs information such as a new high bid in the auction, could also be understood as an "end user," or a "user" providing the latest bid information to a group of subscribers. *See* Ex. 1001, 24:28–31. ("If the listing is a UAML auction and the second user wishes to bid, the

⁵ In its Sur-Reply, Patent Owner asserts it provides "an express recitation of its proposed construction to the extent necessary for the Board to resolve a controversy in this case," which is "whether the references of record disclose the use of real-time transmission of information 'between the content provider end user and the service provider servers and between the service provider servers and the subscribing users.'" PO Sur-Reply 5. Patent Owner's proposed construction pertains to the end points, not the meaning of "real-time."

⁶ Patent Owner also at times refers to the "end user" as "news provider" (PO Resp. 13), and "content provider" or "end user content provider" (PO Resp. 12, 15).

second user requests the UET Company site page associated with the given listing, reviews the information therein, and submits his or her bid.”).

Turning back to “real-time,” Patent Owner argues that “timing” means “updates to the newsfeeds or tickers are made available for dissemination to subscribers as soon as content provider updates (i.e., new headlines and/or articles) are reflected in the content database.” PO Resp. 13. Patent Owner relies on Figures 53 and 54 and related description of the ’176 Patent. *Id.* at 12–13 (citing Ex. 1001, 2:9–11, 5:60–63, 6:27–31, 31:27–64, Fig. 53); PO Sur-Reply 5–9. Patent Owner also asserts that “[t]he specification further discusses that, much like ‘instant messenger software, the UTU establishes a live data connection to the UET Company computers when the UTU user is online 3802.’” *Id.* at 13–14 (citing Ex. 1001, 26:52-55).

When questioned regarding the meaning of “real-time” during oral argument, Patent Owner’s counsel explained that “real-time” means, “there’s an immediacy. There’s no delay. There’s nothing that has to -- that holds up the process of the data being transmitted from one place to another. There’s nothing holding that up.” Tr. 42:13–16. Patent Owner’s counsel also asserted that the ’176 Patent describes “real-time” with respect to the Internet auction embodiment as “meaning immediately, *the way the dictionary describes*, without delay.” Tr. 44:8–10 (emphasis added). Patent Owner’s counsel, however, acknowledged that the portion of the ’176 Patent Specification relied upon describes a real-time or near real-time data *connection*, but in the claims, the term “real-time” is used to modify *information*. *Id.* at 45:6–46:3. At the end of the questioning relating to an express construction of “real-time,” Patent Owner’s counsel concluded that: “[a]s I articulated earlier, we weren’t trying to define the real-time part of

that, because we thought it was ordinary meaning well understood, and we provided a *dictionary* for that.” *Id.* at 87:6–21 (emphasis added).

Our reading of the ’176 Patent indicates that “real-time” is consistent with Petitioner’s interpretation—namely, that “real-time” means “the ability to provide current or up-to-date information” between an end user and a subscriber, or even between one subscriber and another subscriber. This is borne out by a plain reading of the auction embodiment in the ’176 Patent, which describes a dynamically changing image where “[a] UAML-enabled Internet auction listing displays real-time information, such as the *current* high bid, even though the web page itself is static.” Ex. 1001, 14:12–14 (emphasis added). In the auction embodiment, where subscribers submit bids for an auction item, the express example of displayed “real-time information” is “the *current* high bid.” *Id.* (emphasis added). Also, where the ’176 Patent discusses retrieving the “current high bid field” from the database record in the auction listings database, the Specification explains that “[a]fter a higher bid has been submitted (time 2), the value of the current high bid field changes and a new image 1814 is created and replaces the old image 1813.” *Id.* at 20:60–63. Also, for the “iTicker” embodiment, the ’176 Patent states “iTicker provider inputs headlines and URLs to be associated with these headlines into the iTicker provider record 5305, which can be maintained and updated as often as the iTicker provider wishes so as to keep the content *fresh*.” *Id.* at 31:45–49 (emphasis added). Thus, the description for the embodiments in the ’176 Patent relate most explicitly, not to data transmission speed or immediacy, but to the repeated cycle of providing, and then updating, an old bid, news, or information with a new more current bid, news, or information. *See id.* at 20:67–21:4 (Describing regarding Figure

17, “each image 1702 serving as a *variable real-time indicator* is hosted on the UET Company’s servers 1703. This image file is overwritten with a new image at the same file location each time the information it portrays changes.” (emphasis added)).

As set forth above, the description of Figure 53 relied upon by Patent Owner is consistent with Petitioner’s proposed construction and at least encompasses that construction. To the extent Patent Owner relies on the other portion of the ’176 Patent Specification describing “‘instant messenger software’” (PO Resp. 13–14 (citing Ex. 1001, 26:52–55)) that portion relates to a real-time connection, rather than providing real-time information. For the aforementioned reasons, as well as for the reasons given by Petitioner, we determine that Petitioner’s proposal, i.e., that the term “real-time” “simply refers to the ability to provide current or up-to-date information” (Pet. 7 (citing Ex. 1002 ¶ 79)) is the broadest reasonable interpretation of “real-time.”

Nonetheless, as discussed below (*see infra* II.D), we determine that Petitioner also has demonstrated by a preponderance of the evidence that the challenged claims are obvious over the combination of Bezos and Pasquali under Patent Owner’s proposed construction that the term “real-time newsfeed or ticker” pertains to the timing regarding the transmission of information, including at least between the content provider end user and the service provider servers, which make the information available for distribution to respective newsfeeds and/or tickers subscribing users via the claimed newsfeed or ticker when such users are online. PO Resp. 15. With respect to that construction, we use Patent Owner’s ordinary meaning set

forth in the dictionary (Tr. 87:6–21), i.e., that “real-time” means an “[i]mmediate response by a computer.” Ex. 2008.

Although Patent Owner asserts that a broadest reasonable interpretation is needed for the entire phrase “real-time newsfeed[s] or ticker[s]” to resolve a dispute in this proceeding, Patent Owner does not provide a proposed construction for the term “newsfeed,” or “ticker.” The auction embodiment in the ’176 Patent describes that an image corresponding to a bid “serv[es] as a variable *real-time* indicator.” Ex. 1001, 20:52 (emphasis added), Fig. 17. The “iTicker” embodiment in the ’176 Patent is directed to scrolling “Newsfeed Headlines” as opposed to auction bids. *See id.* at Figs. 53–54 (Figure 53 (step 5310) expressly states that “iTicker headlines display in scrolling form.”).

We disagree that the terms “newsfeed” and “ticker” need to be construed expressly. Patent Owner does not dispute that the primary reference teaches “newsfeed[s] or ticker[s].” Furthermore, as discussed below in Section II.D.3.a, the prior art teaches expressly the examples described in the ’176 Patent Specification. Accordingly, we need not make further determinations regarding an express construction for those terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

3. *determining, by computer, a first score, said first score pertaining to at least one of said URL and said first term, said first score being based at least partly on a measurement of popularity*⁷

The Petition does not include a proposed construction for claim elements 21[d] (above) or 27[c3]. At the institution stage, we declined to provide a construction and, instead, stated that “[t]he parties will have the opportunity to develop the evidentiary record regarding claims 21 and 27.” Inst. Dec. 32.

Patent Owner proposes that claim 21 should be construed to require “that both the ‘URL’ and ‘first term’ are received, and a set comprising both is provided to the community of users.” PO Resp. 19; *see also* PO Sur-Reply 17–19 (asserting “the Board should interpret, for example, claim 21 (and similarly claim 27) to include ‘at least one of said URL’ and ‘at least one of said first term.’”). Patent Owner further proposes that claim element 21[d] should be construed such that “the first score is determined based on a measurement of popularity for this URL and first term set, not the popularity for the user as in Bezos.” *Id.* Patent Owner argues that the same constructions apply to claim 27. *Id.* at 21.

Petitioner asserts that Patent Owner’s proposals are not consistent with the language of claims 21 and 27. Pet. Reply 14–15. We agree.

Claim 21 recites “receiving . . . a URL and a first term,” “providing . . . at least one of said URL and said first term to a community of users,”

⁷ Claim 27 similar recites “determining, by computer, a first quantity, said first quantity pertaining to an opinion of said first community, said opinion of said first community pertaining to at least one of said URL and said first content.” *Compare* Ex. 1001, 57:4–7 *with id.* at 56:20–23. We refer to this recitation in claim 27 using Petitioner’s designation of 27[c3]. Pet. 70.

and “determining . . . a first score, said first score pertaining to *at least one* of said URL and said first term.” Ex. 1001, 56:18–21 (emphasis added). Claim element 27 includes similar recitations. *Id.* at 56:56–57:17.

The Federal Circuit has held that the plain and ordinary meaning of “at least one of” is “one or more,” but that when the phrase is used in a claim, the issue is what “at least one of” is used to modify. *See SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 886 (Fed. Cir. 2004). In *SuperGuide*, the court held that, when “[t]he phrase ‘at least one of’ precedes a series of categories of criteria, and the patentee used the term ‘and’ to separate the categories of criteria,” the phrase connotes a conjunctive list and requires selecting at least one value for each category. *Id.* Because claim 21 recites “receiving . . . a URL and a first term,” claim 21 encompasses receiving only one URL and one first term. Based on the plain reading of the claim language, therefore, “providing . . . *at least one of* said URL and said first term,” does not require providing one of each, but instead requires providing either of the two items received.

Patent Owner also relies on the ’176 Patent Specification as support for its proposals. PO Resp. 19 (citing Ex. 1001, 41:25–29, 41:55–42:5). The ’176 Patent Specification describes a user choosing a word or phrase to enter into field 9302, and then the user entering a URL into field 9303. Ex. 1001, 41:25–29. The ’176 Patent also describes a weighing scheme that uses word-votes, each including a word/phrase and a URL (or more than one URL in certain embodiments). Ex. 1001, 41:55–42:5. In applying a broadest reasonable construction, claim terms generally are 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. *Translogic*, 504 F.3d at

1257. Additionally, we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). We decline to read the preferred embodiment identified by Patent Owner into the claims.

Regarding Patent Owner’s further proposal that claim element 21[d] should be construed such that “the first score is determined based on a measurement of popularity for this URL and first term set,” we agree with Petitioner that claim 21 does not recite that requirement. Instead, claim 21 recites “said first score being based at least partly on a measurement of popularity.” Ex. 1001, 56:20–23.

For the reasons given herein, as well as the reasons set forth by Petitioner (Pet. Reply 14–15), we agree with Petitioner that claims 21 and 27 are not limited as argued by Patent Owner. More specifically, we agree with Petitioner regarding “at least of” recited in claims 21 and 27. Also, we agree with Petitioner that claim 21 recites “a measurement of popularity” without specifically limiting “popularity” as proposed by Patent Owner. We determine that no further express construction of claim elements 21[d] (above) or 27[c3] is needed to resolve a dispute in this proceeding.

D. Obviousness over Bezos and Pasquali

Petitioner asserts that each of claims 1, 6, 14, 21, and 27 is unpatentable, under 35 U.S.C. § 103(a), as obvious over Bezos and Pasquali. Pet. 3. Patent Owner opposes. *See generally* PO Resp. In our discussion below, we first provide a brief overview of the prior art, and then we address the parties’ contentions in turn.

1. *Overview of Bezos (Ex. 1003)*

Bezos relates to methods for assisting users in sharing information relating to transactions conducted over a network, including historical purchase data and product evaluations. Ex. 1003, 1:60–63. Bezos describes as background that online merchant Web sites provide feedback from product users to assist users in evaluating products, but conventional systems have a “large number of customer reviews” such that the process for locating worthwhile reviews is “tedious and time-consuming” and reviews “often lack credibility.” *Id.* at 1:35–55.

Bezos describes

To help customers quickly locate the more helpful reviews, these evaluations may be aggregated and displayed in association with the reviews. Reviewer profiles are generated so that customers can better locate reviewers whose opinions they are more likely to find helpful. The review processing system may be associated with a particular merchant Web site, or may be used across multiple Web sites for several corresponding merchants.

Id. at 5:9–15. Bezos also describes that “[c]ustomers reading the reviews can rate individual reviews based on their perceived usefulness.” *Id.* at 2:56–57.

Bezos further describes:

For purposes of illustration, the merchant Web site in the disclosed implementation is the Web site of Amazon.com. As is well known in the field of Internet commerce, the Amazon.com site includes functionality for allowing users to browse and make online purchases from a catalog of millions of book titles, as well as to purchase toys, games, electronics, music, videos, home improvement items, cars, and the like.

Id. at 8:15–22; *see also id.* at Fig. 8 (illustrating customer’s personal computers 852 and 854 accessing “AMAZON.COM WEB SITE 850” via

the Internet), 19:37 (describing that Figure 8 “illustrates an exemplary commerce system”).

Bezos additionally describes user profile pages, including associated groups such as “Favorite People” and “Trusted Friends.” *Id.* at 17:19–36, Fig. 3A. Profile pages include reviews of certain products, for example, “Shared Purchases” that are “viewable by Trusted Friends only.” *Id.* at 17:29–55, Fig. 3A. Profile pages also include a “Friends and Favorites” tab that links to a “Friends and Favorites” page shown in Figure 3B, reproduced below. *Id.*

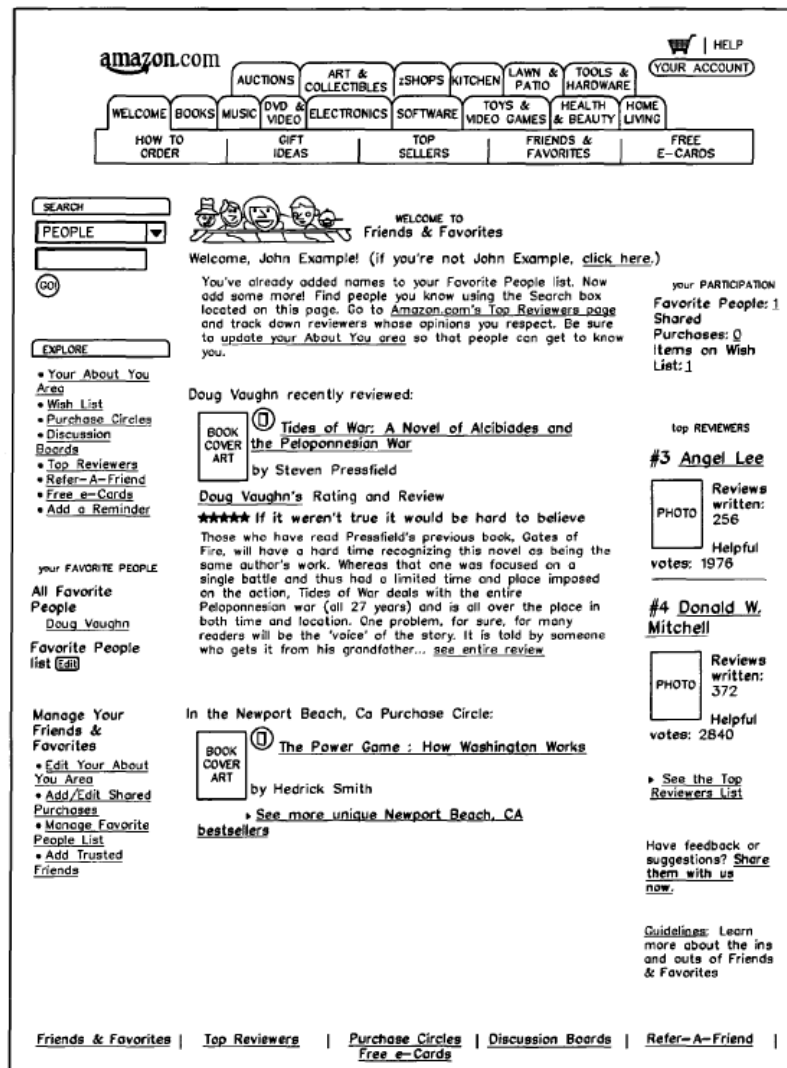


FIG. 3B

Figure 3B of Bezos, above, illustrates for example a customizable “Friends and Favorites” page including, *inter alia*, reviews by one of John Example’s “Favorite People,” e.g., Doug Vaughn. *Id.* at 17:56–57. Also displayed on this page are “Top Reviewers,” e.g., Angel Lee and Donald W. Mitchell, including the number of “Helpful” votes each has accrued as well as the total of reviews each has written. *Id.* at 17:61–65, Fig. 3B.

2. Overview of Pasquali (Ex. 1004)

Pasquali teaches a web browser software application that includes providing dynamic screen displays. Ex. 1004, (57). Pasquali describes a web browser client that is operative to produce at least one window object within the content manifestation environment. *Id.* Pasquali states that

[t]he window object(s) generated within the content manifestation environment may be updated and loaded with content received via the electronic data network without requiring the content manifestation environment to be refreshed (e.g., without requiring screen refresh operations), and *in real-time* without requiring user intervention such as via hyper-link traversal.

Id. (emphasis added). Figure 2A of Pasquali is reproduced below.

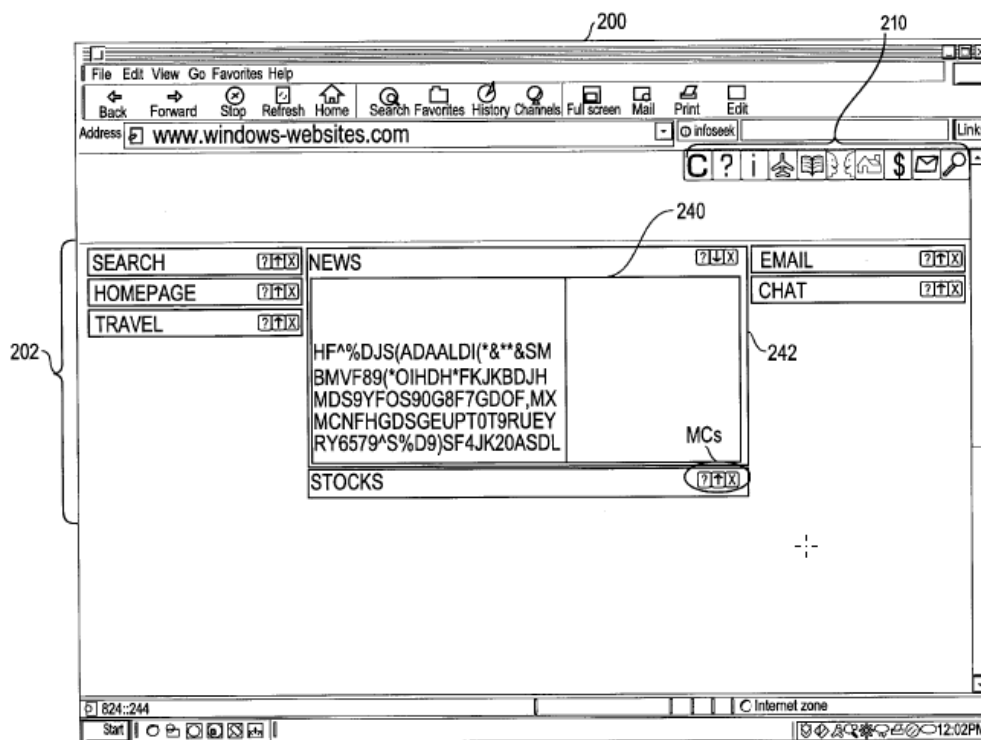


FIG. 2A

Figure 2A of Pasquali illustrates a web browser screen display including tiled window objects denoted as “NEWS” and “STOCKS.” *Id.* at 4:63–67, 9:49–55. Screen image 200 depicted in Figure 2A includes

window modules 202 arranged in a table. *Id.* at 9:55–56. Each window module 202 includes control section 240 and content display section 242. *Id.* at 9:60–63. Pasquali describes that in the display “static content like or similar to Straight HTML content (e.g., text, graphics, etc.) may be manifested, while dynamic content such as from a content feed (e.g., a news feed[d], a stock ticker feed, etc.) may also be displayed and/or manifested.” *Id.* at 8:61–64.

Pasquali describes as background that “the mynetscape.com web site and all similar type web sites are not capable of providing truly controllable windows within a single unframed web browser content manifestation environment which can display dynamic content such as live video, updated stock tickers, motion video, etc.” *Id.* at 3:35–40. The improvement, Pasquali describes, is that “window object(s) generated within the content manifestation environment may be updated and loaded with content in real-time and without user-intervention (e.g., such as user clicks on hyper-links, etc.).” *Id.* at 4:35–38.

3. *Discussion of Claim 1*

We begin our analysis with independent claim 1. Petitioner asserts that claim 1 would have been obvious over the combination of Bezos and Pasquali. Pet. 3, 8–48. Petitioner relies on Bezos alone for most limitations in claim 1. *Id.* at 8–48. Petitioner relies on the combination of Bezos and Pasquali for claim element 1[j]. *Id.*

Patent Owner’s disputes regarding claim 1 pertain to claim element 1[j]. *See generally* PO Resp. In particular, Patent Owner counters that (1) Petitioner has not shown that the asserted art teaches “real-time newsfeed

or ticker” (PO Resp. 17–18), and (2) Petitioner’s reasoning to combine Bezos and Pasquali is deficient (*id.* at 21–40).

Upon review of the evidence in the complete record now before us, we find that Petitioner has shown how the combination of Bezos and Pasquali teaches each limitation of claim 1. We also determine that Patent Owner’s arguments do not undermine Petitioner’s showing.

a) Element-By-Element Analysis

We start with Petitioner’s assertion relating to Bezos alone, i.e., the preamble of claim 1 and elements Claim 1[a] through Claim 1[i]. As an overview, Petitioner points to Bezos’s teachings relating to customers accessing “AMAZON.COM” Web site 850, as well as Bezos’s teachings of customers submitting reviews of products offered for sale and storing those reviews in review database 878 of Web site 850. Pet. 8–12, 14–37 (citing, *e.g.*, Ex. 1003, 2:29–31, 3:4–11, 9:20–26, 9:63–64, 18:10–30, 20:26–29, Figs. 4, 8). Petitioner further relies on Bezos’s teachings regarding enhancing the usefulness of customer reviews, including Bezos’s voting process. *Id.* at 24–34 (citing, *e.g.*, Ex. 1003, 10:27–38, 10:55–56, 11:36–40, 11:44–58, 18:10–30, 20:36–44, Figs. 4, 7).

For instance, with respect to the preamble and claim elements 1[a] and [b], Petitioner points to Bezos’s description of “AMAZON.COM” Web site 850 and a process for a user to register over the Internet and establish a profile. *Id.* at 14–18 (citing *e.g.*, Ex. 1003, 1:22–24, 4:51–54, 9:6–14, 9:30–31, 9:54–62, 10:37–38, 14:49–51, 19:42–50, 19:60–65, 20:29–32, Fig. 8). Petitioner also submits the testimony of Dr. Chatterjee that “Bezos teaches that the computer system of Web site **850 receives user account information** via the Internet connection from customer computer systems

852, 854.” Ex. 1002 ¶¶ 44. Patent Owner does not dispute Petitioner’s showing with respect to the preamble of claim 1 and elements claim 1[a] and claim 1[b]. *See generally* PO Resp.

Consistent with Petitioner’s contentions and Dr. Chatterjee’s testimony, Bezos describes the computer architecture to implement the customer profile form, customer reviews, rating of customer reviews, and rating of reviewers with respect to Figure 8, reproduced below. Ex. 1003, 4:14–17.

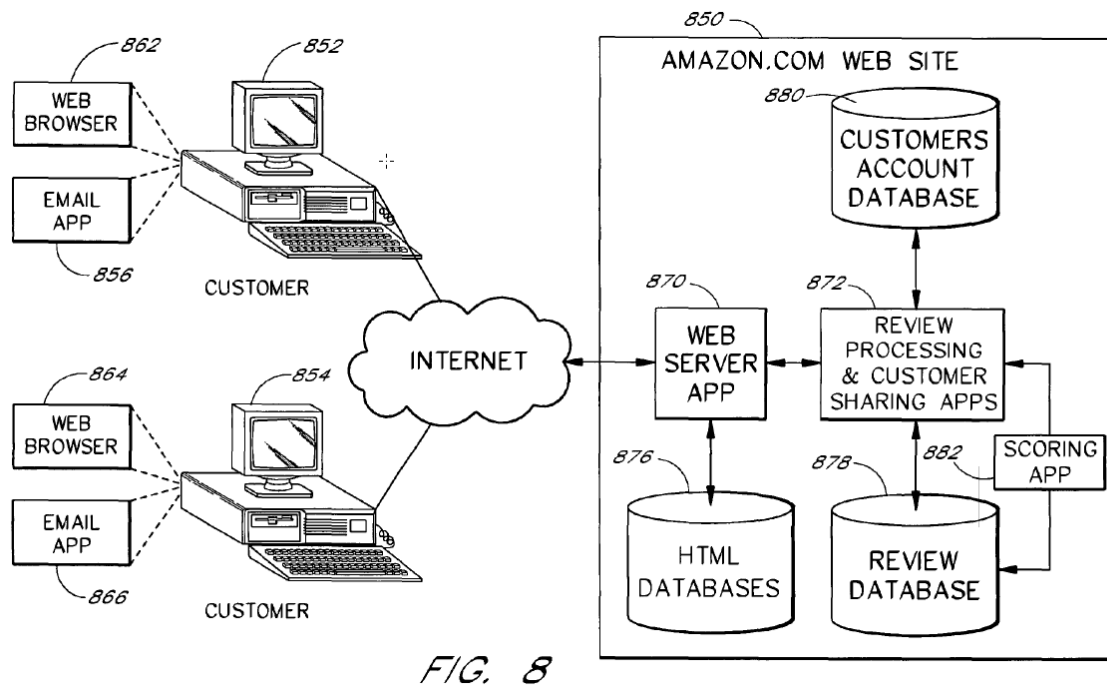


Figure 8 of Bezos, above, illustrates an exemplary commerce system, including software and hardware components for implementing a review processing and customer information sharing system. *Id.* at 19:37–39.

As shown in Figure 8, customers access the Web site 850 using respective personal computers 852, 854. *Id.* at 19:42–43. Bezos’s Web site 850 includes review processing and customer information sharing

applications 872 that accesses review database 878 and customer account database 880. *Id.* at 20:18–26. Review database 878 stores customer and professional reviews and customer account database 880 stores information used to populate the customer’s profile page. *Id.* at 20:26–31.

Bezos also describes a “registration process” that involves the customer providing “information such as name, shipping address, billing address, and/or e-mail address.” *Id.* at 9:6–11; *see also id.* at 9:54–62 (describing that “personal information, such as the customer’s name, the customer’s e-mail address, nickname, and/or other personal or identifying information, such as photograph, geographical location, education, and so on” may be gathered during the registration process). Registered customers are authenticated during sign-in with a user identifier (ID) and password. *Id.* at 9:11–14.

In summary, we agree with Petitioner’s contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 41–48) regarding the preamble and claim elements 1[a] and [b], because Petitioner’s contentions and Dr. Chatterjee’s testimony are consistent with the evidence of record.⁸

With respect to claim element 1[c], Petitioner points to Bezos’s product review submitted by the user of the account and Bezos’s associated product page display status. Pet. 18–23 (citing, *e.g.*, Ex. 1003, 2:29–36, 2:50–55, 3:4–11, 9:11–14, 9:27–31, 10:59–61, 20:26–29, Figs. 4, 5). Patent

⁸ Regardless of whether the preamble is limiting, Petitioner has shown that the recitation in the preamble is satisfied by Bezos. Because Petitioner makes the requisite showing that Bezos teaches the subject matter recited in the preamble, we assume without deciding that the preamble is limiting.

Owner does not dispute Petitioner's showing with respect to claim element 1[c]. *See generally* PO Resp.

Consistent with Petitioner's contentions and Dr. Chatterjee's testimony regarding "associating a first item with a first status" recited in claim 1, Bezos describes a "review entry process" in which a user is presented with a review entry form that requests a rating on a rating scale. Ex. 1003, 9:20–25; *see also id.* at 20:26–29 (describing that review database 878 "stores customer and professional reviews, pointers to the corresponding items being reviewed, and evaluations associated with the customer reviews"). Regarding "said first item comprising or relating to said first information" recited in claim 1, also consistent with Petitioner's contentions and Dr. Chatterjee's testimony, Bezos describes that a potential reviewer must already have an account and that the reviewer is authenticated before being allowed to submit a review. *Id.* at 9:27–32; *see also id.* at 2:50–55 (describing "[f]or non-anonymous review, the reviewer's name or nickname, as selected by the reviewing customer, will be displayed in conjunction with the review" and the review may be "linked to a reviewing customer's public profile"). Figure 4 of Bezos illustrates a product information page, including a review, a rating associated with the review author, and including a link to a review entry page. *Id.* at 4:4–7, Fig. 4. Figure 5 of Bezos illustrates an example review entry page. *Id.* at 4:8, Fig. 5.

Accordingly, we agree with Petitioner's contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 49–55) regarding claim element 1[c] because Petitioner's contentions and Dr. Chatterjee's testimony are consistent with the evidence of record.

With respect to claim element 1[d], Petitioner points to Bezos's description of a customer submitting multiple reviews, as well as description of ranking reviews. Pet. 23–24 (citing, *e.g.*, Ex. 1003, 3:4–11, 9:63–64, Fig. 4). Patent Owner does not dispute Petitioner's showing with respect to claim element 1[d]. *See generally* PO Resp.

Consistent with Petitioner's contentions and Dr. Chatterjee's testimony, Bezos describes displaying “[t]he reviews submitted by customers.” Ex. 1003, 9:63–64, Fig. 4. Bezos also describes

Further, the reviews may automatically be ranked for display, and/or filtered out, based on the votes they receive. For example, assuming multiple reviews have been submitted for a particular product, those voted to be most useful may be displayed first (*e.g.*, closer to the top of a product detail page). The reviews voted to be the least useful may be displayed in a less prominent location (*e.g.*, near the bottom of a product detail page), or may be filtered out (not displayed).
Ex. 1003, 3:4–11.

Accordingly, we agree with Petitioner's contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶ 56) regarding claim element 1[d] because Petitioner's contentions and Dr. Chatterjee's testimony are consistent with the evidence of record.

With respect to claim elements 1[e] and 1[f], Petitioner asserts that Bezos's number of people that found a review helpful teaches the first measure of community approval recited in claim 1 and Bezos's number of unhelpful votes teaches the second measure of community approval recited in claim 1. Pet. 24–30 (citing, *e.g.*, 10:27–38, 10:55–56, 11:44–47, 18:10–26, 20:36–44, Fig. 4). Petitioner asserts that Bezos's scoring application 882

compares the first and second measures of approval to calculate a score. *Id.* at 27–30 (citing, *e.g.*, Ex. 1003, 10:30–33, 11:44–47, 20:36–44). Patent Owner does not dispute Petitioner’s showing with respect to claim elements 1[e] and 1[f]. *See generally* PO Resp.

Consistent with Petitioner’s contentions and Dr. Chatterjee’s testimony, Bezos describes:

The evaluation and rating of reviews will now be described in detail. To further enhance the usefulness of customer reviews, and to enable other customers to more quickly and accurately locate useful customer reviews, individual customer reviews may be rated or reviewed by others. For example, the customer reviews may be rated or voted on as “very useful,” “very helpful,” “useful,” “helpful,” “not helpful,” or “not useful” by others, or the customer reviews may be rated on a point or star system, where the higher the number of points or stars, the more useful or the better the review. In one embodiment, rating of customer reviews may be restricted to other customers, as opposed to the general public reading the reviews.

Ex. 1003, 10:26–38; *see also id.* at 11:44–58 (describing calculating a score “where a ‘useful’ or helpful vote is worth 1 point, and a ‘not useful’ or ‘not helpful’ vote is worth 1 point, and the customer/reviewer score is equal to the useful votes minus the not useful votes”), 20:36–44 (describing that “scoring application 882 calculates a score for reviews and customer reviewers”).

Bezos, additionally, describes displaying an exemplary Web page with product information and related customer reviews. Ex. 1003, 18:10–12, Fig. 4. Bezos’s Web page includes a soft button that accepts readers’ “vote yes or no” as to whether a review was helpful. *Id.* at 18:15–18. Bezos further describes:

In addition, associated with each customer review is a tally of how many “yes” votes the review received and how many total votes were received. For example, the first review, titled “is it impossible to make films like this anymore,” includes a tally indicating that 5 out of 5 people found the review helpful. The second review, titled “fantastic fantasy,” includes a tally stating that 11 out of 12 people found the review helpful, indicating that the review received 11 “yes” votes and 1 “no” vote. The second review, also includes a ranking indicating that the reviewer is a “top 50 reviewer,” that is, has received enough “helpful” votes to place the reviewer among those 50 reviewers having the most “helpful” votes.

Id. at 18:18–30.

Accordingly, we agree with Petitioner’s contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 57–63) regarding claim element claim elements 1[e] and 1[f] because Petitioner’s contentions and Dr. Chatterjee’s testimony are consistent with the evidence of record.

With respect to claim element 1[g], Petitioner points to Bezos’s determination of whether to display the review with the reviewer’s status and, if so, where to display the review on the review page. Pet. 30–34 (citing, *e.g.*, 3:4–11, 3:14–16, 11:36–40, 11:44–58, 18:26–30, Figs. 4, 7). Dr. Chatterjee’s testimony provides Table 2 below with a mapping the components of claim 1[g] with the disclosures of Bezos. Ex. 1002 ¶ 64.

Limitation of Claim 1[g]	Summary of Disclosure in Bezos
“first item”	a product review submitted by a user
“second status”	a user’s reviewer rating or status (e.g., “Top 50 Reviewer”)
“first status”	whether a review is displayed on a product page
“first measure of community approval”	a count of the number of helpful votes submitted for a review
“second measure of community approval”	a count of the number of unhelpful votes submitted for a review

Table 2 above is Dr. Chatterjee’s identification of how the components of claim 1[g] have been mapped to the disclosures of Bezos.

Regarding performing the associations of the user’s reviewer status with a product review “at least partly according to an outcome of said providing for comparing said first measure of community approval to said second measure of community approval” recited in claim 1, Dr. Chatterjee testifies that the “outcome of comparing the claimed first and second measures of community approval corresponds in Bezos to a review score” and Bezos discloses multiple ways “a user’s reviewer status is associated with a product review according to a review score.” Ex. 1002 ¶ 67. Dr. Chatterjee, more specifically, testifies (1) Bezos teaches that a review may not even be displayed on a product page if the review gets filtered out based on its score; (2) Bezos describes that the review’s score is used to determine where the review will be placed on the page; and (3) Bezos explains that a user’s reviewer status may be based on the total of the scores of all of the user’s reviews. *Id.* ¶¶ 68–69 (citing, e.g., Ex. 1003, 3:4–11, 10:65–11:3, 11:36–40, 11:44–58, 18:26–30, Fig. 4).

Patent Owner does not dispute Petitioner's showing with respect to claim element 1[g]. *See generally* PO Resp. We start by noting with respect to Dr. Chatterjee's testimony regarding the mapping of the components of claim 1[g] with the disclosures of Bezos shown in Table 2 above (Ex. 1002 ¶ 64) that all but one of the components derive antecedent bases from earlier claim elements (i.e., claim elements 1[c], 1[e], and 1[f]) and, therefore, were previously discussed with respect to those claim elements. The only element not previously discussed is "a second status," which Dr. Chatterjee's testimony maps to "a user's reviewer rating or status (e.g., 'Top 50 Reviewer')." Ex. 1002 ¶ 64.

Consistent with Petitioner's contentions and Dr. Chatterjee's testimony, Bezos describes "[the reviews] voted to be the most useful may be displayed first (e.g., closer to the top of a product detail page)" and "[t]he reviews voted to be the least useful may be displayed in a less prominent location (e.g., near the bottom of a product detail page), or may be filtered out (not displayed)." Ex. 1003, 3:7–11; *see also id.* at 10:59–61 ("The number of 'useful' and/or 'not useful' votes or the like that a review has received may affect how the review is displayed on the merchant Web site.") Regarding a user's reviewer rating or status and totaling of the scores of a user's reviews, Bezos's disclosure is as follows:

Customers may be ranked based on the tally of useful and/or useless votes, or the like, that their reviews have received. In tallying votes, a "useful" vote may have a value of "1," and a "not useful" vote may have a value of "-1." For example, a reviewer with 100 "useful" votes and 20 "not useful" votes may have a tally or score of 80.

Id. at 10:65–11:3; *see also id.* at 3:12–13 ("Customers may be ranked based on the tally of useful and/or useless votes that they have received on their

reviews”), 11:37–40 (describing that “a reviewing customer may have a designation of ‘top 100’ reviewer if the customer received enough ‘useful’ votes and/or few enough ‘not useful’ votes to place the customer in the top 100 reviewers”).

Accordingly, we agree with Petitioner’s contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 64–69) regarding claim element 1[g] because Petitioner’s contentions and Dr. Chatterjee’s testimony are consistent with the evidence of record.

With respect to claim elements 1[h] and 1[i], Petitioner points to Bezos’s description of the total number of helpful and unhelpful votes, respectively, that a user’s reviews collectively have received. Pet. 34–37 (citing, *e.g.*, 11:25–27, 11:36–40, 11:44–49, Figs. 4, 7). Relying on the testimony of Dr. Chatterjee, Petitioner asserts that it would have been obvious to a person of ordinary skill in the art to remove the association between a product review (“third item”) and a reviewer status (“second status”). *Id.* at 36–37 (citing, *e.g.*, Ex. 1002 ¶ 72).

Dr. Chatterjee testifies as follows:

Bezos makes clear that a review (“third item”) may be removed from a particular reviewer status (“second status”). For example, a review may no longer be displayed with a “top 50” or “top 100” reviewer designation. . . . It would have been obvious that a reviewer might lose his or her status based on the current score associated with that reviewer. Thus, for example, a reviewer could achieve a “top 50” or “top 100” reviewer status at one point in time based on the helpful votes received up to that point, but may later lose that status if a number of unhelpful votes are received.

Ex. 1002 ¶ 72 (citing Ex. 1003, 11:25–27, 11:36–40, Fig. 7).

Patent Owner does not dispute Petitioner's showing with respect to claim elements 1[h] and 1[i]. *See generally* PO Resp. Consistent with Petitioner's contentions and Dr. Chatterjee's testimony, Bezos provides details regarding tallying votes, such as "[t]he tally or tallies discussed above may be continuously calculated in substantially real-time as new ratings are received, or periodically, such as once every day." Ex. 1003, 11:25–27. Additional disclosure in Bezos is as follows:

Thus, in one embodiment, a reviewing customer may have a designation of "top 100" reviewer if the customer received enough "useful" votes and/or few enough "not useful" votes to place the customer in the top 100 reviewers. This provides customers *valuable feedback of how well they write reviews and provides a psychological incentive to improve their reviews so as to achieve a better designation.*

Id. at 11:36–40 (emphasis added).

Accordingly, we agree with Petitioner's contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 70–73) regarding claim element claim elements 1[h] and 1[i] because Petitioner's contentions and Dr. Chatterjee's testimony are consistent with the evidence of record.

We now turn to Petitioner's assertion relating to the combined teachings of Bezos and Pasquali for claim element 1[j]. With respect to claim element 1[j], Petitioner relies on Bezos's customized review page for disclosing a feed of product reviews submitted by others that the user has identified as "favorite people." Pet. 37–41 (citing, *e.g.*, Ex. 1003, 6:13–37, 17:37–42, 17:56–57, Figs. 3B, 9A). Regarding a "newsfeed or ticker" comprising "at least a first news item" that is "related to said first information" recited in claim 1, Dr. Chatterjee testifies "[a] review is a

‘news item’ because it records and reflects recent events and activities.”

Ex. 1002 ¶ 76 (citing, *e.g.*, 17:37–40, Fig. 9A). Dr. Chatterjee also testifies that Bezos describes that a review is related to the user’s account information (“said first information”). *Id.* ¶ 77 (citing, *e.g.*, 6:13–20).

Patent Owner does not dispute Petitioner’s contentions regarding a “newsfeed or ticker” comprising “at least a first news item” that is “related to said first information” recited in claim 1. *See generally* PO Resp.

Consistent with Petitioner’s contentions and the testimony of Dr. Chatterjee, Bezos describes the following:

The user can add a customer to the user's favorite people list, via their profile page, or via their e-mail address. Then, when one of the designated "favorite people" writes a review, or comes up with an interesting recommendation, it will be displayed on a page designated for such purposes. Thus, the user has a customized review page displaying reviews more likely to be of interest to the user.

Ex. 1003, 17:36–42.

Also consistent with Petitioner’s contentions and the testimony of Dr. Chatterjee, Figure 3B of Bezos illustrates a customizable “Friends and Favorites” page including reviews by “Favorite People.” Ex. 1003, 17:56–57. Also displayed on the “Friends and Favorites” page are “Top Reviewers,” as well as the number of “Helpful” votes each has accrued and the total of reviews each has written. Ex. 1003, 17:56–57, 17:61–65, Fig. 3B; *see also supra* § II.D.1 (including a reproduction of Figure 3B of Bezos). We note that like the auction embodiment in the ’176 Patent, which describes that an image corresponding to a bid “serv[es] as a variable *real-time* indicator” (Ex. 1001, 20:52 (emphasis added), Fig. 17), Bezos describes product reviews, as well as related information such as votes regarding

usefulness of the product reviews. Ex. 1003, 17:36–42, 17:56–57, 17:61–65, Fig. 3B.

The parties’ dispute centers on whether the asserted art teaches a “real-time” newsfeed or ticker. *See, e.g.*, PO Resp. 17–18. Relying on the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 79–91), Petitioner points to the teachings of Bezos and Pasquali for the “*real-time* newsfeed or ticker.” Pet. 41–43 (citing, *e.g.*, Ex. 1003, 13:9–12, 14:10–13; Ex. 1004, 4:24–42, 5:64–6:21, 7:59–63, 8:57–65, 9:61–65, Figs. 1A, 2A, 5B).

With respect to the proposed combination of teachings, Petitioner provides a “modified version of Fig. 3B” depicting an example.

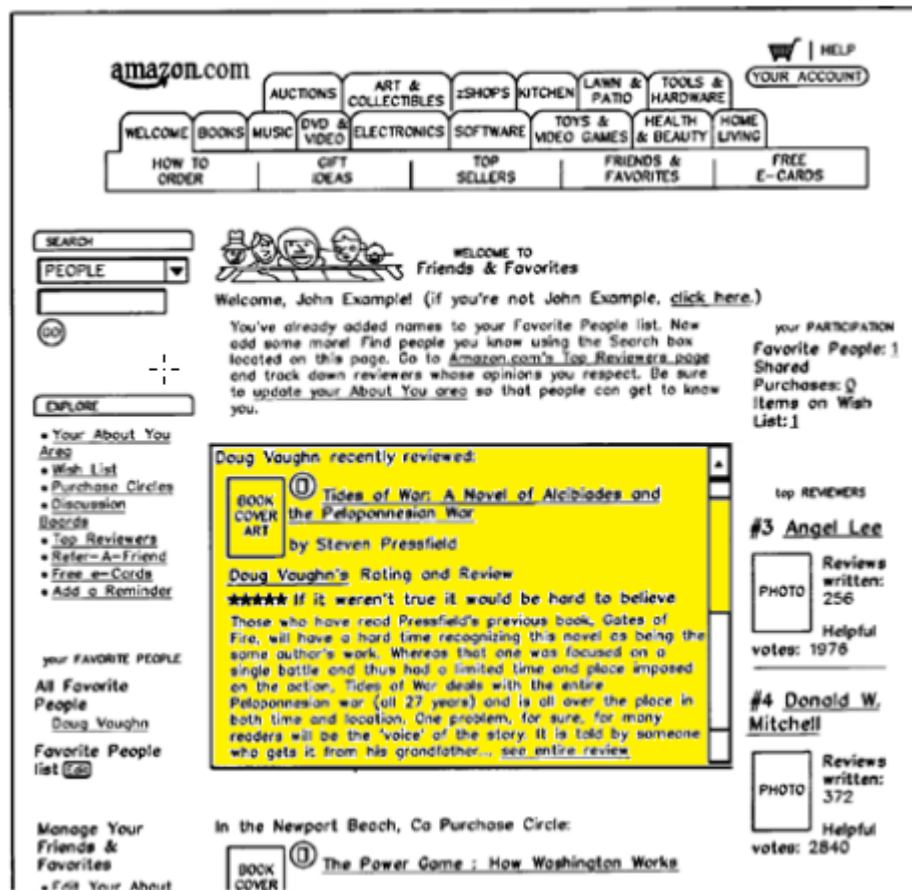


Figure 3B of Bezos modified by Petitioner, above, illustrates the customizable “Friends and Favorites” page of Bezos modified such that the feed of reviews from a user’s “favorite people” is presented in the scrolling window module of Pasquali (annotated with yellow highlighting). *Id.* at 44 (citing Ex. 1002 ¶ 86; Ex. 1003, Fig. 3B). Relying on the testimony of Dr. Chatterjee, Petitioner also provides rationale to combine the teachings of Bezos and Pasquali in the manner asserted, which is discussed below in Section II.D.3.b. *Id.* at 43–48 (citing, *e.g.*, Ex. 1002 ¶¶ 86–91).

We turn to Patent Owner’s contentions. Patent Owner contends that Petitioner has not shown that the asserted art teaches a “*real-time newsfeed or ticker*.” PO Resp. 17–18. Patent Owner, more specifically, contends “*Bezos and Pasquali are silent as to whether the end users communicate information in real-time or otherwise to the service provider.*” *Id.* at 18. Patent Owner’s contentions are premised on its incorrect construction of “*real-time newsfeed or ticker.*” *Id.* at 17–18. In its Sur-Reply, Patent Owner argues Pasquali does not discuss “real-time” with respect to content from the content provider to the service provider. PO Sur-Reply 16.

For the reasons discussed in section II.C.2, we determine that the broadest reasonable interpretation of “real-time” is Petitioner’s proposed construction, i.e., that the term “real-time” “simply refers to the ability to provide current or up-to-date information.” Pet. 7; Ex. 1002 ¶ 79. We determine that the combined teachings of Bezos and Pasquali teach “*real-time newsfeed or ticker*” under the broadest reasonable interpretation.

Regarding “real-time,” consistent with Petitioner’s contentions and Dr. Chatterjee’s testimony, Bezos describes “the customer may [] request that the customer be notified whenever a new review is submitted for a

selected item,” and such notification is “an e-mail and/or Web notification.”

Ex. 1003, 13:9–12, 14:10–13. Also, Pasquali describes:

The window object(s) generated within the content manifestation environment *may be updated and loaded with content in real-time and without user-intervention* (e.g., such as user clicks on hyper-links, etc.) received via the electronic data network without requiring the content manifestation environment to be refreshed (e.g., without requiring screen refresh operations).

Ex. 1004, 4:35–40 (emphasis added). Pasquali describes that “[a] window object” is a module or layer. *Id.* at 5:64. Pasquali further depicts exemplary screen image 200 that includes window modules 202, each having control section 240 and content display section 242. *Id.* at 9:55–63.

Regarding newsfeed or ticker, in addition to Bezos’s teachings, Pasquali also describes exemplary “[c]ontent streams and data” including “news feeds” and “stock information.” *Id.* at 7:59–60. *Pasquali* further describes these examples as “dynamic content from a content feed” such as a “news” feed or a stock “ticker” that may be “displayed and/or manifested,” i.e., displayed to an online subscriber. *Id.* at 8:63–65. Pasquali expressly teaches the claim recitation, as well as the “iTicker” embodiment in the ’176 Patent with scrolling “Newsfeed Headlines.” *See* Ex. 1001, Figs. 53–54 (Figure 53 (step 5310) expressly states that “iTicker headlines display in scrolling form.”).

For the reasons we now discuss, as an independent reason for our conclusion, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 also would have been obvious over the combination of Bezos and Pasquali under Patent Owner’s proposal, i.e., that the term “real-time newsfeed or ticker” pertains to the timing

regarding the transmission of information, including at least between the content provider end user and the service provider servers, which make the information available for distribution to respective newsfeeds and/or tickers subscribing users via the claimed newsfeed or ticker when such users are online. PO Resp. 15. For “real-time” we use Patent Owner’s ordinary meaning set forth in the dictionary (Tr. 87:6–21), i.e., that “real-time” means an “[i]mmediate response by a computer.” Ex. 2008.

For example, consistent with Petitioner’s contentions and Dr. Chatterjee’s testimony and contrary to Patent Owner’s contentions (*see, e.g.*, PO Resp. 17–18; PO Sur-Reply 5, 16), Pasquali describes exemplary “[c]ontent streams and data” including “news feeds” and “stock information” (Ex. 1004, 7:59–60) and, more specifically, that these examples may include “dynamic content from a content feed” such as a “news” feed or a stock “ticker” that may be “displayed and/or manifested,” i.e., displayed by a service provider to an online subscriber. *Id.* at 8:63–65, Figs. 1A–1D.⁹ In other words, the disclosure of Pasquali teaches the use of real-time transmission of information from the content provider via I/O systems 110, and through server (SVR) system 102 to a client-side display. *See, e.g., id.* at 7:59–67, 8:60–65, Fig. 1B. Also, Pasquali specifically describes the update as being in “*real-time*,” i.e., “[t]he window object(s)

⁹ Although not needed for our conclusion, we further note that Mr. Weadock’s testimony acknowledges that “Pasquali discusses providing a window for *dynamically* presenting information from a content feed, such as a stock ticker.” Ex. 2009 ¶ 26 (citing Ex. 1004 3:34–40, 7:64–67, 8:60–65, 9:30–34) (emphasis added). Additionally, Patent Owner’s counsel during the hearing acknowledged that Patent Owner describes a “dynamic type of real-time feed” that is distinguishable from static content. Tr. 75:1–6.

generated within the content manifestation environment may be updated and loaded with *content in real-time and without user-intervention* (e.g., such as user clicks on hyper-links, etc.) received via the electronic data network *without requiring the content manifestation environment to be refreshed* (e.g., without requiring screen refresh operations.” Ex. 1004, 4:35–40 (emphases added).

In an obviousness analysis, as here, we must consider the combination of references, as a whole, in light of the general knowledge of an ordinarily skilled artisan. *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1361 n.3 (Fed. Cir. 2008) (“What a prior art reference discloses or teaches is determined from the perspective of one of ordinary skill in the art.”); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986) (noting that when evaluating claims for obviousness, “the prior art as a whole must be considered”). We are persuaded that a person having ordinary skill in the art, reading Pasquali would have understood Pasquali to teach expressly a “real-time newsfeed or ticker” and “real-time newsfeeds or tickers” even under Patent Owner’s proposed construction. Upon consideration of the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 86–91) and Mr. Weadock (*see, e.g.*, Ex. 2009 ¶¶ 25–29) regarding the teachings of the asserted prior art, therefore, we credit and give significant weight to the testimony of Dr. Chatterjee over that of Mr. Weadock because Dr. Chatterjee’s testimony is consistent with the evidence of record. Accordingly, upon consideration of the parties’ arguments and the evidence of record, we find that Petitioner shows that Bezos teaches the preamble of claim 1 and elements Claim 1[a]

through Claim 1[j]. We determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

b) Reasoning to Combine

As discussed above in Section II.D.3.a, relying on the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 79–91), Petitioner points to the combined teachings of Bezos and Pasquali for the “*real-time* newsfeed or ticker.” Pet. 41–43 (citing, *e.g.*, Ex. 1003, 13:9–12, 14:10–13; Ex. 1004, 4:24–42, 5:64–6:21, 7:59–63, 8:57–65, 9:61–65, Figs. 1A, 2A, 5B). With respect to the proposed combination, Petitioner provides a “modified version of Fig. 3B,” reproduced in Section II.D.3.a above illustrating the customizable “Friends and Favorites” page of Bezos modified such that the feed of reviews from a user’s “favorite people” is presented in the scrolling window module of Pasquali (annotated with yellow highlighting). *Id.* at 44 (citing Ex. 1002 ¶ 86; Ex. 1003, Fig. 3B). Relying on the testimony of Dr. Chatterjee, Petitioner also provides rationale to combine the teachings of Bezos and Pasquali in the manner asserted. *Id.* at 43–48 (citing, *e.g.*, Ex. 1002 ¶¶ 86–91).

Dr. Chatterjee testifies “Bezos and Pasquali describe analogous, web-based systems in which content is displayed in web pages using existing technology and techniques.” Ex. 1002 ¶ 88. Dr. Chatterjee also testifies that “Bezos and Pasquali provide express suggestions and motivations for the combination.” *Id.* ¶ 89 (citing Ex. 1003, 10:27–30, 17:35–45, Fig. 3B, 9A; Ex. 1004, 2:14–23, 4:35–42); *see also id.* ¶ 91 (testifying regarding Pasquali’s “express motivations for incorporating its windows modules into existing web pages”). Dr. Chatterjee further testifies:

A person of ordinary skill in the art would have also appreciated that providing a real-time feed of reviews as they are written could enable the user to more efficiently review and sort through the information in a piecemeal fashion and help avoid pertinent information from being buried or overlooked. This motivation is identified in Pasquali's description of prior art, stating that "once a network surfer locates and accesses a content source (e.g., visits a web site containing content such as a list of related links, a news feed, stock related information, etc.) he may be faced with having to constantly refresh his web browser screen with the 'next ten links,' or scroll through a relatively large amount of text by using navigation buttons, scroll bars, browser application back and forward buttons, etc. Such browsing of content can be time consuming, frustrating, and often, fruitless."

Ex. 1002 ¶ 90 (citing Ex. 1004, 2:14–23).

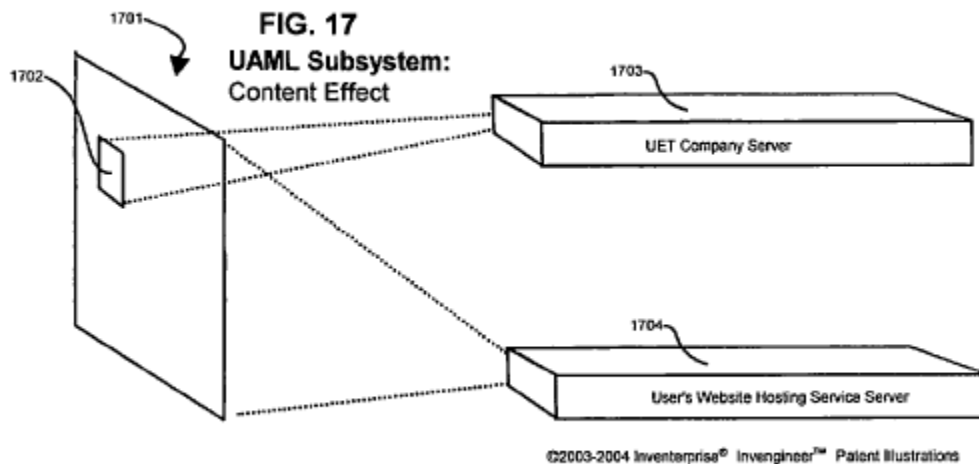
Patent Owner's arguments regarding Petitioner's reasoning to combine are as follows: (1) Pasquali is not analogous art (PO Resp. 21–23); (2) Petitioner's assertion is conclusory and based on improper hindsight (*id.* at 21, 24–35); (3) Petitioner has not provided substantial evidence of reasonable expectation of success (*id.* at 35–36); (4) the state of the art teaches away from Petitioner's proposed combination (*id.* at 36); and (5) objective indicia support a finding that claim 1 would not have been obvious (*id.* at 36–40). We discuss the parties' contentions with respect to each of these arguments in turn.

(1) *Analogous Art*

Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to

the particular problem with which the inventor is involved. *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992).

Contrary to the characterization of the '176 Patent argued by Patent Owner (*see, e.g.*, PO Resp. 22, PO Sur-Reply 19–20), the '176 Patent is broadly drawn to various aspects of electronic commerce services such as internet advertising and auctions, as well as information search services. Ex. 1001, 1:37–41, 2:55–59. The '176 Patent discloses a particular embodiment for the internet auction functionality that includes an image file that “is overwritten with a new image at the same file location each time the information it portrays changes.” *Id.* at 21:2–4. The '176 Patent explains that “[w]hile the web page is static, the image files serve as dynamically changing indicators by virtue of the process depicted in FIG. 18A, producing the effect depicted in FIG. 17.” *Id.* at 20:33–36. We reproduce Figure 17 below.



“As shown in FIG. 17, the static web page 1701 is hosted on the user’s website host servers 1704, while each image 1702 serving as a variable real-

time indicator is hosted on the UET Company's servers 1703.” *Id.* at 20:65–21:2.

Pasquali similarly addresses the concept of presenting changing, i.e. dynamically changing information, e.g., “news” or “stocks” as a dynamic window module sub-component of a static webpage. *See* Ex. 1004, 8:57–65 (describing that “any type of content may be manifested within module 118” including “dynamic content such as from a content feed (e.g., a news fee[d], a stock ticker feed, etc.),” which may be “displayed and/or manifested”), 9:52–53 (Referring to Figure 2A, Pasquali explains that “screen image 200 is that of a WWW browser client screen and . . . window modules 202 arranged in table fashion.”). Additionally, according to Pasquali, within the browser window, the window modules display content including “a dynamic news feed display window.” *Id.* at 10:25.

Contrary to Patent Owner's argument contrasting the '176 Patent and Pasquali (PO Resp, 22–23, PO Sur-Reply 19–21), both the '176 Patent and Pasquali are directed to internet and web browser services and more specifically browser structures and functionality pertaining to the distribution and receipt of information between providers and subscribers. Ex. 1001, 1:35–55; Ex. 1004, (57). In addition to being broadly related as browser and internet related inventions, we determine that Pasquali's window modules 202 displayed in a static web-browser page image 200 providing changing and updated information to a subscriber is a similar endeavor, and in the same field as the '176 Patent which provides a web-browser window structure that supplies dynamic information about changing auction bids in content screen 1702 in the context of static web-browser client screen 1701. For example, both Pasquali and the '176 Patent explain that

given the dynamic window module structure, new information can be displayed even as the static hosting browser client page remains static.

Compare, e.g., Ex. 1004, 8:46–56, *with* Ex. 1001, 20:33–39, 20:58–65.

Even if Pasquali and the '176 Patent could be considered not to be in the same field of endeavor, we determine that Pasquali's solution of presenting dynamic updated information in a window module within a static website would have been considered by one of ordinary skill in the art attempting to present new and updated information, e.g., auction bids, to a subscriber within a static web browser window. *See In re Clay*, 966 F.2d at 659 ("If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and that fact supports use of that reference in an obviousness rejection."). Patent Owner asserts that Pasquali's dynamic window is not reasonably pertinent to the problem addressed by the Patentee because "Pasquali does not provide static content in its dynamic window, but rather in a window that is not dynamically updated." PO Resp. 23 (citing Ex. 1004, 8:46–65, 10:17–32, Figs. 2B, 5A; Ex. 2036, 62:10–63:9, 67:26–68:18, 69:10–70:17). Contrary to Patent Owner's argument, however, Pasquali addresses the same type of information i.e., "news" or "stocks." *See* Ex. 1004, 8:57–65, 9:30–34, 10:25.¹⁰

We agree with Petitioner that Bezos and Pasquali describe analogous, web-based systems in which content is displayed in web pages using existing technology and techniques because Petitioner's arguments and

¹⁰ Patent Owner does not dispute that Bezos teaches news. *See, e.g.,* Tr. 57:10–58:5.

evidence are consistent with the evidence of record. Pet. 45–48; Ex. 1002 ¶¶ 88, 89, 126; Ex. 1014 ¶¶ 32–33. We determine Patent Owner’s arguments do not undermine Petitioner’s showing.

(2) *Conclusory Assertion and Hindsight*

Patent Owner makes several specific arguments as follows:

(1) Petitioner’s motivation to combine does not reflect the true state of the art at the time of the ’176 Patent (PO Resp. 3–8, 25–26; PO Sur-Reply 22–23), (2) Petitioner’s proposed combination is based on hindsight because the demands for the static information published by Bezos lack the relative urgency as compared to the streaming news/stock quotes published by Pasquali in its dynamic window (PO Resp. 29), and (3) Petitioner’s explanation is lacking of how Bezos’s content would have been reproduced in a window specifically adapted, per Pasquali (PO Resp. 28; PO Sur-Reply 21–22).

We start with Patent Owner’s argument that Petitioner’s motivation to combine does not reflect the true state of the art at the time of the ’176 Patent. PO Resp. 3–8, 25–26; PO Sur-Reply 22–23. Patent Owner, more specifically, argues that “Web page design leaned toward minimalism to account for the limited bandwidth associated with the majority of consumers.” *Id.* at 3–8, 25 (citing, *e.g.*, Ex. 2009 ¶¶ 19–24). Patent Owner further argues that “adding real-time elements as per *Pasquali* to a Web page would add complexity and increase bandwidth usage.” *Id.* at 25. Patent Owner asserts, therefore, that adding Pasquali’s data stream functionality would have “easily overwhelm[ed] the then burdened low-bandwidth dial-up connections.” *Id.* at 25–26.

Mr. Weadock testifies “[o]ne skilled in the art at the time of the ’176 and ’828 patents also understood that systems that report dynamic data streams are more demanding of underlying hardware resources” requiring “more bandwidth from network connections and more CPU time from both clients and servers.” Ex. 2009 ¶ 23 (c). Mr. Weadock testifies further as follows:

In the software environments that are the subject of the courses that I teach relating to computer networking and network management, many administrative consoles, for example, do not present network monitoring data dynamically, because the additional complexity, cost, and resource usage is not justified by the time sensitivity, change potential, and/or change impact of the particular type of data that is being monitored.

Id. ¶ 24.

Replying to the issues of network resources including bandwidth, Dr. Chatterjee acknowledges in his reply declaration that the dial-up connections and 56K connection speeds available in 2003 had difficulty due to “the increased reliance on rich content such as graphical images, sounds, and in some cases video.” Ex. 1014 ¶ 28. According to Dr. Chatterjee, however, providing real-time information in the form of text, for example, “could have been conveyed nearly instantaneously using network speeds common in July 2003.” *Id.* ¶ 29. Dr. Chatterjee explains that

[a] person of ordinary skill in the art would have understood that, in light of the enormous number of available products, a sufficiently large number of product purchases or reviews could occur within the various communities or favorite people groups the user has joined or created, to make the real-time ticker of Pasquali beneficial.

Id. ¶ 18.

Patent Owner asserts Petitioner does not provide supporting evidence to show the size of Bezos's product reviews. *See, e.g.*, PO Sur-Reply 22–23. We disagree. Bezos's product reviews are illustrated and described as textual descriptions. Ex. 1003, 9:23–26 (describing providing the customer with “a review entry form” that is accessed by the customer to provide “a rating on a rating scale, a grade, a one-line review summary, and/or a full textual review”), Figs. 3A, 3B, 3C, 4, 5, 6.

Upon consideration of the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 86–91; Ex. 1014 ¶¶ 16–29) and Mr. Weadock (*see, e.g.*, Ex. 2009 ¶¶ 19–24), we credit and give significant weight to the testimony of Dr. Chatterjee over that of Mr. Weadock because Dr. Chatterjee's testimony is consistent with the evidence of record. For instance, text transmission was in real-time as evidence, for example, by real-time text messages. Ex. 1001, 1:56–60 (acknowledging as background prior art “*dynamically* priced e-commerce transactions are offered to Web users through the use of *dynamically* generated web pages”) (emphasis added), 6:27–31 (acknowledging as background prior art “[i]nstant messaging services, such as AOL Instant Messenger, whereby a real-time or near real-time data connection is established between an Internet user and the service operator so that real-time delivery of text exchanges between users can be affected, are known”); Ex. 1015, 166 (“Conferences are a great way to chat with other people in *real time*”) (emphasis added), 88 (“The main difference between conferences and messages is that a conference occurs in *real time*: If you type a question in a conference, other people *immediately* see that note as you type.” (emphasis added)); Ex. 1016, 104–106 (“You type [your] message here, and then press Enter or click Send to share it with the chat

group. After a moment, your message appears on the whole chat group's screens.")

We next turn to whether Petitioner's proposed combination is based on hindsight. "The emphasis on nonobviousness is one of inquiry, not quality" of the advance. *Graham*, 383 U.S. at 17. The reason this inquiry is important is because "[j]udicial hindsight must be avoided." *Orexo AB v. Actavis Elizabeth LLC*, 903 F.3d 1265, 1271 (Fed. Cir. 2018); *see also KSR*, 550 U.S. at 421 ("A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning."). Against this background, we address the parties' arguments and evidence with respect to the combination of Bezos and Pasquali.

Patent Owner argues that the combination of Bezos and Pasquali is based on hindsight "because the demands for the static information published by Bezos in HTML Web Pages (static product reviews and product review ratings) lack the relative urgency as compared to the dynamic information published by Pasquali in its dynamic window (streaming news/stock quotes)." PO Resp. 29. Patent Owner argues that without such urgency "there is no need for dynamic updates of relatively infrequent product reviews per *Bezos*." *Id.* at 30 (citing Ex. 2009 ¶¶ 29). Patent Owner asserts that a person of ordinary skill in the art had no reason to look to Pasquali for faster updating and dynamic windows because "consumers could visit the *Bezos* product review pages no more than once per day and most instances still get the same information as with the proposed combination of *Bezos* and *Pasquali*." *Id.* at 31; *see also id.* at 26

(asserting “users would expect little change in the product reviews from one day to another”).

Mr. Weadock testifies that “[p]roduct reviews and reviews thereof, and community purchase–related information . . . do *not* need to be updated frequently.” Ex. 2009 ¶ 28. Mr. Weadock further testifies:

[O]ne skilled in the art at the relevant time would understand that the demands of consumers of product reviews, reviews of product reviews, and purchase information (per Bezos and Bezos 850) are different than the demands for dynamic content data streams, such as news and stock pricing (per Pasquali). Consumers of the dynamic content type require data updates at an immediate or urgent pace, whereas consumers of relatively infrequent and inconsequential information do not require updates with any urgency . . . Therefore, the justification for dynamic updates and the associated complexity and costs thereof for streaming content per Pasquali does not translate into a corresponding need for such treatment of the information per Bezos and Bezos 850.

Ex. 2009 ¶ 29.

Upon consideration of the parties’ arguments and evidence, we agree with Petitioner and credit and give significant weight to the testimony of Dr. Chatterjee over the testimony of Mr. Weadock as Petitioner’s contentions and Dr. Chatterjee’s testimony are consistent with the evidence of record. For instance, Petitioner’s arguments and evidence are compelling that speed and higher frequency of updating content and information were desired in 2003 and that “the technology landscape as of July 2003 would have easily accommodated the real-time delivery of news items, and would not have discouraged a skilled artisan from adapting Bezos to include the news ticker of Pasquali.” Pet. Reply 18–19 (citing Ex. 1014 ¶¶ 23–28, 31). Dr. Chatterjee testifies that “[t]he window module of Pasquali would thus have

provided a *clear benefit* to the system of Bezos by notifying web users more quickly of reviews made by other community members.” Ex. 1002 ¶ 89 (citing Ex. 1004, 4:35–42). Dr. Chatterjee also testifies that Mr. Weadock’s testimony does not take into account that “Bezos and Bezos 850 do not focus on updates relating to individual books or products *generally*— they notify users about activities of people” and “these activities could occur frequently, depending on the size of members in the user’s communities and the volume of activity within them.” Ex. 1014 ¶ 16 (citing Ex. 2009 ¶ 28(a)).

We credit and give significant weight to Dr. Chatterjee’s testimony over Mr. Weadock’s testimony because Dr. Chatterjee’s testimony is supported by the evidence of record. For example, Bezos describes the desirability of obtaining review updates quickly and describes features to do so. Ex. 1003, 3:26–33 (describing how a “customer can *quickly* access reviews by that reviewer”) (emphasis added), 10:28–29 (describing that rating customer reviews “to enable other customers to *more quickly and accurately* locate useful customer reviews”) (emphasis added), 15:59–63 (describing a “customer’s favorite Community Purchase Circles,” which tracks purchases “within particular user communities”), 17:37–42 (describing “a customized review page displaying reviews more likely to be of interest to the user”). Also, Pasquali was filed in 1999, and describes that “developers have begun to provide (serve) web content mixed with Java (and Java progeny) type code to enhance content review.” Ex. 1004, 2:44–46. Pasquali points to examples at “mynetscape.com” including “[f]or example, a ‘Stocks’ channel (pseudo-window) may be perused for information related to certain securities markets and a headline news channel

(pseudo-window) may be perused for news story highlight.” *Id.* at 2:66–3:10.

Furthermore, Pasquali explains in its Summary of the Invention section that:

The window object(s) generated within the content manifestation environment may be updated and loaded with content in real-time and *without user-intervention* (e.g., such as user clicks on hyper-links, etc.) received via the electronic data network *without requiring the content manifestation environment to be refreshed* (e.g., without requiring Screen refresh operations).

Id. at 4:36–43 (emphases added). Indeed consistent with Dr. Chatterjee’s testimony, Pasquali provides express reasons to use a dynamic window module in an existing web page, namely “by providing a true windowing environment within the constraints of the Internet’s infrastructure will allow content providers (e.g., web site operators) to incorporate the present invention to further enrich their sites and enhance the web usage experience.” Ex. 1004, 3:64–4:2.

Patent Owner’s reliance on the disclosure of Bezos alone with respect to hindsight is misplaced. PO Resp. 31–32. Obviousness is determined from the perspective of a hypothetical person having ordinary skill in the art. It is only that hypothetical person who is presumed to be aware of all pertinent prior art. *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985). We further note that Patent Owner’s arguments pertain to a lack of economic justification (PO Resp. 29–31; Ex. 2009 ¶ 29) but, with respect to obviousness, “[t]hat a given combination would not be made by businessmen for economic reasons does not mean that persons skilled in the art would not make the combination because of some

technological incompatibility.” *In re Farrenkopf*, 713 F.2d 714, 718 (Fed. Cir. 1983).

We determine that the combination of Bezos and Pasquali is not premised simply on hindsight because those of ordinary skill in the art at the time of the filing of the ’176 Patent understood, consistent with Dr. Chatterjee’s testimony, that window module of Pasquali would have provided a *benefit* to the system of Bezos by notifying web users more quickly of reviews made by other community members.

We now turn to Patent Owner’s argument that Petitioner’s explanation is lacking of how Bezos’s content would have been reproduced in a window specifically adapted, per Pasquali. PO Resp. 28; PO Sur-Reply 21–22. Patent Owner argues that “Pasquali does not disclose how static HTML content would be presented dynamically without constant refreshing.” PO Resp. 28. Patent Owner further argues that, because of form capability, even Pasquali’s system “would by default display Bezos’ static content in the static browser window.” *Id.*

With respect to the form incompatibility, Patent Owner’s argument is premised on the notion that Bezos’s newsfeed content must be physically substituted into Pasquali’s dynamic window without using the appropriate format (DMOD 204). “It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.” *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (Obviousness does not require that all of the features of the secondary reference be bodily incorporated into the primary reference). Nonetheless, Pasquali provides detailed teaching regarding how to implement its features,

including software code instructions (Ex. 1004, 12:1–57:10) and diagrams (*id.* at Figs. 1A–1D, 2A, 2B, 3, 4, 5A, 5B). To an extent, Patent Owner’s arguments pertain to reasonable expectation of success, which is addressed in more detail below. *See infra* § II.D.3.b.3. With respect to the need to refresh, as previously explained, Patent Owner’s arguments are contrary to the evidence of record including, for example, Pasquali, which teaches its “window objects” may be “updated and loaded with content in real-time and without user intervention,” including “without requiring the content manifestation environment to be refreshed.” Ex. 1004, 4:35–42.

We agree with Petitioner and determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined and modified the teachings of Bezos and Pasquali in the manner proposed by Petitioner. *See, e.g.*, Pet. 43–48; Ex. 1002 ¶¶ 86–91; Ex. 1014. We determine Patent Owner’s arguments do not undermine Petitioner’s showing.

(3) *Reasonable Expectation of Success*

We now turn to Patent Owner’s argument that Petitioner has not provided substantial evidence of reasonable expectation of success. PO Resp. 35–36. Patent Owner argues that “Petitioners framed their arguments without regard to the true nature of information processed by Bezos as compared to the information processed by Pasquali in for dynamic window” and that Petitioner asserts incorrectly “that simply adding the scrolling window therein satisfies the claimed real-time ticker limitations.” *Id.* at 35 (citing Pet. 44, n.4; Ex. 1002 ¶¶ 83–85; Ex. 2036, 105:18–107:23).

Contrary to Patent Owner’s arguments, Dr. Chatterjee testifies that “a person of ordinary skill in the art would have recognized that Pasquali’s

methods for improving the display of the content in web pages would be *readily applicable to Bezos and would have had a reasonable expectation that the combination would be successful.*” Ex. 1002 ¶ 88 (emphasis added). Dr. Chatterjee explains persuasively that “both Bezos and Pasquali describe analogous, web-based systems in which content is displayed in web pages using existing technology and techniques. Pasquali, in fact, discloses *example source code for implementing the news feed/ticker.*” *Id.* (citing Ex. 1004, 12:1–57:10) (emphasis added).

Moreover, Dr. Chatterjee was consistent in his testimony. When asked in his deposition for instance if he had considered the practical matter of combining Bezos and Pasquali along with the limited internet bandwidth at the time of the ’176 Patent filing, Dr. Chatterjee explained that

[y]ou would be wasting a lot of network bandwidth by refreshing, and one of ordinary skill would understand that. Whereas simply in the combination of Bezos and Pasquali, where just the relevant new reviews from your friend circle or your trusted friends or from your community personal purchase circle, they would show up. You’re making much more prudent and cost effective use of your limited network bandwidth, and one of ordinary skill would understand that and that would be another motivation to combine the two references together.

Ex. 2036, 99:2–14. Patent Owner’s reliance on Dr. Chatterjee’s deposition testimony regarding scrolling is not persuasive because Patent Owner does not advance a claim construction that requires a “real-time new ticker” to be “scrolling,” nor does our claim construction require such a limitation. *See supra* § II.C.

We agree with Petitioner and determine that Petitioner has shown that a person having ordinary skill in the art would have had a reasonable expectation of success in combining and modifying the teachings of Bezos

and Pasquali in the manner proposed by Petitioner. *See, e.g.*, Pet. 43–48; Ex. 1002 ¶¶ 86–91; Ex. 1014. We determine Patent Owner’s arguments do not undermine Petitioner’s showing.

(4) *Teaching Away*

We turn to Patent Owner’s argument that the state of the art teaches away from Petitioner’s proposed combination. PO Resp. 36. Patent Owner argues that, despite news tickers being known, “publishing material online more frequently than in print was contrary to the financial needs of the news industry at the time, and therefore teaches away from the claimed invention.” *Id.* (citing Ex. 2022).

“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). We find nothing in Bezos or Pasquali that shows a person having ordinary skill in the art would have been discouraged from combining them upon reading the references.

Ex. 2022 is an abstract of a research article titled: “The effect of a magazine’s free digital content on its print circulation: Cannibalization or complementarity?” The abstract describes a decline in print circulation when it is offered on a Web Site. Ex. 2022. The article states the results of the study support including controls for digital content to avoid cannibalizing print sales, which supports that digitally offered content is desirable to consumers. *Id.* We determine that Exhibit 2022 does not undermine Petitioner’s assertion.

We agree with Petitioner and determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined and modified the teachings of Bezos and Pasquali in the manner proposed by Petitioner. *See, e.g.*, Pet. 43–48; Ex. 1002 ¶¶ 86–91; Ex. 1014. We determine Patent Owner’s arguments regarding teaching away do not undermine Petitioner’s showing. Prior to arriving at a conclusion regarding obviousness, we next consider whether Petitioner’s assertion is undermined by Patent Owner’s contentions regarding objective indicia that support a finding that claim 1 would not have been obvious (PO Resp. 36–40). *See infra* § II.D.3.c.

c) Secondary Considerations

Patent Owner further counters that objective indicia support a finding that claim 1 would not have been obvious. *See, e.g.*, PO Resp. 36–40; PO Sur-Reply 24–25. Factual inquiries for an obviousness determination include secondary considerations based on evaluation and crediting of objective evidence of nonobviousness. *Graham*, 383 U.S. at 17. Notwithstanding what the teachings of the prior art would have suggested to one with ordinary skill in the art at the time of the invention, the totality of the evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the claimed invention would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–1472 (Fed. Cir. 1984). Secondary considerations may include any of the following: commercial success, long-felt but unsolved needs, failure of others, and praise. *See Graham*, 383 U.S. at 17; *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

Patent Owner argues that Petitioner has admitted that its social networking application called “News Feed,” launched in 2006, was “‘ground breaking’ and a ‘game changer.’” PO Resp. 40 (citing Ex. 2030, 3; Ex. 2035, 2). Patent Owner contends that Petitioner’s admissions show non-obviousness because either no one had been able to implement a dynamic ticker or newsfeed on the Internet until 2006, or that no one had considered adding a dynamically presented ticker or newsfeed to a website until well after the filing of the ’176 Patent. *Id.* at 36–40. Upon consideration of Patent Owner’s arguments and evidence, we disagree.

Exhibit 2030 is an internet opinion article from February 2010, by Sharon Gaudin on www.computerworld.com, explaining that “Facebook [] this week received a patent for streaming social network news feed technology, raising questions over how the company will wield this new power.” Ex. 2030, 1. On its face, this internet opinion article does not appear to have originated with Petitioner or a related entity. The opinion article quotes a statement from a spokesperson that “[t]he launch of News Feed in 2006 was a pivotal moment in Facebook’s history and changed the way millions of people consumed and discovered information on the site.” *Id.* at 2–3. This statement as well as other evidence submitted by Patent Owner (*see generally* Exs. 2030–2032), however, are cabined within the context of the Facebook site and social media platform, and do not provide persuasive evidence as to the use and implementation of dynamic newsfeeds throughout the Internet as a whole. Patent Owner submits evidence that is promotional in nature, rather than substantiated, and that evidence identifies as noteworthy unrelated features, such as those providing personalization via a proprietary, undisclosed algorithm. *See, e.g.*, Exs. 2031, 2032.

Exhibit 2035 is a 2016 article from Forbes.com, by Kathleen Chaykowski, that includes an alleged statement by Facebook CEO Mark Zuckerberg during an online media presentation that “[a]t the time, nothing like [News Feed] existed in the world. It has not only changed the way people think about and use Facebook today, but in a lot of ways it changed the whole industry.” *Id.* We note that this evidence involves self-praise, rather than industry praise. *Bayer Healthcare Pharms., Inc. v. Watson Pharms.*, 713 F.3d 1369, 1377 (Fed. Cir. 2013) (explaining that bare journal citations and self-referential commendation fall short of demonstrating industry praise). The article pertains to use of Facebook itself and not internet news feeds in general, which clearly existed prior to Facebook’s “News Feed.” *See* Ex. 2035, 2 (indicating that Facebook “said it uses an algorithm to show each user about 200 posts per day out of several thousand available articles, status updates, photos and videos.”).

Overall, we do not accord much weight to the evidence of alleged admissions by Facebook because both exhibits are directed to the apparent marketing success, and even drawbacks, of the “News Feed” application itself and are not clearly directed to the more fundamental concept of providing real-time dynamic content and news to subscribers in a browser window. Also, this argument is not supported by expert testimony or other persuasive evidence linking the apparent marketing success and implementation of Facebook’s “News Feed” to an underlying technological

innovation related to providing real-time dynamic content to subscribers within a browser window.¹¹

Furthermore, we are not persuaded by Patent Owner’s arguments and evidence regarding asserted failures to implement dynamic news feeds, for example, by the New York Times and Amazon’s “Spark” product, as Patent Owner’s contentions pertain to limited examples and the evidence of record does not support Patent Owner’s arguments. *See, e.g.*, PO Resp. 36–39; Exs. 2019–2021; Exs. 2028, 2029. For instance, Patent Owner submits a short historical account of the New York Times between 1904 and 1928 and short print-outs of headline news and book reviews of a particular day. Exs. 2019–2021. Also, neither Patent Owner’s citations nor our review of the information in the evidence submitted appear relevant to the question of why “Spark” failed, or indicate that “Spark” failed because consumers did not want dynamically presented information. PO Resp. 36–39; Exs. 2028, 2029. Indeed, certain of Patent Owner’s evidence attributes shortcomings of Amazon “Spark” to a confusing user experience because the application is difficult to find. Ex. 2029, 4. Patent Owner’s arguments lack expert testimony and other persuasive evidentiary support and, therefore, are afforded little to no weight.

d) Conclusion—Claim 1

In summary, upon consideration of the contentions and evidence presented by both parties in the complete record now before us, we

¹¹ Patent Owner’s relies on its assertion that Facebook, Inc. infringes challenged claims in the related District Court proceeding (PO Sur-Reply 25), but Patent Owner does not submit its infringement assertions in the instant proceeding.

determine that Petitioner shows that all recitations in claim 1 are taught by the combination of Bezos and Pasquali. Additionally, we determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined and modified the teachings of Bezos and Pasquali in the manner proposed by Petitioner. *See, e.g.*, Pet. 43–48 (citing, *e.g.*, Ex. 1002 ¶¶ 86–91). We also are persuaded that Petitioner has demonstrated that such person would have had a reasonable expectation of success in combining the references.

We have considered all Patent Owner’s arguments and evidence, including Patent Owner’s secondary considerations of non-obviousness, which have been accorded appropriate weight along with all of the *Graham* factors. We determine that Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 would have been obvious over the combination of Bezos and Pasquali.

4. *Discussion of Independent Claims 6 and 14*

Independent claims 6 and 14 are similar to independent claim 1. Petitioner’s showing with respect to claims 6 and 14 is similar to its showing with respect to claim 1 and, indeed, Petitioner references its contentions for claim 1. *See, e.g.*, Pet. 48–58. Petitioner accounts for all differences in the claims. For instance, regarding “registering a first account” recited in claim 6 and “a registration component” recited in claim 14, Petitioner points to Bezos’s requirement for customers to register and establish a profile. Pet.

49, 54 (citing, *e.g.*, Ex. 1003, 9:6–11, 9:30–31, 9:54–62, 10:37–38, 20:29–32, Fig. 8).

Consistent with Petitioner’s contentions, Bezos teaches “before accessing a profile page, customers may be required to register.” Ex. 1003, 9:6–7. Bezos further describes a “registration process” (*id.* at 9:9, 9:61) involving “a profile form” (*id.* at 9:54) and that a “potential reviewer is asked to establish a customer account” (*id.* at 9:30–31).

For independent claims 6 and 14, Patent Owner relies on the same arguments discussed above in Section II.D.3 with respect to claim 1. *See generally* PO Resp. For the reasons discussed above in Section II.D.3 with respect to claim 1 based on the record before us, we find that Petitioner shows that all recitations in claims 6 and 14 are taught by Bezos and Pasquali. Also, we are persuaded that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner proposed by Petitioner.

For the reasons given and based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 6 and 14 are obvious over Bezos and Pasquali.

5. *Discussion of Independent Claims 21 and 27*

In the Institution Decision, we did not make a determination that Petitioner had shown a reasonable likelihood that it would prevail in establishing that claims 21 and 27 are obvious. Inst. Dec. 33. Instead, we said the following:

On this record, for the reasons provided herein, we are persuaded that Petitioner has shown a reasonable likelihood of

prevailing on its assertion that claims 1, 6, and 14 of the '176 Patent are unpatentable. Given our determination, we institute trial on all challenged claims and all grounds raised in the Petition, including grounds relating to claims 21 and 27. *See SAS Inst.*, 138 S. Ct. at 1359–60. The parties will have the opportunity to develop the evidentiary record regarding claims 21 and 27. We look forward to hearing from the parties regarding whether Bezos teaches “determining, by a computer, a first score, said first score pertaining to at least one of said URL and said first term, said first score being based at least partly on a measurement of popularity” recited in claim 21 and similarly recited in claim 27.

Id. at 32–33.

The evidentiary record has been further developed (*see, e.g.*, PO Resp. 18–21; Pet. Reply 14–15) and, for the reasons given, we are persuaded that Petitioner has shown that claims 21 and 27 are obvious over Bezos and Pasquali.

a) Claim 21

Petitioner asserts that claim 21 would have been obvious over the combination of Bezos and Pasquali. *See, e.g.*, Pet. 3, 58–66. Petitioner relies on Bezos alone for most limitations in claim 21. *Id.* Petitioner relies on the combination of Bezos and Pasquali for claim element 21[e] and arguments similar to those presented for claim element 1[j]. *Id.*

Patent Owner disputes that Bezos teaches recitation 21[d], which is “determining, by a computer, a first score, said first score pertaining to at least one of said URL and said first term, said first score being based at least partly on a measurement of popularity.” Ex. 1001, 56:20–23. Patent Owner also disputes Petitioner’s showing for claim element 21[e] for the same reasons given for claim element 1[j].

Below we address the parties’ contentions and evidence.

(1) A computer-implemented method, said computer comprising at least a processor and a memory and being connected to a first computer network, said memory comprising at least a first news database for storing a plurality of news submissions, the method comprising: registering a first user account;

Regarding the preamble of claim 21 and claim element 21[a], reproduced above, Petitioner relies on the same teachings as those discussed above with respect to claim element 1[a] as well as related teachings. Pet. 58–60; Ex. 1002 ¶¶ 113–118. Consistent with Petitioner’s contentions and Dr. Chatterjee’s testimony, Bezos describes the computer architecture to implement the customer profile form, customer reviews, rating of customer reviews, and rating of reviewers with respect to Figure 8. Ex. 1003, 4:14–17. As shown in Figure 8, customers access the Web site 850 using respective personal computers 852, 854. *Id.* at 19:42–43. Bezos’s Web site 850 includes review processing and customer information sharing applications 872 that accesses review database 878 and customer account database 880. *Id.* at 20:18–26. Review database 878 stores customer and professional reviews and customer account database 880 stores information used to populate the customer’s profile page. *Id.* at 20:26–31.

Patent Owner does not dispute Petitioner’s showing with respect to the preamble of claim 21 and element 21[a]. For the reasons given, we agree with Petitioner’s contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 113–118) regarding the preamble of claim 21 and claim element 21[a] because Petitioner’s contentions and Dr. Chatterjee’s testimony are consistent with the evidence of record.

(2) *receiving, via said first computer network, a URL and a first term, said first term comprising a word or phrase;*

Regarding claim element 21[b], reproduced above, Petitioner points to Bezos's teaching that a user may enter a URL identifying an image to be used as a profile picture for the user, which the system receives from the user's computer via a computer network such as the Internet. Pet. 60–62; Ex. 1002 ¶¶ 119–124. Petitioner also points to Bezos's teaching of a user's name or nickname. *Id.* Dr. Chatterjee testifies “[t]he ‘first term’ as claimed corresponds in Bezos to a user's name or nickname associated with the user's account, which is received via the computer network in at least two ways.” Ex. 1002 ¶ 121. Dr. Chatterjee's testimony provides further details regarding Bezos's computer receiving the aforementioned information. Ex. 1002 ¶¶ 119–124.

Regarding the URL, Bezos describes that “FIG. 2 illustrates an example page used to add a picture to the profile page,” in which “the user can enter a URL into a URL field for a location where the user has stored an image.” Ex. 1003, 17:7–12. According to Bezos, that image may be scaled “to fit in the area designated to receive the image on the profile page.” *Id.* at 17:13–16.

Regarding the first term, Bezos describes that “[t]he registration process may request that the customer provide information such as [their] name.” *Id.* at 9:9–11. Bezos further describes that “personal information, such as the customer's name, the customer's e-mail address, nickname, and/or other personal or identifying information, such as photograph . . . may be requested or some or all of the information may have already been

gathered during the registration process.” *Id.* at 9:54-62; *see also id.* at 7:63–67 (describing a user entering a nickname into a search field).

Patent Owner does not dispute Petitioner’s showing with respect to claim element 21[b]. For the reasons given, we agree with Petitioner’s contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 119–124) regarding claim element 21[b] because Petitioner’s contentions and Dr. Chatterjee’s testimony are consistent with the evidence of record.

(3) *providing, via said first computer network, at least one of said URL and said first term to a community of users;*

Regarding claim element 21[c], reproduced above, Petitioner points to Bezos’s teaching of its computer providing the user’s name or nickname for display with a product review by a user. Pet. 62–64; Ex. 1002 ¶¶ 125–127. Consistent with Petitioner’s contentions and Dr. Chatterjee’s testimony, Bezos describes displaying the user’s name or nickname with product reviews. *See* Ex. 1003, Figs. 3, 4; *see also id.* at 18:33–35 (“The second review was authored by ‘Bob.’ The text ‘Bob’ is linked to Bob’s profile page.”)

Patent Owner does not dispute Petitioner’s showing with respect to claim element 21[c]. For the reasons given, we agree with Petitioner’s contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 125–127) regarding claim element 21[c] because Petitioner’s contentions and Dr. Chatterjee’s testimony are consistent with the evidence of record.

(4) determining, by computer, a first score, said first score pertaining to at least one of said URL and said first term, said first score being based at least partly on a measurement of popularity;

Regarding claim element 21[d], reproduced above, Petitioner points to Bezos's reviewer's score. Pet. 64–65, 70 (citing, *e.g.*, Ex. 1003, 10:65–11:3, 17:61–64, Figs. 3B, 4, 7). Dr. Chatterjee testifies that “[a] person of ordinary skill in the art would have understood that a review that has received more ‘helpful’ or ‘useful’ votes, for example, is more popular than a review that has received fewer ‘helpful’ or ‘useful’ votes.”

Ex. 1002 ¶ 128.

Consistent with Petitioner's contentions and the testimony of Dr. Chatterjee, Bezos's disclosure is as follows:

Customers may be ranked based on the tally of useful and/or useless votes, or the like, that their reviews have received. In tallying votes, a “useful” vote may have a value of “1,” and a “not useful” vote may have a value of “-1.” For example, a reviewer with 100 “useful” votes and 20 “not useful” votes may have a tally or score of 80.

Ex. 1003, 10:65–11:3.

Patent Owner disputes Petitioner's showing. In particular, Patent Owner's contentions are based on its proposed construction for element 21[d], which we declined to adopt for the reasons given above in Section II.d.3. We agree with Petitioner (Pet. Reply 15) that Bezos discloses that a review's score or status is displayed alongside its name or nickname, so that score pertains to “said first term.”

Accordingly, we agree with Petitioner's contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 128–129) regarding claim element 21[d] because Petitioner's

contentions and Dr. Chatterjee's testimony are consistent with the evidence of record.

(5) at least partly causing, via said first computer network, display of a first real-time news feed or ticker, said first real-time news feed or ticker comprising or conveying a plurality of real-time news items, said plurality of real-time news items comprising at least a first item, said first item relating to said first user account.

Regarding claim element 21[e], reproduced above, Petitioner relies on the same teachings as those discussed above with respect to claim element 1[j]. Pet. 66; Ex. 1002 ¶¶ 86–91, 130; Ex. 1014. For the reasons given (*see supra* § III.D.3), we are persuaded by Petitioner's showing. Also, we determine that Petitioner has offered articulated reasoning with rational underpinning as to why one having ordinary skill in the art would have modified and combined the teachings in the manner proposed by Petitioner. Petitioner accounts sufficiently for differences.

Patent Owner relies on the same arguments discussed above with respect claim element 21[j]. For the reasons given (*see supra* § III.D.3), we determine Patent Owner's arguments do not undermine Petitioner's showing.

Accordingly, we agree with Petitioner's contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 86–91, 130; Ex. 1014) regarding claim element 21[e] because Petitioner's contentions and Dr. Chatterjee's testimony are consistent with the evidence of record.

(6) *Conclusion—Claim 21*

For the reasons given and based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 21 would have been obvious over the combination of Bezos and Pasquali.

b) *Claim 27*

Petitioner relies on the same teachings for claim 27 as those discussed above with respect to claim 21. For the reasons given (*see supra* § III.D.5.a), we are persuaded by Petitioner's showing. Also, we determine that Petitioner has offered articulated reasoning with rational underpinning as to why one having ordinary skill in the art would have modified and combined the teachings in the manner proposed by Petitioner. Petitioner accounts sufficiently for differences in the claims.

Patent Owner relies on the same arguments discussed above with respect claim element 27. For the reasons given (*see supra* § III.D.5.a), we determine Patent Owner's arguments do not undermine Petitioner's showing.

Accordingly, we agree with Petitioner's contentions and credit and give significant weight to the testimony of Dr. Chatterjee (*see, e.g.*, Ex. 1002 ¶¶ 131–143) regarding claim 27 because Petitioner's contentions and Dr. Chatterjee's testimony are consistent with the evidence of record.

For the reasons given and based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 27 would have been obvious over the combination of Bezos and Pasquali.

III. CONCLUSION

Upon consideration of the parties' contentions and the evidence of record, we determine that Petitioner has demonstrated by a preponderance of the evidence that the challenged claims are unpatentable. The outcome for the challenged claims is set forth in Table 2 of this Decision below. In summary:

Claims Challenged	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1, 6, 14, 21, 27	103(a)	Bezos, Pasquali	1, 6, 14, 21, 27	
Overall Outcome			1, 6, 14, 21, 27	

Table 2 of this Decision summarizes the outcome in the instant proceeding.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1, 6, 14, 21, and 27 of the '176 Patent have been proven to be unpatentable; and

FURTHER ORDERED that 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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