Trials@uspto.gov
571-272-7822

Paper 106
Entered: March 23, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ACTIVISION BLIZZARD, INC.,
ELECTRONIC ARTS INC.,
TAKE-TWO INTERACTIVE SOFTWARE, INC.,
2K SPORTS, INC., ROCKSTAR GAMES, INC., and
BUNGIE, INC.,
Petitioner,

v.

ACCELERATION BAY, LLC,
Patent Owner.

Case IPR2015-01970[1]
Patent 6,701,344 B1

Before SALLY C. MEDLEY, LYNNE E. PETTIGREW, and WILLIAM M. FINK, *Administrative Patent Judges*.

PETTIGREW, *Administrative Patent Judge*.

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

---

[1] Bungie, Inc., who filed a Petition in IPR2016-00933, has been joined as a petitioner in this proceeding.

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Activision Blizzard, Inc., Electronic Arts Inc., Take-Two Interactive Software, Inc., 2K Sports, Inc., Rockstar Games, Inc., and Bungie, Inc. (collectively, "Petitioner") challenge claims 1–12 and 16–19 ("the challenged claims") of U.S. Patent No. 6,701,344 B1 (Ex. 1001, "the '344 patent"), owned by Acceleration Bay, LLC ("Patent Owner"). We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has not shown by a preponderance of the evidence that the challenged claims are unpatentable.

A. Procedural History

Activision Blizzard, Inc., Electronic Arts Inc., Take-Two Interactive Software, Inc., 2K Sports, Inc., and Rockstar Games, Inc., filed a Petition for *inter partes* review of claims 1–19 of the '344 patent. Paper 2 ("Pet."). Patent Owner filed a Preliminary Response. Paper 6 ("Prelim. Resp."). On March 24, 2016, we instituted an *inter partes* review of claims 1–12 and 16–19 of the '344 patent on the following grounds: (1) claims 1–11 and 16–19 as obvious under 35 U.S.C. § 103(a)[2] over Lin,[3] and (2) claims 1–12 and 16–

[2] The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA"), amended 35 U.S.C. §§ 102 and 103. Because the '344 patent has an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

[3] Meng-Jang Lin, et al., *Gossip versus Deterministic Flooding: Low Message Overhead and High Reliability for Broadcasting on Small Networks*, Technical Report No. CS1999-0637 (Univ. of Cal. San Diego, 1999) (Ex. 1004 (Ex. B)) ("Lin").

19 as obvious under 35 U.S.C. § 103(a) over DirectPlay[4] and Lin. Paper 9, 26 ("Dec.").

Subsequent to institution, Bungie, Inc. filed a Petition and Motion for Joinder with the instant proceeding. *Bungie, Inc. v. Acceleration Bay, LLC*, IPR2016-00933, Papers 2, 3. On June 23, 2016, we instituted an *inter partes* review and granted the Motion, joining Bungie, Inc. as a petitioner in this *inter partes* review. Paper 23.

Thereafter, Patent Owner filed a Patent Owner Response ("PO Resp."). Paper 30 (confidential), Paper 100 (redacted). Petitioner filed a Reply to the Patent Owner Response ("Pet. Reply"). Paper 53 (confidential), Paper 105 (redacted). Patent Owner also filed a Contingent Motion to Amend requesting substitution of various claims in the event certain claims in the '344 patent were found to be unpatentable. Paper 31 ("Mot. Am."). Petitioner filed an Opposition to Patent Owner's Contingent Motion to Amend. Paper 52. Patent Owner then filed a Reply in support of its Contingent Motion to Amend. Paper 66.

Petitioner filed a Motion to Exclude, Paper 71 ("Pet. Mot. Exc."), Patent Owner filed an Opposition, Paper 82 (confidential), Paper 101 (redacted), and Petitioner filed a Reply, Paper 93. Patent Owner also filed a Motion to Exclude, Paper 75 ("PO Mot. Exc."), Petitioner filed an Opposition, Paper 85 ("Pet. Opp. Mot. Exc."), and Patent Owner filed a Reply, Paper 95.

---

[4] Bradley Bargen & Peter Donnelly, *Inside DirectX®: In-Depth Techniques for Developing High-Performance Multimedia Applications* (1998) (Ex. 1003) ("DirectPlay").

An oral hearing was held on December 7, 2016.[5] A transcript of the hearing has been entered into the record. Paper 99 ("Tr.").

B. Related Matters

Petitioner identifies the following pending judicial matters as relating to the '344 patent: *Activision Blizzard, Inc. v. Acceleration Bay LLC*, Case No. 3:16-cv-03375 (N.D. Cal., filed June 16, 2016); *Electronic Arts Inc. v. Acceleration Bay LLC*, Case No. 3:16-cv-03378 (N. D. Cal., filed June 16, 2016); *Take-Two Interactive Software, Inc. v. Acceleration Bay LLC*, Case No. 3:16-cv-03377 (N.D. Cal., filed June 16, 2016); *Acceleration Bay LLC v. Activision Blizzard, Inc.*, Case No. 1:16-cv-00453 (D. Del., filed June 17, 2016); *Acceleration Bay LLC v. Electronic Arts Inc.*, Case No. 1:16-cv-00454 (D. Del., filed June 17, 2016); and *Acceleration Bay LLC v. Take-Two Interactive Software, Inc.*, Case No. 1:16-cv-00455 (D. Del., filed June 17, 2016). Paper 21, 2–3.

Petitioner and Patent Owner also identify five other petitions for *inter partes* review filed by Petitioner challenging the '344 patent and similar patents: IPR2015-01972 (the '344 patent); IPR2015-01951 and IPR2015-01953 (U.S. Patent No. 6,714,966 B1); and IPR2015-01964 and IPR2015-01996 (U.S. Patent No. 6,829,634 B1). Pet. 4; Paper 5, 1. Trials were instituted in those proceedings as well.

[5] A consolidated hearing was held for this proceeding and IPR2015-01951, IPR2015-01953, IPR2015-01964, IPR2015-01972, and IPR2015-01996. *See* Paper 81 (hearing order).

C. The ’344 Patent

The ’344 patent relates to a “broadcast technique in which a broadcast channel overlays a point-to-point communications network.” Ex. 1001, 4:3–5. The broadcast technique overlays the underlying network system with a graph of point-to-point connections between host computers or nodes through which the broadcast channel is implemented. *Id.* at 4:23–26. Figure 1 of the ’344 patent is reproduced below:

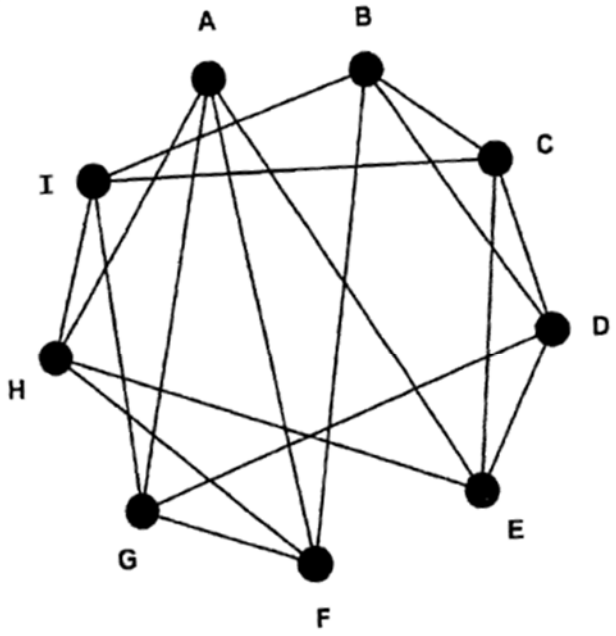

Fig. 1

Figure 1 illustrates a broadcast channel represented by a “4-regular, 4-connected” graph. *Id.* at 4:48–49. The graph of Figure 1 is “4-regular” because each node is connected to exactly four other nodes (e.g., node A is connected to nodes E, F, G, and H). *Id.* at 4:38–39, 4:49–53. A node in a 4-regular graph can only be disconnected if all four of the connections to its neighbors fail. *Id.* at 4:39–42. Moreover, the graph of Figure 1 is

"4-connected" because it would take the failure of four nodes to divide the graph into two separate sub-graphs (i.e., two broadcast channels). *Id.* at 4:42–47.

To broadcast a message over the network, an originating computer sends the message to each of its four neighbors using the point-to-point connections. *Id.* at 4:30–32. Each computer that receives the message sends it to its other neighbors, such that the message is propagated to each computer in the network. *Id.* at 4:32–38. The minimum number of connections needed to traverse any two computers in the network is known as the "distance" between them, while the maximum of the distances in the network is called the "diameter" of the broadcast channel. *Id.* at 4:57–5:3. In Figure 1, the diameter is 2 because a message originating at any node (e.g., A) traverses no more than 2 connections to reach every other node. *Id.* at 5:3–6.

In one embodiment described in the '344 patent, a distributed game environment is implemented using broadcast channels. *Id.* at 16:30–31. Each player's computer executes a game application program, and a player joins a game by connecting to the broadcast channel on which the game is played. *Id.* at 16:31–36. Each time a player takes an action in the game, a message representing that action is broadcast on the game's broadcast channel. *Id.* at 16:36–38.

D. Illustrative Claim

Among the claims of the '344 patent at issue in this proceeding, claims 1, 16, and 18 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A computer network for providing a game environment for a plurality of participants, each participant having connections to at least three neighbor participants, wherein an originating participant sends data to the other participants by sending the data through each of its connections to its neighbor participants and wherein each participant sends data that it receives from a neighbor participant to its other neighbor participants, further wherein the network is m-regular, where m is the exact number of neighbor participants of each participant and further wherein the number of participants is at least two greater than m thus resulting in a non-complete graph.

Id. at 29:26–37.

II. DISCUSSION

A. Principles of Law

To prevail in its challenge to Patent Owner's claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Citing its declarant, Dr. Karger, Petitioner contends that a person having ordinary skill in the art at the time of the invention would have had a minimum of (1) a bachelor's degree in computer science, computer engineering, applied mathematics, or a related field of study; and (2) four or more years of industry experience relating to networking protocols or network topologies. Pet. 15; Ex. 1019 ¶ 19. Petitioner also contends that additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education. Pet. 15; Ex. 1019 ¶ 19.

Patent Owner's expert, Dr. Goodrich, opines that a person of ordinary skill in the art would have had (1) a bachelor's degree in computer science or related field, and (2) two or more years of industry experience and/or an advanced degree in computer science or related field. Ex. 2022 ¶ 25. Dr. Goodrich also states that his opinions would be the same if rendered from the perspective of a person of ordinary skill in the art as set out by Dr. Karger. *Id.* ¶ 28.

The levels of ordinary skill proposed by the parties do not differ significantly, as suggested by Dr. Karger's testimony that his opinions would be the same under either party's proposal. *See id.* Both parties' proposed descriptions require at least an undergraduate degree in computer science or related technical field, and both require at least two years of industry experience (although Petitioner proposes four years), but both agree that an advanced degree could substitute for work experience. For purposes of this Decision, we adopt Petitioner's proposed definition as more

representative, but note that our analysis would be the same under either definition.

C. Petitioner's Asserted Grounds of Unpatentability

Petitioner contends that claims 1–11 and 16–19 are unpatentable under 35 U.S.C. § 103(a) as obvious over Lin, and that claims 1–12 and 16–19 are unpatentable as obvious over DirectPlay and Lin. Pet. 16–59. We have reviewed the Petition, Patent Owner Response, and Reply, as well as the evidence discussed in each of those papers, and we determine that Petitioner has not shown by a preponderance of the evidence that the challenged claims are unpatentable based on the asserted grounds.

1. Summary of Lin

Lin is a technical report that describes broadcasting messages to all of the processors in a computer network. Ex. 1004, 8.[6] Specifically, Lin discloses a protocol that superimposes a communications graph on top of the processors in the network. *Id.* at 9. Figure 2 of Lin is reproduced below:

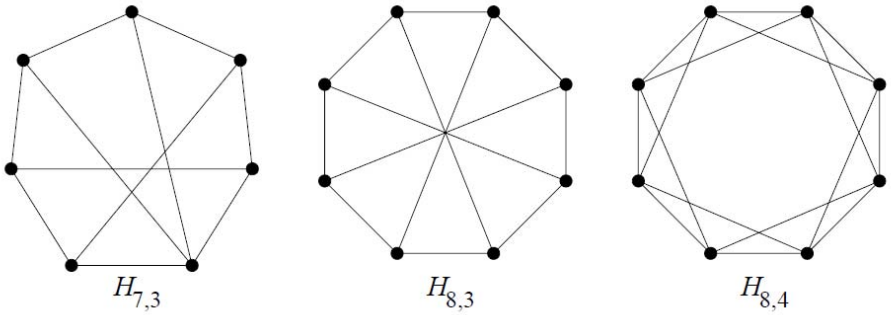

Figure 2: Graphs of $H_{7,3}, H_{8,3}$ and $H_{8,4}$.

[6] We refer to the exhibit pagination. The Lin reference begins on page 8 of Exhibit 1004.

Figure 2 depicts Harary graphs $H_{n,t}$ containing *n* nodes and *t* connections. Ex. 1004, 14. Using Lin's "simple broadcast protocol," one processor or node initiates the broadcast of a message by sending it to all of its neighbors, i.e., those nodes that share a link between them. *Id.* at 9. A node that receives the message for the first time sends it to all of its neighbors except the neighbor that forwarded the message. *Id.* This technique is called "flooding." *Id.* The disclosure in Lin compares flooding with another broadcast protocol called gossiping. *Id.* Lin explains that flooding over a Harary graph provides most of the attractions of the gossip protocol, such as scalability, adaptability, and reliability, but with a substantially lower message overhead. *Id.* at 27.

2. Summary of DirectPlay

DirectPlay describes an application program interface for providing medium-independent communications for multiplayer games over computer networks. Ex. 1003, 15, 19.[7] In one network topology described in DirectPlay, multiple players participate in a peer-to-peer gaming session. *Id.* at 23, Fig. 18-3(a). One player creates the session and becomes the host for the session. *Id.* Other players may connect to the first player and receive a list of the other DirectPlay objects (i.e., players). *Id.* "Because each DirectPlay object knows about the other objects, they route messages directly to one another rather than through the session host. So the resulting session is peer-to-peer . . . ." *Id.*

DirectPlay also provides a "matchmaking service" in which players gather to identify game sessions to which they want to connect. *Id.* at 24,

[7] We refer to the exhibit pagination.

98. Players use "lobby clients," which could be web-based applications, to meet in a virtual lobby and set up networked game sessions. *Id.* at 24, 98–100.

3. Status of Lin as a Prior Art Printed Publication

Before reaching the merits of Petitioner's obviousness contentions, both of which are based at least in part on Lin, we must determine as a threshold issue whether Lin is a prior art printed publication under 35 U.S.C. § 102(a). *See* Pet. 19 (citing Ex. 1004, 2–3, 5). It is Petitioner's burden to prove that it is, as Petitioner bears the burden of proving unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e). For purposes of instituting trial, we accepted Petitioner's contention, unchallenged in the Preliminary Response, that Lin was available as § 102(a) prior art as of November 23, 1999. Dec. 15. During trial, however, Patent Owner challenged that contention, and Petitioner provided additional argument and evidence in reply. PO Resp. 27–30; Pet. Reply 4–6.

The determination of whether a document is a "printed publication" under 35 U.S.C. § 102 "involves a case-by-case inquiry into the facts and circumstances surrounding the reference's disclosure to members of the public." *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004). "Because there are many ways in which a reference may be disseminated to the interested public, 'public accessibility' has been called the touchstone in determining whether a reference constitutes a 'printed publication' bar under 35 U.S.C. § 102(b)." *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016) (quoting *In re Hall*, 781 F.2d 897, 898–99 (Fed. Cir. 1986)). "A reference will be considered publicly accessible if it was 'disseminated or otherwise made available to the extent that persons

interested and ordinarily skilled in the subject matter or art exercising reasonable diligence[] can locate it.'" *Id.* (quoting *Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340, 1350 (Fed. Cir. 2008)).

We begin our analysis with an overview of the evidence submitted by Petitioner in support of its contention that Lin was publicly accessible at the relevant time. The Petition asserts that Lin is prior art under § 102(a), with only a brief citation to the declaration of Glenn Little. Pet. 19 (citing Ex. 1004, 2–3, 5). In his declaration, Mr. Little testifies that he has been employed since 1985 by the Computer Science and Engineering ("CSE") department of the University of California, San Diego ("UCSD"), and that in his role as Systems Administrator he is "familiar with the operation of the CSE Technical Reports Library operated by the CSE department, including how Technical Reports are entered into the system and how they become available to the public." Ex. 1004 ¶¶ 1–3. According to Mr. Little, the CSE department regularly maintains electronic technical reports and records concerning those reports, and a staff member assigns a unique identifier to each report based on the year it was uploaded and the relative order it was uploaded in comparison to other papers. *Id.* ¶¶ 7–8. Based on the CSE Technical Reports Library summary page available for Lin, as well as operating system records associated with Lin, Mr. Little testifies that "it appears that [Lin] was submitted to the Technical Reports Library on November 18, 1999, . . . and became available to the public no later than November 23, 1999." *Id.* ¶ 13; *see id.* ¶¶ 9–12. The Little Declaration provides URLs for the CSE Technical Reports Library, the summary page for Lin, and the Lin report itself, but it does not otherwise indicate how

technical reports on the Library website are organized or how a person of ordinary skill in the art would search for technical reports on the website.

In its Reply, Petitioner provides additional evidence in support of its argument that Lin was publicly accessible in November 1999. Pet. Reply 4–6. First, Petitioner cites the Rebuttal Declaration of its expert, Dr. Karger, who testifies that "[i]n 1999, [persons of ordinary skill in the art] and researchers in the computer science field would frequently search online technical reports libraries maintained by computer science departments . . . such as UCSD's [CSE] department for research in the area of computer science, including advancements in the field of networking." Ex. 1024 ¶ 77; *see* Pet. Reply 5. Second, Petitioner identifies a webpage titled "Epidemiological Protocols" maintained by Dr. Keith Marzullo, one of the Lin authors, and dated November 27, 1999. Pet. Reply 4–5 (citing Ex. 1042 ¶ 6 & p.6 (Affidavit of Christopher Butler, Office Manager at the Internet Archive)); *see also* Ex. 1026 ¶ 32 (Declaration of Scott Bennett, Ph.D., proffered by Petitioner as a library science expert). The webpage describes the work of Dr. Marzullo and his colleagues and lists three papers, including Lin, which is identified by title and UCSD technical report number. Ex. 1042, 6; Ex. 1026 ¶ 32. According to Dr. Bennett, the webpage provides an active link for Lin. Ex. 1026 ¶ 32. Dr. Karger testifies that "in 1999, a researcher looking for computer science literature would have sought to locate resources online first by going to other researchers' web pages (such as the web page on which Lin was posted)." Ex. 1024 ¶ 78. In addition, both Dr. Karger and Dr. Bennett opine that, based on the evidence cited by Petitioner, Lin was publicly accessible. Ex. 1024 ¶ 76; Ex. 1026 ¶ 33.

We now consider whether Petitioner has met its burden to show under governing case law that Lin was publicly accessible. Patent Owner contends Mr. Little's declaration does not establish that Lin was publicly accessible in November 1999 at the UCSD CSE Technical Reports Library website. PO Resp. 27–30. In support of its argument, Patent Owner cites portions of Mr. Little's deposition testimony and documents introduced as exhibits at Mr. Little's deposition. *Id.* (citing Ex. 2030 (Little deposition); Exs. 2005, 2075–80 (deposition exhibits)).

As an initial matter, Patent Owner submits that Mr. Little had no personal knowledge as to whether Lin was publicly available before the critical date and that his declaration was based purely on speculation that Lin was available on the CSE website on November 23, 1999. *Id.* at 27–28 (citing Ex. 2030, 25:15–17). As Petitioner argues, however, Mr. Little's testimony relates to the CSE Technical Reports Library's general practice for receiving articles and uploading them to the website. *See* Pet. Reply 4; Ex. 2030, 9:11–10:2, 23:10–21, 24:25–25:9, 26:14–21. Such evidence of a library's general practices may be used to show public accessibility. *Hall*, 781 F.2d at 899. Based on Mr. Little's credible testimony regarding the CSE Technical Reports Library's normal practice, we find Petitioner has shown sufficiently that Lin had been uploaded to the Library website as of November 23, 1999.

Our analysis does not end there, however, because "public accessibility" requires more than technical accessibility—there must be evidence that the reference was disseminated or otherwise made available in a way that the interested public could locate it using reasonable diligence. *See Blue Calypso*, 815 F.3d at 1348. The record here does not show that Lin

was disseminated to members of the interested public or, for that matter, that any member of the public accessed Lin after it was posted on the CSE website. *See* Ex. 2030, 28:15–17 (Mr. Little testifying he has "no way of knowing" whether anyone accessed Lin); PO Resp. 29–30. Thus, we must determine whether a person interested and ordinarily skilled in the art exercising reasonable diligence would have found Lin on the CSE Technical Reports Library website. *See Blue Calypso*, 815 F.3d at 1348. Because nothing in the record suggests that the CSE Library's website was indexed by a commercial internet search engine in 1999, two factors are relevant to our determination: whether a person of ordinary skill interested in network broadcasting techniques would have been independently aware of the CSE Technical Reports Library website, and whether a person of ordinary skill, upon accessing the website, would have been able to find Lin. *See Voter Verified, Inc. v. Premier Election Solutions, Inc.*, 698 F.3d 1374, 1380–81 (Fed. Cir. 2012) (analyzing public accessibility of online reference in 1999 absent evidence that website containing the reference had been indexed by an internet search engine); *see also Blue Calypso*, 815 F.3d at 1349 (discussing factors applied in *Voter Verified* for determining public accessibility of online reference).

As to the first inquiry, Petitioner's expert, Dr. Karger, testifies that persons of ordinary skill in the art in 1999 were aware of and regularly used online libraries maintained by computer science departments, such as the UCSD CSE Technical Reports Library website, for research in computer science. Ex. 1024 ¶ 77; *see* Pet. Reply 5. In *Voter Verified*, one factor in favor of an article's public accessibility was "unrebutted testimony" that the website on which the article was posted was "well known to the community

interested in" the relevant subject matter. 698 F.3d at 1380. However, Dr. Karger's testimony regarding the general practice in 1999 of using online computer science department libraries is not specific to the UCSD CSE website itself and, therefore, does not rise to the level of the evidence present in *Voter Verified* regarding the Risks Digest website, which the court found was known as a "prominent forum" for discussing the relevant technology. *Id.* at 1381. Instead, Dr. Karger's testimony suggests that the UCSD CSE Technical Reports Library website is analogous to a traditional library in which technical or scientific papers are shelved, such as the university library in *Hall*, in which the Federal Circuit concluded that a thesis was publicly accessible based on evidence as to the library's procedure for indexing, cataloging, and shelving. *See Hall*, 781 F.2d at 899–900.

Consequently, the remaining question regarding the CSE Technical Reports Library is whether a person of ordinary skill in the art exercising reasonable diligence would have located Lin on the website. Petitioner contends that "CSE was a publicly available, indexed, searchable online library." Pet. Reply 5. Petitioner, however, submitted no evidence explaining how the CSE Library website was either indexed or searchable. *See* Pet. 19 (citing only the Little Declaration); Ex. 1004 ¶¶ 5–14 (Mr. Little's declaration providing URLs for the CSE Technical Reports Library website, the summary page for Lin, and the Lin report, without discussing any indexing or search capability associated with the website). The only evidence in the record regarding the CSE Library website's alleged indexing and search capability is Mr. Little's cross-examination deposition testimony and exhibits used during his deposition, all submitted by Patent Owner. *See* Ex. 2030 (Little deposition); Exs. 2005, 2075–80 (deposition exhibits).

According to Mr. Little's deposition testimony, the Library website has a search page that allows a user to view a list of technical reports by author or by year or to use an "advanced search form." Ex. 2030, 14:15–18, 30:19–21; *see* Ex. 2005 (CSE Technical Reports Library search page); Ex. 2075 (page for browsing collection by author); Ex. 2076 (page for browsing collection by year); Ex. 2077 (fielded search page). Patent Owner argues that Lin "falls short of a properly indexed 'printed publication' because it was not indexed according to subject matter." PO Resp. 28 (citing *In re Cronyn*, 890 F.2d 1158, 1161 (Fed. Cir. 1989)). Moreover, Patent Owner argues, "the search functionality on the CSE website does not work." *Id.* at 29. In response, Petitioner contends that indexing is not required if there are other ways to access the information, and asserts that "CSE's website could be 'drilled down in[to] by searching.'" Pet. Reply 5 (quoting Ex. 2030, 23:10–24:7; citing *Voter Verified*, 698 F.3d at 1380 (searchable online publication known to interested community was publicly accessible)); *see* Tr. 21:6–11. Petitioner further contends that a person of ordinary skill in the art viewing a list of titles for a given year would have been able to identify each article's subject. Pet. Reply 6 (citing Ex. 1024 ¶ 80; *E.I. Du Pont de Nemours & Co. v. Cetus Corp.*, 1990 WL 305551, at *7 n.7 (N.D. Cal. 1990) (unpublished)).

Contrary to Patent Owner's argument, indexing by subject matter is not a "necessary condition for a reference to be publicly accessible"; rather, it is one of a variety of factors that may be useful in determining whether a reference was publicly accessible. *In re Lister*, 583 F.3d 1307, 1312 (Fed. Cir. 2009). Furthermore, "indexing is no more or less important in evaluating the public accessibility of online references than for those fixed in

more traditional, tangible media." *Voter Verified*, 698 F.3d at 1380. Nevertheless, the Federal Circuit has confirmed recently that "[j]ust as indexing plays a significant role in evaluating whether a reference in a library is publicly accessible, . . . indexing . . . is also an important question for determining if a reference stored on a given webpage in cyberspace is publicly accessible." *Blue Calypso*, 815 F.3d at 1349. Moreover, "[i]ndexing by subject matter offers meaningful assurance that an ordinarily skilled artisan, exercising reasonable diligence, will be able to locate a particular reference . . . ." *Id.*; *see also Cronyn*, 890 F.2d at 1161 (theses indexed by author not "indexed in a meaningful way").

With these legal principles in mind, we examine the evidence relating to indexing and searching of the CSE Technical Reports Library. First, we are not persuaded that a person of ordinary skill in the art using reasonable diligence would have located Lin by viewing the list of available reports either by author or year. Although Petitioner contends that an ordinarily skilled artisan using the title index for a given year would have been able to identify each article's subject, Petitioner provides no evidence as to how many reports were in the Library's database in 1999. *See* Tr. 98:4–12. Dr. Karger testifies that the title of Lin indicates its subject matter, but he provides no testimony regarding the ability of a reasonably diligent artisan to find Lin on the CSE Technical Reports Library website. Ex. 1024 ¶ 80. At best, Dr. Karger's evidence suggests that an artisan might have located Lin by skimming through potentially hundreds of titles in the same year, with most containing unrelated subject matter, or by viewing all titles in the database listed by author, when the authors were not particularly well known.

The present case is distinguishable from the *Du Pont* case, an unpublished summary judgment order cited by Petitioner. *See* Pet. Reply 6. In *Du Pont*, the district court concluded that a grant proposal indexed by title, author, institution, and grant number was a printed publication based in part on a citation to the grant proposal on the first page of another prior art reference and the reputation of its author, "who was widely recognized as a pioneer in the field of DNA synthesis." *Du Pont*, 1990 WL 305551, at *7 & n.7. In contrast, Petitioner points to no evidence in the record that the Lin authors were similarly well known in the relevant field of networking protocols or that other known prior art referred to Lin. *See* Pet. Reply 6.

We also find the evidence regarding the CSE Library's "advanced search form" to be deficient. The search form appears to allow a user to search on keywords for author, title, and abstract fields. Ex. 2077; *see* Ex. 2005. Mr. Little, however, testifies that he does not know how the search works or how keywords are generated. Ex. 2030, 31:10–32:21, 36:11–13, 36:24–25. Further, Mr. Little testifies that he never searched for Lin using the advanced search form, and that it was not the department's practice to cross-check the search capability when a new article was uploaded. *Id.* at 33:1–2, 33:15–19. When presented with exhibits showing that the system was unable to provide any results for searches on the title and abstract fields using relevant terms or phrases, Mr. Little admits it was possible the search function did not work. *Id.* at 35:25–36:13; *see* Ex. 2078 (abstract field search for "rumor mongering"); Ex. 2079 (abstract field search for "gossip"); Ex. 2080 (title search for "low message overhead"). He also admits it was possible the searches presented to him would not have worked in 1999. Ex. 2030, 38:15–17. Indeed, he testifies that the Library

website runs the same software now as in 1999 and that the ways of searching for a reference were the same in 1999 as they are now. *Id.* at 20:8–23. Thus, there is insufficient evidence of record to support a finding that a person of ordinary skill in the art in 1999 could have located Lin using the CSE Library website's search function. In this regard, the present case is unlike *Voter Verified*, in which the court concluded an interested researcher would have found the prior art reference at issue by entering keywords into a known website's search tool. *See Voter Verified*, 698 F.3d at 1380–81; Pet. Reply 5 (citing *Voter Verified*, 698 F.3d at 1380).

Petitioner attempts to bolster its position that Lin was publicly accessible with evidence regarding a webpage from November 1999 titled "Epidemiological Protocols" that was maintained by Dr. Marzullo, one of the Lin authors. *See* Ex. 1026 ¶¶ 31–33; Ex. 1042 ¶ 6, p.6; Ex. 1024 ¶¶ 75–80; Pet. Reply 4–5. To begin with, Patent Owner contends that Exhibit 1026 (Bennett Declaration), Exhibit 1042 (Butler Affidavit), and paragraphs 75 to 80 of Exhibit 1024 (Karger Rebuttal Declaration), as well as the portions of Petitioner's Reply citing that evidence, constitute new evidence and argument exceeding the proper scope of reply. Paper 62, 1; PO Mot.

Exc. 1–3.[8] In response, Petitioner argues that the cited evidence and portions of its Reply are responsive to arguments in the Patent Owner Response regarding the public availability of Lin. Paper 64, 1; Pet. Opp. Mot. Exc. 2–4.

We agree with Patent Owner that the portions of the cited exhibits relating to the "Epidemiological Protocols" webpage, and the portions of Petitioner's Reply citing such evidence, are outside the appropriate scope of reply. *See* Ex. 1026 ¶¶ 31–33; Ex. 1042 ¶ 6, p.6; Ex. 1024 ¶ 78–79; Pet. Reply 4–5. The Petition and Mr. Little's declaration submitted therewith, as well as Mr. Little's deposition testimony, refer only to the availability of Lin on the UCSD CSE Technical Reports Library website. Pet. 19; Ex. 1004; Ex. 2030. In its Reply, Petitioner contends for the first time that Lin was available in a different way—via the "Epidemiological Protocols" webpage—without any explanation as to why this evidence could not have been presented in the Petition. Pet. Reply 4–5. Under these circumstances,

---

[8] The Board authorized Patent Owner to file a paper containing an itemized listing of Petitioner's reply arguments and evidence that Patent Owner considered to be beyond the proper scope of reply. Paper 58. Patent Owner filed such a paper (Paper 62), and Petitioner filed a responsive paper (Paper 64). Patent Owner also raised the issue of evidence and arguments outside the proper scope of reply in its Motion to Exclude. PO Mot. Exc. 1–3. A motion to exclude ordinarily is not the proper mechanism for raising the issue of whether a reply or reply evidence is beyond the proper scope permitted under the rules, as a motion to exclude is for challenging the "admissibility of evidence" under the Federal Rules of Evidence. 37 C.F.R. §§ 42.62, 42.64; Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,758, 48,767 (Aug. 14, 2012). Nonetheless, we cite Patent Owner's Motion to Exclude and Petitioner's Opposition to the Motion to Exclude for completeness because we have considered the entirety of the parties' contentions on the issue.

it would be a proper exercise of our discretion not to consider the evidence and arguments related to the "Epidemiological Protocols" webpage newly presented in the Reply. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,767 ("[A] reply that raises a new issue or belatedly presents evidence will not be considered . . . . Examples of indications that a new issue has been raised in a reply include . . . new evidence that could have been presented in a prior filing.").

Even if we were to consider Petitioner's argument and evidence directed to the "Epidemiological Protocols" webpage maintained by one of the Lin authors, they are not persuasive. The webpage allegedly had a link to the Lin report. Ex. 1026 ¶ 32. Petitioner, however, points to no evidence that Lin was viewed or downloaded from the author's webpage. Nor has Petitioner directed us to persuasive evidence that a person of ordinary skill in the art would have found the author's webpage using an internet search engine, as Dr. Karger only testifies generally that "[r]esearchers interested in computer science and networking would have resorted to search engines to locate research." Ex. 1024 ¶ 79. Moreover, in contrast to the Risks Digest website in *Voter Verified*, which was well known to the interested community and contained more than 100 articles relating to the relevant subject matter, the record here lacks persuasive evidence that a person of ordinary skill in the art would have been independently aware of the author's webpage. *See Voter Verified*, 698 F.3d at 1380. Although Dr. Karger opines that researchers in 1999 would have looked to other researchers' webpages, he does not testify that a person of ordinary skill in the art would have known about the "Epidemiological Protocols" website in particular. Ex. 1024 ¶ 78. On very similar facts, the Federal Circuit affirmed a Board

determination that a petitioner had failed to carry its burden of proving public accessibility of a reference based on its availability on an author's webpage. *Blue Calypso*, 815 F.3d at 1349–50.

Finally, we accord little weight to the opinions of Dr. Karger and Dr. Bennett that, based on the evidence cited by Petitioner, Lin was publicly accessible. *See* Ex. 1024 ¶ 76; Ex. 1026 ¶ 33. Whether a reference qualifies as a printed publication is a legal conclusion, based on underlying factual determinations, *Blue Calypso*, 815 F.3d at 1348, and the opinions rendered by Dr. Karger and Dr. Bennett are not based on sufficient facts or the relevant case law regarding public accessibility of references.

In summary, Petitioner has not shown sufficiently that the UCSD CSE Technical Reports Library was searchable or indexed in a meaningful way so that a person of ordinary skill in the art would have located Lin, or that an ordinarily skilled artisan would have found Lin by going to the "Epidemiological Protocols" webpage. After considering all of the evidence of record through the prism of the Federal Circuit's case law regarding public accessibility of references, we conclude that Petitioner has not met its burden of showing Lin was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art could have located it exercising reasonable diligence. Therefore, we conclude Lin is not a printed publication under 35 U.S.C. § 102(a) that can be used to challenge the patentability of the claims in the '344 patent in this proceeding.

4. Analysis of the Asserted Unpatentability Grounds

Both of Petitioner's asserted grounds rely on Lin for teaching limitations of the challenged claims. *See* Pet. 26–59. As explained above,

however, Petitioner has not established that Lin is a prior art printed publication under 35 U.S.C. § 102(a). Consequently, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–11 and 16–19 are unpatentable as obvious over Lin or that claims 1–12 and 16–19 are unpatentable as obvious over DirectPlay and Lin.

D. Contingent Motion to Amend

In its Contingent Motion to Amend, Patent Owner seeks to substitute claim 1 with claim 20, claim 7 with claim 21, and claim 8 with claim 22, but only if the original claims are determined to be unpatentable. Mot. Am. 2. As explained herein, Petitioner has not shown that the original claims are unpatentable. Therefore, we dismiss Patent Owner's Contingent Motion to Amend as moot.

E. Motions to Exclude

Petitioner seeks to exclude certain paragraphs of Exhibits 2026 and Exhibit 2027. Pet. Mot. Exc. 4–6. Because we do not rely on the cited evidence in this Final Written Decision, we dismiss Petitioner's Motion to Exclude as moot.

Patent Owner seeks to exclude the following exhibits on evidentiary grounds: Karger Declarations (Exs. 1019 and 1024), Little Declaration (Ex. 1004), Butler Affidavit (Ex. 1042), Bennett Declaration (Ex. 1026), and Lin (Ex. 1004, Ex. B). PO Mot. Exc. 4–12. Even considering this evidence, we have determined Petitioner has not met its burden of showing Lin was a printed publication. Patent Owner also seeks to exclude Exhibits 1002, 1005, 1007–18, 1021, 1023, 1025, 1030–33, 1035, and 1049–51 on evidentiary grounds. *Id.* at 4–7, 12–15. We have not relied on any of these

exhibits in this Final Written Decision. For these reasons, we dismiss Patent Owner's Motion to Exclude as moot.

III. CONCLUSION

Based on the evidence and arguments, Petitioner has not demonstrated by a preponderance of the evidence that claims 1–11 and 16–19 of the '344 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Lin or that claims 1–12 and 16–19 of the '344 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over DirectPlay and Lin.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–12 and 16–19 of U.S. Patent No. 6,701,344 have not been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's Contingent Motion to Amend is *dismissed* as moot;

FURTHER ORDERED that Petitioner's Motion to Exclude is *dismissed* as moot;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed* as moot; and

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

FOR PETITIONER:

Andrew Thomases
James L. Davis
Matthew R. Shapiro
Daniel W. Richards
ROPES & GRAY LLP
andrew.thomases@ropesgray.com
james.l.davis@ropesgray.com
matthew.shapiro@ropesgray.com

Mike Tomasulo
Michael M. Murray
Andrew R. Sommer
WINSTON & STRAWN
mtomasulo@winston.com
mmurray@winston.com
asommer@winston.com

Michael T. Rosato
Andrew S. Brown
Jose C. Villarreal
WILSON SONSINI GOODRICH & ROSATI
mrosato@wsgr@com
asbrown@wsgr.com
jvillarreal@wsgr.com

FOR PATENT OWNER:

James Hannah
Michael Lee
Paul J. Andre
Shannon Hedvat
Jeffrey H. Price
KRAMER LEVIN NAFTALIS & FRANKEL LLP
jhannah@kramerlevin.com
mhlee@kramerlevin.com
pandre@kramerlevin.com
shedvat@kramerlevin.com
jprice@kramerlevin.com