

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM, INC., AMAZON WEB SERVICES, INC., and
AMAZON.COM SERVICES LLC,

Petitioner,

v.

ALMONDNET, INC. and DATONICS, LLC,

Patent Owner.

Case: IPR2025-00873

U.S. Patent No. 10,984,445

DECLARATION OF HENRY HOUH, PH.D.

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I, Henry Houh, Ph.D., declare as follows:

I. INTRODUCTION

1. I have been asked by the parties requesting this review, Amazon.com, Inc., Amazon Web Services, Inc., and Amazon.com Services LLC (“Petitioner”) to provide my expert opinions in support of the petition for *Inter Partes* review of U.S. Patent No. 10,984,445 (the “’445 patent” or “challenged patent”) challenging the patentability of claims 1-14 (the “challenged claims”).

2. In summary, it is my opinion that the challenged claims are obvious in view of the prior art. I set forth below my detailed opinions below.

II. BACKGROUND AND QUALIFICATIONS

3. My professional career spans more than 25 years. During these years I gained extensive experience with web sites, Internet advertising, networking, communications systems, distributed systems and protocols, and streaming audio/video communications.

4. I am currently employed by Houh Consulting Inc. as an independent technical consultant. Until October 2022, I also worked as the co-founder of Einstein’s Workshop, a company that provides supplemental science, technology, engineering, and mathematics (“STEM”) education to children of all ages. I also co-founded and serve on the board of BlocksCAD, Inc., which provides educational computer-aided design software used around the world.

5. I have multiple undergraduate and graduate degrees from the Massachusetts Institute of Technology (“MIT”). I have a Bachelor of Science Degree in Electrical Engineering and Computer Science from MIT which I received in June 1989. I also have a Bachelor of Science Degree in Physics from MIT which I received in February 1990. I have a Master of Science Degree in Electrical Engineering and Computer Science from MIT which I received in February 1991. I have a Ph.D. in Electrical Engineering and Computer Science from MIT which I received in February 1998. My thesis was directed to “Designing Networks for Tomorrow’s Traffic,” and was supervised by Professors David Tennenhouse and John Gutttag.

6. I have worked with web technology almost continuously since shortly after the World Wide Web (“the web”) was created. In graduate school, I joined the Advanced Network Architecture (“ANA”) group at the Laboratory for Computer Science (“LCS”) at MIT, then headed by Prof. Tennenhouse and senior research scientist David Clark. Dr. Clark is generally considered to be one of the fathers of the Internet Protocol, having acted as chief protocol architect for the development of the Internet.

7. As part of my doctoral research at MIT from 1991 to 1998, I worked as a research assistant in the Telemedia Network Systems (“TNS”) group at the LCS. TNS’s research activities focused on high-speed networking and the types of

applications that require increased network bandwidth and computing power. The TNS group built a high-speed gigabit network and applications which ran over the network, such as applications for remote video capture, processing, and display on computer terminals. I designed the core networking hardware and software, including the high-speed data links and the device drivers for the network interface cards.

8. I set up the TNS group's web server around late 1993, which at the time was one of the first several hundred web servers in existence. I then created content rich web pages for the group and my research activities. Eventually, I, together with others with whom I worked, added live video demonstrations to TNS's website.

9. I authored or co-authored at least twelve papers and conference presentations on my TNS group research. I also co-edited TNS's final report on its gigabit networking research effort. Some of my papers about website development were presented at the first World-Wide Web conference held in 1994 at CERN in Geneva, Switzerland. CERN is the birthplace of the Web, and the conference was chaired by Tim Berners-Lee, the inventor of the World-Wide Web. When Tim Berners-Lee formed the World Wide Web Consortium at the MIT LCS to manage the progression of web protocols and standards, I assisted him in obtaining the consortium's domain names and setting up the consortium's web server.

10. I gained extensive experience creating web pages and setting up commercial websites in 1993-1997 and during this time I followed the evolution of the web very closely. I started and maintained the "Commercial Sites Index," the first listing of all the companies on the web. I later sold this list to OpenMarket, then a leader in web and eCommerce servers. In 1994, I co-founded Agora Technology Group, a web-site development and management company. Agora developed web sites for clients including corporations, magazine publishers, and universities. Agora initially sold targeted advertising on some of the web sites based on the focused nature of the audiences on those web sites. Agora also developed website management and publishing tools. As part of this experience, I regularly programmed using HTML and the Perl programming language. I sold my interest in Agora to focus on completing my Ph.D. Since then, I have continued to set up new web sites using numerous web application platforms, using frameworks and languages such as CGI, ASP, Zope, Joomla, Ruby on Rails, XML, XSLT, JavaScript, Perl, PHP, Python, and Ruby.

11. From 1997 to 1999, I was a Senior Scientist and Engineer at NBX Corporation, a start-up that made business telephone systems for streaming packetized audio over data networks instead of using traditional telephone lines. NBX was later acquired by 3Com Corporation, and the phone system I worked on at NBX was widely used by numerous businesses. As part of my work at NBX, I

designed the core audio reconstruction algorithms for the telephones, as well as the packet transmission algorithms. I also designed and validated the core packet transport protocol used by the phone system.

12. From 2003 to 2004, I was the architect for a next-generation web testing platform developed by Empirix, known as e-Test Suite. e-Test Suite is now owned by Oracle Corporation. e-Test Suite provided functionality and load testing for web sites by providing web developers with a method of creating scripts for emulating a user's interaction with a website. As part of this project, I co-wrote a JavaScript interpreter for the e-Test Suite so it could understand the JavaScript code present on advanced websites.

13. I worked at BBN Technologies from 2004 to 2009. BBN Technologies, formerly known as Bolt, Beranek and Newman, was a pioneer of the Internet. BBN received the first contract to build components of a packet switched network as part of the ARPANET, a U.S. Department of Defense effort funded through the Advanced Projects Research Agency ("ARPA"). While this effort preceded my time at BBN by many years, BBN continued to maintain a strong presence in network research and development, including in wireless networking, device discovery, and protocols for a "body area network."

14. In 2006, as part of my role at BBN Technologies, I helped found PodZinger Inc., now known as RAMP Inc. PodZinger created a full web-based

streaming audio and video search solution. The website had a load-balanced back end that provided search and indexing solutions for our hosted multimedia (audio and video) content. Our PodZinger system processed videos to perform automatic speech recognition on the spoken contents of the videos, after which we produced a word transcript that we used in a search index for all our processed videos. I also worked on commercializing a service offered by BBN to monitor call centers and provide analytical data on each call. The business became known as AVOKE Analytics and provided call center analytics for large organizations such as Dell and the Centers for Medicare and Medicaid Services (“CMMS”).

15. I have web advertising experience. As I mentioned above, I co-founded Agora Technology Group which was funded, in part, through web advertisements. Later in 2008-2009, I helped evaluate different advertising network tools which were used in the roll-out of an advertising network while serving as the CTO of a venture-funded social network start-up company.

16. I am familiar with patents and have numerous provisional and non-provisional patent applications on which I am an inventor, including 4 provisional patent applications, and around 20 non-provisional applications. These patent applications deal with various areas of technology including, but not limited to using network processors, network, and packet delivery systems; tagging media content; dynamic presentation of advertising and other content using enhanced metadata;

methods for website testing; and organizing and managing files that are transmitted over a network.

17. Several of my patents are directed to targeted advertising. U.S. Patent No. 9,697,230, titled “Methods and apparatus for dynamic presentation of advertising, factual, and informational content using enhanced metadata in search-driven media applications,” is directed to applications that use metadata generated from the analysis of corresponding media files to determine placement of content such as targeted advertising, which can be shown concurrently with or within the media playback. U.S. Patent No. 9,697,231, titled “Methods and apparatus for providing virtual media channels based on media search,” is directed to creating a virtual media channel from a search result or rule set, and in which content, such as targeted advertising, can be further inserted into the channel, based on the search and metadata associated with the results.

18. Further details on my education and work experience are contained in my curriculum vitae, attached as EX1022. My curriculum vitae contains my qualifications, including a list of all publications I authored within the preceding ten years; and a listing of any other cases in which I have testified as an expert at trial or by deposition within the preceding four years.

III. COMPENSATION AND RELATIONSHIP WITH PARTIES

19. I am being compensated for my time at a rate of \$925 per hour. This compensation is not contingent upon my performance, the conclusions I reach in my analysis, the outcome of this matter, or any issues involved in or related to this matter.

20. I have no financial interest in Petitioner or any related parties.

IV. MATERIALS CONSIDERED

21. I have reviewed and considered, in preparing this declaration, the '445 patent (EX1001), its prosecution history (EX1007), and the following prior art references:

- U.S. Patent Pub. No. 2004/0068477 to Gilmour et al., filed January 12, 2001 and published April 8, 2004, titled “Method and system to publish the results of a search of descriptive profiles based on respective publication policies specified by owners of the descriptive profiles, and a profile service provider” (EX1012);
- U.S. Patent No. 8,566,154 to Merriman et al., filed February 26, 2002 and issued October 22, 2013, titled “Network for distribution of re-targeted advertising” (“Merriman”) (EX1013);
- U.S. Patent No. 6,236,991 to Frauenhofer et al., filed November 26, 1997 and issued May 22, 2001, titled “Method and system for providing access

for categorized information from online internet and intranet sources” (“Frauenhofer”) (EX1014);

- U.S. Patent No. 8,880,677 to Julia et al., filed January 3, 2006 and issued November 4, 2014, titled “System and method for delivering content to users on a network” (“Julia”) (EX1015).

22. I am also aware of and considered in forming my opinions presented in this declaration, other information available to a person of ordinary skill in the art at the time of the effective filing date of the challenged patent (“POSITA”), such as other patents, reference materials, articles, and standards, and knowledge of a POSITA.¹ These include:

- Zeff, R., et al., *Advertising on the Internet*, John Wiley & Sons, Inc., 1997 (EX1010) (“Zeff”);
- Mena, J., *Data Mining Your Website*, Digital Press, 1999 (EX1011) (“Mena”).

23. I understand that Petitioner and Patent Owner are involved in a parallel litigation involving two patents, including the challenged patent.

¹ I understand that the challenged patent claims priority to a provisional application filed on June 19, 2006.

24. Should new information be disclosed or discovered during this proceeding, I may supplement and elaborate on the opinions I express in this declaration as necessary. Nothing in this declaration should be interpreted as an opinion that no grounds of invalidity exist other than the ones in the petition. I do not express such an opinion and have not reached such an opinion.

V. BASIS OF OPINIONS

A. Legal Standard for Anticipation

25. I understand that a claimed invention is unpatentable as “anticipated” by a single prior art reference if it discloses each and every element of the claim. I also understand that, even if a claim is not explicitly disclosed in the prior art reference, the prior art reference may nevertheless anticipate the claim if the subject matter of the claim is inherently present from the perspective of a POSITA. Moreover, I understand that even if the prior art reference does not disclose the limitations of a claim in the same arrangement or combination of the limitations of the claim, it may nevertheless anticipate if a POSITA would envisage the claimed arrangement or combination.

B. Legal Standard for Obviousness

26. I understand that a claimed invention is unpatentable as “obvious” if the differences between the invention and the prior art are such that the subject matter of the claim as a whole would have been obvious to a POSITA.

27. It is my understanding that “obviousness” is a question of law based on underlying factual issues including (1) the scope and content of the prior art, (2) the differences between the prior art and the asserted claims, (3) the level of ordinary skill in the pertinent art, and (4) the existence of secondary considerations such as commercial success, long-felt but unresolved needs, and failure of others.

28. I understand that a single reference can render a patent claim obvious if any differences between that reference and the claims would have been obvious to a POSITA. Alternatively, the teachings of two or more references may be combined in the same way as disclosed in the claims, if such a combination would have been obvious to a POSITA. In determining whether a combination based on either a single reference or multiple references would have been obvious, I understand that it is appropriate to consider the following factors:

- Whether the teachings of the prior art references disclose known concepts combined in familiar ways, and when combined, would yield predictable results;
- Whether a POSITA could implement a predictable variation, and would see the benefit of doing so;
- Whether the claimed elements represent one of a limited number of known design choices, and would have a reasonable expectation of success by those skilled in the art;

- Whether a POSITA would have recognized a reason to combine known elements in the manner described in the claim;
- Whether there is some teaching or suggestion in the prior art to make the modification or combination of elements claimed in the patent; and
- Whether the innovation applies a known technique that had been used to improve a similar device or method in a similar way.

29. In an obviousness evaluation based on a combination of multiple prior art references, I understand that the prior art references themselves may provide a suggestion, motivation, or reason to combine, but other times the nexus linking two or more prior art references is simple common sense. I further understand that obviousness analysis recognizes that market demand, rather than scientific literature, often drives innovation, and that a motivation to combine references may be supplied by the direction of the marketplace.

C. Level of Ordinary Skill in the Art

30. I understand that the '445 patent should be interpreted from the perspective of a person having "ordinary skill in the art" as of the effective filing date of the patent application (i.e., a POSITA). For the purposes of this declaration, I assume that the effective filing date of the patent application leading to the '445 patent is no earlier than June 19, 2006, and I understand that the Patent Owner has

not claimed an earlier priority date in the parallel litigation. I am familiar with the technological field at issue and the state of the art as of that date.

31. I understand that the education level of those in the technological field, sophistication of the technology, types of problems encountered, prior art solutions to those problems, and the speed at which innovations are made in the field may factor into establishing what the appropriate level of ordinary skill should be.

32. The specification of the challenged patent states that it “generally relates to profile-based behavioral targeting advertisement placement services,” and, more specifically, “to improving monetization of electronic advertisement placement.” EX1001, 1:19-22. The claims of the challenged patent, as discussed below, generally describe “a method of causing delivery of electronic advertisements based on provided profiles.” EX1001, 14:60-61. In particular, a profile owner computer “automatically select[s] a media property entity” by comparing “profile information about a visitor” with “stored requests” from media property entities and arranges for the profile information to be stored by a computer system controlled by the media property entity, so the computer system can use the profile information for targeted advertising. EX1001, 14:60-15:28 (claim 1).

33. In my opinion, a POSITA would have experience in online advertising and computer science. A POSITA’s education could include a bachelor’s degree in business or economics, with an emphasis on the use of technology in marketing or

advertising, or have similar knowledge gained through actual work experience. Such a person could also hold a bachelor's degree in computer science or equivalent industry experience, and work with a team that includes software engineers. A person could also have qualified with more formal education and less technical experience, or vice versa.

34. I had at least the requisite level of skill with respect to the subject matter of the challenged patent at the time of the effective filing date as demonstrated by my qualifications listed above and my CV (EX1021).

VI. OVERVIEW OF THE '445 PATENT

35. The '445 patent was filed as Application No. 15/893,354 (the "'354 application") on February 9, 2018. The '354 application is a continuation of Application No. 14/080,999 (the "'999 application") filed on November 15, 2013. The '999 application is a continuation of Application No. 13/631,244 (the "'244 application") filed on September 28, 2012. The '244 application is a continuation of Application No. 11/765,433 (the "'433 application") filed on June 19, 2007. The '433 application claims priority to U.S. Provisional Application No. 60/805,114,²

² The '445 patent erroneously lists the provisional Application No. as "60/805,144."

EX1001, 2.

filed June 19, 2006 (which I treat as the effective filing date for purposes of this Declaration). EX1001.³

36. The Background section of the '445 patent describes prior art “behavioral targeting” (“BT”) companies, including Tacoda and RevenueScience. *Id.*, 1:26-65. These BT companies “specialize in targeting ads based on observed behavior of” visitors to publishers’ websites. *Id.*, 1:62-65, 2:14-21. A BT company stores the observed behavior of a website visitor in a profile. *Id.*, 4:43-45 (“the observed behavior of a visitor to a first media property is referred to as profile information about a specific visitor”). A visitor’s profile may also include demographic information and user-provided information along with the behavioral information. *Id.*, 2:24-35, 3:33-37.

37. The Background also describes other parties that cooperate with BT companies to provide targeted advertising. A “publisher” is an entity that controls a website visited by visitors. *Id.*, 1:65-2:23. “A publisher may also be referred to as a ‘profile supplier’ when it transfers profile information, such as behavioral information, demographic information, etc. about a website visitor, to a BT company.” *Id.*, 2:24-27. A “profile owner” or “PO company” is an entity that either

³ I understand Patent Owner has not claimed an earlier priority date in the parallel litigation.

owns visitor profiles or has “the right to resell the profiles on behalf of another profile owner.” *Id.*, 5:50-62. A BT company or profile supplier may act as a PO company. *Id.*, 7:45-53. A “media property,” in turn, is “any equipment that controls an ad space viewed by a visitor,” including a website, an ad network’s site, a TV program, “or any ad space for which an entity is allowed to sell an advertisement and deliver it within the ad space.” *Id.*, 3:39-54, 5:40-49.

38. The Background discusses conventional technologies used to collect and exchange profile information. A “tag” is “a unique identifier used to mark a person electronically visiting a media property,” such as a cookie. *Id.*, 3:25-29, 2:14-21, 2:50-51. A BT company can place tags “on the computers of visitors to specific sections of a publisher’s website or on the computers of visitors of the publisher who conducted a specific action such as search, click content, click an ad, make a phone call, request information, acquire a product, etc.” to record the visitors’ behaviors on that website. *Id.*, 1:65-2:4. A tag is also “used for the purpose of delivering additional ads to a visitor to one media property when that visitor is found later on other media properties, based on the visitor’s profile collected on the first media property.” *Id.*, 3:30-33.

39. A “redirect,” in turn, is a conventional technique by which a web server causes a visitor’s web browser to obtain certain information for at least a portion of an accessed page / site from a different location. This is the meaning Patent Owner

proposed in district court for the term “URL redirection” for U.S. Patent No. 8,244,582. EX1017, 33-37. It is also the plain-and-ordinary meaning of “redirect” and is consistent with how the term is used in the ’445 patent. *See, e.g.*, EX1001, 1:30-33, (“When the same visitors are found on those other sites, additional advertiser's ads are served to them by the DoubleClick ad sever or by the advertiser’s ad server following a redirect from the DoubleClick ad server.”), 4:2-9 (“Once the site redirects the ad space on the page to the ad network (so the ad network could fill the ad space with an ad sold by the ad network), the ad network controls the ad space and has access to the visitor viewing the ad space that was redirected to the ad network by the site”), 6:41-44 (“In the case of a redirect from a data bank’s server or a profile owner’s server, a visitor’s browser would simply fetch a 1 x 1 transparent pixel from the media property's server following the redirect.”).

40. A first web server can use a redirect to cause the browser of a website visitor to contact the BT company. The redirect lets the BT company place a cookie in the visitor’s browser. *Id.*, 2:63-67 (“A BT company can place a cookie on a site’s section when a visitor's computer visits that section, if a code of the company was integrated into the page of that section by the site that owns the page. The code (e.g., HTML or Java) redirects to the BT company’s server all visitors to the page”), 3:16-19 (“The server then places a cookie on the user’s computer indicating what content

was read by the visitor on the page, what keyword was searched for by the user, or what ad was clicked on the page, etc.”).

41. Within this conventional framework, the '445 patent purportedly discloses a way to more effectively monetize profile information used for targeted advertising. According to the patent, BT companies collect and use profile information to deliver ads on multiple websites. *Id.*, 5:20-27. But:

there is also the opportunity to make the collected profiles available to low-value ad space owners, because, instead of selling their low-value ad space to the profile owners, such ad space owners would prefer to monetize their low-value ad space better by themselves, by using the collected profiles to sell targeted ads, delivered to the profiled visitors when found within such low-value ad space

Id., 5:32-39. The '445 patent proposes a solution that addresses this supposed opportunity by providing “collected profiles to media properties that will better monetize their low-value ad space by selling ads based on the profiles and delivering the ads within their ad space to the profiled visitors when those visitors visit the media properties.” *Id.*, 6:63-7:4.

42. The purported invention of the '445 patent is:

an automatic system operated by a profile owner company (“PO company”) for identifying media properties interested in having a collected profile made available to them. The automatic system makes the identification by recognizing a collected profile as one that a media

property has previously requested or one that is within a category that a media property has previously requested. Thereafter, the PO company arranges for the visitor to be tagged with a tag readable by the media property that requested such a profile.

Id., 7:19-28. The '445 patent explains that the PO company can arrange placement of the tag in different ways. *Id.*, 9:34-35. One way is to “redirect...a visitor to the identified media property with a request to have the identified media property tag the visitor with the media property’s own tag.” *Id.*, 9:36-42.

43. The '445 patent contains only two figures which it describes using a single example. The first figure illustrates “a method for transferring collected profiles to media properties having specified interests:”

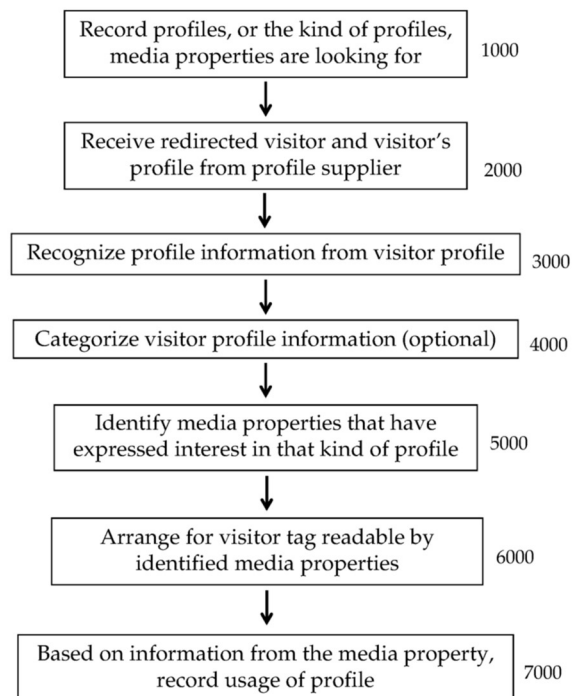


FIG. 1

Id., Fig. 1, 7:65-67. The second figure illustrates “entities and associated data flow useful with” the method of figure 1:

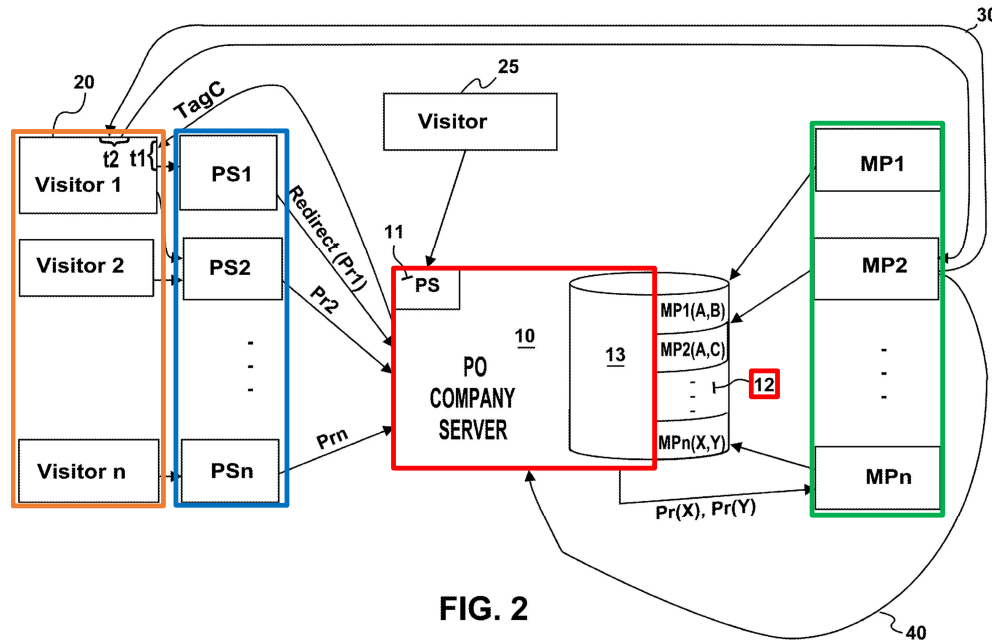


FIG. 2

Id., Fig. 2, 8:1-4.⁴

44. The '445 patent describes the method of figure 1 as follows. First, “[a] PO company’s database 12 records (FIG. 1, 1000) the profiles, or the kind of profiles, a media property (e.g., FIG. 2, MP1) is looking for.” *Id.*, 8:20-22. Second, “[a] profile supplier (e.g., FIG. 2, PS1) redirects (FIG. 1, 2000) a visitor 20 to a PO company 10 along with the visitor’s profile (Pr1).” *Id.*, 8:31-33. Third and fourth, the PO company server recognizes (FIG. 1, 3000) and optionally categorizes (FIG. 1, 4000) profile information describing the visitor based on the user’s actions at the

⁴ Unless otherwise noted herein, all coloring/highlighting and emphasis is added.

profile supplier. *Id.*, 8:45-9:17. *Id.*, 8:45-9:17. Fifth, “[t]he PO company’s server 10 identifies (5000) the media properties (e.g., MP1 and MP2) that have asked to receive a visitor having” profile information like that recognized and categorized in steps three and four. *Id.*, 9:18-22. Thereafter, “the PO company arranges (6000) for the visitor (e.g., 20) to be tagged with a tag readable by the identified media property (e.g., MP1 or MP2), which can use the tag to recognize the visitor’s profile.” *Id.*, 9:22-26; *see also id.*, 9:34-10:20. Sixth, the PO company records (7000) that the media property used the profile. *Id.*, 9:26-28.

45. The ’445 patent has a single independent claim drafted from the perspective of a media property (e.g., MP1 or MP2) receiving profile information associated with a visitor from a PO company (e.g., PO Company Server). *Id.*, 14:60-15:28. The claim has three main limitations, labelled “(a),” “(b),” and “(c).” *Id.* Limitation [1.(a)] recites “with a computer system, automatically storing, in a central database associated with the computer system, profile information associated with a visitor, as a result of electronic receipt from a profile owner computer of indicia of the profile information..., wherein a tag associated with a visitor device serves as a link to the profile information associated with the visitor.” *Id.*, 14:61-15:3. The claim further recites that one of the media property entities is “controlling the computer system.” *Id.*, 15:10-11; *see also id.*, 15:15-16 (“when the media property entity is the entity controlling the computer system”).

46. In other words, the “computer system” of limitation [1.(a)] is controlled by the identified **media property**. This computer system is not explicitly illustrated in FIG. 2. Likewise, the “central database” in which the computer system automatically stores profile information is *not* the **database 12** illustrated in FIG. 2. Rather, limitation [1.(a)] apparently refers to a “possible implementation” of step 6000 where the **media property** “will store the tag and the profile in its central database.” *Id.*, 10:13-20.

47. In this implementation, “[t]he **PO company** can make a profile available to a **media property** using the same methods that **profile suppliers** use to give their profiles to PO companies,” i.e., the method of step 2000. *Id.*, 10:21-23. The ’445 patent describes step 2000 in a single paragraph, with only a single sentence of technical explanation: “[a] **profile supplier**...redirects...a **visitor 20** to a **PO company 10** along with the visitor’s profile.” *Id.*, 8:31-44.

48. Limitation [1.(b)] is a wherein clause reciting that the “**profile owner** computer is programmed” to select a **media property** entity of a plurality such entities by comparing profile information of a **visitor** who accessed the profile supplier’s apparatus with a plurality of stored requests from the **media property** entities and “when the **media property** entity is the entity controlling the computer system, to automatically arrange for electronic storage of a requested profile linked to the tag that is associated with the visitor device, the tag being readable by equipment that is

part of the computer system of part (a).” *Id.*, 15:3-20. This limitation apparently refers to steps 5000 and 6000 where:

The **PO company’s server 10** identifies (5000) the **media properties** (e.g., MP1 and MP2) that have asked to receive a **visitor** having a profile such as the one recognized in step 3 or categorized in step 4 (e.g., a profile of kind “A” in FIG. 2). Thereafter, the **PO company** arranges (6000) for the **visitor** (e.g., 20) to be tagged with a tag readable by the identified **media property** (e.g., MP1 or MP2), which can use the tag to recognize the visitor’s profile.

Id., 9:18-25. The specification describes several ways the **PO company** can arrange “placement of the tag,” including redirecting “a **visitor** to the identified **media property** with a request to have the identified **media property** tag the **visitor** with the media property’s own tag,” where “a tag could be a cookie on the visitor’s storage device.” *Id.*, 9:34-42; *see also id.*, 9:43-10:20. But the specification does not suggest that any of these ways are inventive. Instead, it says “[t]he process of the **PO company** enabling an identified **media property** to place a cookie on a visitor’s computer for the purpose of finding the **visitor** later within the ad space of the identified media property is similar to the way DoubleClick’s Boomerang system places cookies on visitors to an advertiser site for the purpose of finding those visitors later on other sites where Doubleclick serves ads.” *Id.*, 10:58-67.

49. Limitation[1.(c)] recites that the **media property** entity later uses the tag “to access the profile information stored in the central database” and deliver a

targeted ad to the **visitor**. *Id.*, 15:20-28. The Background of the '445 patent repeatedly describes delivering an ad based on profile information as conventional. *See, e.g.*, 2:5-23, 2:38-43, 3:30-33 (“The tag is used for the purpose of delivering additional ads to a **visitor** to one **media property** when that visitor is found later on other **media properties**, based on the visitor’s profile collected on the first **media property**”), 3:39-54, 5:7-49.

50. In my opinion, a POSITA would have recognized and appreciated that the compilation of the features recited in the challenged claims was nothing unique or nonobvious, and instead was an obvious and predictable compilation of conventional features.

A. Prosecution Histories of the '445 Patent and Related Applications

51. I have reviewed the prosecution histories of the '445 patent and its related applications. The '445 patent is the fourth-filed continuation in a family of seven applications. Five of these applications issued as patents. The following table lists the applications in filing order, along with the corresponding patent numbers and the exhibit numbers of the applications’ file histories. The challenged patent is **bolded**.

Application Number	Patent Number / Status	Prosecution History
11/765,433	8,280,758	EX1003
13/170,110	8,244,574	EX1004

Application Number	Patent Number / Status	Prosecution History
13/631,244	8,589,210	EX1005
14/080,999	Abandoned	EX1006
15/893,354	10,984,445	EX1007
16/425,259	11,093,970	EX1008
17/401,052	Pending	EX1009

52. Below, I provide definitions of several terms that appear in the claims of the '445 patent. These definitions are either agreed-to by the Applicant and the Examiner or decided by the Board and are plain-and-ordinary meanings of these terms. The following table provides exemplary, but not complete, citations to where these definitions are found in the record:

Term	Definition	Example Citations
“profile information”	“information characterizing a visitor/user” / “any information characterizing a visitor/user (demographic), or describing what a visitor/user did (behavioral)”	EX1003, 299, 333; EX1006, 443, 713.
“profile supplier”	“any entity that gathers and uses or transmits profile information” / “any entity that supplies profile information” / “an entity that provides profiles or a publisher that ‘transfers profile information, such as behavioral information, demographic	EX1003, 261-262, 281-282, 377; EX1006, 443, 714.

Term	Definition	Example Citations
	information, etc., to a behavioral targeting company” / “an entity that provides profiles or a publisher that transfers profile information to a behavioral targeting (BT) company”	
“electronic advertisement”	“an announcement in electronic media”	EX1004, 175, 179.
“media property equipment”	“equipment, which is part of the computer system that controls an ad space viewed by a visitor, at least temporarily”	EX1006, 713; EX1007, 237, 466-467, 486-487.
“media property entity”	“an entity that controls media property equipment (as defined above)”	EX1006, 713; EX1007, 237, 466-467, 486-487.
“tag”	“any unique identifier (e.g., a cookie) used to mark a person electronically visiting a media property (such as a web site, TV channel, or the like) using any device.”	EX1006, 713; EX1009, 294.
“profile owner”	“an entity that either owns profiles or has the right to resell profiles on behalf of another profile owner.”	EX1006, 713.
“BT company”	“an entity that acts as an agent to tag computers of a publisher’s visitors for the purpose of delivering targeted ads to the publisher’s visitors on other sites, or a publisher working without an agent to tag computers of the publisher’s own visitors for the purpose of delivering ads	EX1006, 714.

Term	Definition	Example Citations
	to those visitors on other sites where the publisher buys ad space”	

53. Below, I identify statements made by the Applicant, Examiner, and Board during prosecution of the ’445 patent family that may relate to other issues I discuss in this declaration.

54. In an Applicant-Initiated Interview Summary for Application No. 14/080,999 sent on February 13, 2018, the Examiner reported that “[c]ounsel reviewed the invention and acknowledged that no new or novel tag, linking, or storing technology has been invented. Instead, the invention makes use of conventional tagging technology (e.g., cookies as one example) and conventional linking and storing technologies for linking and storing information as necessary for the unconventional steps of the claimed invention.” EX1006, 701. Instead, Applicant’s counsel “asserted that the prior art did not teach a method of selecting a media property entity based on a comparison of (A) profile information about a visitor who electronically accessed electronic apparatus of a profile supplier with (B) a plurality of stored requests from different entities.” *Id.*

55. For Application No. 15/893,354 (which issued as the ’445 patent), the Applicant submitted a demonstrative exhibit for an appeal with a slide providing an overview of the independent claim:

Overview of invention (claim 34)

- Media Property entity (MP) computer responds to information received from specially programmed Profile Owner (PO) computer
- PO computer:
 - Has database with stored requests for specific profiles (or categories) for multiple “media property entities” (MP)
 - Selects particular MP
 - Arranges for visitor to be tagged with tag readable by that MP, so MP can access profile info
- Selected MP computer receives indicia of profile information from PO computer (matches request)
- Later, that MP computer uses tag and PO profile info to cause targeted ad delivery when visitor is available

EX1007, 445.

56. The issue on appeal in Application No. 15/893,354 involved construction of the term “media property equipment,” which the Applicant contended means “equipment, which is part of the computer system that controls an ad space viewed by a visitor, at least temporarily” and the term “media property entity” which the Applicant contended means “an entity that controls media property equipment (as defined above).” EX1007, 237. The Applicant noted that these constructions are consistent with those the Board made in CBM2017-00059 for patent number 8,244,574. *See* EX1004, 5-24. The Board ultimately found “that the

terms ‘media property entity’ and ‘media property equipment’ are distinct,” where “‘media property entity’...refers to an ‘owner’ in a legal/business context” and “‘media property equipment’ refers to hardware or hardware/software...in a technology context.” EX1007, 468-469. The Board reversed the rejection in view of this finding, and the Examiner ultimately allowed the application. *Id.*, 462-470, 504-520.

57. The Examiner for Application No. 17/401,052 issued a rejection based on Gilmour in view of Sathish (US 2007/0005990). EX1009, 387-432. The Applicant appealed this rejection, arguing that “the computer in Gilmour is not programmed to *automatically select* an ‘entity’ from a plurality of different media properties” and “[r]ather, each time Gilmour receives a request from a particular ‘requesting entity 50,’ the server 22 responds to *that specific* requesting entity.” EX1009, 455 (emphasis in original). The Board did not sustain this rejection and found that Gilmour “does not disclose selecting a media property entity based on the claimed, comparison of (A) profile information about a visitor who electronically accessed an electronic apparatus of a profile supplier using a first visitor device, with (B) a plurality of stored requests from the plurality of media property entities.” EX1009, 565.

B. Litigation Involving the '445 Patent and Related Patents

58. I understand that the '445 patent is the subject of pending litigation involving Petitioner: *AlmondNet, Inc. and Datonics LLC v. Amazon.com, Inc., et al.*, No. 6:24-cv-00234 (W.D. Texas, May 3, 2024). I understand that Patent Owner sued Petitioner for alleged infringement of the '445 patent.

59. I understand that the '445 patent has been involved or is currently involved in other litigations, including *AlmondNet, Inc. v. LiveIntent Inc.*, Case No. 1:24-cv-00831 (D. Del.), *AlmondNet, Inc. v. Lotame Solutions Inc.*, Case No. 1:24-cv-00376 (D. Del.), and *Datonics LLC v. Oracle Int'l Corp.*, Case No. 7:25-cv-00059 (W.D. Tex.).

60. I understand that U.S. Patent Number 8,589,210 is also asserted against Lotame Solutions Inc. in Case No. 1:24-cv-00376 (D. Del.) and against Oracle International Corp. in Case No. 7:25-cv-00059.

61. I understand that U.S. Patent Number 8,244,574 was the subject of CBM2017-00059, which was not instituted.

C. Claim Construction

62. I understand that, in *Inter Partes* Review ("IPR") proceedings, a claim of a patent shall be construed using the same claim construction standard that would be used to construe the claim in a civil action filed in a U.S. district court (which I understand is called the "*Phillips*" claim construction standard), including

construing the claim in accordance with the plain-and-ordinary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

63. I applied plain-and-ordinary meaning to all terms of the challenged claims for my analysis in this proceeding. The meanings of terms agreed-to by the Applicant and Examiner during prosecution, or otherwise specified by the Board, are the plain-and-ordinary meanings of these terms.

64. I am not an attorney, and my opinions are limited to what I believe a POSITA would have understood the meaning of certain claim terms to be, based on the patent specification and prosecution history in light of the POSITA's knowledge.

VII. OVERVIEW OF THE PRIOR ART

A. Technological Background at Time of Filing

65. Targeted Internet advertising using profile information would have been well known to a POSITA. Advertisers have long considered it “highly desirable to target advertisements to the appropriate potential customer base, rather than to broadcast advertisements in general.” EX1013, 1:27-29. For example, in the pre-Internet era, advertisements in printed publications would be targeted to expected readers of the publications. EX1013, 1:29-35. Similarly, broadcast television advertisers generally targeted their advertisements “to programs appropriate for the desired customer base.” *Id.*

66. The Internet, and more particularly, the World Wide Web, is particularly suited to targeted advertising because web ads may be targeted to specific individuals or groups of people. As Zeff explains, web advertising “gives advertisers the opportunity to precisely target an audience, enabling them to deliver advertisements that are customized to each user’s particular interests and tastes.” EX1010, 16; EX1012, [0004] (businesses “are motivated to fully understand the interests, habits, shopping behavior, demographics and other characteristics of potential customers so as to enable the [business] to better target advertising”).

67. Advertisers are highly motivated to use targeted advertising because it is efficient and effective. EX1015, 1:37-39 (targeted advertising is “known to draw more favorable responses from users (and thus are more lucrative)”). Website publishers are likewise motivated to use targeted advertising because they can charge higher prices for targeted ads, and therefore increase their advertising revenue. EX1010, 37 (“targeting helps advertisers better reach their market and allows publishers to charge higher CPMs”), 43 (“It goes without saying that the more publishers can tell advertisers about their audience, the higher the CPM publishers can charge for advertising space”), 45 (“those publishers who can offer targeted advertising buys can usually charge higher advertising rates”), 95 (“[t]he more detailed audience profile you can draw, the more valuable your advertising real estate”), 105 (“Appropriately targeting ads means achieving greater response for the

advertisers and the ability to charge a higher CPM for publishers”). Therefore, website publishers and other entities selling online advertising have a compelling economic incentive to use and provide targeting advertising—it allows them to charge higher rates and make more money.

68. Targeted advertising is performed by matching targeting criteria for an ad with information about a visitor (e.g., a website visitor) to whom the ad will be shown. EX1010, 37-39; EX1013, 2:5-18. A POSITA would have known that a common way to store the information about a visitor is in a profile. The ’445 patent admits that using profiles is well known. EX1001, 4:43-45 (“As already mentioned, the observed behavior of a visitor to a first media property is referred to as profile information about a specific visitor.”). Indeed, Zeff demonstrates that creating and using profiles for targeted advertising was well known by 1997, approximately nine years before the ’445 patent’s effective filing date:

Advertisers want to know—indeed, they must know—who they will reach by advertising on your site. Consequently, you need to be able to provide a profile of your audience. This profile can be compiled through interactive strategies such as registration, surveys, or even games and contests. You can also implement many of the new technologies available for greater targeting and personalization of ads. The more detailed audience profile you can draw, the more valuable your advertising real estate. If your site can deliver an already targeted

consumer market, your real estate has a higher value than generic “land” on another site.

EX1010, 95-96. Moreover, Gilmour’s Field of Invention section describes managing access to “descriptive profiles of users.” EX1012, [0002].

69. Thus, it was conventional for companies to build profiles of website visitors for use in targeted advertising before the effective filing date of the ’445 patent. The ’445 patent admits that BT companies were already building and using profiles for targeted advertising by this time. EX1001, 1:62-2:8. The ’445 patent explains that a BT company builds a visitor’s profile by placing “a cookie (or cookies) on the computers of visitors to specific sections of a publisher’s website” which “allows those publishers or the BT company itself to sell ads to advertisers,” where the ads are “presented to the profiled visitors when they are found later on the same site or on other sites.” EX1001, 1:65-2:8.

70. I now explain how a POSITA would have understood a BT company or other entity to collect profile information about a visitor’s online behavior. This process uses cookies to identify respective browsers who request web pages from websites.

Cookies are small text files created by servers on visiting browsers’ hard disks that contain an identification code. They are passed by servers to browsers so that each time a website visitor returns to a server that passed the cookie it can recognize it and read what it wrote before,

such as what pages were visited during the prior session. Netscape developed cookies as a means for servers to identify a specific browser.

EX1011, 218-219. “A cookie is most often used as an identification tag.” EX1010, 41; EX1001, 3:25-29, 4:51-56.

71. Typically, when a web server of a website receives a request from a browser, the server checks to see whether the request includes a cookie. If not, the web server generates a unique identifier for the browser and includes an instruction in its response telling the browser to store a cookie containing the identifier on the user’s computer. *See* EX1011, 219 (“The usual way cookies work is when a CGI script identifies a new user, it adds an extra header to its response with an identifier for that web visitor and other information that the server may capture from the client’s input. This new header data informs the browser to add this information to the client’s cookie file.”), 223 (explaining how a server tells a browser to save an ID in a cookie); EX1010, 41 (“when a user goes to a site, he or she is issued a unique ID, that is, a cookie.”)

72. The visitor’s browser automatically includes the cookie (with the identifier) in any subsequent requests to the same website. The web server uses the cookie to recognize the browser; it can do this because separate requests from the same browser include the same cookie identifier. EX1011, 219 (“Any subsequent

request to that URL from the browser will include the cookie information as an extra header in the request.”), 223 (explaining how a browser request includes a cookie).

73. A web server can thus use cookies to identify requests coming from the same browser. Hence, cookies identify *browsers*, not people. Mena addresses this point: “[c]ookies unfortunately are limited to identifying browsers, not individuals.” EX1011, 219; *see also id.*, 225 (cookies “track browsers, not people”). Zeff similarly says “[c]ookies are mapped to the browser, not to the individual” and “[t]he hard drive on which cookies are placed may be used by several people.” EX1010, 43. That said, a POSITA would have understood that a browser is often used by one person, or a small set of people, and thus a cookie that identifies a browser is commonly assumed to identify the person using the browser as well. *See, e.g.*, EX1010, 41 (“when a user goes to a site, he or she is issued a unique ID, that is, a cookie”); EX1011, 219 (cookies “are passed by servers to browsers so that each time a website visitor returns to a server that passed the cookie it can recognize it.”). A POSITA likewise would have understood that a computer executes the browser, and thus a cookie that identifies a browser also identifies the visitor’s computer or other device on which the browser is located. Due to these understandings, a POSITA would have known it was conventional at the effective date of the challenged patent to describe cookies as identifying a browser, computer, and visitor. I follow this

convention herein, and refer to cookies as identifying browsers, computers and other devices, and visitors.

74. Cookies are accordingly used to build profiles of people using web browsers to visit websites. One way of using cookies to build visitor profiles is by storing records of browser requests to a website in an associated database, which effectively tracks the visitor's activities on the website. In addition, if the visitor provides additional profile information while interacting with the website by, e.g., registering or responding to a survey, this information can also be in the profile. Mena describes this process:

One of the most common uses of cookies is for the tracking of visitors as they navigate through a website. By collecting a visitor's cookie every time a page is requested, say for a different product or service in your site, specific patterns or paths can be mined to determine what parts of your website are the most popular. Also, you may begin the process of profiling your online customers by linking cookies to referrer log and demographic data or registration information on your visitors and customers. This profile can then be used for subsequent analysis and marketing applications. Cookies can also be used to record what type of products and services a visitor has seen and purchased so that subsequent visits can be personalized to match their specific tastes and interests.

EX1011, 222-223; *see also id.*, 49 (a key value in a cookie will “allow you to link the information from your server log files, cookies, and forms with your data

warehouse and other demographic and household information”); EX1001, 4:52-56 (“the profile can be stored in a central database where the tag connected to the profile is used as a unique identifier of the visitor’s device or of the visitor personally”); EX1010, 41 (“Each time the user accesses another page on the Web site, the server requests the ID tag. Then the user (for example, ID#345243) is recorded as he or she moves throughout the site. Each time the user clicks on an advertisement or fills out a survey, the actions can be recorded in a database as those performed by that user.”).

75. Profiles created in this manner are used for targeted advertising. For example, “[i]f a publisher checks an ID tag, and discovers that according to his or her database, the user visited the auto section of his or her Web site three times, he or she can deliver an advertisement to the user for a car manufacturer.” EX1010, 41; *see also* EX1011, 224 (“[c]ookies can be used to target and rotate ads”).

76. But a browser cookie cannot be read by a web server in a domain other than the one that placed it. In other words, “[a] user may receive cookies from any number of Web sites, but Web sites can only access the specific cookies that they placed on the user’s hard drive.” EX1010, 40; EX1011, 219 (“Netscape developed cookies as a means for servers to identify a specific browser, with the specification that only the server that provided the cookie can be the one that can access it and retrieve it. This means that identification cookie codes sent to your cookie.txt file by another server could not be accessed by a different website.”), 220 (“Only pages

from the original server are allowed to read that cookie. This means snap.com cannot read the cookies issued by yahoo.com or infoseek.com.”); *see also* EX1001, 1:34-39 (“[t]he only server that can read a cookie on a user’s computer is a server operating under the same domain as the server that placed the cookie on a user’s computer to begin with”).

77. Since each web server can read only the cookie it placed in a browser, and cannot read cookies placed by web servers in other domains, different web servers typically use different cookies for the same browser. Therefore, developers created techniques allowing web servers in different domains to recognize the same browsers, even though the web servers cannot read cookies stored in the browsers by other web servers. EX1001, 1:34-50.

78. One technique for recognizing the same browser at different websites is a “redirect.” A redirect occurs when a web server instructs a web browser to obtain information from a different location. *See, e.g.,* EX1017, 33-37 (Patent Owner arguing that “URL redirection” means “obtaining certain information for at least a portion of an accessed page / site from a different location”); EX1001, 1:51-54 (“For a site to have its ad served by an ASP-hosted ad server, such as the one operated by DoubleClick, the site needs to redirect visitors from the site to the DoubleClick ad server, to fetch the ad from the server.”). For example, a redirect occurs when first web server sends a browser a web page including an instruction

causing the browser to request certain content for the page from a second web server. *See, e.g.*, EX1013, 4:62-5:2 (describing a redirect “to access [a] minimal one pixel graphic image”).

79. The redirect allows the second web server to use its own cookie identifier for the browser. *See, e.g.*, EX1001, 3:16-23 (the server to which the visitor is redirected “places a cookie on the user’s computer”). This way, the second web server can recognize the browser again. EX1001, 1:54-61; EX1010, 41. For example, the web server can use the cookie identifier as a key to find the visitor’s profile in its profile database and then send the browser a targeted ad. EX1001, 3:30-33 (“[t]he tag is used for the purpose of delivering additional ads to a visitor to one media property when that visitor is found later on other media properties, based on the visitor’s profile collected on the first media property”), 4:52-56 (“the profile can be stored in a central database where the tag connected to the profile is used as a unique identifier of the visitor’s device or of the visitor personally”); EX1010, 41; EX1011, 224; EX1013, 5:9-32.

80. The first web server can use the redirect to pass profile information about the visitor to the second web server. For example, the first web server can use the redirect to tell the second web server that the visitor visited a particular web page or performed another action at a website provided by the first web server. EX1013, 4:62-5:3. The second web server can save the profile information in its own database

and use its own cookie identifier as the key, so it can provide the visitor with a targeted ad in the future. EX1001, 3:30-33, 4:52-56; EX1010, 41; EX1011, 224; EX1013, 5:9-32.

81. The '445 patent specifically describes a prior art technique using redirects in this manner to link a visitor's profile to a cookie identifier:

Following the redirect from the site, the visitor accesses the DoubleClick ad server. Because the DoubleClick server is operating under the DoubleClick domain, it can read the DoubleClick cookie or cookies and then recognize that it encountered the same visitor in the past. In this example, the DoubleClick ad server recognizes the visitor as someone who visited the ford.com site.

EX1001, 1:54-61. Here, the '445 patent describes a DoubleClick ad server reading a visitor's cookie it received as a result of a redirect and accessing the visitor's profile linked to the cookie to recognize the visitor as someone who previously visited the ford.com website. *See* EX1001, 3:30-33 (“[t]he tag is used for the purpose of delivering additional ads to a visitor to one media property when that visitor is found later on other media properties”), 4:49-51 (“A visitor's profile can be represented by a unique tag, or the profile can be stored with the tag, whether the tag is placed on the device, on a central database, or both.”); EX1010, 41 (“This ID tag resides on the user's hard disk so that the next time that person visits the site, information already gathered can be used again.”).

82. BT and other companies providing targeted advertising gather as much profile information as possible because additional profile information leads to better targeting and more profitable advertising. EX1010, 95-96; EX1012, [0004]; EX1013, 1:27-28, 1:55-63; EX1015, 1:26-28. These companies use cookies, redirects, and other techniques to accumulate profile information from a variety of different sources. Mena recognized in 1999 that “[t]here is an entire industry of information resellers who accumulate, organize, and package data for companies and marketers wishing to improve their sales, retain their customers, and enhance their relationships with their clients.” EX1011, 243. Mena’s statement is reflected in the Background of the ’445 patent, which admits that a BT company “may also collect other kinds of profile information” besides behavioral profiles, “such as demographic information or user-provided information” and use the collected information for ad targeting. EX1001, 2:27-34, 4:45-48 (“A visitor’s profile might be enhanced by the visitors’ observed behavior on other media properties or by other profile information collected on other media properties.”). Gilmour likewise explains that profiles “may be constructed in a number of different ways utilizing a number of different sources.” EX1012, [0033]; *see also id.*, [0008] (describing constructing profiles based on information from the target entity as well as from “a further entity”).

83. Since profiles can include a vast amount of information about many visitors, the advertising industry developed standard techniques for defining the specific visitor or types of visitors to whom ads can be targeted. Generally, a group of visitors (or other types of people) to whom an ad may be targeted is called an “audience.” *See, e.g.,* EX1010, 37 (“Enhanced ad management tools...make it possible for an advertiser to buy impressions that pinpoint an audience—for example, all users of AltaVista who are surfing from Macintosh computers, connected through AOL, and living in the northeastern section of the United States.”), 105 (“The typical ad agency represents dozens of clients with dozens of products and dozens of target audiences.”). Ads may also be targeted to “segments” of visitors within an audience. *See, e.g.,* EX1010, 105 (“An ad network provides a means to buy in large enough volume while controlling the segmentation of the audience”); EX1011, 26 (“Segmentation analysis... can break down visitors to a website into unique groups with individual behavior.”).

B. Summary of the Prior Art

1. Gilmour (EX1012)

84. Gilmour, U.S. Pat. App. Pub. No. 2004/0068477, is entitled “Method and system to publish the results of a search of descriptive profiles based on respective publication policies specified by owners of the descriptive profiles, and a profile service provider.” Gilmour was filed January 12, 2001 and published April

8, 2004. EX1012. I understand that Gilmour is prior art at least because its publication date predates the June 19, 2006 effective filing date of the challenged patent. I form no opinion as to whether Gilmour is entitled to an earlier priority date.

85. Gilmour discloses a technique “for facilitating user-authorized disclosure of profile information to a requesting entity.” *Id.*, Abstract. The requesting entity may use the profile information for targeted advertising. *Id.*, [0004], [0039]. Gilmour’s FIG. 3, shown below, illustrates a profiling system having a **requesting entity 50** and **profile service provider 34**:

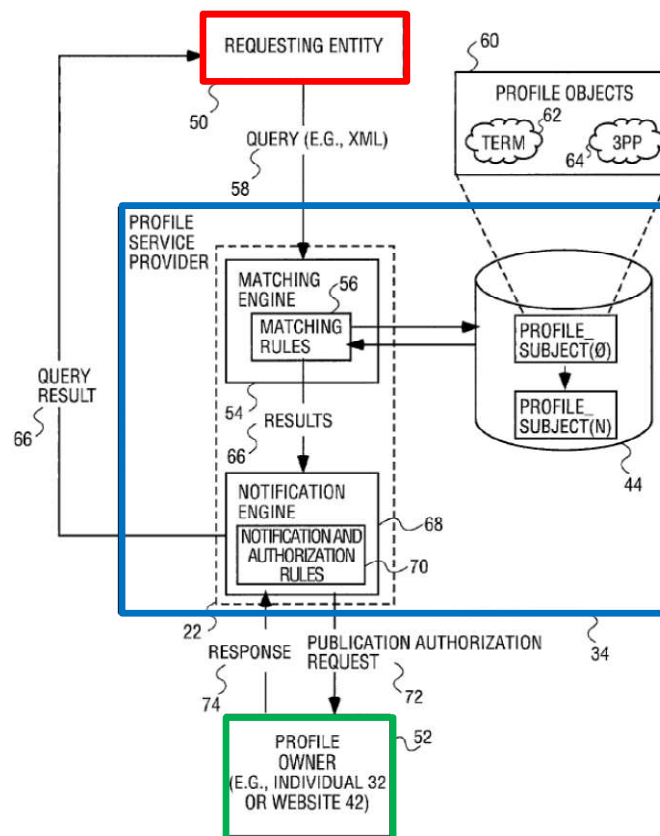


FIG. 3

EX1012, Fig. 3. The **profile service provider 34** constructs and maintains user profiles, which are based on user activities at **websites 42**⁵. *Id.*, [0037]-[0044]. A **requesting entity 50** that wishes to access the user profiles for the purposes of sending messages or advertisements to potential customers sends a query to a matching engine in the **profile service provider 34**. *Id.*, [0050]. In response, the matching engine performs “a search (e.g., a matching operation) against profiles 44 stored by the **profile service provider 34**.” *Id.*, [0054], [0050]. The matching engine then “produces a set of query results 66” to the **requesting entity**, “each result 66 comprising a collection of information retrieved from profiles 44 against which hits occurred for the search conducted by the matching engine 54.” *Id.*, [0056]-[0058].

2. Merriman (EX1013)

86. Merriman, U.S. Patent No. 8,566,154, is entitled “Network for distribution of re-targeted advertising.” Merriman was filed February 26, 2002, and issued October 22, 2013. EX1013. Merriman a continuation of Application No. 09/362,008, filed July 27, 1999, and a continuation-in-part of Application No. 09/094,949, filed June 15, 1998. *Id.* Merriman claims the benefit of three

⁵Gilmour describes a profile owner website. EX1012, [0045]. I refer to this entity as a “website” to avoid confusion with the “profile owner” recited by the challenged claims.

provisional applications: 60/095,146, filed August 3, 1998; 60/048,940, filed June 16, 1997; and 60/049,877, filed June 17, 1997. *Id.*

87. I understand Merriman is entitled to a priority date of at least July 27, 1999, by virtue of being a continuation of Application No. 09/362,008 filed on that date. I understand that Merriman is thus prior art because its priority date predates the June 19, 2006, effective filing date of the challenged patent. I form no opinion as to whether Merriman is entitled to an earlier priority date.

88. Merriman is assigned on its face to Google Inc. I understand Merriman was initially assigned by its inventors, Dwight A. Merriman and Kevin J. O'Connor, to DoubleClick Inc. in 1999. EX1016, 2. I understand that “Double Click, Inc.” is related to the “DoubleClick” referenced by the ’445 patent, and Merriman describes DoubleClick’s “Boomerang” product. *See* EX1001, 1:26-61 (“DoubleClick’s ‘Boomerang’ is a service for advertisers”), 10:58-67 (“[t]he process...is similar to the way DoubleClick’s Boomerang system places cookies on visitors”).

89. Merriman relates to a type of targeted advertising it calls “re-targeting” in which “a new follow up (re-targeted) advertisement from a specific advertiser who targeted that viewer previously, is selected for that viewer based on the viewer’s own past behavior at that specific advertiser’s web site.” EX1013, 3:30-34.

90. Merriman illustrates the various entities involved in its targeted advertising system in Figure 1.

```

graph LR
    10[BROWSER] -- http --> 12[AFFILIATE WEB SITE]
    10 -- http --> 16[ADVERTISER WEB SITE  
http SERVER]
    16 -.- 15 -.-> 14[ADVERTISING SERVER]
    14 <--> 24[DATABASE]
    14 -.- 13 -.-> 10
    14 -.- 19 -.-> 16
    19 --- FB[FEEDBACK REPORT OF ACTIVITY LIST]
  
```

A spotlight tag is a minimal graphic (e.g., a one pixel image) containing a redirect message back to the advertising server 14. Spotlight tags are placed on web pages by the advertiser and contain other imbedded information such as information identifying the specific advertiser web

page (as for example, identifying a purchase confirmation page stating “thank you for your order” etc.)

Id., 4:54-61. “When the user requests (i.e., visits) an advertiser page containing a spotlight tag, a reply message 15 redirects the [user’s] browser 10 back to the advertising server 14 via request 13 to access the minimal one pixel graphic image.”

Id., 4:62-65. This reply message “provides real time reporting of user activities while the user is in the advertising [sic, advertiser] web site 16.” *Id.*, 4:66-5:2; 5:38-49. The advertising server 14 stores the reported user activities in a database. *Id.*, 4:34-36; 5:49-51. Later, when the user visits the affiliate website 12 having the advertising space 20, in addition to delivering the requested content, the website redirects the user’s browser 10 to the advertising server 14. *Id.*, 5:9-21. The advertising server 14 selects an ad for display in the advertising space 20 based on the user’s activities stored in the database. *Id.*, 5:19-25, 6:5-19.

3. Fraunhofer (EX1014)

91. Fraunhofer, U.S. Patent No. 6,236,991, is entitled “Method and system for providing access for categorized information from online internet and intranet sources.” Fraunhofer was filed November 26, 1997 and issued May 22, 2001. I understand that Fraunhofer is prior art at least because its issue date predates the June 19, 2006 effective filing date of the challenged patent. EX1014.

92. Fraunhofer discloses “a system for gathering, categorizing, and delivering electronic content to users in response to user requests.” *Id.*, 2:8-10. A

system server gathers content, such as web pages, from multiple sources and categorizes the content into “channels,” where “[e]ach channel represents a particular category or group of categories of related information.” *Id.*, 2:46-54. The system stores the categorized content in a database. *Id.*, 4:44-48.

93. Fraunhofer’s system stores queries from end users specifying the areas of interest (which Fraunhofer refers to as “topics”) for which they desire to obtain information. *Id.*, 2:66-3:5, 5:34-6:7.⁶ The system matches the users’ interests (found in the users’ profiles) to the channels assigned to the content and sends content in those matching channels to the users. *Id.*, 4:44-52. The system can do the matching on an on-going basis as content is received, on a periodic basis, or at other times. *Id.*, 3:14-19.

4. Julia (EX1015)

94. Julia, U.S. Patent No. 8,880,677, is entitled “System and method for delivering content to users on a network.” Julia was filed January 3, 2006, issued November 4, 2014, and claims the benefit of Provisional App. No. 60/641,342 filed

⁶ Fraunhofer refers to a set of these queries as “user profiles.” EX1014, 5:40-43 (“Each query represents a topic, and can identify a channel and additionally contain boolean, fuzzy, proximity and/or hierarchical operators. A set of topics preferred by a user is known as a user profile.”).

January 3, 2005. EX1015. I understand that Julia is prior art because its January 3, 2006, filing date predates the June 19, 2006, effective filing date of the challenged patent. I form no opinion as to whether Julia is entitled to an earlier priority date.

95. Julia discloses a system and method “for delivering targeted media to a designated set of interconnected devices.” *Id.*, 6:10-12, 7:55-65, FIG. 3A-3B, Abstract, 2:7-13. Julia discloses building profiles of users based on their behaviors, such as their web browsing activities. *Id.*, 7:66-8:46, Abstract. The profile data for a user may be collected from multiple devices, such as from a desktop computer and a cellular phone. *Id.*, 2:41-3:4, 9:26-31, 11:15-47, FIG. 5. Julia’s system and method sends targeted content including advertisements to the users based on their profiles. *Id.*, 2:7-55, 8:43-9:11, 10:17-11:13, FIG. 4B. The targeted content may be directed to, and customized for, the different devices used by the user. *Id.*, 10:63-11:3, 12:26-61.

VIII. INVALIDITY

96. My opinion regarding invalidity of the ’445 patent is based on the understanding of a POSITA and my analysis of the prior art references discussed herein. In my opinion, the challenged claims of the ’445 patent are invalid for these reasons:

- Claims 1 and 13 are obvious in view of Gilmour in combination with Merriman and Frauenhofer.

- Claim 12 is obvious in view of Gilmour-Merriman-Frauenhofer in combination with the knowledge of a POSITA.
- Claims 2-11 and 14 are obvious in view of Gilmour-Merriman-Frauenhofer in further combination with Julia.

97. I evaluated the limitations of each claim as a whole, and did not merely look for where each individual limitation could be found in the prior art. I also considered what a POSITA might understand from the prior art reference and what modifications and alterations a POSITA would know could be made to the prior art reference. I have included the language of each claim below for reference purposes, but based my opinions on the claims as they appear in the patent; any differences between the excerpted claim language below and the patent are unintentional.

A. Claims 1, 8-11, and 13 of the '445 patent are obvious in view of Gilmour, Merriman, and Frauenhofer

1. Claim 1

[1.pre] “A method of causing delivery of electronic advertisements based on provided profiles comprising:”

98. Gilmour discloses the preamble. The Examiner of Application No. 17/401,052 (the “’052 application”), a grandchild of the ’445 patent, found that Gilmour teaches “A method of causing delivery of electronic advertisements based on provided profiles.” EX1009, 402-404. The Applicant, Datonics LLC, did not

challenge the Examiner's finding on appeal. *Id.*, 439-480, 511-525. Gilmour's text confirms the Examiner was correct.

99. Gilmour discloses a method. EX1012, Abstract (“[a] method for facilitating user-authorized disclosure of profile information to a requesting entity”), [0002] (“[t]his invention relates generally to the field of management and more particularly to a method and system to manage access to descriptive profiles of users”), [0008]-[0009], [0022], [0072]-[0105].

100. The method causes delivery of electronic advertisements, targeted based on visitor profiles. Gilmour explains that “commerce facilities are motivated to fully understand the interests, habits, shopping behavior, demographics and other characteristics of potential customers so as to enable the commerce facility to better target advertising of services and merchandise to a potential customer base.” *Id.*, [0004]. To that end, Gilmour discloses a method “to personalize the presentation of information and intelligently target marketing activities to the individual 32 based on profile information.” *Id.*, [0039]. A POSITA would have understood that the personalized presentation of information and targeted marketing activities involves causing delivery of electronic advertisements. *Id.*, [0004], [0034], [0039], [0084], [0105].

101. The electronic advertisements are based on visitor profiles. Gilmour discloses a “profile service provider 34” which “operate[s] to provide an outsourced

profile construction, maintenance, access and brokerage function to sellers and marketers.” *Id.*, [0042]. A requesting entity 50 queries the profile service provider 34 for user profiles and the profile service provider provides matching profiles to the requesting entity in response. *Id.*, [0050]-[0061] (describing profile service provider and operations thereof), [0072]-[0105] (describing query/response based on profiles via profile service provider). The requesting entity can then deliver electronic advertisements based on the provided profiles. For example, the requesting entity 50 can identify a profile subject 90 who is “a candidate for the purchase of a digital camera” and send that subject “an offer to sell a camera at a very favorable purchase price.” *Id.*, [0084].

[1.a(i)] “(a) with a computer system automatically storing, in a central database associated with the computer system, profile information associated with a visitor, as a result of electronic receipt from a profile owner computer of indicia of the profile information, which profile information associated with the visitor matches a profile or kind of profiles requested by an entity controlling the computer system,…”

102. Gilmour alone and in combination with Merriman discloses this limitation. The Examiner in the ’052 application found that Gilmour discloses:

with a computer system automatically storing, in a database associated with the computer system, profile information associated with a visitor, as a result of electronic receipt from a profile owner computer of indicia of the profile information, which profile information associated with the visitor matches a profile or kind of profiles requested by an entity controlling the computer system;

EX1009, 402-404. This language is identical to that of limitation [1.a(i)], except that limitation [1.a(i)] recites “...storing, in a **central** database associated with the computer system...” EX1001, 14:62-63. The Applicant did not challenge the Examiner’s finding on appeal. EX1009, 453-459. Gilmour’s text confirms the Examiner was correct, and also renders obvious the claimed “central database.”

103. FIG. 3 of Gilmour illustrates a profiling system having a **requesting entity 50** and **profile service provider 34**:

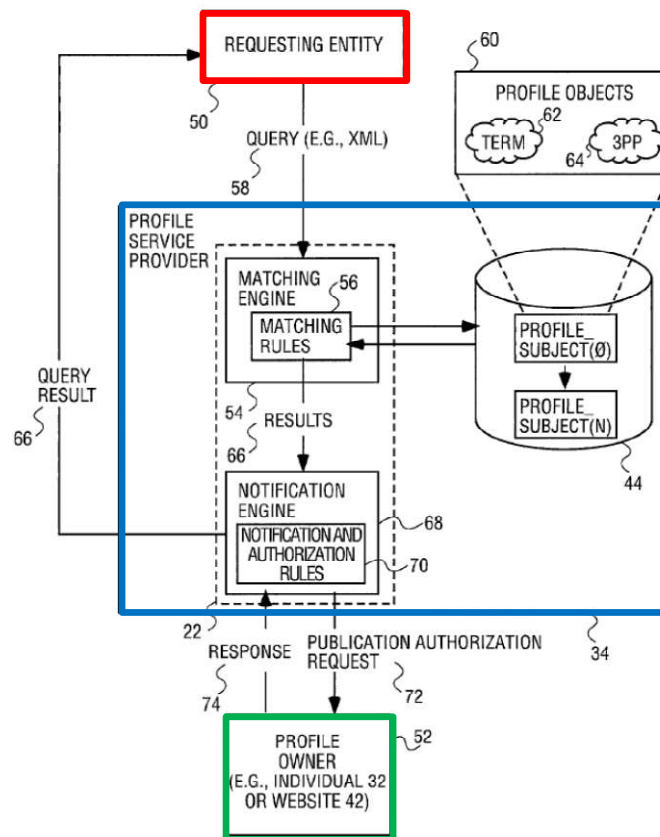


FIG. 3

EX1012, FIG. 3. The **profile service provider 34** constructs and maintains user profiles, which are based on user activities at **websites 42**. *Id.*, [0033]-[0034], [0037]-[0044]. A **requesting entity 50** that wishes to access the user profiles sends a query to a matching engine in the **profile service provider** and receives profile information in response. *Id.*, [0050], [0056]-[0057], [0061].

[1.a(i)(1)] “with a computer system” and “profile owner computer”

104. Gilmour’s **requesting entity 50** is the entity controlling the “computer system” of limitation [1.a(i)] that receives indicia of profile information provided by the **profile service provider 34**. Gilmour explicitly discloses that the requesting entity has a “computer system.” EX1012, [0053] (“...to a computer system of the requesting entity.”). A POSITA also would have understood that the **requesting entity 50** has a computer system because it interacts with other entities via a computer network. *Id.*, [0048], [0018], [0019], Figs. 2, 3, 8-10. Gilmour illustrates and describes a representative computer system in FIG. 11 and the accompanying text. *Id.*, FIG. 11, [0106]-[0109]. Therefore, a POSITA would have understood that the functions of the **requesting entity 50** are performed “with a computer system” it controls.

105. Gilmour’s **profile service provider 34** is a “profile owner computer.” Patent Owner defines a “profile owner” as “an entity that either owns profiles or has the right to resell profiles on behalf of another profile owner.” EX1006, 713. This

definition is the plain-and-ordinary meaning and consistent with disclosure in the ‘445 patent, which describes a “profile owner” as “either own[ing] profiles or hav[ing] the right to resell the profiles.” EX1001, 5:51-53.

106. Gilmour’s [profile service provider 34](#) is a profile owner at least because it has the right to resell profiles on behalf of another profile owner, the entity operating the website 42. EX1012, Abstract (“[t]he composite profile, or collection of profiles, may include profile information submitted by a profile subject, or profile information harvested by an external profile owner (e.g., a website)”). The [profile service provider 34](#) provides “an outsourced profile construction, maintenance, access and brokerage function to sellers and marketers (e.g., the website 42).” EX1012, [0042]; *see also id.*, [0036] (“A profile service provider 34 . . . may operate within the network environment 30 to coordinate and facilitate access to one or more profiles of the individual 32 in a manner that affords the individual 32 control over such access, but that also provides meaningful access to the profile by a requesting entity”), [0044] (“In summary, the profile service provider 34 may provide any combination of services, including namely the construction of a profile (e.g., utilizing information submitted to the server 22), the storage of a profile, and the facilitation and brokerage of access to a profile.”). In some embodiments, the [profile service provider 34](#) only facilitates and brokers access to profiles. *Id.*, [0043]. The [profile service provider 34](#) thus has the right to, and does, resell profile information

on behalf of another profile owner. *Id.*, [0042] (a profile “may be valuable and regarded as a commodity from which revenue is derivable”), [0045] (the profile service provider 34 can make a profile “accessible to third parties for querying purposes in a manner that is controlled by the profile owner and that is potentially revenue-generating for the profile owner.”).

107. Gilmour further teaches that [profile service provider 34](#) operates a computer system which includes a computer. *Id.*, [0038], [0043], [0044], [0074]. A POSITA also would have understood the [profile service provider 34](#) includes a computer because it interacts with other entities via a computer network. *Id.*, [0048], [0018], [0019], Figs. 2, 3, 8-10. Gilmour illustrates and describes a representative computer system in FIG. 11 and the accompanying text. *Id.*, FIG. 11, [0106]-[0109]. Thus, Gilmour’s “[profile service provider 34](#)” includes a “profile owner computer.”

[1.a(i)(2)] “profile information associated with a visitor”

108. Gilmour discloses “profile information associated with a visitor.” Patent Owner defines “profile information” as including “any information characterizing a visitor/user (demographic), or describing what a visitor/user did (behavioral).” EX1003, 261, 299, 333, 376; EX1006, 713. This definition is the plain-and-ordinary meaning and consistent with the ’445 patent, which describes profile information as “behavioral information, demographic information” and “user-provided information.” EX1001, 2:24-34, 3:33-38, 4:43-48.

109. Gilmour's **profile service provider** constructs and maintains **user profiles**. EX1012, [0033]-[0034], [0037]-[0044], [0054]-[0055].

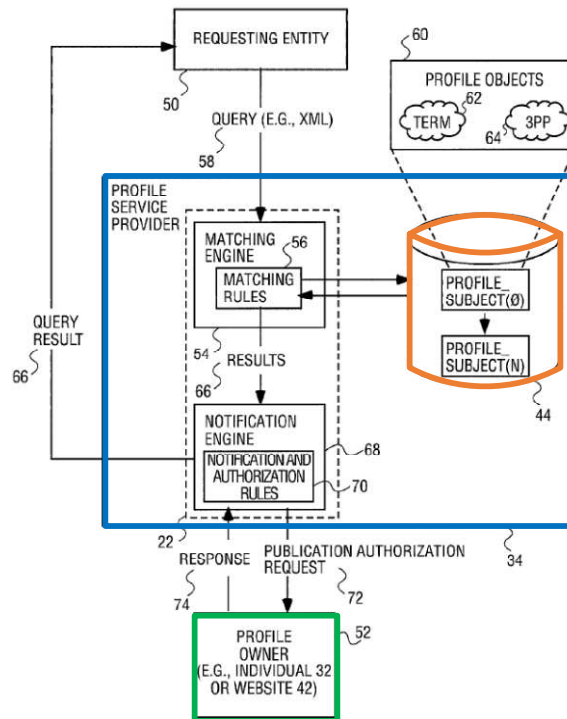


FIG. 3

Id., FIG. 3, [0054]-[0055]. Gilmour’s Figure 3 illustrates that the **profile service provider 34** includes **profiles 44** (i.e., profile information) which contain “a collection 60 of profile objects.” *Id.*, [0055]. A profile object 60, in turn, includes a term profile object 62 “that stores a term (e.g., a word, collection of words, phrase or the like indicative of a [sic] item of a user), or a Platform for Privacy Preferences (P3P) object 64 that stores certain descriptive information concerning a profile subject.” *Id.*

110. Gilmour’s profiles are based on visitor activities at **websites 42**. *Id.*, [0033]-[0035], [0037]-[0044]. Gilmour explains that a profile includes information “concerning an entity (e.g., an individual)” and may include “information voluntarily submitted,” “information inferred...by observations of an entities [*sic*] activities and habits, and/or...information extrapolated” from other information. *Id.*, [0034]. This information may be acquired by “requiring that a user perform a detailed registration process in order to obtain full benefit of the website, and by monitoring user activities and actions (e.g., navigation) with respect to the website.” *Id.*, Abstract, [0033]-[0035], [0037]-[0040]. Accordingly, Gilmour discloses “profile information associated with a visitor” because the profile information is associated with visitors to websites, characterizes the visitors, and describes what the visitors did on the websites.

[1.a(i)(3)] “automatically storing, in a central database associated with the computer system, profile information associated with a visitor, as a result of electronic receipt from a profile owner computer of indicia of the profile information,”

111. Gilmour alone and in combination with Merriman renders obvious the **requesting entity** computer system “automatically storing, in a central database associated with the **computer system**, **profile information** associated with a visitor, as a result of electronic receipt from a **profile owner computer** of indicia of the profile information.”

112. Starting with the second clause, Gilmour discloses the **requesting entity** computer system electronically receiving indicia of the **profile information** from the **profile service provider** computer (“as a result of electronic receipt from a profile owner computer of indicia of the profile information”). Gilmour discloses that the **requesting entity** sends a query 58 to the **profile service provider** and receives a query result 66 in response thereto. *Id.*, [0050], [0056]-[0057], [0061]. This process is illustrated in FIG. 3 (**red arrows**):

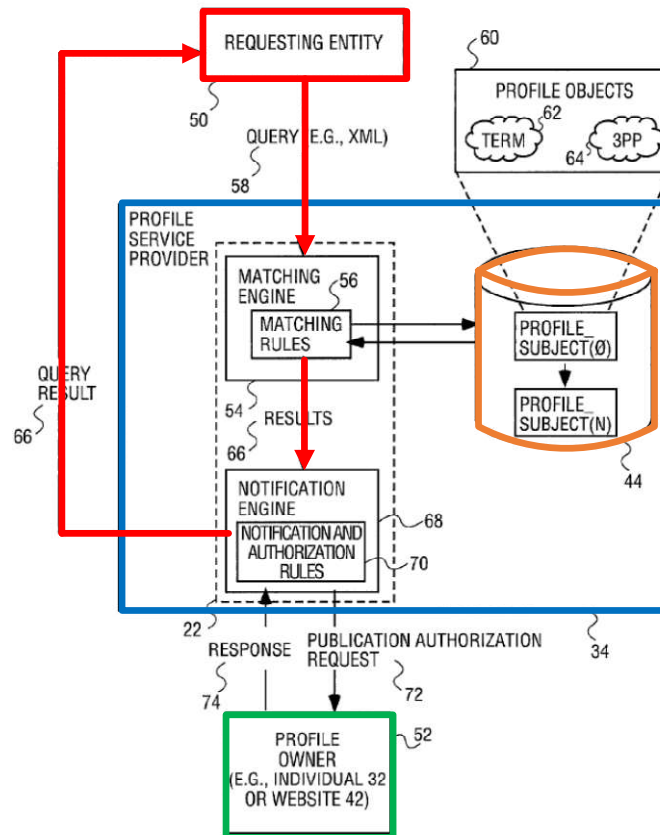


FIG. 3

Id., Fig. 3, [0050], [0056]-[0057], [0061], [0080], [0082]. The query result 66 comprises “a collection of information retrieved from **profiles** 44 against which hits occurred for the search conducted by the matching engine” and “may include any or all information contained within a profile.” *Id.*, [0056]-[0057]. The result may be transmitted “in the form of an HTML document.” *Id.*, [0082]. A POSITA would have understood that the query result is received electronically because it is received over a computer network. *Id.*, [0048].

113. A POSITA would have understood the query result to be indicia of the **profile information**. The query result indicates, i.e., points out, the **profile information** identified by the **profile service provider** as matching the query. Thus, the query result is indicia of the **profile information** and Gilmour discloses that the **requesting entity** electronically receives the indicia of the **profile information** from the **profile service provider** computer. Gilmour’s **requesting entity** receiving indicia of a profile from the **profile service provider** is consistent with Patent Owner’s description of its alleged invention where the media property (MP) in the ’445 patent (corresponding to Gilmour’s **requesting entity**) receives information (e.g., indicia of profile information) from the profile owner computer (corresponding to Gilmour’s **profile service provider**). EX1007, 445 (“Media Property entity (MP) computer responds to information received from specially programmed Profile Owner (PO)

computer” and “Selected MP computer receives indicia of profile information from PO computer (matches request)”; *see also* EX1009, 402-404.

114. Gilmour does not describe how the **requesting entity** computer system stores the query result. Accordingly, Gilmour does not explicitly disclose “automatically storing, in a central database associated with the computer system, profile information associated with a visitor.” A POSITA nevertheless would have found it obvious that the **requesting entity** automatically stores the **profile information** associated with a visitor received in a query result in a central database so it could easily retain, access, and use the profile information without having to make subsequent requests for the same information (and perhaps paying for the same information again).

115. It was well-known by the effective filing date of the ’445 patent to use databases of profile information for targeted advertising. EX1010, 41 (“Each time the user clicks on an advertisement or fills out a survey, the actions can be recorded in a database as those performed by that user...After a user sees the first ad in a series, it is recorded in a database”), 50 (“Users are enticed to register and become a part of its preferences database with the promise of delivering the types of information people want—movie and music recommendations to name two”); EX1011, 17, 22 (“For years marketers have been using databases to get a picture of their customers”), 38, 52 (“The personalization of your customers’ websites requires

that you gather information from your customers and store it in a database for mining”), 60-65 (“A company’s customer database can have hundreds of fields recording different types of interactions both offline and online culled from various contact points including a firm’s website”), 245, 278, 304.

116. Gilmour likewise discloses storing profile information associated with visitors in a database. The **profile service provider** stores **profile information** in a database. EX1012, [0028], [0029], [0037]-[0038], [0044]. The **websites** likewise store profile information in databases. *Id.*, [0086]-[0090], [0093]. In fact, Gilmour discloses that a **website** may make its database available to the **requesting entity** via the **profile service provider**. *Id.*, [0086] (“the profile service provider 34...provides a convenient mechanism whereby a website 42 may make a profile database that it has constructed available to third parties (e.g., the requesting entity 50)”).

117. Gilmour further discloses that profile information may be stored in a centralized or distributed database. *Id.*, [0044] (“as opposed to having a centralized profile service provider 34...”). Gilmour also contemplates database arrangements other than those it specifically discloses. *Id.*, [0029] (“It will be appreciated that although the user database 56A and the repository database 56B are illustrated as separate databases in FIG. 1, other physical and/or logical arrangements of the databases 56A, 56B and the corresponding repository 51 are equally applicable to the present invention”).

118. Thus, a POSITA would have found it obvious for Gilmour's requesting entity computer system to store the profile information it receives from the profile service provider computer in a central database associated with the computer system. Storing profile information in this way was well known in the art and a POSITA would have reasonably expected it to be successful. A POSITA would have been motivated to use a central database associated with the requesting entity computer system so the requesting entity could easily retain, access, and use the information in the profiles without having to make subsequent requests for the same information (and perhaps paying for the same information again).

119. A POSITA also would have found it obvious for the requesting entity to store the profile information in the database "automatically" because it is conventional for computerized systems to operate automatically. In addition, a POSITA would have found it obvious that the requesting entity computer system automatically stores the profile information "as a result of electronic receipt from a profile owner computer of indicia of the profile information." The requesting entity computer system receives indicia indicating the **profile information** identified by the **profile service provider** as matching the query and obviously stores the indicated profile information as a result of receiving the indicia because it is beneficial to store profile information for the reasons I provide above.

120. The Examiner for the '052 application also recognized that Gilmour does not explicitly disclose whether or how the requesting entity stores the query result. The Examiner nonetheless found the '052 claim obvious because:

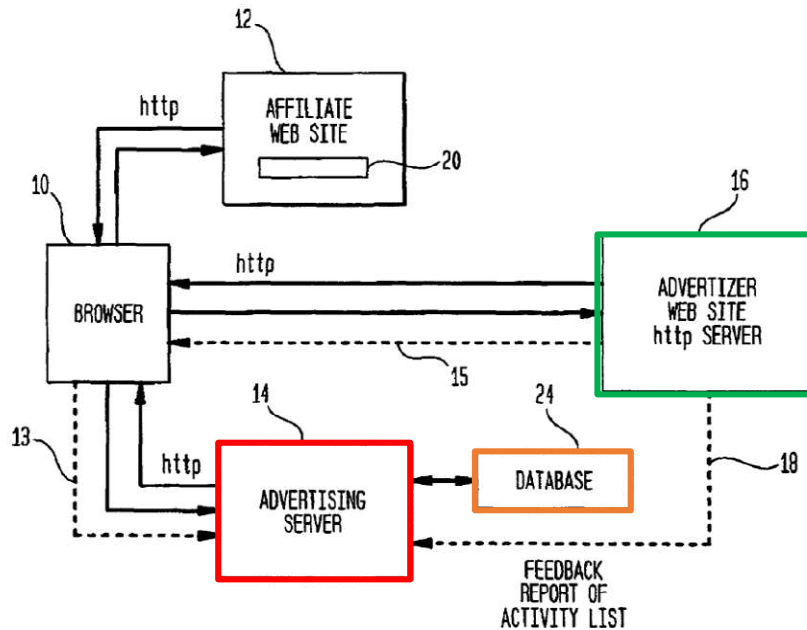
The difference between the limitation and the teachings of Gilmour is only that Gilmour may not explicitly teach his “requesting entity 50” [computer system] also “stores” the “query result 66” which it receives. However, because Gilmour already teaches other computer systems store the profile information, e.g. “profile portion 82..., 86, 88, etc...” - see Fig. 6, and Gilmour does teach his “query result 66” may contain contact details of these profile portions, and Gilmour teaches that “requesting entity 50” [computer system] uses such details to contact “profile subject 90” [visitor] for the purpose of providing targeted advertising, the Examiner finds that Gilmour himself provides ample motivation to a person of ordinary skill in the art practicing the invention of Gilmour to modify Gilmour to store his disclosed “query result 66” by his “requesting entity 50” [computer system] at least to enable his disclosed future use of such information to send his “contact request” and/or advertisement to the “profile subject 90 (e.g., the individual)” [visitor] because storage systems are ubiquitous, were within the level of ordinary skill, and therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to have tried using such storage means within their knowledge to store Gilmour’s received query result 66 [*electronic receipt from a profile owner computer*] by Gilmour’s requesting entity 50 [computer system] because per MPEP 2143(1) (G) Some teaching, suggestion, or motivation in the prior art that would have led one of

ordinary skill to modify the prior art reference teachings to arrive at the claimed invention is obvious. The motivation may be implicit and may be found in the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. *Id.* at 1366, 80 USPQ2d at 1649.

EX1009, 402-403 (Final Rejection dated June 22, 2023). I agree with the Examiner's reasoning and adopt it herein. I understand that the Applicant, who is also Patent Owner, did not dispute the Examiner's reasoning provided above. *See* EX1009, 453-456, 511-515.

121. Furthermore, to the extent Gilmour alone does not disclose “a central database associated with the computer system” of the requesting entity, such a database would have been obvious in view of Merriman. Merriman discloses an **advertising server** that stores profile information received from **websites** in an associated **central database**:

FIG. 1



EX1013, Fig. 1, 3:44-46, 4:34-36, 5:22-24, 5:49-54, 5:61-63. A POSITA would have recognized that the database is a “central” database because Merriman discloses a single database for storing the profile information. *Id.* A POSITA likewise would have recognized that the central database is associated with the advertising server because Merriman refers to it as “local” to the advertising server and uses it to store information. *Id.*, 4:34-36, 5:49-54, 5:61-63.

122. A POSITA would have found it obvious to modify Gilmour in view of Merriman to have the requesting entity computer system use Merriman’s central database to store profile information as a result of electronic receipt of indicia of the profile information from the profile service provider. Merriman discloses that a computer system can use an associated central database to store profile information,

and a POSITA would have been motivated to use Merriman's central database in association with the requesting entity computer system so the requesting entity could easily retain, access, and use the profile information without having to make subsequent requests for the same information (and perhaps paying for the same information again). A POSITA also would have motivated to make the database operate "automatically" because it is conventional for computerized systems to operate automatically, and it would have been an efficient and less labor-intensive way to store the information. Storing profile information in this way was well known in the art and a POSITA would have reasonably expected it to be successful.

[1.a(i)(4)] "which profile information associated with the visitor matches a profile or kind of profiles requested by an entity controlling the computer system"

123. Gilmour discloses that the profile information associated with the visitor that is automatically stored in the central database associated with the requesting entity computer system "matches a profile or kind of profiles requested by an entity controlling the computer system." As I discuss for limitation [1.a(i)(3)], Gilmour discloses that the **requesting entity** controls the requesting entity computer system, sends a query 58 to the **profile service provider**, and receives a query result 66 comprising indicia of the profile information in return. EX1012, [0050], [0056]-[0057], [0061]. This process is illustrated in FIG. 3 (**red arrows**):

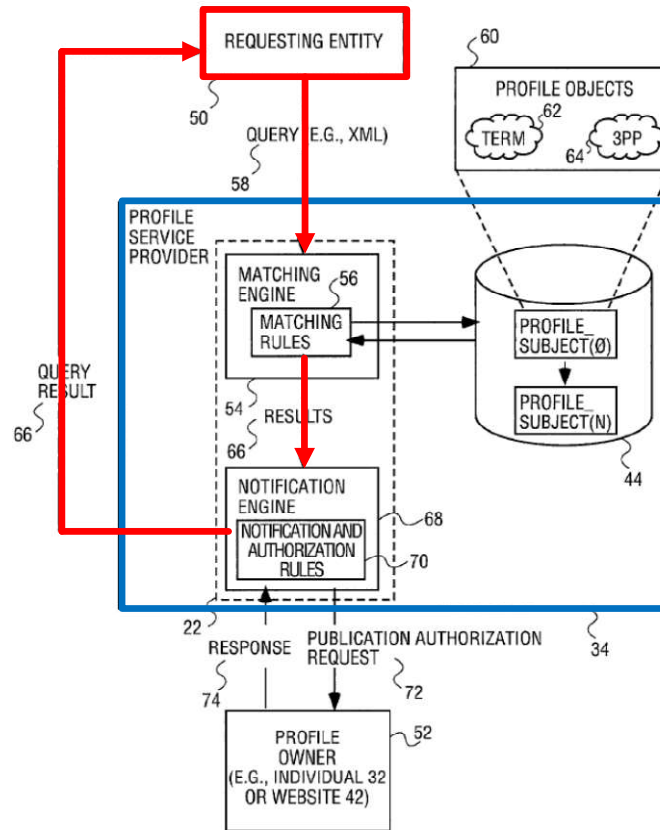


FIG. 3

Id., [0050], [0056]-[0057], [0061], [0080], [0082].

124. A POSITA would have understood that the query from Gilmour’s requesting entity to the profile service provider is a request for a profile or kind of profiles. EX1018, 3 (defining “query” as “[t]o request information from a database” and “[t]he request itself for particular information contained in a database”). The query specifies a set of criteria for identifying matching profiles. EX1012, [0050], [0051], [0074], [0096]. “The query specification may include keywords, time and

date limits, subject matter limits, or any criteria with respect to a field maintained within a profile 44.” *Id.*, [0051].

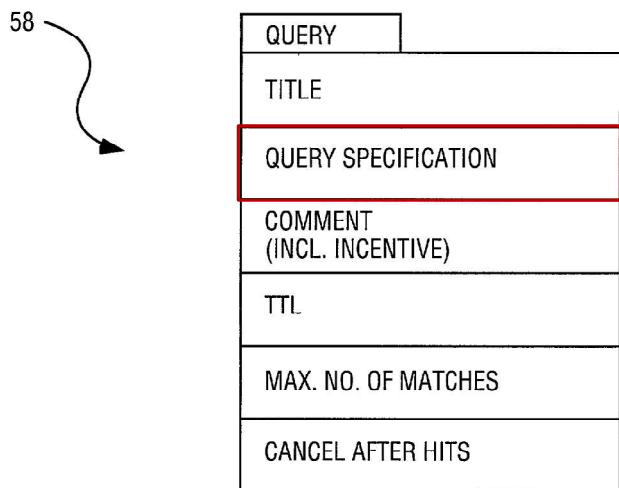


FIG. 4

Id., Fig. 4, [0014], [0050]-[0053], [0074]. A POSITA would have understood that the requesting entity, by sending the query to the profile service provider seeking profiles matching specified criteria, is requesting to receive query results including a profile or kind of profiles that satisfy the query.

125. Gilmour’s profile service provider sends a query result to the requesting entity including indicia of the profile information that matches a profile or kind of profiles requested by the requesting entity. The [profile service provider](#) includes “a [matching engine 54](#) that implements a set of matching rules 57 to locate one or more profiles 44 based on a received query 58.” EX1012, [0050].

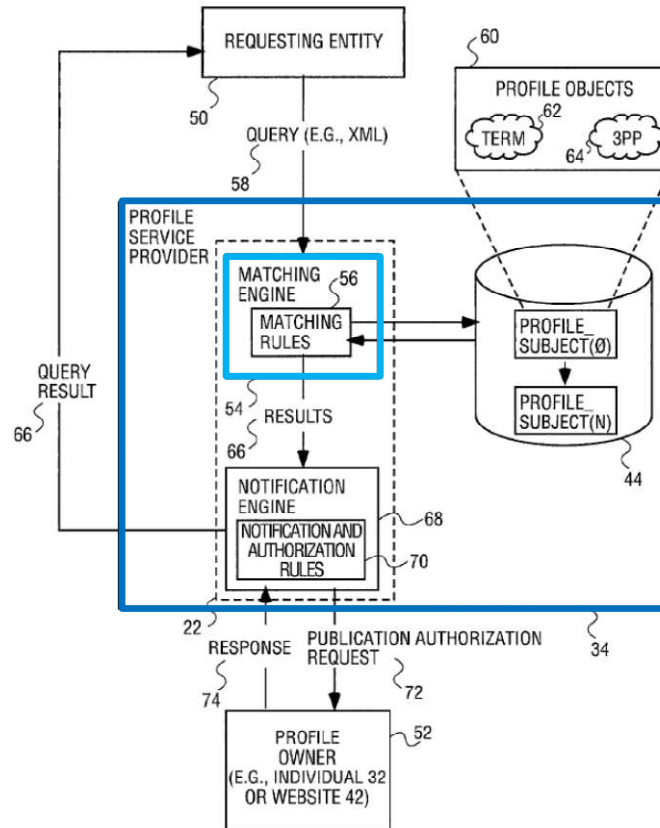


FIG. 3

Id., Fig. 3, [0013]. The matching engine specifically “applies matching rules 57 to identify matched profiles based on criteria specified within the query.” *Id.*, [0050].

126. “[T]he matching engine 54 produces a set of query results 66, each result 66 comprising a collection of information retrieved from profiles 44 against which hits occurred for the search conducted by the matching engine 54.” *Id.*, [0056].

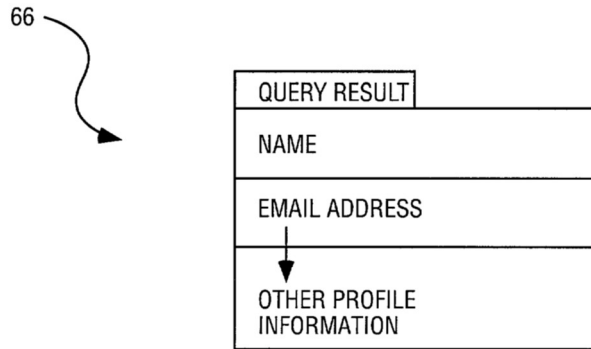


FIG. 5

Id., Fig. 5, [0015], [0056], [0057], [0061], [0080], [0082], [0091]. “[A] query result 66 may include any or all information contained within a profile,” and “the contents of the query result 66 may be specified by a query 58.” *Id.*, [0057]. The query result is indicia of the profile information associated with a visitor as I discuss for limitation [1.a(i)(3)].

127. Thus, the profile information associated with the visitor that is automatically stored in a central database associated with the requesting entity computer system “matches a profile or kind of profiles requested by an entity controlling the computer system” because the profile information is stored due to matching a profile or kind of profiles requested by the entity controlling the requesting entity computer system.

[1.a(ii)] “wherein a tag associated with a visitor device serves as a link to the profile information associated with the visitor;”

128. Gilmour in combination with Merriman discloses limitation [1.a(ii)]. During prosecution, Patent Owner defined “tag” as “any unique identifier (e.g., a cookie) used to mark a person electronically visiting a media property (such as a web site, TV channel, or the like) using any device.” EX1006, 713; EX1009, 294. This definition is the plain-and-ordinary meaning and is consistent with the challenged patent, which states that “[a] tag generally is a unique identifier used to mark a person electronically visiting a media property, such as a web site, TV channel, radio show, or the like, using a computer, a mobile device, a TV set, a TV set top box, or any other device,” and may be a cookie. EX1001, 3:24-29, 2:14-21, 2:50-51.

129. Limitation [1.a(ii)] merely recites conventional use of a cookie or other tag to store a unique identifier that links a visitor’s device to profile information about the visitor. Patent Owner admitted as much to the Examiner. The application for the parent of the challenged patent, No. 14/080,999, recited similar limitations including “profile information is linked to a tag associated with a visitor device” and “wherein the tag serves as a link to the profile information associated with the visitor.” EX1006, 704 (claim amendment markings omitted). During an interview conducted on February 7, 2018, counsel for the Applicant told the Examiner these limitations recited conventional technology:

[c]ounsel reviewed the invention and acknowledged that no new or novel tag, linking, or storing technology has been invented. Instead, the invention makes use of conventional tagging technology (e.g. cookies as one example) and conventional linking and storing technologies for linking and storing information as necessary for the unconventional steps of the claimed invention.

EX1006, 701 (Examiner's interview summary). The prior art confirms counsel was correct that having a tag associated with a visitor device serve as a link to profile information associated with the visitor is conventional.

130. Merriman discloses that “[a]n activity list (lists of user activities at the advertiser’s web site)” is compiled. EX1013, 4:39-41. The activity list, which a POSITA would have understood to be profile information, is organized by user ID, which is “typically assigned arbitrarily using cookie enabled browser features.” *Id.*, 5:56-57. The activity list is stored in a database. *Id.*, 4:34-36. Merriman thus discloses to a POSITA that a tag associated with a visitor device (i.e., the cookie used by the “cookie enabled browser features”) includes a unique identifier that serves as a link to the profile information associated with the visitor (i.e., the activity list) stored in the database. This is consistent with how a POSITA would have understood the conventional use of cookies to identify visitors and target advertisements based on profile information linked to the visitors using the cookies. EX1010, 39-43 (“[i]f a publisher checks an ID tag, and discovers that according to

his or her database, the user visited the auto section of his or her Web site three times, he or she can deliver an advertisement to the user for a car manufacturer”); EX1011, 222 (“you may begin the process of profiling your online customers by linking cookies to referrer log and demographic data or registration information on your visitors and customers”).

131. A POSITA would have found it obvious to modify Gilmour in view of Merriman to use a tag associated with a visitor device to serve as a link to the profile information associated with the visitor. A POSITA would have been motivated to make this modification to allow the requesting entity computer system to recognize a visitor and access profile information about the visitor stored in a database for targeted advertising or other purposes. Gilmour discloses that a website can store a cookie on a visitor device to enable targeted marketing activities based on profile information. EX1012, [0039]. Merriman similarly discloses using a cookie ID as a link to profile information stored in a database. EX1013, 4:34-41, 5:56-57. Gilmour and Merriman is a combination of prior art elements according to known methods to yield the predictable result of identifying the visitor and profile information about the visitor using conventional cookies. A POSITA would have had a reasonable expectation of success because using a tag or cookie in this manner is conventional.

[1.b(i)] “(b) wherein the profile owner computer is programmed: (i) to automatically select a media property entity of a plurality of media property entities based on a comparison of (A) profile information about a visitor who electronically accessed electronic apparatus of a profile supplier with (B) a

plurality of stored requests from the plurality of media property entities, one of which media property entities is the entity controlling the computer system, each stored request being for requested profiles or kinds of profiles, which plurality of stored requests includes the profile or kind of profiles requested by the entity controlling the computer system,”

132. The Examiner in the '052 application found that Gilmour discloses:

(b) wherein the profile owner computer is programmed to:

(i) automatically select a media property entity of a plurality of media property entities based on a comparison of (A) profile information about a visitor who electronically accessed electronic apparatus of a profile supplier using a first visitor device, with (B) a plurality of stored requests from the plurality of media property entities, one of which media property entities is the entity controlling the computer system, each stored request being for requested profiles or kinds of profiles, which plurality of stored requests includes the profile or kind of profiles requested by the entity controlling the computer system.

EX1009, 404-405. This limitation is identical to limitation [1.b(i)], except that the '052 limitation recites the additional requirement that the visitor accessed the electronic apparatus “using a first visitor device.”

133. The Applicant did not challenge the Examiner's finding for this limitation on appeal, except to argue that “the computer in Gilmour is not programmed to *automatically select* an ‘entity’ from a plurality of different media properties” because “each time Gilmour receives a request from a particular ‘requesting entity 50,’ the server 22 responds to *that specific* requesting entity” and,

therefore, “does not perform any sort of comparison to choose the ‘requesting entity.’” EX1009, 455-456 (emphasis in original⁷). The Applicant summarized this argument in a demonstrative exhibit submitted for the appeal:

Point A: Gilmour does not disclose selecting a media property (MP) entity from among plural entities based on comparison of profile info to stored MP requests

- *Claim term*: “wherein the profile owner computer is programmed (i) to automatically select a media property entity of a plurality of media property entities based on a comparison of (A) profile information about a visitor ..., with (B) a plurality of stored requests from the plurality of media property entities ...” [Claim 34, subpart (b)(i)]
- Rejection is Gilmour in view of Sathish
 - Examiner argues Gilmour discloses this element (doesn’t argue Sathish does).
 - Argues Gilmour’s profile service provider 34/server 22 = “profile owner computer”; Gilmour’s entity 50 = selected media property entity; and Gilmour’s queries 58 = “stored requests.”
- **But** Gilmour does not disclose this element (see ¶¶[0050, 58, 80]):
 - No selection of a media property entity; Gilmour selects profile information, and simply returns it to a given “requesting entity” 50 making a request.
 - No selection based on comparison of profiles to stored requests; Gilmour responds to queries *after* a given entity 50 connects to provider 34’s server.

EX1009, 550 (emphasis in original).

134. The Board agreed with the Applicant, finding that “there is no disclosure of selecting one of a plurality of entities for a given profile information, as claimed, in Gilmour.” EX1009, 564. The Board found that in Gilmour “profile

⁷ Except as otherwise noted, any emphasis is added.

information is sent to the requesting entity based on a policy set by the profile owner and not by the claimed comparison process” and “the Examiner does not explain how one of ordinary skill in the art would have known to cause Gilmore’s policy to be ‘based on a comparison of (A) profile information about a visitor who electronically accessed electronic apparatus of a profile supplier using a first visitor device, with (B) a plurality of stored requests from the plurality of media property entities.’” *Id.*, 565.

135. Gilmour in combination with Merriman and Fraunhofer discloses this limitation. Gilmour combined with Merriman disclose a plurality of media property entities. Fraunhofer in combination with Gilmour and Merriman discloses automatically selecting a media property entity of a plurality of media property entities based on the claimed comparison. This combination addresses the deficiencies in the Examiner’s analysis identified by the Board, and a POSITA would have been motivated to combine the references for the reasons I provide below.

[1.b(i)(1)] “wherein the profile owner computer is programmed...”

136. Gilmour discloses that the profile owner computer is programmed to perform various functions. Gilmour’s [profile service provider](#) is the claimed profile owner computer.

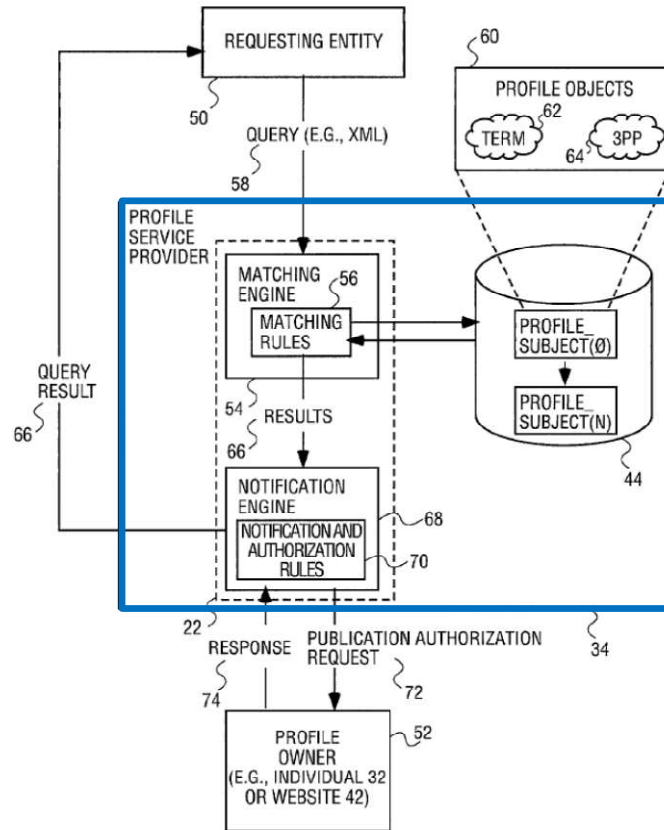


FIG. 3

EX1012, Fig. 3, [0027]-[0033], [0038], [0044]; *see also* limitation [1.a(i)(1)]. Gilmour discloses a “computer system 200 within which software, in the form of a series of machine-readable instructions, for performing any one of the methods” discussed therein “may be executed.” *Id.*, [0107]. A POSITA would have understood that Gilmour’s profile service provider is implemented using a computer system like this one, and the computer system is programmed by the machine-readable instructions to perform the functions Gilmour ascribes to the profile service provider. *Id.*, [0107]-[0109].

[1.b(i)(2)] “...(i) to automatically select a media property entity of a plurality of media property entities based on a comparison of (A) profile information about a visitor who electronically accessed electronic apparatus of a profile supplier with (B) a plurality of stored requests from the plurality of media property entities,”

137. Gilmour in combination with Merriman and Fraunhofer discloses limitation [1.b(i)(2)]. Gilmour’s profile service provider compares profile information about a visitor who electronically accessed an electronic apparatus of a profile supplier with a request from a requesting entity. Gilmour discloses “profile information associated with a visitor” as I describe for limitation [1.a(i)(2)]. EX1012, [0033]-[0034], [0037]-[0044]. A POSITA would have understood that the profile information is also “about” a visitor because it characterizes the visitor and describes what the visitor did on websites. *See, e.g., id.*, [0038] (“the website 42 may submit information to the profile service provider 34 for the construction of a profile 44 regarding the individual 32, this profile 44 constituting the website’s 42 view or description of the individual 32”). Moreover, Gilmour’s profile information is about a visitor “who electronically accessed [an] electronic apparatus of a” website, such as the site’s web server. *See id.*, [0030] (websites have web servers); EX1011, 70 (“[e]very time you visit a site, the web server enters a valuable record of that transaction in a log file”).

138. Gilmour’s website is operated by a “profile supplier.” Patent Owner agreed with the Examiner that a “profile supplier” is “any entity that gathers and uses or transmits profile information.” EX1003, 261-262. This definition is the

plain-and-ordinary meaning and consistent with the specification of the challenged patent, which states that “[a] publisher may also be referred to as a ‘profile supplier’ when it transfers profile information, such as behavioral information, demographic information, etc., to a BT company.” EX1001, 2:24-27.

139. Gilmour’s profile information is about a visitor who visits a website. EX1012, [0035], [0038] (“the website 42 may submit information to the profile service provider 34 for the construction of a profile 44 regarding the individual 32, this profile 44 constituting the website’s 42 view or description of the individual 32”). The entity operating the website is a profile supplier at least because it gathers profile information from users and uses that information itself. *Id.*, [0038], [0039] (“The cookie 46 may also be utilized to identify the individual 32 to the website 42 during an access session, so as to enable the website to personalize the presentation of information and intelligently target marketing activities to the individual 32 based on profile information accessible to the website 42”). The entity operating the website is also a profile supplier because it transmits profile information to the profile service provider. *Id.*, [0042], [0043].

140. Gilmour’s profile service provider compares the profile information about the visitor with a request from a requesting entity. As I discuss for limitation [1.a(i)(4)], the profile service provider includes “a matching engine 54 that implements a set of matching rules 57 to locate one or more profiles 44 based on a”

query received from a requesting entity. *Id.*, [0050]. The matching engine specifically “applies matching rules 57 to identify matched profiles based on criteria specified within the query.” *Id.* A POSITA would have understood that the matching engine compares the profile information about a visitor with the query criteria to identify matching profiles and, therefore, the profile service provider compares the profile information about the visitor with a request from a requesting entity. *See* EX1011, 165 (equating comparing and matching profile information).

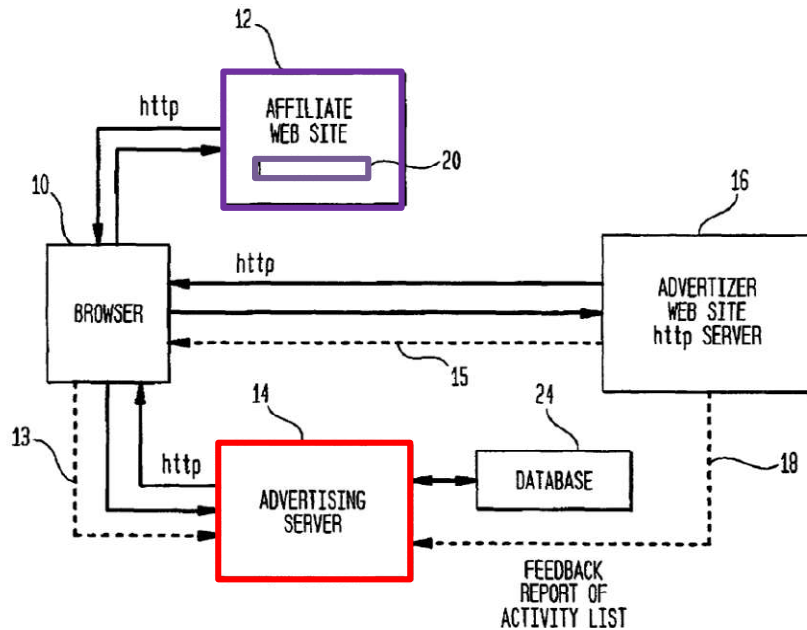
141. Furthermore, a POSITA would have found it obvious that Gilmour’s requesting entity is a “media property entity” based on the combination with Merriman. Patent Owner defined “media property entity” as “an entity that controls media property equipment.” EX1006, 713; EX1007, 468-469. Patent Owner likewise defined “media property equipment” as “equipment, which is part of the computer system that controls an ad space viewed by a visitor, at least temporarily.” EX1006, 713; EX1007, 468-469. These definitions are consistent with specification of the challenged patent, which defines “media property” “as any equipment that controls an ad space viewed by a visitor, including a web site, an ad network’s site...or any ad space for which an entity is allowed to sell an advertisement and deliver it within the ad space.” EX1001, 3:39-4:9.

142. Gilmour discloses that the requesting entity includes a computer system and can deliver electronic advertisements, including for example, offers to sell

particular types of products. EX1012, [0053], [0084]. Gilmour also discloses that a website can include targeted advertisements. EX1012, [0039] (“...so as to enable the website to personalize the presentation of information and intelligently target marketing activities to the individual 32 based on profile information accessible to the website 42”). Therefore, a POSITA would have understood that the requesting entity controls equipment, e.g., the computer system, that delivers targeted advertisements, and also would have understood that a website displays targeted advertisements.

143. Gilmour does not explicitly state that the requesting entity controls media property equipment “that controls an ad space viewed by a visitor.” This aspect is taught by Merriman, which discloses at least one **advertising server** that controls an **ad space** on an **affiliate website**:

FIG. 1



EX1013, Fig. 1, 2:30-45, 2:58-62, 4:29-36, 5:9-32, 6:5-11. In more detail, the **advertising server 14** is a computer server. *Id.*, 2:31-32 (“To deliver targeted advertising on the Internet, an advertising server is provided as a node on the network.”). The **affiliate website**, in turn “is a publisher or other content provider having **advertising space** to fill,” e.g., a website viewed by a visitor. *Id.*, 4:30-31, 5:9-11 (“when a user browsing on the Internet accesses an affiliate’s web site 12, which would typically include media content and **advertising space 20**...”). The **advertising server** “controls” the **ad space** because it selects the ad to show to the visitor in the space. *Id.*, 5:22-25 (“At the advertising server 14, a banner advertisement to be displayed in the **advertising space 20** is selected from a local database 24 containing advertising information and user data. The selected ad

banner is then displayed to the user.”). Accordingly, a POSITA would have understood that the advertising server is media property equipment because it is a computer server (“equipment, which is part of the computer system”) that controls an ad space viewed by a visitor, at least temporarily. A POSITA would have likewise understood that the media property equipment is controlled by a media property entity that controls the equipment, e.g., DoubleClick.

144. The Background of the ’445 patent admits that Merriman’s advertising server is media property equipment controlled by media property entity. The Background describes DoubleClick’s “Boomerang” service that uses an ad server to serve ads on websites. EX1001, 1:26-61, 1:51-54 (“For a site to have its ad served by an ASP-hosted ad server, such as the one operated by DoubleClick, the site needs to redirect visitors from the site to the DoubleClick ad server, to fetch the ad from the server”). A POSITA would have understood that the ’445 patent is here describing the system disclosed in Merriman. *See, e.g.*, EX1013, 5:15-19 (“for the content of the advertising space 20, the affiliate web site 12 forwards a redirect message containing the URL of the advertising server 14. The browser is redirected to the advertising server 14 which selects an appropriate advertisement for the advertising space 20.”). And the ’445 patent confirms that Merriman’s system involves a media property entity controlling media property equipment:

Once the site redirects the ad space on the page to the ad network (so the ad network could fill the ad space with an ad sold by the ad network), the **ad network controls the ad space** and has access to the visitor viewing the ad space that was redirected to the ad network by the site, and therefore the **ad network's equipment is considered a media property, as it controls an ad space viewed by a visitor.**

EX1001, 4:2-9.

145. A POSITA would have found it obvious for Gilmour's requesting entity to control media property equipment that controls an ad space viewed by a visitor, as taught by Merriman. Gilmour discloses that the requesting entity uses the profile information it receives to deliver advertisements. EX1012, [0004], [0082] ("the query results 66 may...include contact details using which the relevant profile subjects 90 may be contacted"), [0084] ("the contact request communicated to the profile subject 90 may include an offer to sell a camera at a very favorable purchase price"). Merriman's ad server likewise receives profile information and uses it for advertising. EX1013, 3:44-46 ("Reported advertising log files and other user data form a database at the advertisement server, used for selecting retargeted advertising.").

146. A POSITA would have found it obvious to use Merriman's ad server as one or more requesting entities within Gilmour's system because an ad server could use the received profile information to better target advertisements in the ad

spaces it controls. EX1012, [0004] (commerce facilities “are motivated to fully understand the interests, habits, shopping behavior, demographics and other characteristics of potential customers so as to enable the commerce facility to better target advertising of services and merchandise to a potential customer base”); EX1013, 1:27-28 (“it is considered highly desirable to target advertisements to the appropriate potential customer base”), 1:62-67 (“it is highly desirable to have a method of targeting the advertising to the appropriate user. In addition, it is also important for the advertisers to track response to the advertisements and to acquire as much information about those people responding to the advertisements for targeting those same people at later dates”).

147. The combination of Gilmour and Merriman is a combination of prior art elements according to known methods to yield predictable results. Both Gilmour and Merriman use conventional technologies, like cookies, to find and deliver ads to visitors. EX1012, [0039]; EX1013, 5:56-59. A POSITA would have found it obvious to use Merriman’s ad server as one or more requesting entities within Gilmour’s system, would have found the result of the combination predictable, and would have reasonably expected this combination of conventional technologies to be successful.

148. Gilmour combined with Merriman thus discloses that the claimed profile owner computer (Gilmour’s profile service provider) performs a comparison

of profile information about a visitor who electronically accessed an electronic apparatus of a profile supplier (Gilmour's website) with a request from a media property entity (Merriman's ad server acting as a requesting entity).

149. The combination of Gilmour and Merriman also discloses a plurality of media properties. Gilmour teaches that there are a plurality of requesting entities. EX1012, [0043] (the profile service provider 34 facilitates and brokers "access to the profile 40 by requesting entities"), [0105] ("For example, the rules 70 may specify that queries 58 received from an identified set of requesting entities 50 may require notification authorization," "a profile subject 90 may wish to make his or her identity, and profile information, known to the requesting entities 50 that are interested in marketing digital cameras"). Merriman likewise teaches there may be a plurality of advertising servers. EX1013, 2:58-62. Moreover, a POSITA would have found it obvious for there to be a plurality of advertising servers because DoubleClick was one of a plurality of ad networks. EX1010, 81, 103-106.

150. Gilmour also discloses that a query may remain active for a predetermined period of time, which suggests that the profile service provider stores queries. EX1012, [0052], [0092]. But Gilmour and Merriman do not disclose that the profile owner computer automatically selects a media property entity of a plurality of media property entities based on a comparison of the profile information with a plurality of stored requests from the plurality of media property entities.

Frauenhofer combined with Gilmour and Merriman discloses these aspects of limitation [1.b(i)(2)].

151. Frauenhofer “relates to gathering related content from internet...sources and providing access to same in response to user requests.” EX1014, 1:8-10. An end user creates a query that “specif[ies] the areas of interest for which that end user wishes to obtain electronic information.” EX1014, 2:66-3:11. A server assembles and stores a user profile based on the query. EX1014, 3:5-14, 5:34-47. The user profile is a request specifying the areas of interest for which an end user wishes to obtain electronic information. EX1014, 1:8-10, 2:8-14, 2:66-3:11, 5:7-12; EX1018, 3. The server then identifies documents and other content that matches the stored user profile (the stored request) and sends that content to the user. EX1014, 3:12-19. The server can send the matching content on an on-going basis, periodically, or only upon user prompting. *Id.*

152. Frauenhofer’s server stores a plurality of requests from a plurality of users. Fraunhofer explicitly discloses that the server stores a user profile. EX1014, 3:12-14 (“Once the user profile has been developed, it is stored at the Customer Intranet Server for matching to assembled and categorized content”). A POSITA would have understood that the server stores a plurality of profiles from a plurality of users because the server matches content to multiple user profiles. *See, e.g.,* EX1014, Abstract (“[a] system for...delivery [of content] in accordance with

customized user profiles”), 2:21-27 (“a system for... matching and delivering categorized information tailored to customized user profiles”), 4:66-5:5 (“matching the resultant merged documents to user request profiles”), 6:55-56 (claim 1) (“matching each of said at least one user profiles to said topic categories”). The user profiles are requests and, therefore, Fraunhofer’s server stores a plurality of requests from a plurality of users.

153. Fraunhofer also discloses automatically selecting a user of a plurality of users based on a comparison of content with the plurality of stored requests from the users. Fraunhofer’s server automatically matches content to user profiles (the stored requests):

Once the user profile has been developed, it is stored at the Customer Intranet Server for matching to assembled and categorized content. The system can be programmed to conduct on-going matching (i.e., checking every new document entry for a match with the user profile), periodic matching (e.g., every 12 hours), or matching only upon user prompting (e.g., only when a user connects to the Customer Intranet Server and asks for an update).

EX1014, 3:12-19. A POSITA would have understood that identifying a matching profile involves selecting a user associated with the profile because identifying a matching profile involves choosing the matching profile from among the plurality of profiles, and because each profile is associated with a user. *Id.*, 4:48-51 (“Inventive components at the Customer Intranet Server match the channels assigned

to each of the incoming documents with the users interests as found in the user profile”). A POSITA also would have understood that identifying a matching profile involves choosing a user associated with the profile because the matching content is provided to the user associated with the matching profile, which means the user is selected from among the plurality of users in order to send content to that user. EX1014, 2:8-10 (“It is...an objective of the present invention to provide a system for...delivering electronic content to users in response to user requests”), 1:21-27, 4:51-52 (“Each document is then made available for access by, or is sent to, the user whose interests it matches”).

154. A POSITA would have found it obvious to combine Frauenhofer’s teachings with Gilmour and Merriman such that Gilmour’s profile service provider stores a plurality of requests from a plurality of media property entities and automatically selects a media property entity of the plurality to receive profile information based on a comparison of visitor profile information to the stored requests. Here, a plurality of advertising servers like those taught in Merriman act as requesting entities and submit queries to Gilmour’s profile service provider. EX1012, [0048], [0053]; EX1013, 4:31-36. The profile service provider stores the plurality of queries, which are stored requests, and conducts on-going or periodic matching as taught by Frauenhofer. EX1014, 3:12-19. To perform the matching, the profile service provider compares visitor profile information to the requests as

taught in Gilmour and automatically selects a requesting entity of the plurality to receive matching information as taught in Frauenhofer.

155. A POSITA would have been motivated to make this combination because it would conveniently allow Gilmour's requesting entities (which are media property entities) to make initial requests to the profile service provider, and then automatically receive profiles matching the requests on an ongoing or periodic basis. A POSITA would have understood that visitor profiles change over time, as new visitors are detected and existing visitors perform new actions at websites. *See, e.g.*, EX1010, 41 ("Each time the user accesses another page on the Web site, the server requests the ID tag."); EX1011, 39-40 ("For a website entirely supported by advertising, data mining is even more critical since it can quickly discover and measure the effectiveness of a multitude of banners and ads on its continuous stream of visitors."), 51 (profiles change "over time"); EX1012, [0025] ("the contents of a user's profile may be periodically reviewed or enhanced by the user"); EX1013, 3:20-23 ("re-targeted advertising uses the past responses of the present viewer to select a present ad"). A POSITA would have recognized that matching stored requests to changing profile information over time would benefit all parties involved. For example, the profile service provider would have the opportunity to sell new or updated profiles to the requesting entities based on the stored requests, thereby generating additional revenue for the profile service provider and the websites. The

requesting entities, in turn, would receive additional relevant profile information in a timely manner, without needing to submit additional queries, which would further the requesting entities' goal of "delivering the right ad to the right person at the right time." EX1010, 34; EX1013, 1:63-67 ("it is...important for the advertisers...to acquire as much information about those people responding to the advertisements for targeting those same people at later dates."). The visitors would receive more relevant advertising.

156. Given this environment, a POSITA would have found it obvious to incorporate Fraunhofer's teachings into the Gilmour-Merriman combination to provide the matching profile information to the requesting entities in a convenient and quick manner. EX1012, [0086]. Fraunhofer recognizes that there is "[a] huge quantity of information is being continuously created and made available via electronic communications systems," recognizes "there is a need to deliver the information to people who have expressed an interest," and provides convenient and quick access to the information. EX1014, 1:13-25, 1:64-2:7. Therefore, a POSITA would have looked to Fraunhofer's technique, which performs ongoing or periodic matching using stored queries (*id.*, 3:12-19), to provide profile information from the profile service provider to the requesting entities of Gilmour.

157. This is a combination of prior art elements according to known methods to yield predictable results and use of a known technique to improve a similar system

in the same way. Both Gilmour and Fraunhofer disclose servers that receive queries from requestors, match queries against information, and provide the information matching the respective queries to the respective requestors. EX1012, [0044]; EX1014, 3:12-19. Fraunhofer teaches that the queries may be stored and matched to newly received information over time. EX1014, 3:12-19. A POSITA would have found it obvious from Fraunhofer's teaching to modify Gilmour to store the queries from the requesting entities in the same way. The result of the modification would have been predictable, and a POSITA would have had a reasonable expectation of success, because the technologies involved are well-understood and Fraunhofer teaches that queries can be stored to produce beneficial results.

158. My conclusion that limitation [1.b(i)(2)] is obvious in view of Gilmour, Merriman, and Fraunhofer is not inconsistent with the Board's finding for the '052 application. There, the Examiner asserted Gilmour disclosed "automatically selecting a media property entity of a plurality of media property entities" because the "profiles are 'selectively publish[ed] to third parties'; i.e. a third party requesting such a profile is not selected unless the profile info of the visitor authorizes the third party to receive such info." EX1009, 563, 405-406. The Examiner asserted Gilmour disclosed that the profile owner computer is programmed to "automatically select" at paragraphs [0058]-[0061] in view of [0088]-[0093]. *Id.*, 404-405, 563. These paragraphs generally describe "a publication policy, authored by a profile owner,

that determines an action responsive to a hit against the identified profile 44.” EX1012, [0058].

159. The Board disagreed with the Examiner and found that Gilmour at [0058] discloses “profile information is sent to the requesting entity based on a policy set by the profile owner and not by the claimed comparison process.” EX1009, 565. Therefore, “[i]t is not apparent and the Examiner does not explain how one of ordinary skill in the art would have known to cause Gilmore’s [*sic*] policy to be ‘based on a comparison of (A) profile information about a visitor who electronically accessed electronic apparatus of a profile supplier using a first visitor device, with (B) a plurality of stored requests from the plurality of media property entities.’” *Id.* (quoting the claim language at issue).

160. My opinion that limitation [1.b(i)(2)] is obvious based on the combination of Gilmour, Merriman, and Fraunhofer does not rely on Gilmour’s publication policy “to automatically select a media property entity” as claimed.” Instead, my opinion is based in part on Fraunhofer’s disclosure that information matching a stored request of a plurality of stored requests is sent to the requestor, which a POSITA would have understood to involve choosing (i.e., selecting) the requestor. EX1014, 4:51-52 (“Each document is then made available for access by, or is sent to, the user whose interests it matches”).

161. In the combination I describe here, Gilmour-Merriman as modified by Fraunhofer sends matching profile information to the requesting entity *without* invoking Gilmour's publication policy. A POSITA would have found this obvious because Gilmour teaches that a profile may have a public portion that is sent to a requesting entity without invoking the publication policy. EX1012, [0026], [0047] (“[t]he public profile is differentiated from the private profile in that, a query hit (or match) against the public profile may be communicated to a requesting entity without specific permission from the profile owner”), [0069] (“the public profile portion 86 may be viewed as being profile information that profile owner 52 has authorized for relatively unrestricted publication”), [0091] (“should hits occur against the public profile portion 86, or external profile portions 82 for which rules 70 do not require notification, query results 66 may be communicated directly to the requesting entity 50”), [0097]. A POSITA would have understood from this disclosure that Gilmour's profile service provider may send profile information without using a publication policy.

162. Gilmour also teaches that the publication policy may simply send profile information to the requesting entity without further action. EX1012, [0058] (“For example, a rule 70 may specify that all hits against a profile may be communicated to a requesting entity 50, without requiring permission, or authorization, for such notification from the profile owner.”), [0068]-[0069], [0081]

(“it will be noted that certain query results 66 may be communicated to the requesting entity 50 without the communication of a publication authorization request 72 to a profile subject 90. This may occur in the case where a rule 70 specifies that no publication authorization request is required for one or more hits against profiles.”). This is functionally equivalent to omitting the publication policy and sending the matching profile to the requestor without applying additional policies like taught in Fraunhofer.

[1.b(i)(3)] “one of which media property entities is the entity controlling the computer system, each stored request being for requested profiles or kinds of profiles, which plurality of stored requests includes the profile or kind of profiles requested by the entity controlling the computer system,”

163. Gilmour-Merriman in combination with Fraunhofer discloses this limitation. Gilmour discloses that one of the plurality of requesting entities is the entity controlling the computer system, as I discuss for limitation [1.a(i)(1)]. The requesting entity controlling the computer system of limitation [1.a(i)] provides a request to the profile service provider as I discuss for limitations [1.a(i)(3)] and [1.a(i)(4)] and is one of the plurality of requesting entities of limitation [1.b(i)(2)]. Gilmour combined with Merriman discloses that requesting entities, including the requesting entity controlling the computer system, are media property entities as I discuss for limitation [1.b(i)(2)].

164. Gilmour-Merriman in combination with Fraunhofer discloses that each stored request is for requested profiles or kinds of profiles. Gilmour discloses

that a request from a requesting entity is a request for a profile or kinds of profiles as I discuss for limitation [1.a(i)(4)]. Fraunhofer in combination with the other references discloses that the profile service provider stores a plurality of requests from a plurality of requesting entities as I discuss for limitation [1.b(i)(2)]. A POSITA would have understood each stored request of the plurality to be for requested profiles or kinds of profiles.

165. Gilmour-Merriman in combination with Fraunhofer also discloses that the plurality of stored requests **includes** the profile or kind of profiles requested by the entity controlling the computer system. I understand Patent Owner alleges Petitioner infringes limitation [1.b(i)(3)] because “the profile owner computer...will automatically select which entities to provide profile information to, based on a comparison of the profile information with the stored requests of data consumers..., **which requests include requests for specific types of profiles.**” EX1019, 37; EX1020, 12. Patent Owner thus appears to interpret the phrase “plurality of stored requests **includes** the profile or kind of profiles” to mean “the plurality of stored requests **includes requests for** the profile or kind of profiles” requested by the entity controlling the computer system. A POSITA would have understood that the plurality of stored requests includes requests for the profile or kind of profiles requested by the entity controlling the computer system because the stored requests

include the request from the entity controlling the computer system. And the request from the entity controlling the computer system is for a profile or kind of profiles.

[1.b(ii)] “and (ii) when the media property entity is the entity controlling the computer system, to automatically arrange for electronic storage of a requested profile linked to the tag that is associated with the visitor device, the tag being readable by equipment that is part of the computer system of part (a);”

166. Gilmour in combination with Merriman discloses this limitation. Gilmour discloses that the requesting entity controls a computer system as I discuss for limitation [1.a(i)(1)]. Merriman combined with Gilmour discloses that the requesting entity is a media property entity as I discuss for limitation [1.b(i)(2)]. Thus, Gilmour combined with Merriman discloses “when the media property entity is the entity controlling the computer system.”

167. Gilmour combined with Merriman also discloses that Gilmour’s profile service provider (the profile owner computer) is programmed “to automatically arrange for electronic storage of a requested profile.” Gilmour discloses that the profile service provider automatically provides query results including indicia of profile information to the requesting entity. EX1012, [0047] (“[t]he public profile is differentiated from the private profile in that, a query hit (or match) against the public profile may be communicated to a requesting entity without specific permission”), [0058] (“a rule 70 may specify that all hits against a profile may be communicated to a requesting entity 50, without requiring permission, or authorization”), [0061], [0081] (“certain query results 66 may be communicated to

the requesting entity 50 without the communication of a publication authorization request 72 to a profile subject 90”), [0091]. Gilmour alone and in combination with Merriman discloses that the requesting entity automatically stores profile information in a central database as a result of electronic receipt of the indicia of profile information as I discuss for limitation [1.a(i)(3)]. A POSITA would have understood from these disclosures that Gilmour’s profile service provider computer system is automatically arranging for electronic storage of a requested profile by automatically sending the indicia of profile information to the requesting entity as query results and thereby enabling the requesting entity to store the indicated profiles in its database.

168. The remainder of limitation [1.b(ii)] recites that the requested profile is linked to the tag associated with the visitor device, and the tag is readable by equipment that is part of the computer system of part (a). Merriman demonstrates that this part of limitation [1.b(ii)] is conventional and would be well known to a POSITA. Merriman discloses a first server (Merriman’s advertiser website 16) linking a profile to a tag associated with a visitor device, where the tag is readable by a second server (Merriman’s advertising server 14), by redirecting a website visitor to the second server. EX1013, 5:43-51, 5:56-57.

169. Merriman performs this redirection using a “spotlight tag” which is “a minimal graphic (e.g., a one pixel image) containing a redirect message.” EX1013,

4:54-57. The first server includes a spotlight tag in a web page it returns to the visitor's browser and the tag causes the browser to request the graphic from the second server. *Id.*, 4:62-65 (“[w]hen the user requests (i.e., visits) an advertiser page containing a spotlight tag, a reply message 15 redirects the users [*sic*, user's] browser 10 back to the advertising server 14 via request 13 to access the minimal one pixel graphic image”). Merriman uses the redirection caused by the spotlight tag to convey profile information about the visitor from the first server to the second server in real time. *Id.*, 4:66-5:2 (“by this process, the advertiser web site 16 provides real time reporting of user activities while the user is in the advertising web site 16”). The challenged patent admits that user activities at websites is profile information. *See* EX1001, 4:43-45 (“the observed behavior of a visitor to a first media property is referred to as profile information about a specific visitor”).

170. The second server to which the visitor is redirected uses a cookie to identify the visitor and associate the received profile information with that visitor. Merriman describes this process, saying that a user ID in the table of reported user activities “is typically assigned arbitrarily using cookie enabled browser features.” EX1013, 5:56-59. A POSITA would have understood Merriman is here describing the second server reading a cookie identifier it previously stored in the visitor's browser to identify the visitor requesting the spotlight tag (or setting a new cookie identifier it will read in subsequent interactions). EX1011, 210, 218-223. This way,

the visitor profile is linked to the tag associated with the visitor device (the unique cookie identifier), and the tag is readable by the server that received the profile information.

171. The Background of the '445 patent confirms a POSITA would have understood Merriman's disclosure this way. It discloses that a BT company can integrate code into a page of a website, where "[t]he code...redirects to the BT company's server all visitors to the page." EX1001, 2:61-67. The BT company server can then "place[] a cookie on the user's computer" indicating information "in a central database operated by the server where the cookie ID is used as a record finder." *Id.*, 3:16-23.

172. In the combination, Gilmour's profile service provider computer system redirects a website visitor having a requested profile to the server of the requesting entity computer system using the technique taught in Merriman. For example, the profile service provider may send the visitor's browser a web page having a spotlight tag that redirects the visitor's browser to a location on a web server of the requesting entity computer system, and/or cause another website to send the visitor's browser a web page with a spotlight tag that redirects to the requesting entity. The spotlight tag allows the requesting entity server to link the visitor's profile to a tag (e.g., a cookie) on the visitor's device readable by the requesting entity server.

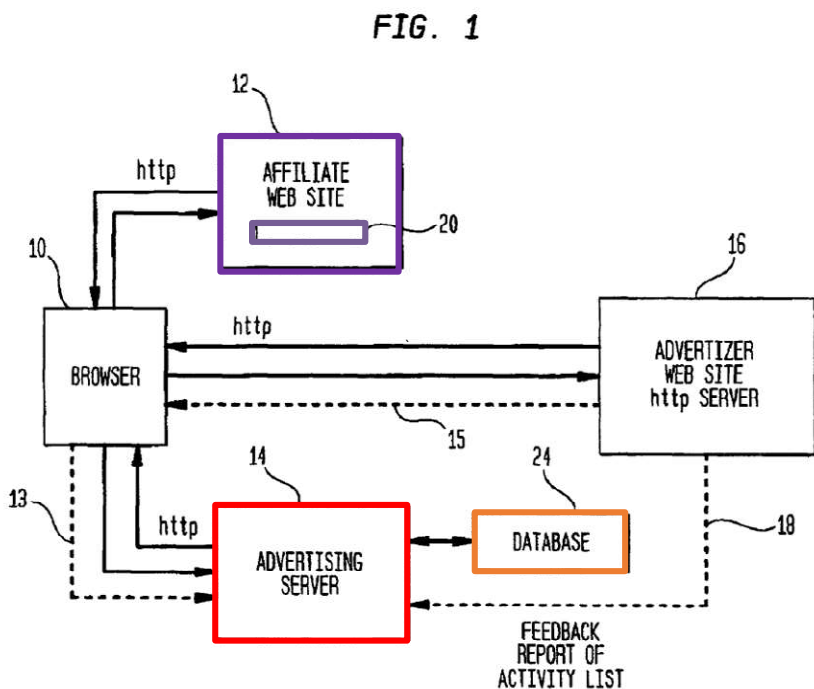
173. A POSITA would have been motivated to combine the references in this way because it conveniently lets the profile service provider identify visitors with matching profiles to the requesting entity, thereby allowing the requesting entity to identify those visitors and provide them with targeted advertising in the future. EX1012, [0039], [0042]-[0044], [0058], [0084], [0086], [0091]; EX1013, 5:56-67. A POSITA also would have been motivated to combine the references because the combination beneficially operates in real time. EX1013, 4:51-54 (“feedback of individual activities of the user at an advertiser site 16 may be communicated in real time back to the advertising server 14 using by spotlight tags placed on specific pages in the advertiser’s web site”). Real-time operation beneficially supports the “on-going matching” (EX1014, 3:12-19) performed by the Gilmour-Merriman-Frauenhofer combination I discuss for limitation [1.b(i)(2)] and supports the advertisers’ “dream of delivering the right ad to the right person at the right time” (EX1010, 34).

174. This is a combination of prior art elements according to known methods to yield predictable results. The Applicant’s counsel admitted that these types of tagging, linking, and storing technologies are conventional as I discuss for limitation [1.a(ii)]. EX1006, 701. The Background of the ’445 patent also admits these technologies are conventional. EX1001, 2:61-67, 3:16-23. A POSITA would have found the results of the combination predictable because using redirections and

cookies in this manner was well understood, and a POSITA would have had a reasonable expectation of success for the same reason.

[1.c(i)] “and (c) later, when the visitor device is available to receive an advertisement, with the computer system, (i) using the tag of part (a) that is associated with the visitor device to access the profile information stored in the central database, and . . .”

175. Gilmour in combination with Merriman discloses this limitation. As I explain for limitation [1.b(i)(2)], in the combination of Gilmour and Merriman, the requesting entity is a media property entity with media property equipment, e.g., an **advertising server** that controls **ad space** on an **affiliate website**:



EX1013, Fig. 1, 2:30-45, 4:29-36, 5:9-32, 6:5-11.

176. Further, in this combination a POSITA would have understood, as Merriman discloses, that, later, after the **advertising server** receives profile

information about a visitor, the visitor visits an **affiliate website** having an **ad space** controlled by the **advertising server**. EX1013, 5:9-13, 6:5-8. A POSITA would have understood that at this point the visitor's device is available to receive an advertisement because the visitor's device is downloading and displaying a web page that includes an **ad space** that the advertising server fills with an advertisement. *See, e.g., id.*, 2:34-37 (“[w]hen a user using a web browser accesses a web page that is affiliated with the advertising server (an affiliate web site), the affiliate's web page encoding includes an embedded reference to an object provided by the advertising server”), 5:9-13 (“In operation, when a user browsing on the Internet accesses an **affiliate's web site 12**, which would typically include media content and **advertising space 20**, the user's browser 10 generates an http message to request the information from the desired web page”).

177. In the Gilmour-Merriman combination, a POSITA also would have understood that Merriman discloses that the **advertising server** uses the tag of part (a) that is associated with the visitor device to access the profile information stored in the **central database**. *See* limitation [1.a(i)(3)] (explaining that a POSITA would have recognized that the advertising server database 24 corresponds to the central database). Further, when the visitor visits the **affiliate website**, the **website** redirects the visitor's browser to the **advertising server** to obtain the ad for the advertising space. EX1013, 5:16-21, 6:5-11. The **advertising server** receives the redirected

request from the visitor's browser, reads a cookie from the browser, and uses the unique identifier in the cookie to access the visitor's profile information stored in its **central database**. *Id.*, 2:31-45, 4:5-10, 5:9-32, 5:56-59; EX1001, 1:47-59 (“DoubleClick needs to place a doubleclick.com cookie on visitors to the ford.com site for DoubleClick to later find those visitors within other sites, i.e., where the DoubleClick ad server is used to serve ads. . . . Following the redirect from the site, the visitor accesses the DoubleClick ad server. Because the DoubleClick server is operating under the DoubleClick domain, it can read the DoubleClick cookie or cookies and then recognize that it encountered the same visitor in the past.”). Thus, in the Gilmour-Merriman combination, the **advertising server**, which is the requesting entity in combination and the “computer system” of the claim, uses the tag of part (a) (the cookie) that is associated with the visitor device to access the profile information stored in the **central database**.

[1.c(ii)] “(ii) using the profile information linked to the tag of part (a) to automatically cause delivery of an electronic advertisement to the visitor device, wherein the electronic advertisement is dependent on the profile information associated with the visitor.”

178. Gilmour in combination with Merriman discloses this limitation. In this combination, Merriman's advertising server uses the profile information linked to the tag to automatically cause delivery of an electronic advertisement to the visitor device. The advertising server uses the visitor's profile information linked to the visitor's cookie identifier to select and deliver an electronic advertisement to the

visitor device. EX1013, 4:5-10 (“[t]hen, when the advertising server receives a request to select an advertisement, it checks the user identity in a look up table to see if the user has been previously selected for re-targeting. If the user is on the previously configured list, a re-targeted ad is selected”), 5:22-25 (“[a]t the advertising server 14, a banner advertisement to be displayed in the advertising space 20 is selected from a local database 24 containing advertising information and user data. The selected ad banner is then displayed to the user”), 6:13-16 (“[t]he user ID is looked up in the list of user ID’s preselected for a re-targeted advertisement. If the user is found in the table 64 as having been pre-selected, then the pre-selected ad banner is delivered to the AltaVista web page”). Thus, in the Gilmour-Merriman combination, the electronic advertisement is dependent on the profile information associated with the visitor because the advertising server selects the advertisement based on the visitor’s profile information. *Id.*, 6:18-19 (“past activities of users is used as a criteria for selection of re-targeted advertising”).

2. Claim 8: “The method of claim 1 further comprising, after parts (a) and (c), with the computer system electronically reporting information about delivery of the advertisement to the visitor device that is available to receive an advertisement, which report is provided to a profile owner company controlling the profile owner computer.”

179. Claim 8 is obvious in view of Gilmour-Merriman-Frauenhofer. A POSITA would have found it obvious from Gilmour’s disclosure that the requesting entity computer system, after parts (a) (automatically storing profile information)

and (c) (automatically causing delivery of an electronic advertisement to the visitor device), electronically reports information about delivery of the advertisement to the visitor device to the company controlling the profile service provider computer. Gilmour discloses that “the [profile service provider 34](#) may operate to facilitate a transaction between a [requesting entity](#) and a [\[website\]](#)”, whereby the [\[website\]](#) is compensated (e.g., by means of a monetary payment) for the access” to a profile from the [website](#). EX1012, [0046].

⁸ I replace “profile owner” with “website” to avoid confusion with the “profile owner” of the challenged claims. Gilmour’s profile owner can be a website. EX1012, [0038]. Further, Gilmour’s profile service provider corresponds to the claimed profile owner computer as I discuss for limitations [1.a(i)(1)] and [1.b(i)(1)].

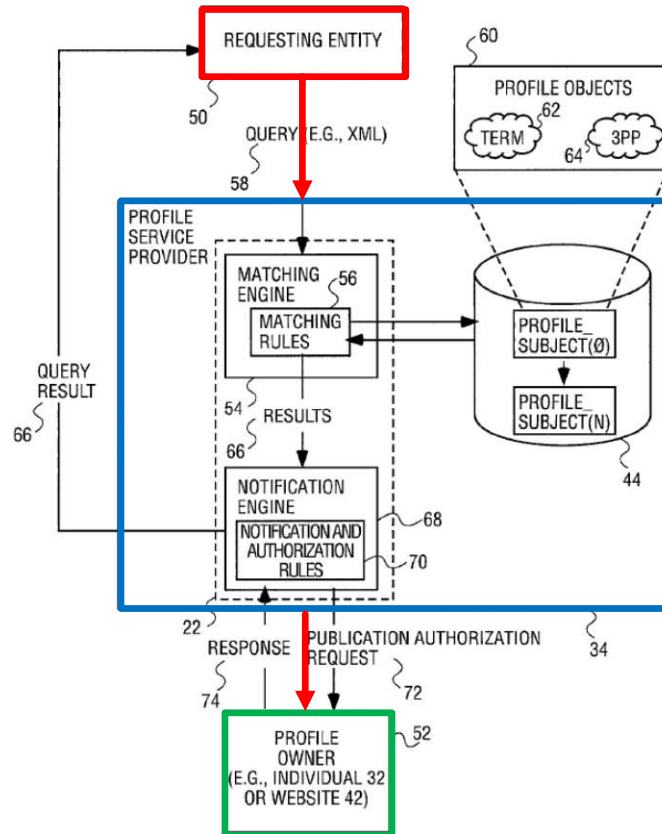


FIG. 3

EX1012, Fig. 3. For example, the **requesting entity** may make a payment to the **website** “dependent upon a number of transactions concluded between requesting entity 50 and profile subjects.” EX1012, [0085].

180. Given this disclosure, a POSITA would have found it obvious for the requesting entity computer system to electronically report information about delivery of the advertisement to the visitor device to the profile service provider computer system, and thus to a profile owner controlling the profile service provider computer system. The requesting entity may make a payment to the website

“dependent upon a number of transactions.” EX1012, [0085]. A POSITA would have been aware of a variety of conventional transaction-based payment models, including CPM (“the price charged for displaying an ad one thousand times”) (EX1010, 56), CPC (cost-per-click, paying when a visitor clicks on an ad) (*id.*, 61-62), and paying when purchases result from the targeted advertising (*id.*, 68). And the profile service provider acts as an intermediary between the requesting entity and the website. EX1012, [0046]. Therefore, it would have been obvious for the requesting entity to provide reports about ad delivery to the profile service provider so it could act as an intermediary for the payments according to one or more of these payment models. It would have been obvious to provide these reports electronically because this is how computers report information.

3. Claim 9: “*The method of claim 8 wherein reporting further comprises automatically electronically identifying to the profile owner company one of a plurality of profiles or kind of profiles used in association with delivery of the advertisement.*”

181. Claim 9 is obvious in view of Gilmour-Merriman-Frauenhofer. The combination of references discloses reporting as I describe for claim 8.

182. A POSITA would have found it obvious in view of Gilmour’s disclosure that the reporting comprises automatically electronically identifying to the profile owner company controlling Gilmour’s profile service provider (the claimed profile owner computer) one of a plurality of profiles or kind of profiles used in association with delivery of the advertisement. As I discuss for claim 8,

Gilmour's requesting entity compensates the website for access to profiles from the website, which can include payments based on the amount of transactions. EX1012, [0046], [0085]. The profile service provider facilitates the payments and transactions. *Id.*, [0046]. Given this disclosure, a POSITA would have found it obvious for the requesting entity to automatically electronically identify to the profile service provider, and thus to the profile owner company controlling the profile service provider, the profile or kind of profile used in association with delivery of the advertisement, so the profile service provider can identify and compensate the appropriate website or other profile supplier.

4. Claim 10: “The method of claim 1 wherein the profile owner computer is programmed to automatically select a media property entity using profile information about the visitor that was derived from the visitor's activity using the visitor device.”

183. Claim 10 is obvious in view of Gilmour-Merriman-Frauenhofer. Gilmour-Merriman-Frauenhofer discloses that “the profile owner computer is programmed to automatically select a media property entity” as I discuss for limitations [1.b(i)(1)]-[1.b(i)(2)]. Gilmour-Merriman-Frauenhofer additionally discloses that the media property entity is selected using profile information about the visitor as I discuss for limitations [1.a(i)(2)] and [1.b(i)(2)] and particularly for limitation [1.b(i)(2)].

184. Gilmour further discloses that the profile information about the visitor was derived from the visitor's activity using the visitor device. The profile

information describes the visitor's activities at websites as I discuss for limitation [1.a(i)(2)]. EX1012, Abstract, [0033]-[0035], [0037]-[0044]. The visitor uses a device, e.g., a computer, for these activities. *Id.*, [0039]. Therefore, the visitor profile information was derived from the visitor's activity using the visitor device.

5. Claim 11: “The method of claim 10 wherein the profile information was received by the profile-owner computer as a result of URL redirection from a website that is served by the electronic apparatus of the profile supplier, which website is accessed by the visitor device.”

185. Claim 11 is obvious in view of Gilmour-Merriman-Frauenhofer.

186. Gilmour discloses that the claimed profile owner computer receives profile information from a website that is served by the electronic apparatus of the claimed profile supplier. Gilmour discloses a [website](#) that supplies profiles to the [profile service provider](#).⁹

⁹ As I mention in the overview of Gilmour, Gilmour describes a profile owner website. EX1012, [0045]. I refer to this entity as a “website” to avoid confusion with the “profile owner” recited by the challenged claims.

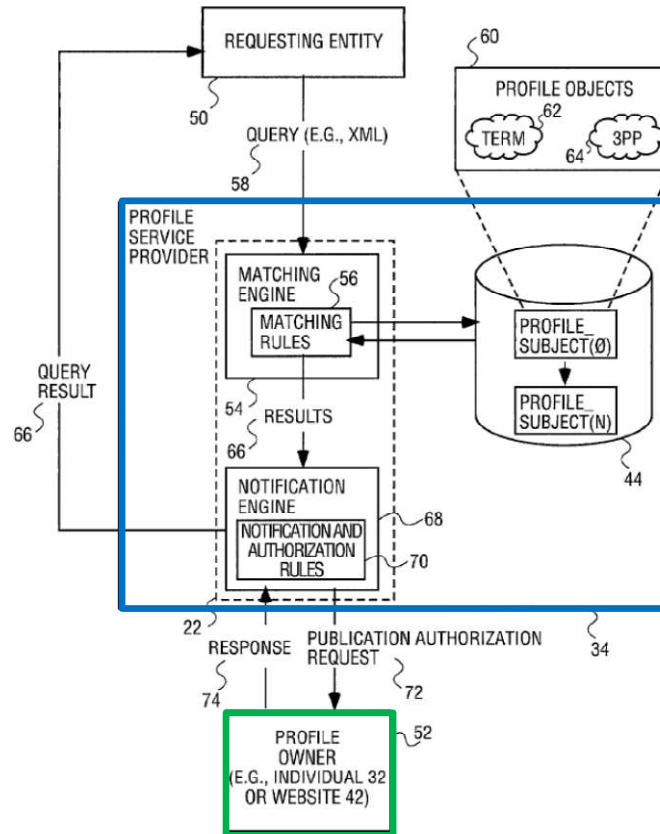


FIG. 3

EX1012, Fig. 3. Gilmour explicitly states that the **website** submits profile information to the **profile service provider**, which a POSITA would have understood to mean the **profile service provider** receives profile information from the **website**. EX1012, [0038] (“the website 42 may submit information to the profile service provider 34 for the construction of a profile 44 regarding the individual 32, this profile 44 constituting the website's 42 view or description of the individual 32”). The website is operated by a profile supplier as I discuss for limitation [1.b(i)(2)]. EX1012, [0030], [0038], [0039], [0042]; EX1011, 70.

187. Gilmour also discloses that a website is served by a web server, which a POSITA would have understood is an electronic apparatus of a profile supplier who operates the website. EX1012, [0028]; *see also* EX1011, 70 (“[e]very time you visit a site, the web server enters a valuable record of that transaction in a log file”). A POSITA also would have understood that the visitor device accesses the website because this is conventional. *See, e.g.*, EX1012, [0030] (“[t]he web server 20 facilitates access to the local view of the repository 51 by the browser clients 16”), [0030]; EX1010, 43 (“at a college computer center...many students may be accessing a particular Web site through the same computer”). Therefore, a POSITA would have understood Gilmour to disclose that the claimed profile owner computer (Gilmour’s profile service provider) receives profile information from a website (Gilmour’s website) that is served by the electronic apparatus of the profile supplier (Gilmour’s website server), which website is accessed by the computer of the visitor.

188. Gilmour does not disclose that the “profile information was received by the profile-owner computer as a result of URL redirection from a website.” In the Gilmour-Merriman combination, this conventional technique is taught by Merriman. As I discuss for limitation [1.b(ii)], Merriman describes a “spotlight tag” which is “a minimal graphic (e.g., a one pixel image) containing a redirect message.” EX1013, 4:54-57. “When the user requests (i.e., visits) an advertiser page containing a spotlight tag, a reply message 15 redirects the users [*sic*, user’s] browser 10 back to

the advertising server 14 via request 13 to access the minimal one pixel graphic image.” *Id.*, 4:62-65. “[B]y this process, the advertiser web site 16 provides real time reporting of user activities while the user is in the advertising web site 16.” *Id.*, 4:66-5:2. Merriman thus discloses that a computer can receive profile information as a result of URL redirection from a website. *See* EX1001, 4:43-45 (explaining that user activities at a website is profile information).

189. A POSITA would have found it obvious for Gilmour’s **website** to use Merriman’s URL redirection technique to submit profile information to the **profile service provider**, such that the **profile service provider** receives the profile information as a result of URL redirection from the website. For example, it would have been obvious for the **website** to include spotlight tags on its web pages that redirect visitors’ browsers to the **profile service provider**. A POSITA would have been motivated to combine the references in this way because it conveniently leverages conventional technology to allow the **website** to send profile information to the **profile service provider** in real time. EX1012, [0038], [0042]-[0044], [0086]; EX1013, 3:37-38, 4:51-54, 4:66-5:6.

190. This is a combination of prior art elements according to known methods to yield predictable results. The Background of the ’445 patent admits these technologies are conventional. EX1001, 2:61-67, 3:5-16, 6:41-44. A POSITA would have found the results of the combination predictable because using

redirections in this manner was well understood, and a POSITA would have had a reasonable expectation of success for the same reason.

6. **Claim 13:** *“The method of claim 1 wherein the profile owner computer being programmed to automatically arrange for electronic storage of the profile information linked to the tag associated with a visitor device comprises the profile owner computer being programmed to perform automatic redirection to a URL provided by the selected entity to place the visitor device in communication with computer equipment controlled by the selected entity to enable storage, in a central database associated with the computer equipment of the selected entity, of the profile information linked to the tag that is associated with the visitor device.”*

191. Claim 13 is obvious in view of Gilmour-Merriman-Frauenhofer. Gilmour in combination with Merriman discloses “the profile owner computer being programmed to automatically arrange for electronic storage of the profile information linked to the tag associated with a visitor device” for the reasons I provide for limitations [1.b(i)(1)] and [1.b(ii)]. Gilmour-Merriman-Frauenhofer also discloses the “selected entity” as I discuss for limitation [1.b(i)(2)]. The selected entity is a requesting entity selected to receive profile information based on a comparison of visitor profile information to the stored requests, wherein the requesting entity is an advertising server as taught by Merriman.

192. Gilmour and Merriman further disclose that the “automatically arranging...” comprises the “profile owner computer being programmed to perform automatic redirection to a URL provided by the selected entity to place the visitor device in communication with computer equipment controlled by the selected entity.” As I discuss for limitation [1.b(ii)], Merriman discloses that a first server

may use a spotlight tag to redirect a website visitor to a second server. EX1013, 4:51-5:2. And, in the combination, Gilmour's profile service provider redirects a website visitor having a requested profile to the requesting entity's server using the spotlight tag technique taught in Merriman.

193. A POSITA would have understood that the spotlight tag causes "automatic redirection" because the spotlight tag in the web page provided by the profile service provider causes the visitor's browser to automatically request a graphical image from the requesting entity's server. *Id.*, 4:62-65 ("[w]hen the user requests (i.e., visits) an advertiser page containing a spotlight tag, a reply message 15 redirects the users [sic, user's] browser 10 back to the advertising server 14 via request 13 to access the minimal one pixel graphic image"), 5:34-51. A POSITA likewise would have understood that the redirection places the visitor device (e.g., the visitor's computer) in communication with computer equipment controlled by the requesting entity (e.g., the requesting entity computer system) because the device and computer equipment communicate information as a result of the redirect.

194. The automatic redirect is "to a URL provided by the selected entity" because in the Gilmour-Merriman-Frauenhofer combination, the selected entity (Merriman's advertising server acting as a requesting entity) provides the URL address of the graphical image, i.e., the address to which the user's browser is redirected. *Id.*, 4:62-65, 5:34-51. While Merriman does not explicitly describe this

URL, a POSITA would have understood that the selected entity in this combination provides the URL address of the spotlight tag because this would allow the selected entity to receive, process, and respond to the redirected request sent to that URL address. *Id.*, 5:46-49 (“[r]eceipt of the message 13 back at the advertising server 14 in effect, reports (in real time) to the advertising server that the user has accessed the [] respective page while browsing at the advertiser's web site”); *see id.*, 1:52-54 (“[c]lick through sends a request for an object with a given URL address to a different appropriate web site”), 5:16-19 (“for the content of the advertising space 20, the affiliate web site 12 forwards a redirect message containing the URL of the advertising server”).

195. The automatic redirection also enables storage, in a central database associated with the computer equipment of the selected entity, of the profile information linked to the tag that is associated with the visitor device. The automatic redirection from the profile service provider to the selected entity computer system in the Gilmour-Merriman-Frauenhofer combination enables the selected entity computer system to store profile information linked to the tag in an associated central database. The spotlight tag provides profile information from the profile service provider to the selected entity computer system in the Gilmour-Merriman-Frauenhofer combination. EX1013, 4:66-5:2 (“by this process, the advertiser web site 16 provides real time reporting of user activities while the user is in the

advertising web site 16”); see EX1001, 4:43-45 (“the observed behavior of a visitor to a first media property is referred to as profile information about a specific visitor”). The redirect thus enables the combination’s selected entity computer system to store the profile information in a central database as I discuss for limitation [1.a(i)(3)]. The profile information is linked to a cookie (a tag) associated with the visitor device placed and read by the combination’s selected entity computer system as I discuss for limitation [1.a(ii)]. EX1013, 5:56-57 (“[t]he user ID in table is typically assigned arbitrarily using cookie enabled browser features”).

B. Claim 12 of the ’445 patent is obvious in view of Gilmour, Merriman, Frauenhofer, and knowledge of a POSITA

Claim 12: “The method of claim 1 wherein the tag comprises personally identifiable information identifying the visitor.”

196. Claim 12 is obvious in view of Gilmour-Merriman-Frauenhofer and the knowledge of a POSITA because the references disclose, the challenged patent admits, and POSITA would have known that tags (e.g., cookies) have been used to store information identifying website visitors, including personally identifiable information. Gilmour alone and in combination with Merriman discloses use of a browser cookie, which is “a tag associated with a visitor device [that] serves as a link to the profile information associated with the visitor” as I discuss for limitation [1.a(ii)]. EX1012, [0039]; EX1013, 4:55-59. Gilmour discloses that the cookie may be used to “maintain state during a network access session from the client computer

system 36 to the website” to track an individual’s activities on the website and to identify the individual to a website “during an access session . . . to personalize the presentation of information and intelligently target marketing activities to the individual.” EX1012, [0039]. A POSITA would have understood Gilmour uses a cookie for these purposes by treating a value in the cookie as a key to a database storing other information about the visitor. *See, e.g.*, EX1010, 41; EX1011, 49 (“When they register, you may set a cookie that can be used as the unique ID number. From that point on, the unique key can enable you to track every interaction with that visitor. The key will also allow you to link the information from your server log files, cookies, and forms with your data warehouse and other demographic and household information”). Using cookies in this way is conventional. *See, e.g.*, EX1001, 4:35-38 (“[a] cookie placed on the device can also uniquely identify the device and the cookie therefore can be used as a tag in a central database”).

197. While a cookie often stores “a unique user ID” (EX1010, 40), a POSITA would have known and found obvious that a cookie may store essentially any information as the key or in addition to the key, including “personally identifiable information identifying the visitor.” *Id.*, 41 (“the cookie can retain the user name and password”). The Background of the ’445 patent admits a POSITA would have known that cookies can store personally identifiable information including, for example, a username. EX1001, 4:38-42. (“In the case where the tag

identifies the user, the tag might denote the username and password used to access a media property, a user's name and address, a user's e-mail, a user's social security number, or any other personal identifiable information.”). Zeff confirms that storing personally identifiable information in a cookie was known to a POSITA:

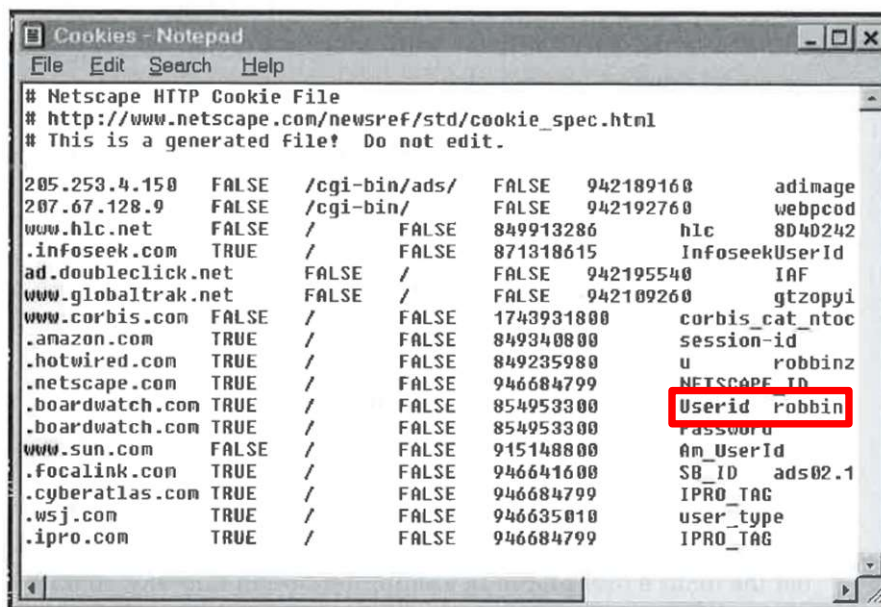


FIGURE 5.3 Information captured in a cookie file.

EX1010, 40. This figure shows a cookie file storing the username “robbin” which a POSITA would have understood to personally identify one of Zeff’s authors, Robbin Zeff (*id.*, 7), and is used to access the media property “boardwatch.com.”

198. Accordingly, a POSITA would have recognized and found it obvious to store “personally identifiable information identifying the visitor” in the visitor’s browser cookie because storing such information in a cookie was conventional. Furthermore, a POSITA would have been motivated to store “personally identifiable information identifying the visitor” in the cookie in order recognize the user and/or

to use this information as a key to other information about the visitor stored in a database in order to achieve Gilmour's stated goals of tracking an individual's activities on the website and enabling the website to personalize the presentation of information and intelligently target marketing activities to the individual. EX1012, [0039]; EX1010, 41 ("when a user registers at a Web site, the cookie can retain the user name and password so that registration is required only once"); EX1011, 49 (the cookie "key will also allow you to link the information from your server log files, cookies, and forms with your data warehouse and other demographic and household information").

C. Claims 2-7 and 14 of the '445 patent are obvious in view of Gilmour, Merriman, Frauenhofer, and Julia

1. Claim 2: *"The method of claim 1 wherein the profile information associated with the visitor is derived from the visitor's activity using a first device, and wherein the visitor device that is available to receive an advertisement is a second device of the visitor."*

199. Claim 2 is obvious in view of Gilmour-Merriman-Frauenhofer in combination with Julia (EX1015). Gilmour discloses that "the profile information associated with the visitor is derived from the visitor's activity using a first device," e.g., a client computer system, as I discuss for limitations [1.a(i)(2)] and [1.a(ii)]. In particular, Gilmour discloses that the profile information associated with the visitor is derived from the visitor's activity at websites (EX1012, Abstract, [0033]-[0044]) and that a visitor uses a client computer system to access the websites (*id.*, [0037],

[0039] (“[i]t will also be noted that the client computer system 36 may store a cookie 46 that has been stored (or ‘dropped’) at the client computer system 36 by the website 42”). A POSITA would have understood that the client computer system includes a device and, therefore, Gilmour discloses that “the profile information associated with the visitor is derived from the visitor’s activity using a first device.”

200. Gilmour also discloses a visitor device that is available to receive an advertisement as I discuss for limitation [1.c(i)]. But Gilmour does not disclose that the profile information is derived from the visitor’s activity using a first device and the visitor device that is available to receive an advertisement is a second device of the visitor. This aspect is taught by Julia.

201. Julia discloses a targeted advertising system in which a user may use multiple devices. EX1015, 2:56-3:4, 6:27-36, 11:19-12:7, 12:26-13:10. In particular, Julia discloses “[a] designated set of one or more interconnected resources [which] includes any combination of computers, devices, applications, and network resources . . . that are designated to belong or be for use by a user.” *Id.*, 2:56-60. These devices may be linked to each other through a network, and may include, for example multiple desktop computers or “a desktop computer and a cellular phone . . . in communication over cellular networks and the Internet.” *Id.*, 2:62-67. A user may use these devices to visit websites. *Id.*, 4:30-48, 5:61-64, 12:48-50 (“[e]ach of these devices may employ different web browsers, suited for the particular platform

and capabilities of the respected devices”). Accordingly, a POSITA would have understood that Julia discloses first and second devices of a visitor.

202. Julia also discloses collecting profile information associated with a visitor and derived from the visitor’s activity using a first device. Julia describes a profile engine “configured to build one or more profiles of one or more users of the designated set of interconnected resources.” *Id.*, 3:11-13. Profile information includes “any information about a user” such as “web-browsing” activities. *Id.*, 2:44-50, 4:30-5:5, 7:66-8:13. A POSITA would have understood that the devices within the “designated set of interconnected resources” (*id.*, 3:11-13) would include a first device, such as a computer. Julia confirms that profile information about a visitor’s web browsing activities may be derived from the visitor’s activity using a computer. *Id.*, 6:27-29 (“profile engine 140 may procure or access profile data 142 about a user . . . from various sources, including computers”), 8:38-42 (profile data may be collected “through the use of programmatic components and agents that operate in the background of one or more devices”), 9:26-27 (“profile data is obtained from the user or users of the set of interconnected resources”). Accordingly, a POSITA would have understood and found obvious from Julia’s disclosure that the visitor’s profile information is derived from the visitor’s activity using a first computer or other device.

203. Julia also discloses that the “visitor device that is available to receive an advertisement is a second device.” Julia discloses that “targeted content is provided to a designated set of one or more interconnected resources.” *Id.*, 2:41-42, Abstract. The targeted content includes advertisements. *Id.*, 2:12-13 (“targeted content may be commercial in nature, such as in the form of advertisements”), 3:27-31 (“[e]xamples of content . . . include advertisements (text ads, banner ads, dynamic media), commercials, infomercials, and audio or video messages”). The set of interconnected resources to which the advertisements are provided “includes any combination of computers, devices, applications, and network resources.” *Id.*, 2:56-67. A POSITA would have understood that Julia discloses a second device (e.g., a phone) associated with the same visitor as the first device (e.g., a computer) and is thus a second visitor device. *Id.*, 2:56-66 (“[a] designated set of one or more interconnected resources includes . . . a desktop computer and a cellular phone”), 2:34-50 (phones may employ web browsers). A POSITA also would also have understood that the second device is available to receive an advertisement because Julia discloses that the second device (e.g., a phone) does receive an advertisement. *Id.*, 12:46-48 (a “content distribution component 565 may format or configure the content item 515 for display on each of the media station and the cellular device”).

204. Accordingly, a POSITA would have understood Julia to disclose that profile information is derived from the visitor’s activity using a first device and the

visitor device that is available to receive an advertisement is a second device of the visitor. Julia discloses that profile information may be collected, and thus derived, from one or more of the devices in the set of interconnected resources. *Id.*, 4:40-50 (“profile information include[s] information about web-browsing and usage activities” and “profile information determined from observed activities may extend to devices other than web-browsing computers”), 5:16-17 (“profile information may be determined from a variety of sources”), 8:38-41 (profile information may be collected from “one or more devices in the set”), 9:26-27, 9:58-62, 11:48-12:6. Julia likewise discloses that one or more devices in the set is available to receive a targeted advertisement. *Id.*, 2:7-8 (“[e]mbodiments of the invention enable specific and targeted content delivery to connected computer systems”), 5:61-62 (“selected content resources 42 [i.e., advertisements] may be specific to a . . . type of device”), 10:46-48 (“[t]he content resources may include content items for different kinds of devices and communications”), 11:1-3 (“a media file may be displayed on the user’s desktop and on his cellular device, or different files may be rendered on the respective devices”), 12:26-33 (selected content format may vary based on device used), 12:34-35 (“delivered content items 515 may be distributed to one or more devices of the system”). Given this framework, a POSITA would have found it obvious that the profile information may be derived from the visitor’s activity using

a first device that is different from a second device in the set because Julia teaches that the user may have multiple devices.

205. If Patent Owner argues that claim 2 requires using different tags for the first and second devices, this too would have been obvious. Merriman discloses that a visitor's profile may incorporate different types of visitor and device identifiers, including user IDs, IP addresses, cookies, login codes, and digital certificates. EX1013, 2:5-30. A POSITA would have understood from this disclosure, and would have known from general knowledge, that a visitor profile can include and correlate multiple identifiers, such as unique identifiers in tags of multiple devices. *See, e.g.*, EX1011, 224 (“[c]ookies can store user interests via a unique identification tag, which websites can correlate with a database on the web server or advertising network”). A POSITA therefore would have found it obvious to use a tag of a first visitor device to derive profile information and subsequently use a different tag to identify a second device of the visitor that is available to receive an advertisement.

206. Moreover, it would have been known to a POSITA to use visitor registration information to correlate different devices to the same visitor. It was commonly known to have visitors provide such registration information and a POSITA would have known that cookies and other tags can be used as a link to registration information in a database. EX 1012, [0035] (visitors provide registration information and websites monitor activities), [0037]-[0038] (harvesting information

based on activity and registration information); EX1013, 2:9-16 (identifying information such as visitor's ID and login that might be used in targeting); EX1011, 222 (describing profiling customers by linking cookies to referrer log, demographic data and registration information), 49 (key allows website to link information from cookies to other information in data warehouse and demographic information), 96; EX1010, 95-96 ("profile[s] can be compiled through interactive strategies such as registration"); EX1015, 4:63-5:1 (profile information may comprise visitor provided information through registration). Thus, a POSITA would have understood that registration information could be used to either (a) provide the same visitor ID in two cookies or tags for the same visitor or (b) connect two tags to the same visitor and profile.

207. A POSITA would have found it obvious to incorporate Julia's teaching and disclosures of building profiles based on information gleaned about a user from one device that could be used to present targeted content on another device into the Gilmour-Merriman-Frauenhofer combination. A POSITA would have been motivated to make combination because it would enable better targeted advertising. EX1012, [0004] ("commerce facilities are motivated to fully understand...potential customers so as to enable . . . better target[ed] advertising"); EX1013, 1:27-29 ("[i]n advertising, it is considered highly desirable to target advertisements to the appropriate potential customer base"); EX1015, 1:22-25 ("[m]any content delivery

applications have an interest in determining whether the user is likely to be interested in the content before delivering the content to the user”).

208. For example, the combination would enable more precise targeting by providing profile information from more sources. Gilmour recognizes that profile information about an individual may be derived from multiple sources. EX1012, [0028], [0033] (“profiles concerning a particular entity (e.g., an individual) may be constructed in a number of different ways utilizing a number of different sources by a number of different entities”). Julia discloses a way to derive profile information about an individual from multiple sources. EX1015, 4:35-57. Julia also explains that collecting profile information from diverse sources improves ad targeting because “more specific and voluminous [*sic*] information yields better identification of what content is more likely to be of interest to a particular user.” *Id.*, 4:15-18.

209. The combination would also improve advertising by delivering targeted ads on a wider set of visitor devices. Gilmour explains that a requesting entity may target a particular product ad to a visitor. EX1012, [0084]. Julia discloses that such ads may be delivered to different ones of a visitor’s devices. EX1015, 12:26-38. For example, Julia describes providing a television ad when the visitor is watching television and providing a web-based ad when the user is browsing the internet. *Id.*, 4:27-33. Julia thus provides a way of realizing an advertiser’s “dream of delivering the right ad to the right person at the right time.” EX1010, 34.

210. The combination of Julia with Gilmour-Merriman-Frauenhofer is a combination of prior art elements according to known methods to yield predictable results. A POSITA would have understood that profile information may be derived from the visitor's activity using a first device using the conventional techniques taught in Gilmour and Merriman. *See, e.g.*, EX1012, [0033] ("profiles concerning a particular entity (e.g., an individual) may be constructed in a number of different ways utilizing a number of different sources by a number of different entities"); EX1013, 3:35-37 ("a list of actions of each visitor at each advertiser's site is collected and reported back to the advertisement server"). A POSITA also would have understood that a second device of the visitor may be available to receive an advertisement delivered using conventional techniques. *See, e.g.*, EX1013, 5:19-24 ("[t]he browser is redirected to the advertising server 14 which selects an appropriate advertisement for the advertising space 20. . . . a banner advertisement to be displayed in the advertising space 20 is selected"); EX1015, 10:57-58 ("specific examples of content resources include banner ads"), 11:4-5 ("content resources may be provided in the form of links to files"), 12:64-31:1 ("links and identifiers of content items may be communicated directly or indirectly to content providers (e.g., third party providers), who then arrange to have the particular content item provided to a corresponding device of the user"). A POSITA would have found the result of

the combination predictable, and would have reasonably expected the combination to be successful because the technologies involved are well understood.

2. Claim 3: “*The method of claim 2 wherein the first device is a computer of the visitor and the second device is a mobile phone of the visitor.*”

211. Claim 3 is obvious in view of Gilmour-Merriman-Frauenhofer-Julia for the same reasons I provide for claim 2. Julia discloses that a first device can be a computer of the visitor, and a second device can be a mobile phone of the visitor. EX1015, 2:62-67 (“[a] designated set of one or more interconnected resources includes, for example, ... a desktop computer and a cellular phone or other device in communication over cellular networks and the Internet”).

3. Claim 4: “*The method of claim 3 wherein the tag identifies the mobile phone.*”

212. Claim 4 is obvious in view of Gilmour-Merriman-Frauenhofer-Julia. Julia explains that different devices, including mobile phones, “may employ different web browsers, suited for the particular platform and capabilities of the respected devices.” EX1015, 12:49-50. A POSITA would have understood that a browser on a mobile phone may store a tag, e.g., a cookie, that identifies the browser and mobile phone on which it resides. EX1010, 40 (“[c]ookies are supported on most browsers from Netscape 1.1 to more current software”), 41 (“[a] cookie is most often used as an identification tag”); EX1011, 218-219 (“*Cookies* are small text files created by servers on visiting browsers’ hard disks that contain an identification

code”); EX1015, 1:25-28 (“To this end, an effort is made to learn information about the user. Traditional approaches have sought the placement of cookies and other data structures in order to learn some information about the user.”). Therefore, a POSITA would have found it obvious that the claimed tag identifies a mobile phone.¹⁰

4. Claim 5: “The method of claim 3 wherein the profile owner computer is programmed to automatically select a media property entity using profile information about the visitor that was derived from the visitor’s activity using the computer of the visitor, which profile information was received by the profile-owner computer as a result of URL redirection from a website that is served by the electronic apparatus of the profile supplier, which website is accessed by the computer of the visitor.”

213. Claim 5 is obvious in view of Gilmour-Merriman-Frauenhofer-Julia. Gilmour-Merriman-Frauenhofer discloses that “the profile owner computer is programmed to automatically select a media property entity” as I discuss for limitations [1.b(i)(1)]-[1.b(i)(2)] and claim 10. Gilmour-Merriman-Frauenhofer additionally discloses that the media property entity is selected using profile information about the visitor as I discuss for limitations [1.a(i)(2)] and [1.b(i)(2)] and claim 10. Gilmour-Merriman-Frauenhofer in combination with Julia discloses that the profile information about the visitor was derived from the visitor’s activity using the computer of the visitor as I discuss for claims 2, 3, and 10. Gilmour-

¹⁰ As explained for claim 2, the tag identifying the mobile phone may reference the same profile information referenced by a different tag identifying a different device.

Merriman discloses the remainder of claim 5: “which profile information was received by the profile-owner computer as a result of URL redirection from a website that is served by the electronic apparatus of the profile supplier, which website is accessed by the computer of the visitor” as I discuss for claim 11.

5. Claim 6: “*The method of claim 2 wherein the second device is a computer and further comprising, after parts (a) and (c), with the computer system electronically reporting information about delivery of the advertisement to the second device, which report is provided to a profile owner controlling the profile owner computer.*”

214. Claim 6 is obvious in view of Gilmour-Merriman-Frauenhofer-Julia. A POSITA would have found it obvious that the second device is a computer for the reasons I provide for limitation [1.c(i)] and claims 2 and 3. Julia discloses “[a] designated set of one or more interconnected resources [which] includes any combination of computers, devices, applications, and network resources... that are designated to belong or be for use by a user.” EX1015, 2:56-60. A user may use any of these devices to visit websites and the devices are available to receive advertisements. *Id.*, 2:56-3:1, 4:23-5:1, 5:61-67, 12:34-61 (“[e]ach of these devices may employ different web browsers, suited for the particular platform and capabilities of the respected devices”). Therefore, a POSITA would have found it obvious that the second device is a computer because a computer is a type of device that a user can use to visit websites and receive advertisements.

215. A POSITA would have found it obvious from Gilmour's disclosure that the requesting entity computer system, after parts (a) (automatically storing profile information) and (c) (automatically causing delivery of an electronic advertisement to the visitor device), electronically reports information about delivery of the advertisement to the second device to the profile owner controlling the profile service provider computer as I discuss for claims 2 and 8.

6. Claim 7: “The method of claim 6 wherein electronically reporting comprises automatically placing the second device in communication with computer equipment controlled by the profile owner, via URL redirection from the computer system, when the computer system utilizes the tag to cause delivery of the advertisement.”

216. Claim 7 is obvious in view of Gilmour-Merriman-Frauenhofer-Julia. Gilmour in combination with Merriman discloses that the requesting entity computer system “utilizes the tag to cause delivery of the advertisement” as I discuss for limitations [1.c(i)] and [1.c(ii)]. Gilmour discloses “the computer system electronically reporting information about delivery of the advertisement...to a profile owner controlling the profile owner computer” as I discuss for claims 2, 6, and 8.

217. Merriman discloses reporting by automatically placing the second device in communication with computer equipment controlled by the profile owner, via URL redirection from the computer system. As I discuss for limitation [1.b(ii)], Merriman discloses reporting information between servers using a “spotlight tag,”

which is “a minimal graphic (e.g., a one pixel image) containing a redirect message.” EX1013, 4:54-57, 4:66-5:2 (by using spotlight tags, “the advertiser web site 16 provides real time reporting of user activities while the user is in the advertising web site 16”), 5:43-49 (a spotlight tag “reports (in real time) to the advertising server that the user has accessed the a respective page while browsing at the advertiser's web site”). A spotlight tag reports information by using a URL redirection from a first server to automatically place a visitor’s device in communication with a second server. *Id.*, 4:62-65 (“When the user requests (i.e., visits) an advertiser page containing a spotlight tag, a reply message 15 redirects the users browser 10 back to the advertising server 14 via request 13 to access the minimal one pixel graphic image.”).

218. Within the Gilmour-Merriman-Frauenhofer-Julia combination, a POSITA would have found it obvious for the requesting entity computer system (the claimed computer system) to report information about delivery of an advertisement to the profile service provider computer system (the claimed computer equipment controlled by the profile owner) using Merriman’s spotlight tag when the requesting entity computer system causes delivery of the advertisement. For example, a POSITA would have found it obvious for the requesting entity computer system to return a spotlight tag reporting delivery of an advertisement to the profile service provider computer while serving an ad to the visitor’s browser because redirects are

already used to serve ads. *Id.*, 6:8-11 (“The ad banner space 52 contains a redirect to the advertising server (14 in FIG. 1) where an ad banner corresponding to a selected advertiser will be selected for delivery to the AltaVista web page.”).

219. A POSITA would have been motivated to use spotlight tags for reporting information about ad delivery to conveniently, efficiently, and automatically implement the transaction-based payment models described in Gilmour. EX1012, [0085] (“the payment made from the requesting entity 50 to the website 42 may be dependent upon a number of transactions concluded between requesting entity 50 and profile subjects”). For example, a POSITA would have been motivated to use spotlight tags to implement CPM pricing. EX1010, 56. A POSITA also would have been motivated to use spotlight tags in this manner because it is a combination of conventional prior art elements according to known methods to yield predictable results. *See, e.g.*, EX1001, 6:41-44 (“In the case of a redirect from a data bank’s server or a profile owner’s server, a visitor’s browser would simply fetch a 1 x 1 transparent pixel from the media property’s server following the redirect.”). A POSITA would have had a reasonable expectation of success for the same reasons.

7. Claim 14: *“The method of claim 1 wherein the apparatus of the profile supplier operates in the Internet and the equipment of the selected entity*

utilizes the profile data to cause delivery of the electronic advertisements on a television of the visitor.”

220. Claim 14 is obvious in view of Gilmour-Merriman-Frauenhofer-Julia. Gilmour discloses an apparatus of the profile supplier, e.g., a web server of a website, as I discuss for limitation [1.b(i)(2)] and claims 5, 10, and 11. EX1012, [0030], [0038], [0039], [0042]; EX1011, 70. A POSITA would have understood that the apparatus operates in the Internet because web servers conventionally operate in and on the Internet. EX1012, [0027]; EX1013, 2, 31-45, 5:9-13; EX1011, 70, 90.

221. Gilmour in combination with Merriman discloses that the equipment of the selected entity (e.g., Gilmour’s requesting entity computer system) utilizes the profile data to cause delivery of the electronic advertisements to a visitor device as I discuss for limitations [1.c(i)] and [1.c(ii)]. EX1013, 4:5-10, 5:22-25, 6:13-19. Merriman mentions that targeted ads are shown on televisions (*id.*, 1:33-35) but Gilmour and Merriman do not explicitly disclose causing delivery of the electronic advertisements on a television of the visitor.

222. Julia discloses that the visitor’s device to which an ad is delivered is a television. As I discuss for claims 2 and 3, Julia discloses that “targeted content [e.g., advertisements] is provided to a designated set of one or more interconnected resources.” EX1015, 2:41-67. The set of interconnected resources to which the advertisements are provided includes televisions. *Id.*, 11:38-43 (“the designated network includes a...set top box 518 for receiving digital television media (e.g. via

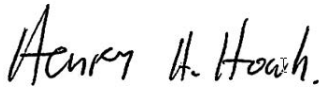
satellite or cable), and a television monitor 521”), 12:27-30 (“the content selection module 550 may identify content items corresponding to television commercials for when the television is used”). Therefore, a POSITA would have found it obvious in view of Gilmour-Merriman-Frauenhofer-Julia for the requesting entity computer system to use the profile data to cause delivery of the electronic advertisements on a television of the visitor. Moreover, as taught by Julia, a POSITA would have recognized the benefit of reaching visitors across multiple different devices to increase the opportunities to reach interested visitors with targeted advertisements, and would have found it obvious to cause delivery of advertisements on a television for this reason. EX1015, 2:7-16, 2:41-42.

IX. CONCLUSION

223. For the reasons I have presented above, it is my opinion that the references serving as the bases for the grounds of rejection in the Petition render claims 1-14 of the ’445 patent unpatentable.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: April 18, 2025



Henry Houh, Ph.D,