

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FREEWHEEL MEDIA, INC.,
Petitioner,

v.

ALMONDNET, INC.,
Patent Owner.

Case IPR2024-00416
Patent 8,775,249

**REPLY DECLARATION OF DR. SANJAY RANKA
IN SUPPORT OF PETITIONER'S REPLY**

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I, Dr. Sanjay Ranka, declare that I have personal knowledge of the facts set forth in this declaration and, if called to testify as a witness, could and would do so competently.

I. INTRODUCTION

1. I have been retained as an expert witness on behalf of the Petitioner, FreeWheel Media, Inc., for the above-referenced *inter partes* review proceeding.

2. I have been asked to provide a reply declaration for responding to the arguments raised by the Patent Owner and its expert, Mr. Robert Sherwood.

3. I am being compensated at my usual consulting rate for my work on this matter. My compensation is in no way dependent upon my opinions or testimony or the outcome of this proceeding. I have no financial interest in the parties or in the outcome of this proceeding.

II. MATERIALS REVIEWED

4. In connection with my study of this matter and reaching the opinions stated herein, I have reviewed a number of documents. In addition to those mentioned in my previous declaration, I have reviewed the following documents:

- Patent Owner's Preliminary Response;
- The Board's Institution Decision;
- Patent Owner's Response and its accompanying exhibits (Exs. 2001-2004);

- The transcript of the deposition of Mr. Sherwood (Ex. 1055); and
- All other documents referenced herein.

III. CLAIM CONSTRUCTION

5. As previously stated, for my first Declaration, I gave all claim terms their plain and ordinary meaning as would have been understood by a POSITA reading the patent specification at the time of the claimed invention (*i.e.*, December 13, 1999), except for the term “unaffiliated third part[y/ies],” in which case I applied AlmondNet’s construction which is “part[y/ies] not having common ownership with the party or parties that control said programmed computer system.” Ex. 1011, 30-36, 69. As previously explained, this construction does not preclude the unaffiliated parties from having some relationship (e.g., a contractual relationship) with the programmed computer system, nor does the construction preclude some of the unaffiliated parties from being affiliated with each other. I also applied other possible claim constructions for some terms that were addressed in other proceedings. None of the claim constructions discussed in my first declaration appear to be an issue. Therefore, for this declaration, I have only provided comments on the following clause, which is relevant to the arguments made by Patent Owner and Mr. Sherwood.

A. “electronically maintaining an electronic record of which unaffiliated third party contributed, to the stored profile, the profile attributes used in targeting the advertisements”

6. This clause appears in dependent claims 5, 15, and 25. I applied the plain and ordinary meaning of this clause and all the terms therein, except that I applied AlmondNet’s construction for “unaffiliated third party” as mentioned above.

7. I understand that this clause is only in the dependent claims and I understand that a dependent claim should be interpreted as narrower than the independent claim from which it depends. In this case, I did interpret dependent claims 5, 15, and 25 to be narrower than independent claims 1, 11, and 21, respectively. This clause narrows the independent claims for two main reasons, which I will discuss below.

8. First, the independent claims recite “generating an electronic record” while this clause recites “maintaining an electronic record.” A POSITA would have understood that “generating” and “maintaining” are two different actions in the field of databases. Ex. 1056, 680-681 (section called “Creating and Maintaining a Warehouse” that describes “generation of summary information” and that states “maintaining a warehouse is keeping track of the data currently stored in it”), 748 (“The DBMS is responsible for generating [object identifiers] and ensuring that an oid identifies an object uniquely over its entire lifetime.”). Generating an electronic record refers to the initial act of creating electronic data (e.g., a field, object, etc.).

Ex. 1046, 53-56 (creating a record using the INSERT command); Ex. 1056, 574 (describing writing a log record to generate it and creating a transID field of the “transaction generating the log record”). In contrast, maintaining an electronic record refers to the act of keeping the entry for some time. Ex. 1056, 573 (“this durability can be achieved by ***maintaining*** two or more copies of the log”), 574 (“The set of all log records for a given transaction is maintained as a linked list going back in time”). The relied upon disclosures of storing information necessarily teach the act of generating the electronic record and also teach maintaining it in storage.

9. Second, the independent claims only specify that “data” is “used in targeting third-party advertisements,” while the clause in dependent claims 5, 15, and 25 specifies more particularly that “the profile attributes” are “used in targeting the advertisements.” In other words, the independent claims did not particularly specify that the “data” was the “profile attributes,” so the “data” could be some other data (not otherwise discussed in the independent claims) in the stored profile. However, since the combinations I relied on for meeting the independent claims already teach profile attributes being used for targeting third-party advertisements, those combinations also meet this aspect of the dependent claims.

10. Claims 5, 15, and 25 do not say when the record is generated in relation to when the profile attributes are used for targeting advertisements so there is nothing to prevent the record from being generated for a profile attribute before that profile

attribute is used for targeted advertising. To put it another way, these claim do not say that the record is generated in response to use of a profile attribute for targeted advertising. Rather, the claims simply recite a use of the profile attributes without any particular timing requirement. In this regard, I note that, for example, both Merriman and Jaye teach ***actually using*** the stored profile attributes for targeted advertisements, and not merely the possibility of them being used in the future, so the actual use aspect in claims 5, 15, and 25 is met by the combination, as I previously explained. See Ex. 1002, ¶¶ 279-282; Ex. 1035, Abstract, 1:8-11, 2:40-45, 4:50-54, 5:50-60, 5:64-67, 6:6-11, 6:56-63, 8:47-56; Ex. 1037, 14:22-25. Moreover, Roth, the other primary reference, teaches updating its database (e.g., tables) 16B, after providing a targeted ad, to record the view-op data including the website that provided profile information and on which the ad was displayed. Ex. 1036, 9:47-52 (WS is Web Site ID and SP is Site Page ID where the ad ***was*** placed), 12:11-40, 13:30-40. Therefore, Roth also teaches ***actually using*** the profile information for targeted advertisements.

11. At least because of the above reasons, it is my opinion that dependent claims 5, 15, and 25 do not require a separate electronic record from the electronic record in the independent claims (particularly in [1D], [11D], and [21D]). In addition, I note that a separate electronic record is not described in the specification of the '249 patent.

12. In an attempt to support his claim interpretation, Mr. Sherwood relies on only two parts of the '249 patent, specifically 11:41-47 and 13:46-50. See Ex. 2001, ¶ 41. Both parts describe a micro-payment to be made to a website that contributed a profile attribute when the profile attribute is used. However, neither part requires generating or maintaining a separate electronic record that the profile attribute was used in order to make or record the micropayment. For example, the '249 patent does not require a separate record to be generated prior to making the micropayment. The record in the independent claims already identifies the party that contributed the profile attribute and that is all that the system would need to make the micropayment; another record indicating the same website (because it received the micropayment or should receive the micropayment) would be duplicative and take up storage space. Although the '249 patent is not clear about when the micropayment is made, the micropayment might be made immediately when the profile attribute is accessed (i.e., read out from memory). In that way, no additional record would be needed. In other words, a POSITA would have understood that it is not necessary to keep track of the use of the profile attributes to make the micropayments and instead the system could just pay out the micropayments as the profile attributes are supplied to advertisers. Even if a record was generated when a micropayment was made, such record could just identify the party making the payment and not the party that contributed the profile attribute. In

this regard, I note that the '249 patent does not describe tracking¹ the release of the profile attributes or the micropayments. It simply describes transferring a royalty payment from a user (e.g., website or other buyer) wanting the attribute to the original provider of the attribute. Ex. 1001, 3:14-21, 4:16-37.

IV. ANALYSIS

13. Below I address the arguments that the Patent Owner and/or Mr. Sherwood made. Since they did not contest most of my opinions, I have not repeated all of the opinions in my first declaration. It should be understood that my opinions herein are based on the same POSITA definition that I provided in my first declaration. See Ex. 1002, ¶¶ 189-191. I note that Mr. Sherwood adopted my definition in his declaration. See Ex. 2001, ¶ 34.

A. Merriman In View Of Jaye Teaches Dependent Claims 5, 15, and 25 Even Under Patent Owner's Narrow Interpretation

14. Even under Patent Owner's narrow interpretation requiring a separate record, the combination of Merriman and Jaye teaches dependent claims 5, 15, and 25. In fact, I addressed this narrower interpretation in my first declaration at paragraphs 283-285.

15. As I explained in my first declaration, it would have been obvious to add (e.g., in Merriman's database 54) a record indicating that attributes provided in

¹ The words "tracking" or "track" are not used in the '249 patent.

profile information from website 12 were used for targeting advertisements. Ex. 1002, ¶ 283. In support of this, I cited Jaye which states “[t]he enterprise server may parse the global user profile and release to an interested party, such as an advertiser, only those portions that are of interest to the advertiser and/or to which the advertiser subscribes.” Ex. 1037, 14:22-25. I note that neither the Patent Owner nor Mr. Sherwood address this teaching from Jaye. This teaching from Jaye shows that a POSITA would have released particular profile attributes to an advertiser. This teaching from Jaye provides as much as the ’249 patent does about generating an electronic record to track when profile attributes are released for use in targeted advertising. Ex. 1001, 3:14-21, 4:16-37, 11:41-47, 13:46-50. That said, I note that it is the combination of Merriman and Jaye (not the references individually) that I rely on for teaching a separate record that tracks when a particular profile attribute is used for targeted advertising. As I previously explained in my first declaration, there are two main motivations for a POSITA to implement the separate record indicating who contributed the profile attribute(s) used for targeted advertising: 1) to reward (e.g., financially) websites for providing profile information and 2) to enable generation of improved reports that give advertisers further insights. Ex. 1002, ¶¶ 283-285.

16. With respect to the first main reason (rewarding websites for providing profile information), the separate record would have enabled tracking of which

profile attributes are used so that rewards (e.g., money) would have been given to the source/contributor of the profile attributes. The concept of rewarding those who provide profile information was known and would have been used in the Merriman and Jaye combination to incentivize websites to provide many profile attributes to build an extensive profile database for use in Internet advertising. Ex. 1039, ¶¶ [0111] (describing payment for providing profiles), [0114] (describing compensation for providing information for a profile including more compensation for more detailed information); Ex. 1045, Abstract (describing offering awards to website visitors to incentivize them to provide demographics information), 4:60-5:12 (incentive awards in exchange for demographics information), 7:23-8:14; Ex. 1034, 18 (“...users will be able to choose whether to release or withhold information about themselves. Their decisions will hinge, in large part, on what companies offer them in return for their data.”). A POSITA would have wanted to increase the amount of profile information collected by the ad server (e.g., ad server 19) in the combination of Merriman and Jaye. Ex. 1035, 8:51-56; Ex. 1037, 1:10-2:10 (describing demand for gathering more information for global user profile); Ex. 1036, 18:36-60; Ex. 1034, 30-32. It has long been desirable to collect profile information for advertising, and it was known (at the time of the alleged invention) to collect profile information via the Internet. *See, e.g.*, Ex. 1037, 1:10-2:24. That is, by the late 90s, it was known to use the Internet to collect profile information for

building an online database of user profiles. *See, e.g.*, Ex. 1037, 1:10-2:24. A POSITA would have also known that with more profile information, the ad server would have been able to improve targeted advertising. Ex. 1035, 2:37-45. For example, more narrowly tailored advertisements would be sent to more people as more profile information is collected. A POSITA would have understood that rewarding websites for sending profile information would help increase the amount of profile information collected. Ex. 1034, 18 (“...users will be able to choose whether to release or withhold information about themselves. Their decisions will hinge, in large part, on what companies offer them in return for their data.”). For example, financial incentives would have persuaded at least some websites to provide the ad server in the Merriman and Jaye combination with profile information. In some cases, the entity operating the combination’s ad server would have offered a monetary reward for each piece of information that is sent to the ad server and subsequently used for a targeted advertising. Of course, it would have also been obvious to just pay for receiving the profile information, but it makes more business sense to tie the payment to use for targeting advertising so that the entity operating the ad server is safe-guarded from paying more than it makes. Ex. 1057, 3:33-41 (describing performance-based compensation), 6:31-35. By tying the financial reward to the actual use of the profile information, the entity operating the ad server would better ensure that it profits from the information (e.g., receives more

money from advertisers for placing an ad based on the information than it gives to the websites for providing the information). *Id.* With this motivation in mind, a POSITA would have stored a record of who contributed which particular piece of profile information and then a separate record of who contributed that particular piece of profile information when it was actually used so that the contributor would be properly rewarded.

17. With respect to the second main reason (improving reports that give further insights), the separate record would have enabled tracking of which profile attributes are used so that an ad server operator (the entity operating the ad server) and/or advertisers would have insights into where useful information is coming from. While I agree with Mr. Sherwood's opinion that advertisers would have cared about the results of targeted advertisements (see Ex. 2001, ¶ 64), I disagree with his conclusion that the separate record with the origin of the profile attributes used for the targeted advertisements would not have been obvious. Even Mr. Sherwood acknowledges that "of course, advertisers care about the quality of the targeting system being employed (including the quality of profile attributes)." Ex. 2001, ¶ 64. This supports my opinion that a POSITA would have been motivated to implement the separate record of who contributed a particular profile attribute used for targeted advertising so that such information is provided to advertisers and ad server operators for them to gain insights into the quality of the information used for the

targeted advertising. Ex. 1037, 1:17-19 (Jaye explains that it is useful to compile sophisticated marketing data). That advertisers might have been more interested in the results of the targeting advertising does not detract from making this extra level of detail available to them. In my view, this added detail (the separate record indicating who contributed the profile attribute used) would have been particularly interesting to advertisers that were concerned with the lack of results of their targeted ads. If a targeted ad was not successful, the advertiser would have been interested in learning what information was being used for the targeted advertisement and where that information was coming from. If the profile information was coming from a disreputable source (e.g., a pornographic website) or competitor, the advertiser might choose to stop use of that information for future targeted ads. On the other hand, if a targeted ad was highly successful when based on profile information from a particular source, the advertiser might be interested in further partnering with that source. For example, if a local golf shop is providing useful profile information for successful targeted ads of golf equipment manufacturers, those manufacturers would have been interested in identifying that local golf shop to work specifically with that golf shop (e.g., advertising or selling goods through that golf shop). Further, Mr. Sherwood's declaration is narrowly focused on the perspective of the advertisers. But, the ad server operators (entities operating ad servers) would have also been interested in this information because it might help

improve their targeted advertising model/algorithms. The ad server operators would have wanted to improve the effectiveness of their targeted advertising model/algorithms to acquire and retain customers, which are the advertisers. By tracking the source of profile information used for targeted advertisements and analyzing the effectiveness of those advertisements, an ad server operator would have been able to determine which source is providing good profile information (i.e., profile information that is translating into successful targeted ads). Then, the ad server operator would have been able to use profile information from that source more wisely (e.g., use it more often or weight it more) to improve the overall targeted advertising system. Taking Mr. Sherwood's example (see Ex. 2001, ¶ 65), Good Housekeeping might be an unexpected source of good profile information for targeting Nike ads, so the ad server operator would have been interested to learn that and use that for future targeted advertising. On the other hand, the ad server operator might choose to discontinue use of profile information from a source if that information has not led to effective targeted ads.

18. To assist in understanding the usefulness to the ad server of knowing which source contributed a profile attribute used for targeted ads, consider an example where 50 visitors visit website A which provides the gender for each of its visitors to the ad server and 50 visitors visit website B which also provides the gender for each of its visitors to the ad server. Then, consider that the ad server used the

gender information from website A for a targeted ad with a 3% success rate (e.g., click rate), but used the gender information from website B for a targeted ad with a 5% success rate. The ad server would have wanted to record the origin of the gender information that was used for targeted advertising in order to learn that information from website B is more reliable (or effective) so information from website B (and not website A) would be used for future advertising. As previously explained, it is my opinion that a POSITA would have desired reliable information for targeted advertising. See Ex. 1043, Abstract, 7:48-60, 8:31-45; Ex. 1039, ¶ [0049]. The above scenario describes how profile information is useful for an ad server. In a similar vein, this information could be used by the advertiser to generate gender specific ads and non-gender ads and direct the ad server to show them on website A and B respectively with the hope of achieving better performance on both websites. It is worth noting that overall click through rate (as suggested by Dr. Sherwood (Ex. 2001, ¶ 64)) is not always the only useful information as the cost of media may be variable.

19. For the above reasons, I maintain that the combination of Merriman and Jaye teaches claims 5, 15, and 25, even under Patent Owner's narrow interpretation requiring a separate record.

B. Merriman In View Of Minor Teaches Dependent Claims 5, 15, and 25 Even Under Patent Owner's Narrow Interpretation

20. Even under Patent Owner's narrow interpretation requiring a separate record, the combination of Merriman and Minor teaches dependent claims 5, 15, and 25. The combination of Merriman and Minor meets Patent Owner's interpretation for similar reasons that Merriman and Jaye does. See Section IV.A, above.

C. Roth In View Of Jaye Teaches Dependent Claims 5, 15, and 25 Even Under Patent Owner's Narrow Interpretation

21. Even under Patent Owner's narrow interpretation requiring a separate record, the combination of Roth and Jaye teaches dependent claims 5, 15, and 25. The combination of Roth and Jaye meets Patent Owner's interpretation for similar reasons that Merriman and Jaye does. See Section IV.A, above. In short, the motivations for these combinations are the same. However, in the combination of Roth and Jaye, Roth's database 16B is relied on and the separate record of who contributed particular profile attributes would have been included in Roth's database 16B. See Ex. 1002, ¶¶ 484-485. Moreover, Roth's system, which would have been used in the combination of Roth and Jaye (as Jaye is mainly relied on for appending profile information to the URL redirect), has a log and billing unit 320A. Ex. 1036, 17:51-55, FIG. 3. A POSITA would have understood that the log and billing unit 320A is primarily for billing the winning bidding agent (among the bidding agents 30A-30Z that submitted bids). But, a POSITA would have also understood that

Roth's log and billing unit 320A means that Roth's system already has a component capable of rewarding the website that provided profile information (e.g., the website and/or webpage that the user is currently visiting or previously visited) for the view-op that led to placement of a targeted ad. The existence of the log and billing unit 320A itself makes maintaining the separate record easy, which would have given the POSITA yet another reason to move forward with the modification. It is my opinion that, in at least some deployments of the Roth and Jaye combination, a POSITA would have implemented the log and billing server 320A to issue rewards based on the separate record and provide reports including information from the separate record.

D. Roth In View Of Minor Teaches Dependent Claims 5, 15, and 25 Even Under Patent Owner's Narrow Interpretation

22. Even under Patent Owner's narrow interpretation requiring a separate record, the combination of Roth and Minor teaches dependent claims 5, 15, and 25. The combination of Roth and Minor meets Patent Owner's interpretation for similar reasons that Roth and Jaye does, which includes the same motivations described for the combination of Merriman and Jaye. See Sections IV.C and IV.A, above.

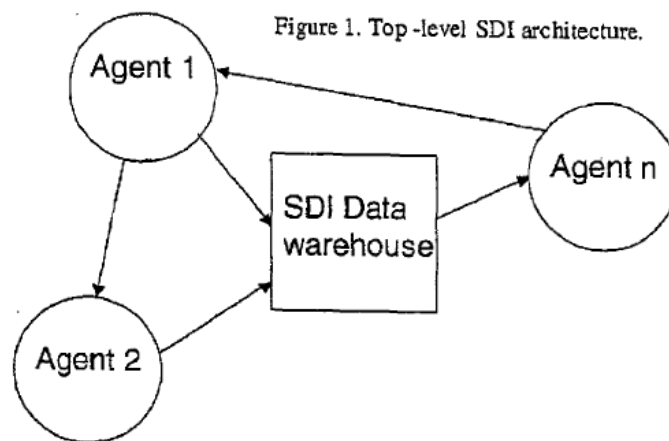
E. Merriman In View Of Jaye And Herz, Merriman In View Of Minor And Herz, Roth In View Of Jaye and Herz, And Roth In View of Minor and Herz Each Teach Dependent Claims 5, 15, and 25 Even Under Patent Owner's Narrow Interpretation

23. This section discusses the Herz combinations. To the extent that the four primary combinations (Merriman and Jaye, Merriman and Minor, Roth and Jaye, and Roth and Minor) are not considered to teach the separate record, a POSITA would have found it obvious to further modify each of the four primary combinations in view of Herz to include the separate record. I note that Mr. Sherwood wrongly states that I did not allege that it would have been obvious to modify Merriman and Jaye in view of Herz. Ex. 2001, ¶¶ 68 (last sentence), 71 (first sentence). It appears Mr. Sherwood only saw that I relied on Herz for the knowledge and motivations of a POSITA in my analysis for the four primary combinations (see Ex. 1002, ¶ 285) and that he overlooked my further analysis of the combinations that include Herz. To the extent that Mr. Sherwood's statements on Herz might be considered applicable to the Herz combinations, nothing in Mr. Sherwood's declaration undermines my analysis for the Herz combinations.

24. As I previously explained in my first declaration (Ex. 1002, ¶¶ 400-406), Herz teaches a secure data interchange (SDI) system that enables information to be exchanged between multiple parties. Ex. 1041, pp. 1-4, 66, 71-73; Ex. 1040, Abstract, ¶ [0043]. Herz's system controls access to information (in particular, profile information), release of the information, and matching of the information

back to parties that contributed the information. Ex. 1041, pp. 1-9, 24, 66, 71-73; Ex. 1040, Abstract, ¶¶ [0043], [0053], [0056]. Herz's system provides economic incentives for users to provide profile information to the system by paying users for use of their profile information (e.g., by advertisers). Ex. 1041, pp. 1-4, 10, 39-49, 53, 71-73, 96-98, 112-115, 124-131; Ex. 1040, ¶¶ [0040], [0043]-[0044]. As such, Herz's system effectively provides a marketplace for profile information. Ex. 1041, pp. 1-4, 9-10, 14, 31-36, 39-49, 53, 84-85, 95-114, 124-131; Ex. 1040, Abstract, ¶¶ [0003], [0052], [0056], [0082]-[0084], [0103]-[0104], [0126], [0876].

25. As shown in Figure 1 (below) of Herz, the system architecture includes agent computers (e.g., a PC of a consumer or a server computer executing an online business of a company/vendor) in two-way communication with an SDI data warehouse. Ex. 1041, FIG. 1, pp. 3-13; Ex. 1040, ¶¶ [0045], [0055].



Ex. 1040, FIG. 1

26. Herz's SDI data warehouse receives and stores profile information, records who owns/contributed the profile information, and issues payments to the owner when others use the profile information in queries (e.g., for targeted advertising). Ex. 1041, pp. 1-11, 14, 21-24, 26-27, 31-36, 39-49, 53, 60, 66-68, 70-73, 76-79, 84-86, 88-91, 95-117, 119-122, 124-134, 137; Ex. 1040, ¶¶ [0016]-[0017], [0025]-[0026], [0043], [0085], [0098], [0115]-[0118], [0162], [0224], [0228]-[0229], [0232]-[0234], [0238]-[0239], [0269], [0392], [0600], [0778], [0883], [0891]. A POSITA would have understood that the SDI data warehouse is owned or controlled by a third party that is different from the parties who contributed the information to it. Ex. 1041, pp. 3-11 (describing Secure Data Interchange system with a central SDI server for allowing various parties to exchange data), 26-28, 59 ("Because this analysis, data collection, compilation and modeling procedure occurs securely under the control of the third party operator or intermediary operating the distributed trusted server network (e.g. SDI)..."), 67 ("the SDI acts as a trusted third party to both the user and the vendor"), 69, 114, FIGs. 1, 3, 6; Ex. 1040, ¶¶ [0003]-[0006], [0043]-[0059], [0103]-[0108], [0137]-[0138], [0549]-[0550], [0583], [0768]. A POSITA would have also understood that Herz's SDI data warehouse maintains an electronic record of which owner contributed profile information used in targeting advertisements in order to issue payments back to the owner when the profile information is used. Ex. 1041, pp. 1-11, 14, 21-24, 26-27, 31-36, 39-49, 53,

60, 66-68, 70-73, 76-79, 84-86, 88-91, 95-117, 119-122, 124-134, 137; Ex. 1041, ¶¶ [0016]-[0017], [0025]-[0026], [0043], [0085], [0087]-[0088], [0098], [0114]-[0118], [0162], [0224], [0228]-[0229], [0232]-[0234], [0238]-[0239], [0269], [0392], [0600], [0778], [0883], [0891]. Specifically, Herz discloses a data record including an owner ID indicating the agent (e.g., a vendor) who provided the data and a record ID for identifying the data that was provided by the agent. Ex. 1041, pp. 26-27, 31-33, 35-36, 42-43, 52-53; Ex. 1040, ¶¶ [0114]-[0118].

27. As I previously explained in my first declaration (Ex. 1002, ¶ 403), it would have been obvious to combine each of the Merriman in view of Jaye and Merriman in view of Minor combinations with Herz, such that Merriman's advertising server 19 would have automatically and electronically maintained an additional electronic record (separate from the electronic record in limitations [1D], [11D], and [21D]), as taught by Herz, of which website contributed, to their respective user profiles, profile attributes used in targeting the advertisements sent over the Internet. Likewise, I also previously explained (Ex. 1002, ¶ 609) that it would have been obvious to combine each of the Roth in view of Jaye and Roth in view of Minor combinations with Herz, such that Roth's advertising system 16 would have automatically and electronically maintained an additional electronic record (separate from the electronic record in limitations [1D], [11D], and [21D]), as taught by Herz, of which website contributed, to their respective user profiles,

profile attributes used in targeting the advertisements sent over the Internet. Thus, all four combinations (each of the primary four combinations with Herz) teach the claimed “automatically with the computer system electronically maintaining an electronic record of which unaffiliated third party contributed, to the stored profile, the profile attributes used in targeting the advertisements” in claims 5, 15, and 25 even under AlmondNet’s narrow interpretation.

28. In my opinion, a POSITA would have been motivated to incorporate a separate record (similar to Herz’s record) into Merriman’s database 54 to enable Merriman’s advertising server 19 to pay websites (similar to Merriman’s website 12) for providing profile information that is used for targeted advertising. Ex. 1041, pp. 1-4, 66, 71-73, 95-117, 125-131, 133-134; Ex. 1040, ¶¶ [0040], [0043], [0847], [0876]; Ex. 1002, ¶ 404. Similarly, a POSITA would have been motivated to incorporate a separate record (similar to Herz’s record) into Roth’s database 16B to enable Roth’s advertising system 16 to pay websites (similar to Roth’s website 14) for providing profile information that is used for targeted advertising. Ex. 1041, pp. 1-4, 66, 71-73, 95-117, 125-131, 133-134; Ex. 1040, ¶¶ [0040], [0043], [0847], [0876]; Ex. 1002, ¶ 610. Paying websites for profile information would have incentivized websites to share profile information. The profile information would have been desirable to Merriman’s advertising server 19 and Roth’s advertising system 16 because it would allow it to place targeted advertisements. Meanwhile,

sellers would have been more likely to use the advertising server 19 or the advertising system 16 if it had the ability to place targeted advertisements. The party/entity running Merriman's advertising server 19 or Roth's advertising system 16 would have understood this and would have wanted to incentivize websites to share profile information to increase its own revenues. In addition, sellers would have been more willing to pay more for placing targeted advertisements, so Merriman's advertising server 19 and Roth's advertising system 16 would have been motivated to collect as much user profile information as practical to increase profit margins.

29. I also explained how other rationales support my finding that the combinations of Merriman (with Jaye or Minor) and Herz and Roth (with Jaye or Minor) and Herz would have been obvious. Ex. 1002, ¶¶ 405, 611. In particular, I explained that the combinations involve use of a known technique to improve similar devices in the same way. The known techniques are Herz's techniques for storing who contributed profile information used by others (e.g., advertisers) to pay those who contributed the profile information for its use. Ex. 1041, pp. 1-4, 10, 39-49, 53, 71-73, 96-98, 112-115, 124-131; Ex. 1040, ¶¶ [0040], [0043]-[0044]. These techniques would have been used to improve Merriman's database 54 or Roth's database 16B, each of which is similar to the SDI warehouse, in the same way Herz's techniques improve its SDI warehouse by incentivizing vendors (e.g., websites) to

share profile information thereby increasing the amount of valuable information in the warehouse.

30. Lastly, I explained that a POSITA would have had a reasonable expectation of success in combining the four primary combinations with Herz because all the combinations merely involve routine database management skills that a POSITA would have had. Ex. 1035, 8:51-56; Ex. 1036, 7:36-43, 18:36-60; Ex. 1037, 13:19-41 (describing that the “user profile can be incremented in real time and new interest categories can be easily added”); Ex. 1041, pp. 29, 34, 40, 62-63, 113-114, 120-123; Ex. 1040, ¶¶ [0109]-[0110] (explaining that its system is expandable to create new data types); Ex. 1002, ¶¶ 406, 612.

31. As Mr. Sherwood did not even see my opinions regarding the Herz combinations, much less address them, his arguments do nothing to undermine my opinion. I note that while addressing my citations to Herz in support of the four primary combinations, Mr. Sherwood argued that:

Herz criticizes the ‘free-for-all’ approach that a POSITA would have understood applied to both DoubleClick and Engage (and Merriman and Jaye) as providing too much information about users ‘without either the consent or knowledge of’ the users. Ex. 1040 at ¶33. I do not believe that a POSITA reading Herz would read this and look to Herz as implying that advertisers should be provided with even more information about user profile

attributes, such as the origin of those attributes, within the context of a system such as Merriman or Jaye.

Ex. 2001, ¶ 68. In my view, this argument is backwards. His argument looks at whether Herz's system would have been modified to move to a "free-for-all" approach. But, my opinions start with the systems of Merriman and Roth in which third party ad servers are already collecting profile information and aim to collect even more information to enhance their profile databases. Herz's privacy considerations would not have discouraged or otherwise deterred a POSITA from modifying Merriman (with Jaye or Minor) or Roth (with Jaye or Minor) to include the separate record for the reasons I gave above (e.g., to reward websites for sharing profile information and to give further insights for reports). While privacy might have been a concern to some website visitors, the ad server operators and advertisers were still interested in obtaining various profile information. Also, the electronic record of who contributed the profile information used for targeting advertisements was not the type of data that visitors were generally concerned with.

32. Mr. Sherwood also "note[s] that Herz teaches that agents that submit information using an 'alias' such that the origin of the information would actually be kept anonymous from third parties (Ex. 1040 at ¶¶137-140), which seems to suggest that even if it would have been obvious to modify Merriman and Jaye in view of Herz (something Dr. Ranka doesn't allege), the resulting combination would not have involved disclosing to advertisers the actual identity of the websites that

provided particular profile attributes as Dr. Ranka implies.” Ex. 2001, ¶ 68. But, aside from being wrong because I did propose a combination with Herz, Mr. Sherwood’s opinion is misguided because the resulting combination would not have necessarily used aliases to keep the origin of the information anonymous. A POSITA would have understood that the alias feature of Herz is not required, and that is not a teaching that a POSITA would have necessarily carried over into the Merriman or Roth combinations. Ex. 1041, 5 (“Providers have identities, and can interact within SDI under anonymous, pseudonymous and *true identities*.” (emphasis added)), 9, 12-13; Ex. 1040, ¶ [0027] (“Data owners can submit data to the central warehouse *with different degrees of identification, for example* anonymously, pseudonymously, or *with a true identity*.” (emphasis added)). Moreover, the use of aliases does nothing to counteract the motivation of providing rewards. That is, rewards would have been provided to the source/origin of the profile information even if an alias was used because the ad server would still have recorded an association between the alias and the source/origin while keeping the source/origin anonymous to the advertisers.

33. Notably, Mr. Sherwood is completely silent about Herz’s teachings related to the SDI system acting as an intermediary to facilitate the buying and selling of profile data. Ex. 1041, 7 (“A user might also like to be able to ‘keep control’ of information that is potentially valuable to vendors and advertisers, and

allow only restricted access to that information-and extract a payment for such access”), 12 (“cost structures/incentives for provision of information”), 38 (“The vendors subscribe to the services of SDI, and can receive payments for user information that they provide to the interchange”), 57 (describing example of Vendor 2 querying Vendor 1 for profile information and paying for it), 69 (“one of several compelling business models could be used by a vendor to encourage the visitors to his/her site to adopt [sic] the user-centric SDI service based upon the monetary incentives the user may receive...”), 85 (“provides buyers with an additional incentive to provide information to vendors/advertising networks, in addition to the benefits from receiving well-targeted information” and “allows vendors/advertisers to compensate buyers for providing information” and “buyers are incentivized to provide information that allows vendors to push relevant advertisements/products”), 95 (“the preferred business model to incentivize these organizations to cooperatively provide this data would involve SDIs privacy policy enforcement capabilities in combination with a revenue sharing model” and “The system of IamWorthIt credits buyers for information, and provides buyers with direct incentives to reveal profile information to vendors”), 96 (“The primary objective of the IamWorthIt model is to create a market for information about buyers.”), 112 (“Buyers benefit through...financial rewards in return for releasing profile information.”), 114 (“Community dollars provide financial incentives for user’s to

release profile information to vendors”), 144 (“providing incentives for users to provide information”); Ex. 1040, ¶¶ [0040] (“a system of economic incentives, where users provide profile information in return for receiving payments from vendors for that information”), [0043] (“The system allows for payments to be received by the providers of information, in return for data access.”), [0044] (describing that an agent provides profile data in return for financial rewards), [0088] (providers of information provide SDI warehouse with information controlling “what types of rewards (financial or otherwise) are required for access to the information”), [0715] (“financial rewards in return for releasing profile information”), [0730] (“querying agent makes payment for data access in accordance with the price rules of agents which submit information to the shared database”), [0760] (“monetary credit the buyer receives for personal information”), [0876] (“The primary objective of the iamworthit model is to create a market for information about buyers, with agents that submit profile and other personal information to the database able to collect payment in return for queries executed by vendors.”), [0877]-[0883] (describing the use of community dollars to reward users/buyers for providing information that vendors access thereby providing “direct incentives to reveal profile information to vendors”), [0925] (“portal provides community dollars to buyers in return for privacy-protected profile information”). Mr. Sherwood also does not argue that Herz is not combinable with, or not relevant

to, the advertising systems of Merriman and Roth. Nor could he because Herz is clearly related based on Herz's discussion of ad networks. Ex. 1041, 133; Ex. 1040, ¶¶ [0778]-[0789]. Finally, Mr. Sherwood also ignores that, much like the micropayment in the patent, Herz teaches that a "fraction of advertising revenue [] is turned over to buyers, in return for receiving profile information from buyers." Ex. 1041, 98; Ex. 1040, ¶ [0887]. While Herz discloses specifically returning a fraction of advertising revenue, Herz also shows that a POSITA would have understood that there are other variations for apportioning ad revenues. Ex. 1041, 96-111; Ex. 1040, ¶ [0891].

V. CONCLUSION

34. All of the statements made in this declaration of my own knowledge are true. All statements made based on information and belief are believed to be true. Further, these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code.

Date: 4/17/2025


Sanjay Rana, Ph.D.