

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner

v.

WILDSEED MOBILE LLC,
Patent Owner

U.S. Patent No. 7,376,414

IPR2023-00248

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. § 312 AND 37 C.F.R. § 42.104**

TABLE OF CONTENTS

I.	INTRODUCTION	7
II.	GROUND FOR STANDING.....	7
III.	NOTE.....	7
IV.	THE '414 PATENT.....	8
	A. Summary of the '414 Patent.....	8
	B. Prosecution History and Priority Date of the '414 Patent.....	14
V.	LEVEL OF ORDINARY SKILL IN THE ART.....	15
VI.	CLAIM CONSTRUCTION	16
VII.	RELIEF REQUESTED AND THE REASONS FOR THE REQUESTED RELIEF	17
VIII.	THE BOARD SHOULD INSTITUTE INTER PARTES REVIEW	17
	A. The challenges presented in this petition are not cumulative to prosecution of the '414 Patent.....	17
	B. Discretionary denial under <i>General Plastic</i> is not appropriate.....	17
	C. The <i>Fintiv</i> factors favor institution	17
	1. Factor 1 (possibility of a stay) is neutral.....	18
	2. Factor 2 (proximity of trial date to final written decision) favors institution.....	19
	3. Factor 3 (investment in parallel proceeding) favors institution.	20
	4. Factor 4 (overlap in issues) favors institution.....	20
	5. Factor 5 (overlap in parties) is neutral.	21

6.	Factor 6 (other circumstances) favors institution.	21
7.	The Board should institute under the Director’s <i>Fintiv</i> Guidance	21
IX.	IDENTIFICATION OF GROUNDS.....	22
X.	IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE....	23
A.	Ground 1: Claims 1-7 and 9-14 are obvious over Frerichs, Kawasaki, and Kauffman.	23
1.	Summary of Frerichs.....	23
2.	Summary of Kawasaki	24
3.	Summary of Kauffman	26
4.	Reasons to Combine Frerichs and Kawasaki.....	27
5.	Reasons to Combine Frerichs and Kauffman	30
6.	Claim 1	34
7.	Claim 2	53
8.	Claim 3	54
9.	Claim 4.....	55
10.	Claim 5.....	57
11.	Claim 6.....	58
12.	Claim 7.....	59
13.	Claim 9.....	60
14.	Claim 10.....	64
15.	Claim 11	64

16.	Claim 12	65
17.	Claim 13	69
18.	Claim 14	69
XI.	CONCLUSION.....	75
XII.	MANDATORY NOTICES	76
A.	Real Party-in-Interest	76
B.	Related Matters.....	76
C.	Lead and Back-up Counsel and Service Information	76
	CERTIFICATE OF WORD COUNT	78
	CERTIFICATE OF SERVICE	79

Petitioner's Exhibit List

Ex.1001	U.S. Patent No. 7,376,414
Ex.1002	Prosecution History of U.S. Patent No. 7,376,414
Ex.1003	Declaration of Henry Houh under 37 C.F.R. § 1.68
Ex.1004	U.S. Patent No. 6,684,249 to Frerichs et al. ("Frerichs")
Ex.1005	U.S. Patent No. 6,539,375 to Charles Kawasaki ("Kawasaki")
Ex.1006	U.S. Patent Pub. No. 2007/0083886 by Kauffman et al. ("Kauffman")
Ex.1007	U.S. Provisional Application No. 60/290,592
Ex.1008	[Reserved]
Ex.1009	<i>Curriculum Vitae</i> of Henry Houh
Ex.1010	Gallagher et al., "A Framework for Targeting Banner Advertising On the Internet," Proceedings of the Thirtieth Annual Hawaii International Conference on System Sciences, January 1997.
Ex.1011	Microsoft Computer Dictionary (5 th ed.) (excerpts)
Ex.1012	Complaint for Patent Infringement, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 6:21-cv-01245 (W.D. Tex. Dec. 1, 2021)
Ex.1013	First Amended Complaint for Patent Infringement, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 6:21-cv-01245 (W.D. Tex. Feb. 28, 2022)
Ex.1014	Notice of Voluntary Dismissal Without Prejudice, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 6:21-cv-01245 (W.D. Tex. Apr. 4, 2022)
Ex.1015	Complaint for Patent Infringement, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 6:22-cv-00357 (W.D. Tex. Apr. 4, 2022)

Ex.1016	First Amended Complaint for Patent Infringement, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 6:22-cv-00357 (W.D. Tex. May 9, 2022)
Ex.1017	Order Granting Agreed Motion to Transfer to the Northern District of California and Stay Pending Deadlines, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 6:22-cv-00357 (W.D. Tex. May 9, 2022)
Ex.1018	Federal Court Statistics
Ex.1019	U.S. Patent 5,978,841 to Louis Berger
Ex.1020	Technical Specifications RIM Wireless Handhelds https://web.archive.org/web/20000619041725/http://rim.net/products/handhelds/tech.html
Ex.1021	Nokia 9210 Communicator Nokia https://web.archive.org/web/20120708090016/http://press.nokia.com:80/2000/11/21/the-nokia-9210-communicator-heralds-the-dawn-of-mobile-multimedia/
Ex.1022	Ericsson R380 https://web.archive.org/web/20010216041714/http://www.geek.com/hwswrev/pda/ericr380/
Ex.1023	Prosecution History of U.S. Application No. 09/734,220
Ex.1024	U.S. Patent No. 6,266,664
Ex.1025	U.S. Patent No. 6,105,060
Ex.1026	Joint Case Management Statement, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 3:22-cv-04928 (N.D. Cal. Nov. 22, 2022)
Ex.1027	Civil Minutes, <i>Wildseed Mobile, LLC v. Google LLC et al.</i> , 3:22-cv-04928 (N.D. Cal. Nov. 29, 2022)

I. INTRODUCTION

U.S. Patent No. 7,376,414 (“the ’414 Patent,” Ex.1001) describes and claims well-known targeted advertising and streaming media techniques. Specifically, the ’414 Patent sends advertisements to a user, targeted to the user based on the content of the user’s messages, and caches streaming media content during the playback of a received advertisement. Ex.1001, claim 1. This claimed method, however, merely describes well-known techniques detailed in prior art before the ’414 Patent.

Accordingly, pursuant to 35 U.S.C. §§ 311, 314(a), and 37 C.F.R. § 42.100, Petitioner Google LLC respectfully requests that the Board review and cancel as unpatentable under (pre-AIA) 35 U.S.C. §103(a) claims 1-7 and 9-14 (hereinafter, the “Challenged Claims”) of the ’414 Patent.

II. GROUNDS FOR STANDING

Petitioner certifies that the ’414 Patent is eligible for IPR and Petitioner is not barred or estopped from requesting IPR challenging the claims. 37 C.F.R. § 42.104(a).

III. NOTE

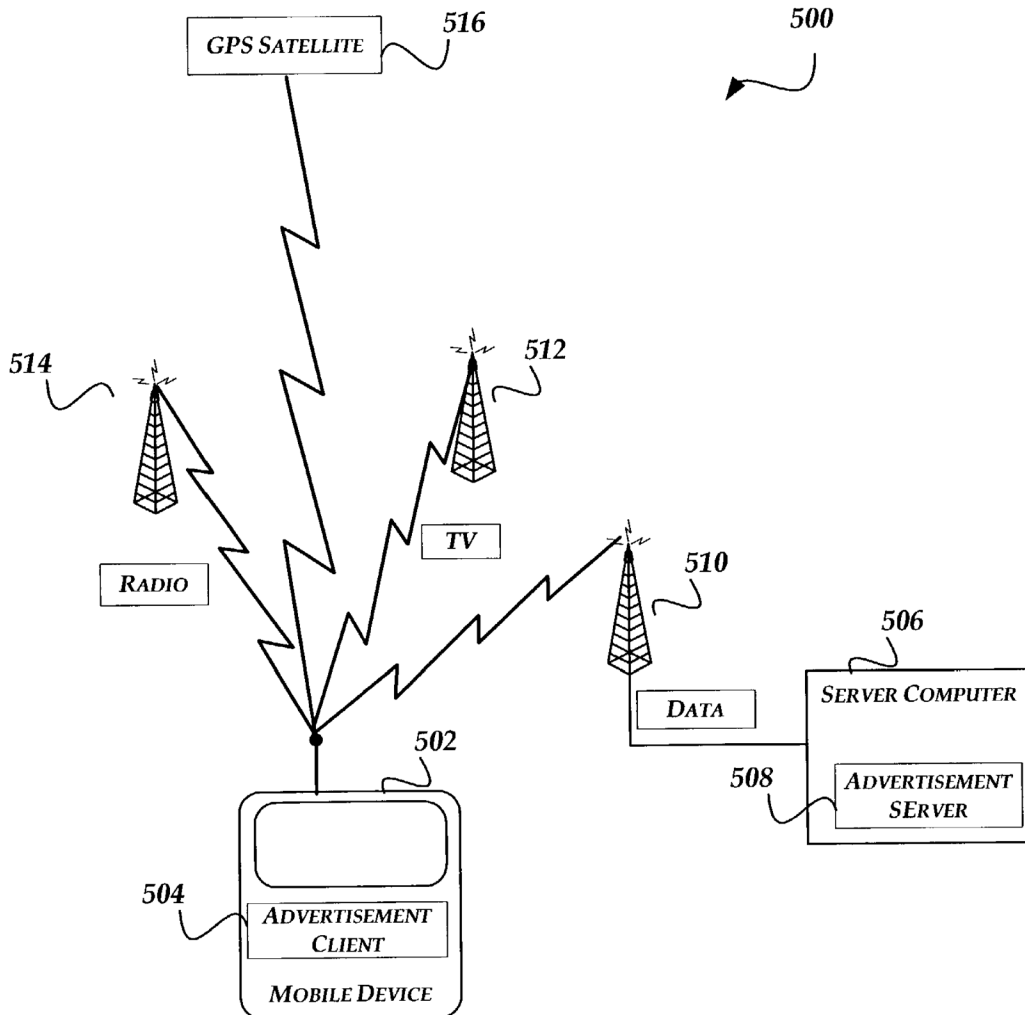
Petitioner cites to exhibits’ original page numbers. **Emphasis** in quoted material has been added. Claim terms are presented in *italics*.

IV. THE '414 PATENT

A. Summary of the '414 Patent

The '414 Patent “is directed to providing advertisements for playing on a mobile device based on previously provided information regarding the mobile device user.” Ex.1001, Abstract. The patent explains that the mobile device includes an “advertisement client” that “determines the information about the user for that particular mobile device and provides this information to [an] advertisement server.” *Id.*, 9:24-27. “The user’s information may include any combination of physical location, preference, user behavior and demographic information.” *Id.*, 9:28-30. The server uses this information “to determine which advertisements might be suitable for the mobile device user,” and then provides the mobile device with a suitable advertisement for insertion into streaming or broadcast content. *Id.*, Abstract, 9:12-15, 10:25-34.

The '414 Patent depicts in Figure 5 a “functional block diagram generally illustrating an overview of system 500 for inserting advertisements provided by advertisement server 506 into streamed or broadcast content playing on mobile device 502.” *Id.*, 9:12-15.



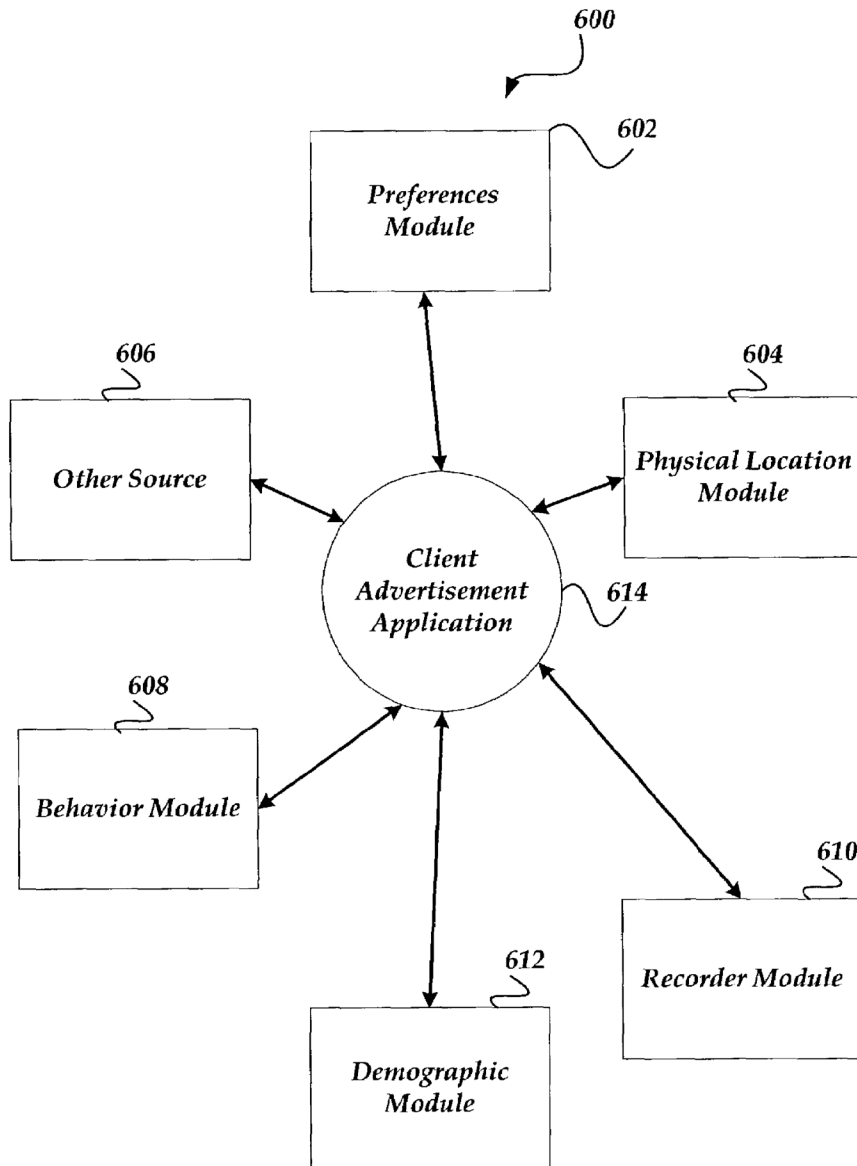
Ex.1001, Fig. 5

The “mobile device 502 is a mobile computing device” (*id.*, 9:18-20), and the ’414 Patent explains that the term mobile device may include “cellular telephones, smart phones, pagers” and other devices. *Id.*, 3:38-43.

The ’414 Patent continues and explains that “[a]dvertisement client 504 is located on mobile device 502 and determines the information about the user for that particular mobile device and provides this information to advertisement server

508 located on server computer 506.” *Id.*, 9:24-27. This “information may include any combination of physical location, preference, user behavior and demographic information.” *Id.*, 9:28-30. The ’414 Patent explains that “preferences for a user” can include various information; for example, “information desired to specify likes, dislikes, memberships, affiliations, and the like.” *Id.*, 9:48-57. A “user preference” can also “include a plurality of elements” and in one example, “a user preference for disco music circa 1980 has at least two elements, i.e., the type of music and the era.” *Id.*, 3:14-17.

A “functional block diagram for an exemplary client advertisement application 614” is depicted in Figure 6. *Id.*, 9:42-47.



Ex.1001, Fig. 6

The client advertisement application 614 “is in communication with several other modules that provide different types of information, which in total are employed to generate information regarding a user of the mobile device.” *Id.*, 9:48-51. For example, “[p]reference module 602 enables manual entry through a user

interface of preferences for a user.” *Id.*, 9:51-53.

In addition, “[b]ehavior module 608 enables the user’s behavior in using the mobile device to be determined such as, but not limited to, playing video games, listening to radio station, viewing television channels, participating in chat rooms, and communicating SMS messages.” *Id.*, 10:12-16. The ’414 Patent also explains that “other source module 606 enables other sources to be used to provide information regarding the user, e.g., a message from another user of another mobile device that identifies characteristics of the current user of the mobile device.” *Id.*, 10:18-22.

Also included in the client advertisement application 414 is “[r]ecorder module 610” which “enables an advertisement to be recorded and stored prior to playing on the mobile device. Also, recorder module 610 may be used to record content while an advertisement is playing and subsequently resuming the playing of the content from the point where the advertisement started playing.” *Id.*, 9:65-10:3.

Figure 7 of the ’414 Patent describes the server used in the described embodiments. For example, Figure 7 “illustrates a functional block diagram 700 for exemplary advertisement application server 706.” *Id.*, 10:25-31. Figure 8 then depicts “a flow chart that illustrates an overview 800 of the process for generating information regarding the user of a mobile device.” *Id.*, 10:25-31, 10:45-47.

The '414 Patent then describes Figure 9, which is a flow diagram “that illustrates an overview 900 of the process for playing advertisements that are determined to be related to information provided about the user of a mobile device.” *Id.*, 11:27-30. The process depicted in Figure 9 corresponds to certain aspects of challenged claim 1.

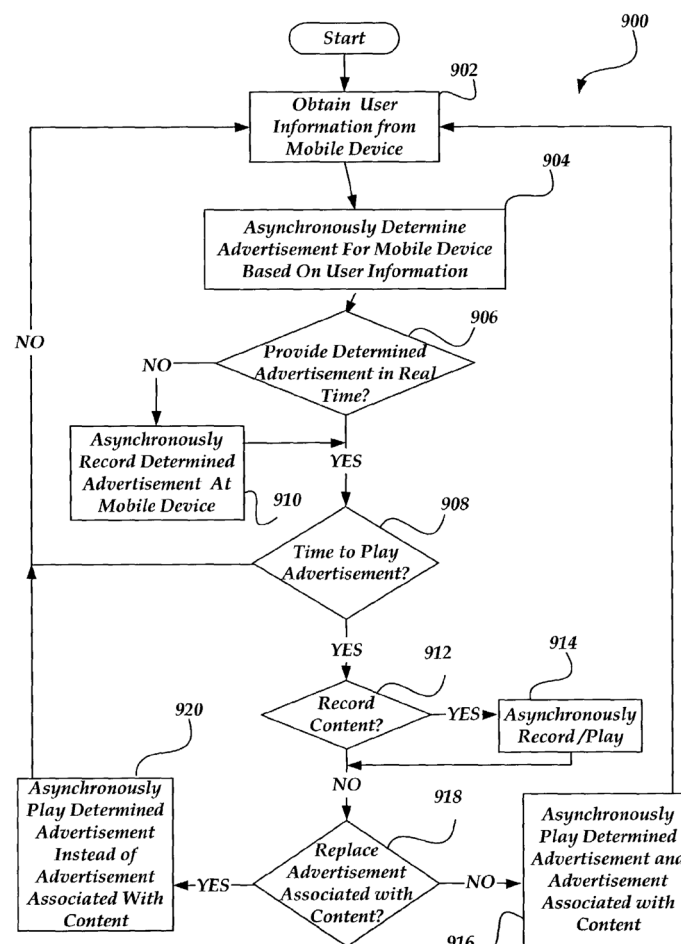


Fig.9

Ex.1001, Fig. 9

However, prior to the '414 Patent, it was well-known to POSITAs how to collect information about a user from the content of the user’s messages, and use

that information to target advertisements to the user. It was likewise well-known to pause the output of streaming media content and instead output a targeted advertisement, and to cache streaming media content while the targeted advertisement was output. Ex.1003, ¶¶32-41.

B. Prosecution History and Priority Date of the '414 Patent

The '414 Patent issued on May 20, 2008 from U.S. Patent Application No. 10/143,342 (“the '342 application”) filed on May 10, 2002. *See* Ex.1001. The '342 application claims the benefit of U.S. Provisional Application 60/290,592 (“the '592 provisional”) filed on May 11, 2001.

During prosecution, the Examiner repeatedly rejected the pending claims of the '342 application, finding the claims to be rendered obvious over various prior art references that do not include the prior art analyzed against the claims below. Ex.1002, pp. 280-288, 251-264, 220-233, 190-205, 173-175, 138-149, 104-119, 65-84.

After seven rejections and numerous amendments, the Examiner issued a notice of allowance, based on the subject matter requiring “providing information associated with a user of the cellular device to a server, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of the cellular device; and receiving from the server an advertisement to the cellular

device based on the provided information.” *Id.*, pp. 34-37, 28-32.

Although the ’342 application claims the benefit of the ’592 provisional, the challenged claims are not entitled to claim the benefit of the ’592 provisional application’s filing date, because the provisional does not provide written description support for any challenged claim. *See Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (“For a patent to claim priority from the filing date of its provisional application...the specification of the provisional must contain a written description of the invention” pursuant to 35 U.S.C. § 112 ¶ 1) (internal quotations and citations omitted). For instance, among other limitations, the provisional application (Ex.1007) does not support “*providing to a server, by the cellular device, information associated with a user of the cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device*” as recited in claim 1 — the subject matter that the examiner identified as allowable. Thus, the ’414 Patent’s earliest priority date is May 10, 2002. Regardless, the references applied in the Ground below are prior art even accepting the May 11, 2001 priority date of the ’592 provisional.

V. LEVEL OF ORDINARY SKILL IN THE ART

A POSITA on and before May 10, 2002 (or May 11, 2001) would have had a working knowledge of computer networking and distributed systems generally,

and multimedia streaming specifically. Such a POSITA would have had a bachelor's degree in computer science, computer engineering, or an equivalent, and two years of professional experience working with distributed multimedia systems. Lack of professional experience can be remedied by additional education, and vice versa. Ex.1003, ¶¶19-21.

VI. CLAIM CONSTRUCTION

In an IPR, claims are construed “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b). The Board only construes the claims to the extent necessary to resolve the underlying controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). Petitioner submits that for the purposes of this proceeding, all terms of the Challenged Claims should be given their plain and ordinary meaning, and no term requires specific construction.¹ Ex.1003, ¶42.

¹ Petitioner does not concede that any term in the challenged claims meets the statutory requirements of 35 U.S.C. § 112, or that the challenged claims recite patentable subject matter under 35 U.S.C. § 101.

VII. RELIEF REQUESTED AND THE REASONS FOR THE REQUESTED RELIEF

Petitioner asks that the Board institute a trial for *inter partes* review and cancel the challenged claims as unpatentable in view of the analysis below.

VIII. THE BOARD SHOULD INSTITUTE INTER PARTES REVIEW

A. The challenges presented in this petition are not cumulative to prosecution of the '414 Patent

The Board should not deny institution under § 325(d). None of the prior art asserted in the ground was presented to or considered by the Examiner during prosecution. Under the first part of the *Advanced Bionics* framework, the Board should not deny institution. IPR2019-01469, Paper 6 at 8-9 (PTAB Feb. 13, 2020) (precedential).

B. Discretionary denial under *General Plastic* is not appropriate

The '414 Patent has not been challenged in any prior IPR petition, so none of the *General Plastic* discretionary institution factors apply to this Petition. *See General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16 (PTAB Sept. 6, 2016) (Section II.B.4.i. precedential).

C. The *Fintiv* factors favor institution

The six factors considered for § 314 denial strongly favor institution. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential). On June 21, 2022, Director Vidal provided guidance on how the

Board should apply the *Fintiv* factors (“*Fintiv* Guidance”). The Director’s *Fintiv* Guidance and the *Fintiv* factors weigh in favor of institution.

The ’414 Patent was first asserted against Petitioner in the Western District of Texas in a complaint filed December 1, 2021. *See* Ex.1012. Patent Owner filed an amended complaint on February 28, 2022. *See* Ex.1013. Patent Owner then voluntarily dismissed the amended complaint on April 4, 2022. *See* Ex.1014.

On that same day, April 4, 2022, Patent Owner filed another complaint in the Western District of Texas asserting the ’414 Patent (and others). *See* Ex.1015. Patent Owner filed an amended complaint on May 9, 2022. *See* Ex.1016.

After Petitioner filed its answer, the parties subsequently agreed to transfer the case to the Northern District of California. The court ordered the transfer on August 29, 2022, thereby opening the case in the Northern District of California. *See* Ex.1017. Thus, the district court case remains at an early stage. Petitioner has diligently prepared and filed this petition.

1. Factor 1 (possibility of a stay) is neutral.

No party has yet requested a stay of the co-pending district court litigation pending the outcome of this IPR. Accordingly, the Board should not infer the outcome of such a motion. *See Dish Network L.L.C. v. Broadband iTV, Inc.*, IPR2020-01359, Paper 15 at 11 (PTAB Feb. 12, 2021) (“improper to speculate” what district court “might do regarding a motion to stay” when a stay had not yet

been requested). Without “specific evidence” of how the court would rule on any stay motion, this factor is neutral. *Sand Revolution II, LLC v. Cont’l Intermodal Grp.—Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative).

2. Factor 2 (proximity of trial date to final written decision) favors institution.

This factor favors institution and weighs strongly against discretionary denial.

As of the filing of the petition, the Northern District of California has adopted a schedule only through claim construction, and has not set a trial date. *See* Ex.1027.

Further, because of the uncertainties of court schedules, the PTAB weighs the median time-to-trial of the relevant court. *Fintiv* Guidance, pp. 8-9. Here, the median time-to-trial in the Northern District of California is 34.7 months. *See* Ex.1018. Based on these statistics, trial would occur approximately in June 2025 (as calculated from the case opening in the Northern District of California) or February 2025 (as calculated from the April 2022 complaint in the Western District of Texas). In either case, the Board’s Final Written Decision would issue well before any trial.

3. Factor 3 (investment in parallel proceeding) favors institution.

This factor, which focuses on work completed “at the time of the institution decision,” strongly favors institution. *Fintiv*, IPR2020-00019, Paper 11, 9–10. This factor is not about the total investment by the court and parties, but the investment “*in the merits of the invalidity positions.*” *Sand Revolution*, IPR2019-01393, Paper 24 at 10 (emphasis added). As of the filing of this Petition, the Northern District of California has adopted a scheduling order through claim construction, setting the claim construction hearing to July 14, 2023, which would be after an estimated June 2023 institution decision. *See* Ex.1027, Ex.1026; *PEAG*, IPR2020-01214, Paper 8 at 17 (minimal investment in the invalidity positions in the Petition weighs against discretionary denial); *see also Verizon Bus. Network Servs. Inc. v. Huawei Techs. Co. Ltd.*, IPR2020-01080, Paper 11 at 13-14 (Jan. 14, 2021) (finding “minimal” investment when parties had not submitted dispositive briefing on validity issues); *Fintiv*, IPR2020-00019, Paper 11 at 10 (“If, at the time of the institution decision, the district court has not issued orders related to the patent..., this fact weighs against exercising discretion to deny institution.”).

4. Factor 4 (overlap in issues) favors institution.

There is no present overlap of prior art issues due to the early stage of district court litigation. Although Petitioner served its preliminary invalidity contentions in the second Texas proceeding, no final invalidity contentions were

served. Moreover, the parties have proposed that Petitioner serve Invalidity Contentions according to Northern District of California Patent Local Rule 3-3 on March 3, 2023. Thus, at this time there is no overlap in issues between the district court and PTAB. Consequently, this factor favors institution.

5. Factor 5 (overlap in parties) is neutral.

Petitioner is a defendant in the litigation. That is true of most Petitioners in IPR proceedings. Accordingly, this factor should not be a basis for denying institution.

6. Factor 6 (other circumstances) favors institution.

The ground of unpatentability presented in the Petition is strong, which favors institution. *See Fintiv*, IPR2020-00019, Paper 11 at 14-15 (“[I]f the merits of a ground raised in the petition seem particularly strong on the preliminary record, this fact has favored institution.”). The Petition demonstrates that the prior art discloses the very features that the examiner found to be allowable over the art considered during prosecution.

7. The Board should institute under the Director’s *Fintiv* Guidance

The Director’s *Fintiv* Guidance strongly supports institution of this challenge. Under the *Fintiv* Guidance, the Board “will not deny institution of an IPR or PGR under *Fintiv* [] when a petition presents compelling evidence of unpatentability.” *Fintiv* Guidance, p. 9.

The Board should not deny institution because this Petition “presents compelling evidence of unpatentability” of claims 1-7 and 9-14. *See Fintiv* Guidance, p. 4 (“Compelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.”). For example, the Petition demonstrates that the prior art discloses the claim elements that the examiner found to be allowable over the art considered during prosecution. *See* Section IX.A. The teachings detailed below “would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence” and thus institution is warranted. *Fintiv* Guidance, p. 4.

IX. IDENTIFICATION OF GROUNDS

The patentability of claims 1-7 and 9-14 is challenged as follows:

No.	Ground
#1	Claims 1-7 and 9-14 are obvious under 35 U.S.C. § 103 over Frerichs in view of Kawasaki and further in view of Kauffman .

U.S. Patent No. 6,684,249 to Frerichs et al. (“Frerichs” or “Ex.1004”) was filed on May 26, 2000 and issued January 27, 2004, and is prior art under at least pre-AIA 35 U.S.C. § 102(e).

U.S. Patent No. 6,539,375 to Charles Kawasaki (“Kawasaki” or “Ex.1005”) was filed on August 4, 1999 and issued March 25, 2003, and is prior art under at

least pre-AIA 35 U.S.C. § 102(e).

U.S. Publication No. 2007/0083886 to Kauffman et al. (“Kauffman” or “Ex.1006”) was filed on December 11, 2006, claiming priority as a continuation to an application filed December 11, 2000, and published on April 12, 2007, and is prior art under at least pre-AIA 35 U.S.C. § 102(e).

X. IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE

A. Ground 1: Claims 1-7 and 9-14 are obvious over Frerichs, Kawasaki, and Kauffman.

1. Summary of Frerichs

Frerichs relates to “inserting advertisements into streaming audio.”

Ex.1004, Abstract. Frerichs describes a method which “includes transmitting audio data from a first server location to a client location.” *Id.* Frerichs notes that client devices may include “personal digital assistants, internet appliances, internet radio, cellular phones, and the like.” *Id.*, 1:16-20.

In Frerichs, audio data may “include a flag and audio content data.” *Id.*, Abstract. During playback, “the flag on the audio data” is identified and “an advertisement, which is based upon a user profile,” is inserted “into the audio data based upon the flag.” *Id.*, Abstract. Frerichs specifies the inserted advertisements are “**targeted**” as it explains that an “advertisement, which is one of a plurality of advertisements, is based upon a user profile to provide a targeted advertisement to

the user.” *Id.*, 2:15-17, 2:31-34. After receipt of the audio content data and targeted advertisement, “the audio content data comprising the advertisement” is output.

Id., Abstract.

Frerichs thus shows that, before the earliest priority date of the ’414 Patent, POSITAs were inserting targeted advertisements into streaming content.

2. Summary of Kawasaki

Kawasaki describes an “invention that provides for profiling a user of the Internet.” Ex.1005, Abstract. Kawasaki’s technique “includes scanning content information of an Internet user to generate unknown data and processing unknown data to determine its relevance to predefined categories of interest” to “form a profile of the user that may ultimately be used to target offers” including advertisements “to users based upon the profile.” *Id.*, Abstract.

Kawasaki describes “content information of an Internet user” as including sent and received e-mail messages. *Id.*, 4:1-5. To form a profile in Kawasaki, first, “content information of an Internet User is scanned to generate unknown data.” *Id.* at 2:63-66. Subsequently, “unknown data are processed to determine their relevance to predefined categories of interest” using what Kawasaki calls “Recognizers.” *Id.* at 2:66-3:1. In one example of Kawasaki, “if a golfing Recognizer 23 is loaded and the User views golf-related ... E-mail 12a ... the golfing Recognizer 23 returns a positive match for that Data Set 21.” *Id.*, 4:37-41. Once a positive match is returned,

Kawasaki explains “[a]nother element” of the invention, the “Profiler 26,” which “builds an aggregate statistical model, ‘Profile,’ of the User including quantitative analysis of the match, frequency, duration, age and other factors between unknown content reviewed by the User and the set of installed Recognizers 23.” *Id.*, 4:42-48. The Profile is output from the system and sent to an Offer Manager (e.g., an advertising server). *See id.*, Fig. 4.

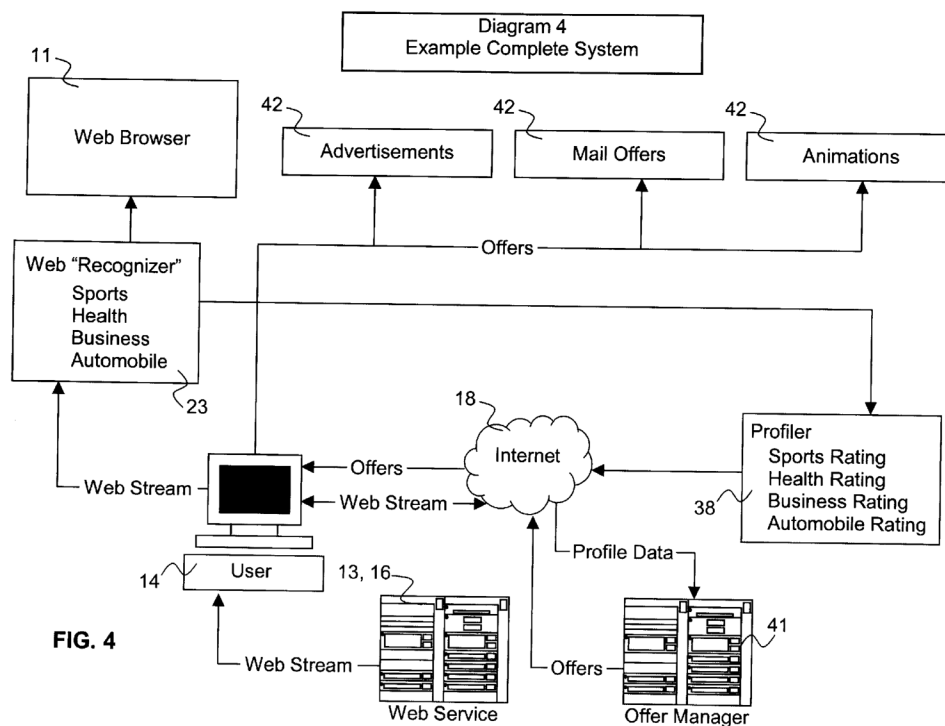


FIG. 4

Ex.1005, Fig. 4

Kawasaki thus teaches that, before the earliest claimed priority date of the '414 Patent, POSITAs knew that scanning user messaging content could be used to determine preferences of a user and effectively target advertisements to the user.

3. Summary of Kauffman

Kauffman relates to an “arrangement for inserting advertisement media into a streaming multimedia file.” Ex.1006, Abstract. Kauffman’s arrangement “uses a caching inserter including a first cache for storing a loaded advertisement file and a second cache for holding the streaming multimedia file that needs to be buffered as the advertisement file is sent to the end-user.” *Id.*, Abstract.

Kauffman explains its technique in more detail with reference to Figure 1, and in particular, the caching inserter 30, which may be located at an end user’s device, such as a set-top box. Ex.1003, ¶¶59-60. With respect to advertisements, Kauffman explains that “once caching inserter 30 has an advertisement file available (either stored, or available as a stream from the advertisement server), the incoming (requested) multimedia file destined for end-user 10 can be cached, and the advertisement multimedia file streamed in its place to end-user 10 in a seamless manner.” Ex.1006, ¶ 20.

Kauffman explains that receipt of the “multimedia file itself is not stopped at any point, but is continuously cached by caching inserter 30 as it is received from streaming media server 26.” *Id.*, ¶ 20; *see also* claim 17 (second cache having multimedia file at end-user location). Additionally, “[a]t the end of the advertisement file, the stored multimedia stream is played out and, for the duration of the stream, will continue to pass through a cache, since there will continue to be a time delay

between the incoming stream to caching inserter 30 and the outgoing stream to end-user 10 (the ‘delay’ being the length of the inserted advertisement).” *Id.*, ¶ 20.

Kauffman further explains that the “streaming multimedia file can merely be appended to the end of the advertisement, allowing the playing of the requested file to recommence in a seamless manner without further action required by caching inserter 30.” *Id.*, ¶ 20.

Kauffman thus teaches that, before the earliest claimed priority date of the ’414 Patent, POSITAs knew that one technique for inserting advertisements into streaming multimedia included stopping a streaming multimedia file and storing the multimedia file in a cache while outputting an advertisement file.

4. Reasons to Combine Frerichs and Kawasaki

A POSITA would have been motivated to combine the teachings of Frerichs and Kawasaki. Ex.1003, ¶¶69-75. At the time of the ’414 Patent, it would have been obvious, beneficial, and predictable to apply to Kawasaki’s teachings of profiling users based on scanning their received content information into Frerichs’ selection of an advertisement for a user. This combination would, for example, achieve the benefits expressly stated by Kawasaki of “provid[ing] a higher User response rate” for advertisements by improving “the match between User interests and Advertisers’ messages.” Ex.1005, 2:58-59, 2:48-51; Ex.1003, ¶69. That is, the combination of Kawasaki’s teachings with Frerichs would improve the targeted advertising in

Frerichs. Ex.1003, ¶69. Additionally, the combination would provide for the inclusion of “other information which can be used to provide a more desirable advertisement or information to the user” in Frerichs’ user profile, as Frerichs states. Ex.1004, 15:48-50.

As an initial matter, a POSITA, when considering the ’414 Patent, would have looked to the teachings of Frerichs and Kawasaki, and as such, both references are analogous art to the ’414 Patent. Ex.1003, ¶¶70-71. Both Frerichs and Kawasaki relate to targeted advertising techniques. The field of endeavor of the ’414 Patent is “inserting advertisements into broadcast content played on a mobile device.” Ex.1001, 1:15-17. Frerichs is analogous art at least because it relates to “inserting a targeted advertisement based upon a user profile through streaming audio.” Ex.1004, 1:10-13. Kawasaki is analogous art because it relates to targeting offers and “advertisements.” Ex.1005, 2:55-57, 1:25-29.

As addressed above, a POSITA would have been specifically motivated to incorporate Kawasaki’s profiling technique into Frerichs because the references provide an express teaching, suggestion, or motivation to combine the teachings. Frerichs teaches an advertisement “which has been selected based upon a user profile.” Ex.1004, 14:40-42. Frerichs describes some aspects of the user profile it contemplates, and it expressly notes that the “user profile information can also include any other information which can be used to provide a more desirable

advertisement or information to the user.” Ex.1004, 14:48-51. Thus, a POSITA reviewing Frerichs would have been expressly suggested or motivated to seek out other techniques for providing “user profile information” that provides “desirable advertisement[s]” to users. Ex.1003, ¶72.

Such techniques are described in detail in Kawasaki. Kawasaki provides a technique “to form a profile of the user that may ultimately be used to target offers to users based upon the profile” (Ex.1005, Abstract) and it seeks to “**improve the match between User interests and Advertisers’ messages** by transparently assessing the type of information that a User reviews over time.” Ex.1005, 2:47-51. Thus, a POSITA would have recognized Kawasaki as teaching a technique for providing user profile information that provides desirable advertisements to users. Guided by the suggestion in Frerichs to seek out such techniques that provide more desirable advertisements, a POSITA would have been motivated to combine the teachings of Frerichs and Kawasaki to generate user profile information for use in providing an advertisement, as taught by Frerichs, by scanning data received by a user, as taught by Kawasaki. Ex.1003, ¶73.

A POSITA would have had a reasonable expectation of success in combining the teachings of Frerichs and Kawasaki, and more specifically, in using Kawasaki’s techniques of scanning content received by a user to develop a user profile. Kawasaki contemplates applicability to a wide variety of client devices. For

example, with respect to the e-mail scanning example, Kawasaki notes that “Clients refers to any software loaded on desktop PCS, set top boxes and end-user display devices that display e-mail.” Ex.1005, 6:4-5. A POSITA would have recognized that cellular phones, like those in Frerichs, were “end-user display devices that display e-mail.” Kawasaki also notes that “commercially available” software is available to implement its techniques, and the Recognizers used to build profiles are “very small and compact.” *Id.*, 4:21-32. Kawasaki further describes that its invention “employs methods for scanning, analyzing and handling digital information content” as described in a related patent (U.S. Patent No. 6,266,664) which refers to “source code files” for implementing its techniques. *Id.*, 4:62-67. Thus, a POSITA would have recognized a reasonable expectation of success in applying Kawasaki’s teachings to the devices described in Frerichs. Ex.1003, ¶74.

Accordingly, a POSITA would have found it obvious to apply Kawasaki’s teachings to Frerichs’ methods because the references provide an explicit teaching, suggestion, or motivation to combine the techniques. Ex.1003, ¶¶69-75.

5. Reasons to Combine Frerichs and Kauffman

A POSITA would have been motivated to combine the teachings of Kauffman and Frerichs. Ex.1003, ¶¶76-87. At the time of the ’414 Patent, it would have been obvious, beneficial, and predictable to apply Kauffman’s teachings of recording streaming content while outputting an advertisement in place of the streaming

content with Frerichs’ teachings of providing streaming media content and advertisement content to a customer—for example, because it was well-known and desirable to store streaming content in a buffer while presenting an advertisement to provide for “advertisements ... to be inserted in streaming multimedia in a seamless fashion.” Ex.1006, ¶18.

As an initial matter, a POSITA, when considering the ’414 Patent, would have looked to the teachings of Kauffman. Ex.1003, ¶77. Kauffman is analogous art to the ’414 Patent, as it is within the field of endeavor of inserting targeted advertisements into streamed or broadcast content. Ex.1001, 3:52-55, 1:51-60; Ex.1006, Abstract (“inserting advertisement media”), ¶16 (“advertisements that are targeted”).

A POSITA would have been specifically motivated to incorporate Kauffman’s technique of pausing multimedia content and storing that paused multimedia content in a cache, while outputting an advertisement, because doing so would have been no more than the combination of known prior art elements according to known methods with a reasonable expectation of success. Ex.1003, ¶78. Additionally, combining Kauffman’s teachings with Frerichs’ methods would have been no more than the simple substitution of one known technique for another, and would have thus been obvious to a POSITA. *Id.*

Frerichs suggests that advertisements are played in the process of outputting

requested streaming media content, and that such advertisements are output between streaming media content. For example, Frerichs discloses a “method according to an embodiment” which includes steps of “10. Output first song through audio output device; 11. Output advertisement through audio output device; 12. Output second song through audio output device.” Ex.1004, 6:18-42. Frerichs also explicitly contemplates buffering an advertisement to “provide it for insertion into the streaming audio.” Ex.1004, 7:45-47; *see also* 14:54-15:6 (describing a technique for playing an advertisement while buffering content data). Kauffman explicitly discloses outputting advertisements in place of streaming media content, and augments Frerichs by specifically disclosing implementation details for how advertisements may be played in place of streaming media content. Specifically, Kauffman teaches caching streaming media content during the playback of an advertisement, so that the streaming media content can then be resumed after completion of the advertisement content, which is not explicitly taught by Frerichs. *See* Ex.1006, ¶ 24; Ex.1003, ¶79. Indeed, a POSITA would have recognized that Frerichs contemplates a wide variety of insertion techniques: “the method uses an insertion technique such as the one noted above, but can be others.” Ex.1004, 12:3-5. For example, Frerichs explains that in one example, an advertisement may be output at a desired time, and Kauffman teaches one technique for doing so. Ex.1003, ¶79.

Additionally, a POSITA would have recognized that caching paused streaming media content during the playback of an advertisement, as taught by Kauffman, would have been advantageous. Ex.1003, ¶80. Implementing the teachings of Kauffman would allow the paused content to be immediately resumed after the end of the advertisement’s playback by playing the content from the cache, without further delay caused by network retrieval of the streaming media content. This would have been consistent with a POSITA’s knowledge of similar caching and pre-loading techniques known in the relevant art, which explicitly touted advantages of improving response time to a user, and thus would have motivated a POSITA to incorporate Kauffman’s teachings. Ex.1003, ¶80; *see Zup v. Nash Mfg.*, 896 F.3d 1365, 1371 (Fed. Cir. 2018) (motivation to combine teachings may be found in “background knowledge, creativity, and common sense of the person of ordinary skill.”).

A POSITA would have also recognized that Kauffman’s techniques were applicable to Frerichs, given Kauffman’s acknowledgement that its techniques may be implemented at a client-side (e.g., in Frerichs’ cellular phone), and Kauffman’s teachings of providing a method for inserting advertisements “at arbitrary locations,” (Ex.1006, ¶1) consistent with Frerichs’ insertion of advertisements at a flagged location within streaming audio data. Ex.1003, ¶81.

A POSITA would have also recognized a reasonable expectation of success

in combining the teachings. Ex.1003, ¶¶82-86. Kauffman provides sufficient detail to instruct a POSITA regarding how to implement its teachings. Additionally, a POSITA would have recognized that Kauffman’s techniques were applicable to many types of computing devices, including those disclosed by Frerichs. For example, a cellular phone would have included sufficient processing power and memory to be able to cache advertisements and portions of streaming media content and selectively output the advertisements or streaming media content according to Kauffman’s teachings. Ex.1003, ¶¶82-86.

Accordingly, a POSITA would have found it obvious to apply Kauffman’s teachings to Frerichs’ system because the combination merely amounts to combining prior art elements according to known methods to yield predictable results, or simply substituting one known technique for another, and would have thus been obvious. Ex.1003, ¶¶76-87.

The following analysis shows how the combination of Frerichs, Kawasaki, and Kauffman renders claims 1-7 and 9-14 obvious.

6. Claim 1

[1.0] A method for playing content and advertisements on a cellular device, comprising:

To the extent the preamble is limiting, Frerichs teaches a “*method for playing content and advertisements on a cellular device*” because it describes a

method that “outputs the audio content data comprising the advertisement” and describes that its invention can be applied to devices “such as cellular phones.” Ex.1004, 2:13-19, 1:15-19; *see also* 3:52-54, 11:10-13. Frerichs also teaches that its client device receives streaming audio data “to then play the audio content.” *Id.*, 7:23-25, 4:37-38.

A POSITA would have understood that Frerichs’ method of outputting audio content data and advertisements on devices including cellular phones discloses, or at least renders obvious a “*method for playing content and advertisements on a cellular device.*” Ex.1003, ¶¶88-90.

[1.1.1] (a) autonomously providing to a server, by the cellular device, information associated with a user of the cellular device

The combined teachings of Frerichs and Kawasaki render this limitation obvious.

Frerichs teaches that its software “provides for targeted advertisements based upon a user profile.” Ex.1004, 9:39-54. Frerichs explains that the “user profile can be derived from a selected channel (e.g., jazz, rock blues, Japanese, French) and other factors, e.g., geography, user registration information (e.g., sex, age).” *Id.*, 2:31-37. Frerichs also states that “information” in the user profile “can also be derived from the stations being selected as well as use of such stations during the time of day.” *Id.*, 14:40-53, 15:40-52.

A POSITA would have understood Frerichs to teach “*autonomously providing to a server, by the cellular device, information associated with a user.*” Ex.1003, ¶¶91-99. This is because Frerichs teaches to a POSITA a process of data collection without user involvement. For example, a POSITA would have viewed “monitoring of user listening patterns” as indicating that the user’s listening patterns (“*information associated with a user*”) would be detected or monitored, and such information sent to a server (e.g., in Frerichs, “advertisement server 114”), without the user explicitly or manually providing his or her listening patterns (“*autonomously providing to a server*”). This is clear from the context of the sentence, as the disclosed monitoring is contrasted with “volunteered information” which would be provided manually. Ex.1004, 9:39-54; Ex.1003, ¶¶91-99.

To the extent Frerichs is considered to not explicitly teach “*autonomously providing*” information, Kawasaki does. Ex.1003, ¶¶100-110. Kawasaki teaches providing a profile associated with a user (“*information associated with a user*”) from the user’s device (“*providing ..., by the [] device*”) to an offer manager (depicted as a server) (“*to a server*”). For example, Kawasaki discloses a “Profiler” which “tracks and builds an aggregate statistical model, ‘Profile,’ of the User” which is “a prioritized and rated set of interest categories that is **automatically generated** for each User.” Ex.1005, 4:42-55. As detailed below, the profile in

Kawasaki is generated by scanning and analyzing a user's digital content, such as the user's e-mail messages. *Id.*, 4:1-5; Ex.1003, ¶¶111-124. Kawasaki's Profile "is the output from the system and can subsequently be used to make highly targeted Offers." Ex.1005, 4:42-55. As discussed above, a POSITA would have been motivated to combine the teachings of Frerichs and Kawasaki. Ex.1003, ¶¶69-75.

In another example, Kawasaki teaches that "content information of an Internet User" (e.g., e-mail content, *see* Ex.1005, 4:1-5) "is scanned to generate unknown data." Ex.1005, 2:63-66. This scanning may take place at "the client's computer." *Id.*, 2:63-66. Subsequently, as discussed above, the information is provided to the Recognizer and Profiler, and Kawasaki discloses that the profiling "may occur...remotely, for example, on a server installation." *Id.*, 3:10-17. Thus, in this example as well, Kawasaki teaches that the "unknown data" scanned from the user's content information ("*information associated with a user*") is provided "*to a server*" (the server performing the profiling). Ex.1003, ¶105.

Thus, the combined teachings of Frerichs and Kawasaki of collecting user information based on the stations selected by a user on the user's cellular phone and providing automatically collected and generated profile data or unknown data to a server, without user involvement, renders obvious "*autonomously providing to a server, by the cellular device, information associated with a user of the cellular device.*" Ex.1003, ¶¶91-110.

[1.1.2] the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device;

The combined teachings of Frerichs and Kawasaki render this limitation obvious. As detailed above, the combined teachings of Frerichs and Kawasaki teach sending a profile, or sending unknown data (“*information taken by the cellular device*”), from the cellular phone.

Kawasaki teaches that the profile is derived from messages received by the user of the device from a user of another device, and thus renders obvious that the profile (“*information*”) is derived, or “*taken*” “*from a message sent to the cellular device from another user of another cellular device*” as claimed. Ex.1003, ¶¶112-123. Specifically, Kawasaki teaches that “**content information of an Internet User** is scanned to **generate unknown data**. This step takes place at any number of locations: the client’s server, **the client’s computer** or at an Internet hub.” Ex.1005, 2:63-66. After scanning, Kawasaki teaches that the “unknown data are processed to determine their relevance to predefined categories of interest.” *Id.*, 2:66-3:1. Subsequently, “the method generates a match of the unknown data with the predefined categories to **form a profile of the User.**” *Id.*, 3:7-9. Kawasaki explains that the “above-described profiling may occur in real time or be delayed and **may occur on the client’s installation...**” *Id.*, 3:14-17.

Thus, by describing that content information is scanned at “the client’s computer”, which, in combination with the teachings of Frerichs, is a cellular phone, and by describing that a profile is built on the client’s installation, Kawasaki teaches that “*the information*” (the profile) is “*taken by the [] device*” as claimed. Ex.1003, ¶¶112-118.

Kawasaki also teaches that the profile is “*taken by the*” device “*from a message ... sent to the [] device from another user of another [] device*” as claimed. As detailed above, Kawasaki scans “content information of an Internet User.” *Id.*, 2:63-66. This content information includes “e-mail information” and Kawasaki explicitly states that it analyzes “sent and **received e-mail information**” and builds “Profiles based upon its content.” *Id.*, 5:61-67. For example, if a received e-mail includes golfing content, the user’s profile will reflect an interest in golf. Ex.1003, ¶114. Thus, Kawasaki details the analysis of received e-mails, which are messages “*sent to the [] device from another user of another [] device*” and thus Kawasaki teaches taking information (the profile) from “*a message sent to the [] device from another user of another [] device.*” Ex.1003 ¶¶112-118.

In combination with Frerichs and its teaching of a cellular phone, Kawasaki’s e-mail messages render obvious “*a message sent to the **cellular** device from another user of another **cellular** device*” because a POSITA, at the time of the ’414 Patent, would have recognized that cellular devices (e.g., the cellular phones

of Frerichs) were commonly used to send and receive e-mail, and that using a cellular device to send and receive e-mail would have been consistent with the disclosure of Kawasaki. Ex.1003, ¶¶119-121.

For example, Kawasaki contemplates a wide variety of client devices, including “end-user display devices that display e-mail.” Ex.1005, 6:4-5. At the time of the ’414 Patent, it was known that cellular phones were a common type of end-user display devices that display e-mail. For example, as Dr. Houh testifies, multiple cellular devices were available on the market, including the RIM 957, Nokia 9210 Communicator, and Ericsson R380 Smartphone, all of which connected to cellular networks and included e-mail functionality and cellular phone functionality, and thus would have been understood to be cellular phones (consistent with Frerichs) that were “end-user display devices that display e-mail” consistent with Kawasaki. Ex.1003, ¶¶119-121. Thus, given the explicit disclosure in Frerichs of a cellular phone, and the knowledge of a POSITA that cellular phones were “end-user display devices that display e-mail,” it would have been obvious that the combined Frerichs-Kawasaki system would scan “*a message sent to the cellular device from another user of another cellular device*” as recited. Ex.1003, ¶¶119-123.

As also discussed above with respect to limitation [1.1.1], Kawasaki contemplates that profiling may occur “on a server installation.” Ex.1005, 3:14-17.

This profiling is accomplished after “content information of an Internet User is scanned to generate unknown data” which may occur at “the client’s computer.” *Id.*, 2:63-66. In this example of Kawasaki, the combined teachings of Frerichs and Kawasaki render obvious that the generated “unknown data,” or “*information*,” is taken “*by the cellular device from a message sent to the cellular device from another user of another cellular device*” and is then provided to the server for “profiling...on a server installation.” Ex.1003, ¶122.

Accordingly, the combined teachings of Frerichs and Kawasaki of a cellular phone and scanning received e-mail messages, renders obvious “*the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device*” as claimed. Ex.1003, ¶¶111-124.

[1.1.3] the message identifying characteristics of the user of the cellular device;

The combined teachings of Frerichs and Kawasaki render this limitation obvious. As discussed above, the combined Frerichs-Kawasaki system renders obvious “*a message sent to the cellular device.*” Kawasaki teaches that received messages that are scanned include a “*message identifying characteristics of the user of the cellular device*” as it explains one example in which “**the User views golf-related Web Pages 13a, E-mail 12a...**” Ex.1005, 4:34-42. A POSITA would

have recognized that, because the user views golf-related e-mail, one identifying characteristic of the user is that she is interested in golf.² Ex.1003, ¶¶125-126.

This would have been consistent with a POSITA's knowledge at the time of the '414 Patent. For example, a POSITA would have recognized that message content, such as e-mail message content, was commonly relevant to or related to the recipient of the message. Ex.1003, ¶127. Thus, for example, the content of any given e-mail message received by a recipient commonly reflects an interest of the recipient. In other words, the content of an e-mail message received from a friend's cellular device would commonly be relevant to a topic of interest (e.g., golf) or an event of interest (e.g., a concert) to the recipient. Likewise, a recipient may receive a forwarded message from a friend's cellular device that originated from a company with advertising content describing products of potential interest to recipients. Consistent with the Frerichs-Kawasaki combination, the content of such received e-mail messages would "*identify[] characteristics of the user of the cellular device,*" for example, the message identifies that the recipient has an

² The '414 Patent states: "Preference module 602 enables manual entry through a user interface of preferences for a user. The user may enter any information desired to specify likes, dislikes, memberships, affiliations, and the like." Ex.1001, 9:51-55.

interest in the musical style of the concert performer, or the message identifies that the recipient has an interest in the products offered by the company in the forwarded message, or the message identifies the recipient's shopping habits. Ex.1003, ¶127.

Because Kawasaki discloses e-mail message content that identifies a characteristic of the user receiving that e-mail content, such as the user has an interest in golf, in light of Frerichs' teaching of a cellular phone, Frerichs and Kawasaki therefore render obvious "*the message identifying characteristics of the user of the cellular device.*" Ex.1003, ¶¶125-128.

[1.2] (b) receiving from the server, by the cellular device, at least one advertisement to be played on the cellular device, wherein the at least one received advertisement is determined by the server based at least in part on the provided information;

The combined teachings of Frerichs and Kawasaki render this limitation obvious. Ex.1003, ¶¶129-134.

Frerichs teaches that the client device (a cellular phone, as detailed above) receives advertisements from an advertisement server, as it discloses that "a specific advertisement can be sent to a specific client." Ex.1004, 4:44-57, *see also* 1:15-19 (client may be a cellular phone). Frerichs also teaches that the advertisement may be sent "from an advertisement server 114." *Id.* Thus, Frerichs

teaches “*receiving from the server, by the cellular device, at least one advertisement to be played on the cellular device.*” Ex.1003, ¶129.

The combined teachings of Frerichs and Kawasaki also render obvious that the advertisement is “*determined by the server based at least in part on the provided information.*” Ex.1003, ¶¶130-133. Specifically, Frerichs teaches that the advertisement is “*determined by the server based at least in part on the provided information*” as it discloses that an exemplary method includes a step of “Select advertisement from a user profile” and a subsequent step of “Transfer advertisement for insertion.” Ex.1004, 6:18-42. Frerichs also explains that “user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. Since the user is at a specific client location, the advertisement can be targeted to the user.” *Id.*, 14:48-52. Because the advertisement is selected from a user profile, which is the result of collecting information from the user’s device as described with reference to limitation [1.1], a POSITA would have interpreted Frerichs to teach determining an advertisement “*based at least in part on the provided information.*” Ex.1003, ¶¶130-131.

To the extent Frerichs’ description of selecting an advertisement from a user profile is considered to not explicitly teach determining an advertisement “*based at least in part on the provided information,*” Kawasaki confirms that selecting

advertisements based on information provided from a user device (e.g., the profile output by Kawasaki’s user device, or the data generated by the user device and subsequently processed by the server to form a user profile) was well-known in the art. Ex.1003, ¶¶132-133. Kawasaki explains in the abstract that the “profile of the user ... may ultimately be used to target offers to users based upon the profile.” Ex.1005, Abstract; *see also id.* at 4:54-56; 3:34-38.

Thus, the combined teachings of Frerichs and Kawasaki of receiving an advertisement selected from a user profile and targeting offers (advertisements) to users based upon a profile provided from the user’s device or generated at a server based on data provided from the user’s device, render obvious “*receiving from the server, by the cellular device, at least one advertisement to be played on the cellular device, wherein the at least one received advertisement is determined by the server based at least in part on the provided information.*” Ex.1003, ¶¶129-134.

[1.3.1] (c) if a determined time interval occurs, stopping playing of content, by the cellular device, and playing at least one of the determined advertisements, by the cellular device, the playing of the at least one determined advertisement comprising:

The combined teachings of Frerichs and Kauffman render this limitation obvious. Ex.1003, ¶¶135-146.

In discussing the output of streaming audio and advertisement, Frerichs teaches that the streaming audio includes a “flag...that indicates where an advertisement is to be inserted.” Ex.1004, 6:57-7:5. In more detail, Frerichs explains that “FIG. 3 is a simplified diagram of a data insertion method 300 according to an embodiment of the present invention....As shown, the method also provides a flag comprising advertisement indication and delay at the server location. The **flag is data that indicates where an advertisement is to be inserted**. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).” Ex.1004, 6:57-7:5; Ex.1003, ¶¶135-136.

In Frerichs, the “flag is data that indicates where an advertisement is to be inserted” and “often has other information such as the length of the advertisement.” Ex.1004, 7:1-5; *see also* 13:22-14:3. In the context of Frerichs, therefore, the flag indicates the time at which to locate, within streaming audio, the start of an advertisement, along with the length of the advertisement (e.g., 30 seconds). Ex.1003, ¶135. Frerichs also explains that the “method monitors the streaming audio for the flag. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data.” Ex.1004, 15:66-16:9.

The '414 Patent does not explicitly define what is meant by a “time interval.” The '414 Patent states, in one example, that “[i]f a determined time interval occurs, the playing of content by the mobile device is stopped while at least one determined advertisement is played on.” Ex.1001, 1:56-58. In another example, the '414 Patent describes “recording at least one determined advertisement on the mobile device for play back later, i.e., when the determined interval occurs.” *Id.*, 2:7-9. Additionally, the '414 Patent explains, with reference to Figure 9, that “a determination is made as to whether the determined advertisement is to be provided in real time (during a time interval scheduled for the playing of advertisements).” *Id.*, 11:38-41.

A POSITA would have recognized Frerichs’ “flag” that indicates where an advertisement is to be inserted, and its teaching of finding the flag, to disclose, or at least render obvious, that a “*determined time interval occurs*”, because locating Frerichs’ flag determines when to play an advertisement, consistent with the examples disclosed in the '414 Patent. Ex.1003, ¶¶135-138.

Frerichs then teaches playing the advertisement, as it states: “the streaming audio, which is **output**, includes first song 301, **advertisement 309**, and second song 305, which is output in a continuous manner.” Ex.1004, 16:10-23; Ex.1003, ¶139.

While Frerichs therefore teaches “*playing at least one of the determined advertisements, by the cellular device*” when “*a determined time interval occurs*” (e.g., after detection of the flag), to the extent Frerichs does not explicitly disclose “*stopping playing of the content, by the cellular device*” as recited, this would have been obvious to a POSITA, as confirmed by Kauffman. Ex.1003, ¶¶140-145. Indeed, stopping playback of content while playing an advertisement was well-known in the art even before streaming media. Ex.1003, ¶141. As Dr. Houh explains, prior to the advent of streaming, it was known to pause or stop the playback of content, play an advertisement, and then resume the content from where the content was stopped. As one example, TV networks frequently broadcast movies, which are not made with deliberate breaks for commercial advertisements. During the broadcast of such a movie, the movie is paused at a specific location, one or more advertisements are output, and then the movie is resumed from the paused location, so that the viewer (the end user) does not miss any movie content. Ex.1003, ¶141.

Additionally, Kauffman explicitly teaches that, during play-out of an advertisement at a client device, content is stopped by the client device, and thus the combined Frerichs-Kauffman teachings render obvious “*stopping playing of content, by the cellular device, and playing at least one of the determined advertisements.*” Ex.1003, ¶¶142-143. Specifically, Kauffman teaches that, when

an advertisement file is available, the multimedia file (i.e., “*content*”) is cached at the client device, and in its place, the advertisement file (“*the determined advertisement*”) is streamed (“*play[ed]*”) to the end-user: “once caching inserter 30 has an advertisement file available (either stored, or available as a stream from the advertisement server), **the incoming (requested) multimedia file destined for end-user 10 can be cached, and the advertisement multimedia file streamed in its place to end-user 10** in a seamless manner.” Ex.1006, ¶20. By disclosing that the “advertisement multimedia file” is “streamed” in place of “the incoming (requested) multimedia file”, Kauffman teaches that the “*content*” (the requested multimedia file) is “*stopp[ed]*” and the advertisement is instead played (“*playing at least one of the determined advertisements*”) as claimed. Ex.1003, ¶¶142-143.

Thus, the combined teachings of Frerichs and Kauffman of playing advertisements on a cellular phone based on an advertisement flag and playing an advertisement file in place of multimedia content, render obvious “*if a determined time interval occurs, stopping playing of content, by the cellular device, and playing at least one of the determined advertisements, by the cellular device, the playing of the at least one determined advertisement comprising.*” Ex.1003, ¶¶135-146.

[1.3.2] recording, by the cellular device, the content which playing was stopped, while the at least one determined advertisement is playing; and

The combined teachings of Frerichs and Kauffman render this limitation obvious. Ex.1003, ¶¶147-153. Kauffman discloses that, while an advertisement is played to the end-user (“*while the at least one determined advertisement is playing*”), the multimedia file (“*the content*”) is cached (“*recording*”), as it discloses that “the incoming (requested) multimedia file destined for end-user 10 can be cached, and the advertisement multimedia file streamed in its place to end-user 10 in a seamless manner.” Ex.1006, ¶20. Kauffman further states that a **“second cache 62 is used to store the incoming multimedia stream, designated as stream MM, where as discussed above, cache 62 is used to store incoming stream MM once advertisement stream A has begun to be ‘played out’ toward end-user 10...”** *Id.*, ¶24.

Kauffman additionally teaches that when “insertion of advertising...is desired, **the video stream is stored/buffered...**and the advertisement is played.” *Id.*, ¶7. A POSITA would have recognized Kauffman’s description of **storing** the incoming multimedia stream during the advertisement playback to correspond to “*recording...the content which playing was stopped*” as recited. Ex.1003, ¶¶147-149.

Kauffman discloses that this process of caching the multimedia content while playing an advertisement is performed by a caching inserter, and teaches that the caching inserter and cache may be located at a client device, as it states that the

“advertisement cache could be part of a set-top box at the end-user location.”

Ex.1006, ¶9; *see also* claims 2, 12, 17.³ The caching inserter also “is capable of...caching and then controlling the sending out of the cached multimedia files” as well, which teaches “*recording, by the cellular device*” as recited in light of Frerichs’ teachings of a cellular phone. Ex.1003, ¶¶150-152.

Thus, the combined teachings of Frerichs and Kauffman of storing multimedia content in a client-side cache while an advertisement is playing and cellular phones, render obvious “*recording, by the cellular device, the content which playing was stopped, while the at least one determined advertisement is playing.*” Ex.1003, ¶¶147-153.

[1.3.3] *when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content, by the cellular device, from where the stopping of the playing of the content occurred, using the recorded content.*

The combined teachings of Frerichs and Kauffman render this limitation obvious. Ex.1003, ¶¶154-156. Kauffman teaches that, at the end of an

³ The claims of Kauffman describe an arrangement with a “first cache” storing an advertisement and “second cache” storing a multimedia file (claim 2) “disposed at a local point of presence” (claim 12) which may be “at an end-user location” (claim 17). Ex.1003, ¶150; *see also* Ex.1023, claims 1, 12, 17.

advertisement, the multimedia stream that was originally destined for the end-user is played out again (i.e., recommenced), as it discloses that “[a]t the end of the advertisement file, the stored multimedia stream is played out and, for the duration of the stream, will continue to pass through a cache, since there will continue to be a time delay between the incoming stream to caching inserter 30 and the outgoing stream to end-user 10 (the “delay” being the length of the inserted advertisement)....” Ex.1006, ¶20. Kauffman further teaches that “the streaming multimedia file can merely be appended to the end of the advertisement, **allowing the playing of the requested file to recommence in a seamless manner....**” *Id.*; Ex.1003, ¶154.

Kauffman also explains that “until a full advertisement file is loaded in first cache 60, **multimedia stream MM can be played coupled in real time to end-user 10.**” Ex.1006, ¶24. However, after an advertisement is fully received, “multimedia stream MM will begin to be stored in second cache 62.” *Id.* Subsequently, after playout of the advertisement and when “the advertisement has been reached” then “cached multimedia stream [is] sent to end-user 10” again. *Id.*; Ex.1003, ¶¶155-156.

That is, Kauffman teaches that, after an advertisement is complete (“*when the playing of the at least one determined advertisement is completed*”), the multimedia file that was stored in the cache during the playout of the advertisement

is sent to the end-user from the stopped location (“*resuming the playing of the stopped content...from where the stopping of the playing of the content occurred, using the recorded content*”). In combination with Frerichs’ teaching of a cellular phone for playing content and advertisements, Kauffman and Frerichs thus render obvious this limitation. Ex.1003, ¶¶154-156.

The combined teachings of Frerichs, Kawasaki, and Kauffman accordingly render obvious each and every limitation of claim 1. Ex.1003, ¶¶88-156.

7. Claim 2

[2.0] *The method of claim 1, wherein the provided information additionally includes at least one of the group consisting of a preference of a user of the cellular device, a demographic data of the cellular device, content played on the cellular device, or a geographic location of the cellular device.*

As detailed above in the analysis of limitation [1.1.1], Frerichs teaches that information is provided for inclusion in the user profile, and that the information is provided from the cellular phone and may be “derived from the stations being selected as well as **use of such stations during the time of day.**” Ex.1004, 15:40-52.

The “use of such stations during the time of day” as disclosed by Frerichs corresponds to the recited “*preference of a user of the cellular device*”, for example, because such information would indicate that the user prefers to listen to a given station at a certain time of day. Ex.1003, ¶¶157-158. Alternatively, this

disclosure of Frerichs also corresponds to the recited “*content played on the cellular device*”, for example, the particular radio station played on the cellular phone. Ex.1003, ¶¶157-158. Thus, Frerichs’ teaching of information in the profile that is derived from the use of stations at a certain time of day renders obvious “*the provided information additionally includes at least one of the group consisting of a preference of a user of the cellular device...[or] content played on the cellular device.*” Ex.1003, ¶¶157-159. Claim 2 is thus obvious over the combination of Frerichs, Kawasaki, and Kauffman. *See Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 582 F.3d 1288, 1298 (Fed. Cir. 2009) (claim written in Markush form is disclosed by prior art if one alternative in the group is found in the prior art).

8. Claim 3

[3.0] *The method of claim 2 wherein the provided information additionally includes at least one selected from the group consisting of a game played on the cellular device, a radio station broadcast received by the cellular device, or a television station broadcast received by the cellular device.*

As detailed above, Frerichs teaches that the information provided from the cellular device and included within the profile may be “**derived from the stations being selected** as well as use of such stations during the time of day.” Ex.1004, 15:40-52. In Frerichs, the “stations being selected” are radio stations: “a plurality of content servers 105, each corresponding to a **radio station** with call letter, e.g., BBC, WKRZ, KQED, KGO.” *Id.*, 4:19-22. Further, Frerichs “generally relates to

techniques for broadcasting information through a wide area network of computers.” *Id.*, 1:9-11; Ex.1003, ¶¶160-161.

Thus, Frerichs’ teaching of obtaining information on the stations being selected, which stations are radio stations broadcasting information, renders obvious “*the provided information additionally includes...a radio station broadcast received by the cellular device.*” Ex.1003, ¶¶160-162. Claim 3 is thus obvious over the combination of Frerichs, Kawasaki, and Kauffman. *See Fresenius*, 582 F.3d at 1298.

9. Claim 4

[4.0] *The method of claim 1, wherein the playing of at least one determined advertisement further comprises: (a) receiving from the server, by the cellular device, the at least one determined advertisement prior to the playing of the at least one determined advertisement; and*

As detailed above in the analysis of limitation [1.3.1], the combined teachings of Frerichs and Kauffman render obvious “*playing of at least one determined advertisement.*” Ex.1003, ¶¶163.

Frerichs describes one “method according to an embodiment of the present invention” that includes 13 steps. Ex.1004, 6:18-42. Step 6 of Frerichs’ method includes “Transfer advertisement for insertion” and a subsequent step, step 11, is “Output advertisement through audio output device.” *Id.*

In the context of this method, to “transfer” means to send from the server to the client, as indicated by step 4 of the method (“from server location to client location”), such that the client receives the advertisement (“*receiving, from the server, by the cellular device, the at least one determined advertisement*”).

Ex.1003, ¶¶164-165. Further, the transferring step, step 6, occurs before step 11, which is to output or play the advertisement transferred from the server to the client (“*prior to the playing of the at least one determined advertisement*”). *Id.*

Thus, the combined teachings of Frerichs and Kauffman of transferring an advertisement to the client, a cellular phone, before outputting the advertisement renders obvious “*receiving from the server, by the cellular device, the at least one determined advertisement prior to the playing of the at least one determined advertisement.*” Ex.1003, ¶¶163-166.

[4.1] (b) *recording, by the cellular device, at least one of the at least one determined advertisement on the cellular device for play back when the determined time interval occurs.*

Frerichs teaches that, before the advertisement is played, the method “retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location.” Ex.1004, 7:41-43. A POSITA would have recognized that, for the advertisement to be retrieved from storage at the client location (the cellular phone), the advertisement was stored at the client location (“*recording, by the cellular device, at least one of*

the at least one determined advertisement on the cellular device”). Ex.1003, ¶¶167-168. Further, because in step 11 the advertisement is output, Frerichs teaches that the advertisement is recorded “*for play back when the determined time interval occurs.*” *Id.*

To the extent this is not an explicit teaching of “*recording...at least one of the at least one determined advertisement,*” Kauffman explicitly teaches that its caching inserter 30, which is located at a client device, includes “a first cache 60 used to **store an incoming specific advertisement file**” (Ex.1006, ¶24) and thus teaches “*recording*” as recited. Ex.1003, ¶169.

Thus, the combined teachings of Frerichs and Kauffman of retrieving stored advertisements for playback render obvious “*recording, by the cellular device, at least one of the at least one determined advertisement on the cellular device for play back when the determined time interval occurs.*” Ex.1003, ¶¶167-170.

10. Claim 5

[5.0] *The method of claim 1, further comprising employing the cellular device to receive the content as a stream of content.*

Frerichs teaches that audio information “is converted into a **digital streaming format** for transmission through the wide area network of computers.” Ex.1004, 7:15-17. Frerichs further teaches that the “audio data...is provided through streaming media software” and the “streaming media software provides

the audio data to clients which request a connection to the audio data” and does so by sending “the encoded audio to the client as **a sequence of data packets**. The client receives the packets and can decode the packets to then play the audio content.” *Id.*, 7:17-25; *see also* Abstract (“streaming audio”), 2:12-13 (“streaming audio output”), 2:21-23. A POSITA would have recognized Frerichs’ description of sending audio as a sequence of data packets to teach that the cellular device receives “*a stream of content*” as recited, based on dictionary definitions of the term “stream” and “streaming.” Ex.1003, ¶172. Thus, Frerichs’ teaching of a digital streaming format for transmission and the client’s receipt of a sequence of data packets renders obvious “*employing the cellular device to receive the content as a stream of content.*” Ex.1003, ¶¶171-173.

11. Claim 6

[6.0] *The method of claim 1, further comprising receiving the content as a broadcast of content for playing on the cellular device.*

The ’414 Patent explains that the “term ‘broadcast’ includes but is not limited to commercial and non-commercial radio and television stations, Internet radio and the like.” Ex.1001, 3:11-14. Consistent with this definition, Frerichs teaches that its invention “generally relates to techniques for broadcasting information through a wide area network of computers” and Frerichs also explicitly discloses broadcasting radio stations: “the network is also coupled to a

plurality of content server 105, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO.” Ex.1004, 1:8-10, 7:6-8; Ex.1003, ¶¶174-175.

Thus, by describing the broadcasting of content, including radio stations, to the client devices (including cellular phones), Frerichs renders obvious “*receiving the content as a broadcast of content for playing on the cellular device.*” Ex.1003, ¶¶174-176.

12. Claim 7

[7.0] The method of claim 1, further comprising employing the cellular device to receive a stream for the at least one determined advertisement.

Frerichs teaches that “a specific advertisement can be sent to a specific client, where the **advertisement is carried by the streaming media.**” Ex.1004, 4:54-56. Frerichs also teaches that “information such as advertisements can be inserted into the streaming audio.” *Id.*, 4:44-46. Thus, Frerichs’ cellular phone receives “*a stream for the at least one determined advertisement.*” Ex.1003, ¶177.

To the extent this is not considered an explicit teaching of a cellular phone receiving a “*stream for the at least one determined advertisement,*” Kauffman discloses that its first cache, at the client device, is “used to store an incoming specific advertisement file, **designated as stream A**, from advertisement content server 60” and thus teaches that the advertisement is received as a “*stream.*”

Ex.1006, ¶24, *see also* ¶20 (“advertisement file...available as a stream from the advertisement server”); Ex.1003, ¶178.

Thus, Frerichs alone, or in view of Kauffman’s teachings, renders obvious “*employing the cellular device to receive a stream for the at least one determined advertisement.*” Ex.1003, ¶¶177-179.

13. Claim 9

[9.0] A cellular device, comprising:

Frerichs teaches that its “invention can be applied to other computing devices, such as cellular phones” Ex.1004, 1:8-20; *see also* 2:13-20 (“invention also can be applied to...**cellular phones**”), 3:28-32, 3:33-54; 10:19-24; 11:10-13, 12:57-60. Thus, Frerichs’ teaching of client devices including cellular phones renders obvious a “*cellular device.*” Ex.1003, ¶¶180-181.

[9.1] (a) a memory for storing logical instructions;

In Figure 2, Frerichs shows a “simplified diagram of a computing device for processing streaming audio information.” Ex.1004, 4:58-60. Frerichs further provides in Figure 2A “an illustration of basic subsystems in computer system 210 of FIG. 2.” *Id.*, 5:34-35.

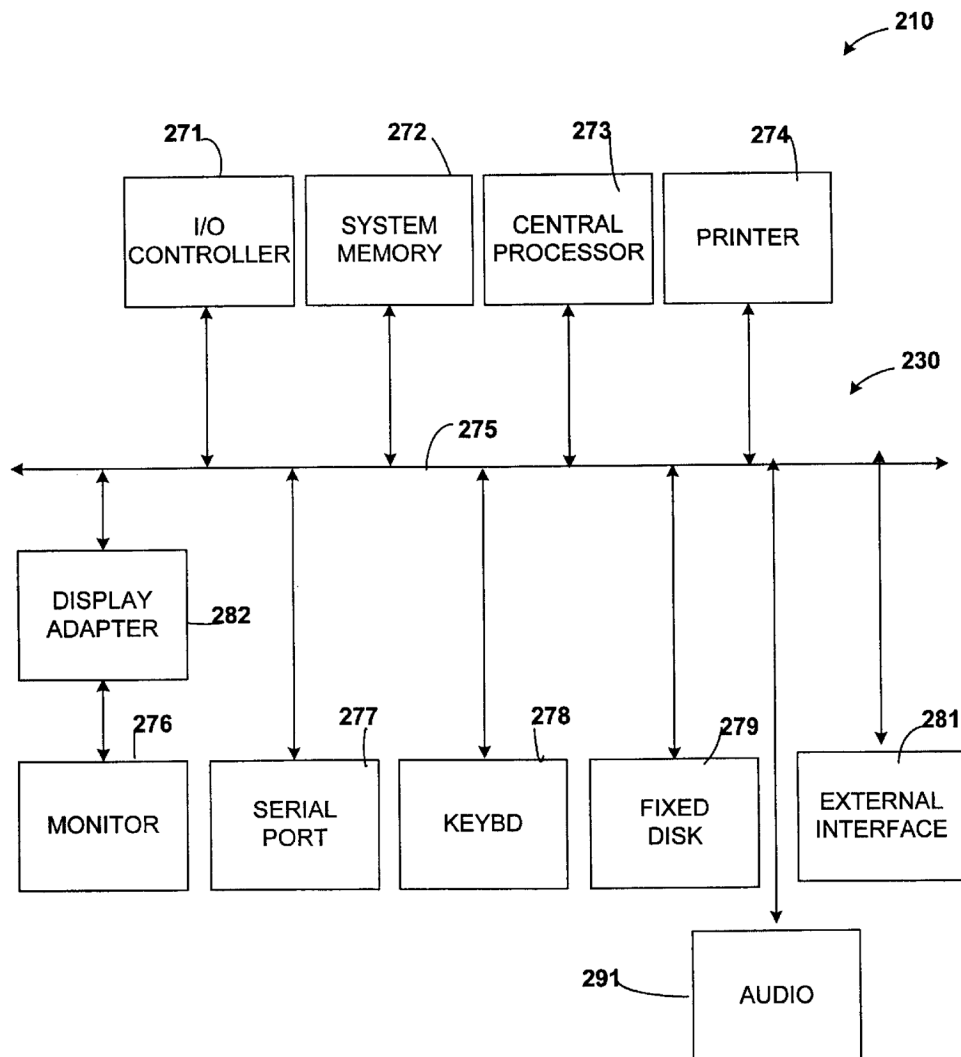


FIG. 2A

Ex.1004, Fig. 2A

The computer includes “system memory 272” and “fixed disk 279.” *Id.*, FIG. 2A. These components are connected “via system bus” 275 to “central processor 273.” *Id.*, 5:38-39. Frerichs explains that this interconnection “allows central processor 273 to communicate with each subsystem and to control **the execution of instructions from system memory 272 or the fixed disk 279...**”

and thus teaches that the memory or disk stores instructions. *Id.*, 5:48-52; *see also* 5:55-61 (“System memory, and the fixed disk are examples of tangible media for **storage of computer programs....**”); Ex.1003, ¶¶182-184.

Thus, Frerichs’ description of system memory 272 and fixed disk 279 renders obvious “*a memory for storing logical instructions.*” Ex.1003, ¶¶182-185.

[9.2] (b) *a wireless interface unit for sending and receiving data; and*

Frerichs discloses that the computing devices used in its invention may be “coupled to the Internet in a wireless manner.” Ex.1004, 3:49-52. This teaches, to a POSITA, that Frerichs’ computing devices, such as its cellular phones, include “*a wireless interface unit for sending and receiving data*” so that the devices may be coupled to the Internet wirelessly. Ex.1003, ¶¶186-187. Additionally, Frerichs’ disclosure of cellular phones also teaches “*a wireless interface unit for sending and receiving data*” because a POSITA would have recognized that cellular phones at the time of the ’414 Patent included wireless transceivers (e.g., CDMA or GSM transceivers) to communicate over a cellular network. Ex.1003, ¶¶188, 121. Thus, Frerichs renders obvious “*a wireless interface unit for sending and receiving data.*” Ex.1003, ¶¶186-189.

[9.3] (c) *a processor for executing the logical instructions stored in the memory, the execution of the logical instructions causing actions to be performed, including:*

As detailed above in the analysis of limitation [9.1], Frerichs shows components of a computer in Figure 2A. This computer includes “central processor 273” which executes instructions from the memory. Ex.1004, 5:48-53 (“The interconnection via system bus allows central processor 273 to communicate with each subsystem and to control the **execution of instructions** from system memory 272 or the fixed disk 279...”); 4:1-5 (“software processes executing on the machines”). Thus, Frerichs’ description of central processor 273 renders obvious “*a processor for executing the logical instructions stored in the memory, the execution of the logical instructions causing actions to be performed.*” Ex.1003, ¶¶190-192. The “*actions to be performed*” recited in the limitations that follow are rendered obvious by the combined teachings of Frerichs, Kawasaki, and Kauffman. Ex.1003, ¶193.

[9.4] (i) *autonomously providing to a server information associated with a user of the cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of the cellular device;*

See limitations [1.1.1]–[1.1.3]. Ex.1003, ¶194.

[9.5] (ii) *receiving from the server at least one advertisement, wherein the at least one received advertisement is determined by the server based at least in part on the provided information;*

See limitation [1.2]. Ex.1003, ¶195.

[9.6.1] (iii) if a determined time interval occurs, stopping playing of content, and playing the at least one determined advertisement, the playing of the at least one determined advertisement comprising:

See limitation [1.3.1]. Ex.1003, ¶196.

[9.6.2] recording the content which playing was stopped while the at least one determined advertisement is playing; and

See limitation [1.3.2]. Ex.1003, ¶197.

[9.6.3] when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred, using the recorded content.

See limitation [1.3.3]. Ex.1003, ¶198.

14. Claim 10

[10.0] The cellular device of claim 9, wherein the provided information additionally includes at least one from the group consisting of a user preference of the cellular device, a user demographic of the cellular device, a user behavior of the cellular device, content played on the cellular device, or a geographic location of the cellular device.

See limitation [2.0]. Ex.1003, ¶199.

15. Claim 11

[11.0] The cellular device of claim 9, wherein the playing of at least one determined advertisement further comprises: (a) receiving from the server the at least one determined advertisement prior to the playing of the at least one determined advertisement; and

See limitation [4.0]. Ex.1003, ¶200.

[11.1] (b) recording the at least one determined advertisement on the cellular device for play back if the determined time interval occurs.

See limitation [4.1]. Ex.1003, ¶201.

16. Claim 12

[12.0] *An article of manufacture comprising:*

To the extent the preamble is limiting, Frerichs teaches an “*article of manufacture*” in the computing device depicted in Figures 2 and 2A. *See also* Ex.1004, 4:58-6:3; Ex.1003, ¶202.

[12.1] *a storage medium; and*

Frerichs teaches that the computer system in Figure 2A includes “system memory 272” and “fixed disk 279” which are “examples of tangible media for storage of computer programs.” Ex.1004, 5:48-61. Frerichs teaches multiple examples of storage media, such as “floppy disks, removable hard disks, optical storage media” and “semiconductor memories.” Ex.1004, 5:55-61. Thus, Frerichs renders obvious “*a storage medium.*” Ex.1003, ¶203.

[12.2] *a plurality of programming instructions stored on the storage medium and adapted to instantiate a client for playing content and advertisements on cellular devices, the client configured to cause actions to be performed, the actions including*

As detailed above in the analysis of limitation [12.1], the storage medium in Frerichs stores “computer programs” which correspond to “*a plurality of programming instructions stored on the storage medium.*” Ex.1004, 5:55-61; *see also* 5:48-52 (“execution of instructions from system memory 272 or the fixed disk 279”); Ex.1003, ¶204.

Frerichs further teaches that the instructions are used by a client, such as a cellular phone. For example, Frerichs describes a “client unit 112” and details that the invention “can be applied to other types of client devices such as...cellular phones.” Ex.1004, 3:42-54, 3:28-32. Thus, Frerichs teaches “*cellular devices*” acting as “*a client*”. Ex.1003, ¶205.

Frerichs also teaches that the audio tuning server disseminates information “to client devices” and that the concept of a client refers to “software processes executing on the machines,” and further, that a client “requests the information.” Ex.1004, 3:66-4:11. Thus, a POSITA would have recognized that Frerichs teaches software (i.e., “*programming instructions*”) executed by a machine (e.g., a cellular phone) to cause the cellular phone to act as a client device. Ex.1003, ¶206. Frerichs therefore renders obvious “*programming instructions stored on the storage medium and adapted to instantiate a client...on cellular devices.*” *Id.*

Frerichs also teaches that the client is “*for playing content and advertisements*” as detailed in the analysis of limitation [1.0], as it discloses a method that “outputs the audio content data comprising the advertisement.” Ex.1004, 3:13-19; Ex.1003, ¶207.

Thus, Frerichs’ teaching of computer programs, a cellular phone acting as a client device, and outputting audio content data and advertisements, renders obvious “*a plurality of programming instructions stored on the storage medium*

and adapted to instantiate a client for playing content and advertisements on cellular devices, the client configured to cause actions to be performed.” Ex.1003, ¶¶204-208. The “*actions to be performed*” recited in the limitations that follow are rendered obvious by the combined teachings of Frerichs, Kawasaki, and Kauffman. Ex.1003, ¶209.

[12.3.1] (a) autonomously providing to a server information associated with a user of a cellular device,

See limitation [1.1.1]. Ex.1003, ¶210.

[12.3.2] the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device,

See limitation [1.1.2]. Ex.1003, ¶211.

[12.3.3] the message identifying characteristics of the cellular device,

This claim issued with an error, and should instead recite “*the message identifying characteristics of the **user of the cellular device***” as is similarly recited in claims 1, 9, and 14. This is evident from the ’414 Patent’s prosecution history. In the last amendment before allowance, prosecution claim 15 was amended to recite, *inter alia*, “the message identifying characteristics of the user of the cellular device.” See Ex.1002, p. 53:

15. (Currently Amended) An article of manufacture comprising:

a storage medium; and

a plurality of programming instructions stored on the storage medium and adapted to instantiate a client for playing content and advertisements on cellular devices, the client configured to cause actions to be performed, the actions including

- (a) autonomously providing to a server information associated with a user of a cellular device, the information ~~taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of the cellular device including at least one from the group consisting of a user preference of the cellular device, a user demographic of the cellular device, a user behavior of the cellular device, and content played on the cellular device,~~

Prosecution claim 15 was renumbered and issued as claim 12. *See id.*, 41. Thus, interpreted properly, this limitation is substantively similar to limitation [1.1.3] and is therefore rendered obvious by the combined teachings of Frerichs and Kawasaki. Ex.1003, ¶212; *see also Fitbit, Inc. v. Valencell, Inc.*, 964 F.3d 1112, 1119-20 (Fed. Cir. 2020) (Board has authority in IPR to correct errors to resolve patentability issues).

In the event Patent Owner disagrees, the claim would still be obvious, as Dr. Houh explains. At the time of the '414 Patent, it was known that message content was commonly relevant to or related to the recipient of the message; thus, an e-mail message that identifies “*characteristics of the cellular device*” was obvious given that the sender could include any information in a received message (e.g., the sender could write in a message “I like the black color of your Nokia 9210” which would indicate multiple “*characteristics*” of the cellular device). Ex.1003, ¶213.

Thus, Frerichs and Kawasaki, in view of the knowledge of a POSITA,
render obvious this limitation. Ex.1003, ¶¶212-214.

[12.4] (b) receiving from the server at least one advertisement, wherein the at least one received advertisement is determined by the server based at least in part on the provided information,

See limitation [1.2]. Ex.1003, ¶215.

[12.5.1] (c) if a determined time interval occurs, stopping playing of the content on the cellular device and playing the at least one determined advertisement, the playing of the at least one determined advertisement including:

See limitation [1.3.1]. Ex.1003, ¶216.

[12.5.2] recording the content which playing was stopped while the at least one determined advertisement is playing, and

See limitation [1.3.2]. Ex.1003, ¶217.

[12.5.3] when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred, using the recorded content.

See limitation [1.3.3]. Ex.1003, ¶218.

17. Claim 13

[13.0] The article of claim 12, wherein the provided information additionally includes at least one from the group consisting of a user preference of the cellular device, a user demographic of the cellular device, a user behavior of the cellular device, content played on the cellular device, or a geographic location of the cellular device.

See limitation [2.0]. Ex.1003, ¶219.

18. Claim 14

[14.0] An article of manufacture comprising:

To the extent limiting, Frerichs teaches claim 14's preamble, as it discloses an "audio tuning server 113," which a POSITA would have recognized as rendering obvious an "*article of manufacture*." Ex.1004, 3:66-4:1; Ex.1003, ¶220.

[14.1] a storage medium; and

Frerichs describes that servers may have "a large storage capacity" and thus renders obvious "*a storage medium*." Ex.1004, 4:14-18; Ex.1003, ¶¶213-214.

[14.2] a plurality of programming instructions stored on the storage medium and adapted to instantiate a server for providing content and advertisements to cellular devices, the server configured to cause actions to be performed, the actions including

This limitation is substantively similar to limitation [12.2] except that limitation [12.2] recites a "*client*" and limitation [14.2] recites a "*server*". Frerichs teaches that "the **audio tuning server 113** and database 106 store information and **disseminate it to client devices**" and that the concept of a server refers to "**software processes executing on the machines**." Additionally, in Frerichs, "a server is a machine, e.g., or process that is providing information to another machine or process...." Ex.1004, 3:66-4:11. Thus, Frerichs teaches software ("*a plurality of programming instructions*") executing to provide information to another machine or process ("*adapted to instantiate a server for providing*"). Ex.1003, ¶¶223-225.

Frerichs also teaches that the server provides “*content*” as it discloses transmitting audio data from the server: “**transmitting audio data from a first server** location to a client location.” Ex.1004, 3:13-19; 4:46-47 (“streaming audio at server 113”). Frerichs also teaches the server providing “*advertisements*” because “[i]n **each of the servers 105, information such as advertisements can be inserted** into the streaming audio for output at any one of the client devices...” *Id.*, 4:44-57. Thus, Frerichs teaches “*a plurality of programming instructions stored on the storage medium and adapted to instantiate a server for providing content and advertisements.*” Ex.1003, ¶¶223-228.

Frerichs also teaches providing such content and advertisements to “*cellular devices*” as it describes that the “invention can be applied to other computing devices, such as **cellular phones**....” Ex.1004, 1:15-19; Ex.1003, ¶229.

Finally, a POSITA would have recognized that the software processes executing on the server machine in Frerichs are “*configured to cause actions to be performed*” and, more specifically, the server machine is configured to “provid[e] information to another machine or process, i.e., the ‘client,’ e.g., that requests the information” (Ex.1004, 3:66-4:11) by following the steps described throughout Frerichs and detailed in the analysis that follows. Ex.1003, ¶230.

Thus, by describing software processes executing on a machine to provide information to a client, including streaming audio and advertisements, Frerichs

renders obvious “*a plurality of programming instructions stored on the storage medium and adapted to instantiate a server for providing content and advertisements to cellular devices, the server configured to cause actions to be performed.*” Ex.1003, ¶¶223-231.

The “*actions to be performed*” recited in the limitations that follow are rendered obvious by the combined teachings of Frerichs, Kawasaki, and Kauffman. Ex.1003, ¶¶232-244.

[14.3.1] (a) receiving information associated with a user of a cellular device from the cellular device, independent of user input,

The analysis of limitation [1.1], above, details how the combined teachings of Frerichs and Kawasaki render obvious a cellular phone “*providing to a server ... information associated with a user of the cellular device*” as recited in claim 1. Because the information is provided to a server, as stated in claim 1, and as taught by Frerichs and Kawasaki, a POSITA would have understood that the information is received by the server, which therefore renders obvious “*receiving information associated with a user of a cellular device from the cellular device.*” Ex.1003, ¶232.

Frerichs and Kawasaki further teach that the server receives the information “*independent of user input.*” Ex.1003, ¶233. This is because, as detailed above in the analysis of limitation [1.1.1], the combined teachings of Frerichs and Kawasaki

render obvious that information is provided to a server without the user manually providing such data, and render obvious the automatic reception and generation of unknown data and profiles. Because Frerichs and Kawasaki teach that the user's cellular device provides information without the user manually providing such information, the combined teachings likewise render obvious that information is received from the cellular device "*independent of user input.*" Ex.1003, ¶233.

[14.3.2] the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device,

See limitation [1.1.2]. Ex.1003, ¶234.

[14.3.3] the message identifying characteristics of the user of cellular device,

See limitation [1.1.3]. Ex.1003, ¶235.

[14.4] (b) employing the received information to determine at least one advertisement to be played on the cellular device, and

Frerichs and Kawasaki render obvious this limitation. Frerichs discloses that it provides targeted advertisements based on a user's profile: "the customized software also provides for targeted advertisements based upon a user profile." Ex.1004, 9:41-54. As detailed above in the analysis of limitation [1.2], the combined teachings of Frerichs and Kawasaki render obvious that the user profile, or unknown data, as generated by the Kawasaki client (e.g., a cellular phone as taught by Frerichs), corresponds to "*the received information.*" Ex.1003, ¶¶236-237. This is because Kawasaki teaches building a profile and transmitting the

profile to an offer server, or generating unknown data used to create a user profile, which profile is then used by the offer server to “target offers to users based upon the profile.” Ex.1005, Abstract. When combined with the teachings of Frerichs, the references thus teach “*employing the received information to determine at least one advertisement*” as claimed. Ex.1003, ¶¶236-237.

Frerichs also teaches that advertisements are “*to be played on the cellular device*” because it describes that output streaming audio may include “first song 301, **advertisement** 309, and second song 305” “in a continuous manner.” Ex.1004, 16:10-23; Ex.1003, ¶238.

Thus, Frerichs’ disclosure of providing “targeted advertisements based upon a user profile” in light of Kawasaki’s teachings of generating and transmitting a user profile render obvious “*employing the received information*” (the unknown data or user profile) “*to determine at least one advertisement to be played on the cellular device*” (the targeted advertisement). Ex.1003, ¶¶236-239.

[14.5] (c) providing the at least one determined advertisement to the cellular device,

As detailed in the analysis of limitation [1.2], Frerichs teaches that the cellular device receives advertisements from an advertisement server. *See* Ex.1004, 4:44-57. Thus, because Frerichs teaches that the advertisement server provides

advertisements, Frerichs renders obvious “*providing the at least one determined advertisement to the cellular device.*” Ex.1003, ¶¶240-241.

[14.6.1] wherein if a determined time interval occurs, playing of the content by the cellular device is stopped and the at least one determined advertisement is played on the cellular device, the playing of the at least one determined advertisement including:

See limitation [1.3.1]. Ex.1003, ¶242.

[14.6.2] recording the content which the playing was stopped while the at least one determined advertisement is playing, and

See limitation [1.3.2]. Ex.1003, ¶243.

[14.6.3] when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred, using the recorded content.

See limitation [1.3.3]. Ex.1003, ¶244.

XI. CONCLUSION

Petitioner has established a reasonable likelihood that claims 1-7 and 9-14 are unpatentable.

Respectfully submitted,

Dated: November 30, 2022
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XII. MANDATORY NOTICES

A. Real Party-in-Interest

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner certifies that the real parties-in-interest are Google LLC⁴ and YouTube, LLC.

B. Related Matters

Pursuant to 37 C.F.R. § 42.8(b)(2), to the best knowledge of the Petitioner, the '414 Patent is or was involved in the following cases:

Case Heading	Number	Court	Filed
<i>Wildseed Mobile LLC v. Google LLC et al.</i>	3-22-cv-04928	N.D. Cal.	August 29, 2022
<i>Wildseed Mobile LLC v. Google LLC et al.</i>	6-22-cv-00357	W.D. TX	April 4, 2022
<i>Wildseed Mobile LLC v. Google LLC et al.</i>	6-21-cv-01245	W.D. TX	Oct. 8, 2021

C. Lead and Back-up Counsel and Service Information

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⁴ Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

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Please address all correspondence to lead and back-up counsel. Petitioner consents to service in this proceeding by email at the addresses above.

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Petitioner hereby certifies, in accordance with and reliance on the word count provided by the word-processing system used to prepare this Petition, that the number of words in this paper is 13,870. Pursuant to 37 C.F.R. § 42.24(d), this word count excludes the table of contents, table of authorities, mandatory notices under § 42.8, certificate of service, certificate of word count, appendix of exhibits, and any claim listing.

Dated: November 30, 2022

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CERTIFICATE OF SERVICE

The undersigned certifies that, in accordance with 37 C.F.R. § 42.6(e) and 37 C.F.R. § 42.105, service was made on Patent Owner as detailed below.

Date of service November 30, 2022

Manner of service FEDERAL EXPRESS

Documents served

- Petition for IPR of U.S. Patent No. 7,376,414
- Certificate of Word Count
- Petitioner's Exhibit List
- Exhibits Ex.1001 to Ex.1007 and Ex.1009 to Ex.1027

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