

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

WILDSEED MOBILE LLC,
Patent Owner.

IPR2023-00248
U.S. Patent No. 7,376,414

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

Petitioner’s Exhibit List	iv
I. Introduction	1
II. Claim Construction	1
A. Wildseed’s Construction of “ <i>taken</i> ” is Overly Narrow and Unsupported.....	1
III. Wildseed’s Mischaracterization of the References Does Not Demonstrate Patentability	7
A. Wildseed’s Kawasaki-based Arguments Mischaracterize the Reference ...	7
B. Kawasaki Renders Obvious Taking Information from a Message	11
C. Kawasaki Transmits the Profile (“ <i>Information</i> ”) to a Server.....	13
D. Kawasaki Teaches the Recited Message	14
E. Kawasaki Teaches Selecting Advertisements Based on Message Content.....	15
F. Wildseed’s Kauffman-based Arguments Fail to Consider the Perspective of a POSITA.....	15
1. Kauffman’s Teachings are Not as Narrow as Wildseed Contends	15
G. A POSITA Would Have Combined Frerichs and Kawasaki	18
H. A POSITA Would Have Combined Frerichs and Kauffman.....	19
I. Dependent Claims.....	24
1. Claims 2, 3, 10, and 13 are Obvious	24

2. Claims 4 and 11 are Obvious	26
J. Claim 7 is Obvious.	26
IV. Conclusion	27

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</i>

	<i>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)
Ex.1028 (NEW)	Deposition Transcript of Dr. Sam Malek
Ex.1029 (NEW)	Supplemental Declaration of Henry Houh
Ex.1030 (NEW)	Random House Webster's Unabridged Dictionary (excerpts)
Ex.1031 (NEW)	Webster's Computing Dictionary (excerpts)

I. Introduction

The Petition establishes how the challenged claims are rendered obvious by the combined teachings of Frerichs, Kawasaki, and Kauffman. Wildseed's Response (Paper 19, "POR") does not rebut this showing. First, the POR seeks to narrowly construe the word "*taken*" without any reasoned basis, and thus Wildseed's narrowing should be rejected. Second, Wildseed's POR mischaracterizes the references, which cannot confer patentability. Third, the record supports the reasons to combine the references' teachings. The Board should confirm each challenged claim is unpatentable.

II. Claim Construction

A. Wildseed's Construction of "*taken*" is Overly Narrow and Unsupported

Although Wildseed agrees the claims "should be given their plain and ordinary meaning," (POR, 3), Wildseed argues the "claim term 'taken,'...requires using information that was in a message, not merely data 'derived' from a message." POR, 3-4. Wildseed thus interprets "*taken*" to mean extracted. Wildseed's attempt to narrow the construction beyond its plain-and-ordinary meaning is wrong, and the term should be construed without Wildseed's narrowing.

The '414 patent offers little detail about "*information taken by the cellular device from a message sent to the cellular device from another user of another*

cellular device”¹ or “*information taken...from a message.*” The word “taken” appears only once in the specification in a different context than the claims. *See* Ex.1001, 3:1-4. The concept of information from a message appears only once, in the “exemplary client advertisement application 614” description. Ex.1001, 9:42-47. Here, the patent describes distinct modules to “provide different types of information...employed to generate information regarding a user of the mobile device.” Ex.1001, 9:48-51. These include preference module 602 (enabling entry of preferences), physical location module 604 (enabling provision of physical location coordinates), demographic module 612 (enabling determinations of user demographics), and behavior module 608 (enabling determinations of user behavior)². Ex.1001, 9:51-10:17. The final module, “other source module 606,” enables “other sources to be used to provide information regarding the user” including “e.g., a message from another user of another mobile device that identifies characteristics of the current user of the mobile device.” Ex.1001, 10:18-22. That is the extent of the patent’s discussion of a message used to provide information

¹ Claim terms are *italicized*; **emphasis** is added.

² These modules do not have overlapping functionality, e.g., demographic module 612 does not provide location information; such information is solely the responsibility of location module 604.

regarding the user. And Figure 6's discussion does not suggest a restriction that identical/exact data from a source be added to "information regarding a user of the mobile device" as Wildseed advocates.

The specification does not define "*taken*" or suggest its meaning excludes dictionary definitions, which include "to get or obtain from a source; **derive**." Ex.1030; *see also* Ex.2011, 174:10-20 ("deriving is an example of taking."). Nor does the specification suggest "directly using information that is in a message, as opposed to indirectly deriving information from a message where the derived information may or may not exist in the message" given its limited disclosure of this concept. POR, 4. Rather, because Figure 6's modules "provide different types of information, which in total are employed to **generate information** regarding a user of the mobile device," it is logical to interpret the patent as encompassing more than just using "exact data." Ex.1001, 9:48-51. The phrase "*information...taken from a message*" should thus be provided its plain-and-ordinary meaning as confirmed by a dictionary and the record to include deriving or generating information.

Wildseed's expert testimony confirms that narrowing is inappropriate. For example, Dr. Malek contends that, for location and demographic data, Figure 8 mandates "that exact data" (i.e., the available data) be added to information about the user (Ex.2009, ¶60), but during deposition he was unwilling to state the same applied for messages or specify what information from a message is added and

instead avoided the issue. *See, e.g.*, Ex.1028, 35:8-42:14. That is, while Dr. Malek suggests an entire text string bearing a user's location would be added to information about the user, the same does not apply for messages. This suggests that, in the patent, "that exact data" (i.e., "that exact" other source information) need not be added to information about the user, and "*taken*" isn't as narrow as proposed. Further, even if steps 804 and 816 required "exact data," those steps precede step 822: "**Generate Information About User of Mobile Device For Server.**" Ex.1001, Fig. 8. The specification does not detail this generation, and does not limit the generated information provided to the server to "exact data," whether that be location, demographic, or message data.

Additionally, for at least location information, Dr. Malek is wrong. Step 802 determines "if the location of the mobile device is available" and if available "the location is added to information about the user of the mobile device" in block 804. Ex.1001, 10:47-55. Dr. Malek contends that "if the user enters 123 Main Street," then exactly that data (123 Main Street) is added to the information about the user. Ex.1028, 31:21-32:2. But that cannot be. Physical location module 604 only enables "coordinates...to be provided" (Ex.1001, 9:58-64) and thus there must be some derivation or translation from address to coordinates (e.g., in step 822). Such a derivation would be outside of Wildseed's interpretation, suggesting "*taken*" is not so narrow.

Other aspects confirm adding the “actual data in a message” isn’t required.

For example, in the minimal discussion of this concept, the patent broadly states the “message from another user of another mobile device that identifies characteristics of the current user of the mobile device” is “used to provide information regarding the user.” Ex.1001, 10:18-22. But this passage doesn’t use the word “taken” and doesn’t detail what’s sent to a server; moreover, it is unclear whether the entire message, a subset thereof, the characteristic, or something else is added to the “user’s information.” Thus, the specification doesn’t limit “*information taken...from a message*” that is added to information about the user, and Wildseed’s narrow interpretation cannot be sustained.

Nor does Figure 8’s “overview 800 of the process for generating information regarding the user” support narrowing. Ex.1001, 10:45-47. The patent is imprecise as to what is added to the “information about user of mobile device” and doesn’t support requiring one-to-one correspondence between available information and what is added. For example, steps 806-808 state “at least one behavior of the user is available” but “behavior **information**” (not simply the available “behavior”) is “added.” Ex.1001, 10:60-63. Thus, Figure 8 doesn’t require “adding that **actual data** to information about a user” (POR, 4) as the specification contemplates one available data piece about a user but adding **something other than that data** to the user’s information.

The file history does not support Wildseed's narrow interpretation. While Owensby selected ads based on profiles, the examiner made no finding regarding whether Owensby even taught "*a message sent to the cellular device from another user of another cellular device.*" Indeed, the examiner did not cite the Owensby portions Wildseed contends disclose messages (e.g., Ex.2007, 5:62-67, 17:54-65), and the examiner made no finding regarding whether data in those messages was used as claimed. *See, e.g.*, Ex.1002, 33-39, 66-84 (not citing the portions pointed to by Wildseed). Owensby's teachings also related only to "responses to messages" (i.e., messages **transmitted by** the user's cellular device **to** another cellular device), not "*a message sent to the cellular device*" as recited. Wildseed asserts that the "type of message was not central to the Examiner's reasoning" but cites no evidence to support this contention. POR, 14. Nor did Wildseed make "repeated and consistent remarks during prosecution" (*Personalized Media Comm's v. Apple Inc.*, 952 F.3d 1336, 1340 (Fed. Cir. 2020)) to re-define "*taken*": it did not focus on the word "taken" or suggest Owensby taught deriving information from messages and "taken" was the distinguishing factor. *See, e.g.*, Ex.1002, 49-59. Thus, the prosecution history cannot be read to support Wildseed's narrowing and limit "*taken*" to extracting as the distinction it alleges now was not made during prosecution.

The Board should apply the plain-and-ordinary meaning to all limitations.

III. Wildseed's Mischaracterization of the References Does Not Demonstrate Patentability

Wildseed presents three primary arguments against the claims' unpatentability; each is incorrect. First, contrary to Wildseed's arguments, Kawasaki's teachings are applicable to Frerichs' cellphone, as a neural network executing on a cellular device is **not required** by the Kawasaki teachings the Petition relied upon. Second, the combination teaches "taking information from a message that satisfies the claims" (POR, 20) because Wildseed's construction should be rejected. Third, Kauffman's teachings of caching at an end-user location would have been combined with Frerichs' teachings of a cellphone.

A. Wildseed's Kawasaki-based Arguments Mischaracterize the Reference

Wildseed's POR overcomplicates the references. *See, e.g.*, POR, 16-19, 35-46. Specifically, Wildseed alleges "Kawasaki requires using artificial intelligence neural networks" and thus, Kawasaki's teachings are unsuitable for the Petition's proposed combination. But while Kawasaki mentions using neural networks, the cellular phone taught by the Frerichs-Kawasaki combination need not run a neural network to render obvious the claims. *See Allied Erecting and Dismantling Co., Inc. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1381 (Fed. Cir. 2016) (obviousness does not require bodily incorporation of features of secondary reference into structure of primary).

The Petition relied upon Kawasaki's recognizer teachings, applied to Frerichs' cellular phone, to render obvious providing "*information associated with a user of the cellular device*", and that "*information*" was "*taken by the cellular device from a message*." Petition, 35-41. Specifically, the Petition relied on Kawasaki's teachings of building a user profile of interests using recognizers that scan user email to identify that emails are related to particular topics. In the Petition's example, receiving email related to golf results in a user profile reflecting interest in golf.

Wildseed alleges Kawasaki's "recognizers 23 are trained neural networks" (POR, 18) and "2001-era cell phone[s]" could not run neural networks (POR, 35-41).³ But this strawman argument bears no relation to the analysis in the Petition.

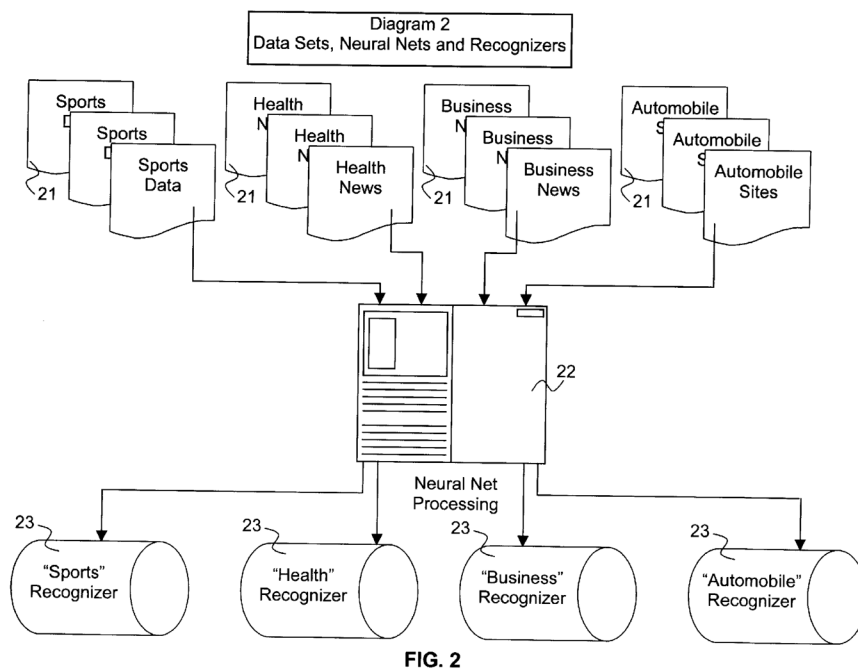
Kawasaki's recognizers are "algorithms and rules," which are the **output** of a neural network. Kawasaki's recognizers are not neural networks themselves. The reference is clear:

Referring to FIG. 2, this is accomplished through collecting representative data sets of major areas of interest, the Data Sets 21, and **using a developed set of algorithms and weighted rules** necessary to

³ The Petition argued the patent was only entitled to priority in 2002 priority (Petition, 15); Wildseed argues entitlement to priority in 2001 but does not substantiate such entitlement. *See* POR, 3 n.1.

analyze the unknown content for a match with Data Sets 21. The **development of these algorithms and weighted rules is accomplished through** the use of a three-tier feed-forward artificial neural network, a **Neural Net 22**, with a learning algorithm as described in the above-referenced patent application...**The output from Neural Net 22 is algorithms and rules, the Recognizers 23**, which in essence “recognize” a match of incoming, unknown data with Data Sets 21.

Ex.1005, 4:13-25.



Ex.1005, Fig. 2

Figure 2 shows, and Kawasaki confirms, neural network processing 22 outputs recognizers 23. These “**small and compact**” recognizers, which are algorithms and rules, could, and would be, executed on devices like cellular phones, as the Petition argued. Dr. Houh testified: “you can generate the model that typically requires more computation, **but the model itself can be run on devices.**” Ex.2011,

148:10-12. Thus, training a neural network may require more capable hardware, but once trained, the output (small and compact algorithms and rules) can be run on other device types, including cellular devices.

Dr. Malek agrees neural networks (e.g., his declaration's example) do not output neural networks themselves, and agrees the "output of the training of the neural networks, which is 22, is algorithms and rules, which are the recognizers." Ex.1028, 83:20-84:24. This is consistent with Kawasaki, which does not describe the recognizers as neural networks. Thus, it follows that Kawasaki's "recognizers 23" are not neural networks, but rather, rules, as Kawasaki plainly states. *See also* Ex.2011, 148:12-16 ("Once trained, there are really just a set of parameters and, kind of, a structure for – with various parameters and weights in the system that can be run on many devices."); Ex.1029, ¶¶9-24.

Wildseed's arguments against Kawasaki's teachings, including the motivations to combine its teachings, are entirely based on the mischaracterization that Kawasaki's teachings would require cellular devices to run neural networks. *See, e.g.*, POR, 17 ("2001-era cell phone run...neural networks"); 35 ("cell phone to run a neural network"); 36 ("technical challenges prohibited cell phones from running neural networks"); 37; 41; 42 ("expectations of success apply to powerful computers, not cell phones"). But because this base assumption is wrong, none of Wildseed's counterarguments hold water.

Wildseed doesn't dispute that the neural network's output, Kawasaki's recognizers, could be executed on a cellular device. For example, it doesn't argue that Kawasaki's "algorithms and rules" couldn't be executed on a cell phone. Thus, the evidence and argument presented in the Petition is effectively un rebutted, as Wildseed doesn't address Kawasaki's teachings relied upon in the Petition. Kawasaki's teachings remain pertinent.

B. Kawasaki Renders Obvious Taking Information from a Message

As discussed above, "*information taken...from a message*" is not limited to "information that was actually in a message" (e.g., identical text) and includes "data 'derived' from a message." Thus, Wildseed's §III.B.1.a (POR, 20-24) arguments fail, because even if Kawasaki's data is derived from messages, as Wildseed contends, Kawasaki meets the limitation. Wildseed presents no argument against Kawasaki under a correct plain-and-ordinary interpretation.

But even if the claim were narrowed, such that an unspecified portion of message text needed to be represented in the user's information provided to a server, Dr. Houh's deposition testimony confirms Kawasaki would teach such an interpretation. Dr. Houh was asked if Kawasaki discloses that "the profile would include a copy of data that was originally in an email that the user had received" and he answered, "where a visitor might have...received a message about golf, they could easily have the word 'golf' in them....But some golf emails received could –

they're not required to use the word 'golf'...to recognize that the user has an interest in golf." Ex.2011, 173:20-174:20. In other words, Dr. Houh testified Kawasaki teaches providing "*information associated with a user of the cellular device*" (i.e., an interest in golf, or even the word "golf") **when the user's received messages have the word golf** as well as when the messages do not. The first option renders obvious the limitation even under Wildseed's narrow view.

Wildseed also argues the "unknown data and the profile themselves are not data taken from messages" and "the input (unknown data) is numbers that were generated by analyzing the messages, and the output is numbers that were generated by analyzing the input numbers. Because the input and output numbers are generated, they were never in a message." POR, 22-23. In other words, Wildseed argues that the profiles in Kawasaki do not have the words that appeared in a user's received email messages. But this does not square with Kawasaki.

Kawasaki does not suggest "the input (unknown data) is numbers that were generated by analyzing the messages" and Wildseed points to no evidence in Kawasaki to support this. Rather, Kawasaki states "[r]ecognizers are executed against **incoming unknown data** requested by Users" and "if a golfing Recognizer 23 is loaded and the **User views golf-related** Web Pages 13a, **E-mail 12a**...." Ex.1005, 4:32-41. Users do not request numbers and do not view numbers—users view words in email. Ex.1029, ¶¶26-27. When a user views golf-related email,

including email including the word golf, their profile reflects that they are interested in golf. Thus, “*information associated with a user of the cellular device*” (user interested in golf) is “*taken by the cellular device from a message sent to the cellular device from another user of another cellular device*” (from the user’s golf-related email containing “golf”), and the message is one “*identifying characteristics of the user of the cellular device*” (interest in golf)⁴. Kawasaki renders obvious this subject matter.

C. Kawasaki Transmits the Profile (“*Information*”) to a Server

Wildseed effectively concedes that Kawasaki’s profile is sent to an advertisement server. *See* POR, 24-26; *see also* §III.B.1.a.2. Its only argument against this teaching is that the profile “does not have information ‘taken’ from a message” but this theory fails for multiple reasons, as detailed above: the claim doesn’t require extracting data from messages or sending to the server exact information contained in a message, but even if it did, it would have been obvious for a user who viewed an email with the word “golf” to have a profile reflective of her interest in golf. Kawasaki teaches the limitation.

⁴ Though the combination meets this language, Wildseed contends the claim does not require the “*characteristics*” to be the information provided to a server. Ex.1028, 52:11-53:3.

D. Kawasaki Teaches the Recited Message

Wildseed argues Kawasaki does not teach taking “information from at least one message that [1] is ‘from another user of another cellular device’ (limitation (1.1.2) and [2] ‘identif[ies] characteristics of the user of the cellular device’ (limitation 1.1.3).” POR, 26-28 (§III.B.1.b). It provides no elaboration on this argument.

Petitioner's mapping (Petition, 38-43) is clear: a user receives an email reflective of her interest in golf (1.1.3). Ex.1003, ¶114. At the time, it would have been obvious that such an email was received on a user's cellular device from a friend also using a cellular device (1.1.2). *See* Ex.1003, ¶¶119-123. This is particularly true in the proposed Frerichs-Kawasaki combination, where Frerichs discloses cellular devices. An obviousness analysis “**requires** an assessment of the...background knowledge possessed by a person having ordinary skill in the art” (*Koninklijke Philips NV v. Google LLC*, 948 F.3d 1330, 1337 (Fed. Cir. 2020) (quotations omitted)) but Dr. Malek's declaration just parrots the Response and does not contest Dr. Houh's analysis, referenced in the Petition, that it would have been obvious to analyze emails sent between cellular device users given the POSITA's knowledge. *See* Ex.2009, ¶¶96-98. Wildseed's failure to consider the record does not confer patentability.

E. Kawasaki Teaches Selecting Advertisements Based on Message Content

Wildseed also argues Kawasaki's "profile does not contain information taken from a message" but, as detailed above, this is incorrect. POR, 28-29 (§III.B.2). Kawasaki teaches building a profile on the client's device and sending the profile to an advertisement server to determine advertisements to be provided to the user. Petition, 24-25, 38-45. When a user's received email contains golf-related text, the user's profile subsequently reflects an interest in golf, and the user is targeted with advertisements based on the profile ("profile of the user...may ultimately be used to target offers to users based upon the profile" (Ex.1005, Abstract)). Accordingly, the combination renders obvious limitation [1.2].

F. Wildseed's Kauffman-based Arguments Fail to Consider the Perspective of a POSITA

Wildseed argues the "cited art does not disclose playing content on an end user device—let alone a cellular device—while caching other content." POR, 29-34 (§III.B.3). Again, Wildseed's argument is based on misreading the prior art and incorrect expert testimony.

1. Kauffman's Teachings are Not as Narrow as Wildseed Contends

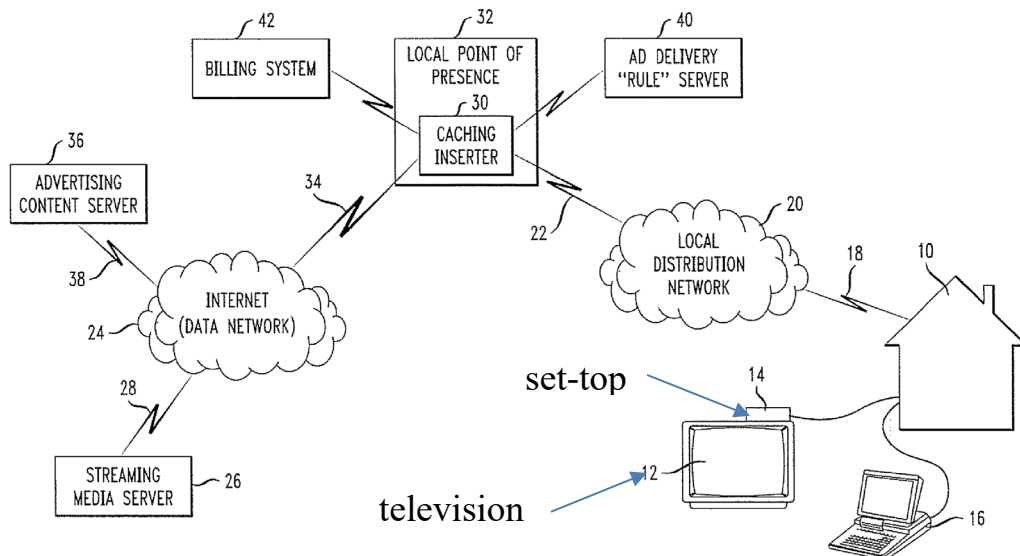
Wildseed argues, in Kauffman, "the device that caches the content is not the device that plays the content." POR, 30; *see also* §III.B.3. This argument rests on its misinterpretation of Kauffman as suggesting that "content is not played on"

Kauffman's set-top box.

The Petition relied upon Kauffman's caching inserter 30, which "may be located at an end user's device, such as a set-top box." Petition, 26. That is, Petitioner cited Kauffman as teaching it was known to play-out and cache streaming media at a client device, and further argued it was known that cellular devices were client devices at the time. Petition, 48-49.

Wildseed, however, too narrowly interprets Kauffman's teachings. Citing Kauffman's Background, which describes playing streaming media files "on an end-user device, such as through a set-top box on a television or on a computer display device," (Ex.1006, ¶3), Wildseed argues that "content is played on an 'end-user device' (TV 12 and computer terminal 16) which is distinct from the "set-top box 14." POR, 33. Wildseed, in effect, draws an invisible line between the set-top box 14 and television 12 in Kauffman's Figure 1, and contends that Kauffman's teachings of caching at set-top box 14 are irrelevant to caching at a cellular device; instead, Kauffman would need to teach caching at the television 12.

FIG. 1



Ex.1006, Fig. 1 (annotated)

But this narrow view is contrary to a POSITA's understanding. Kauffman explicitly teaches locating a caching inserter at any "communication [] device at an end-user location." Ex.1006, cl.17. Dr. Malek concedes that computers, such as Kauffman's computer 16, are communication devices, and a cellular device would have been recognized as a computer (one which is, per the patent's admissions, capable of "advanced features", *see* Ex.1001, 1:33-44). Thus, Kauffman teaches, to a POSITA, caching streaming media at a cellular device. Ex.1029, ¶¶39-43.

Even without this disclosure of Kauffman, the remainder still teaches caching at a cellular device. For example, Kauffman's TV is a media output device, akin to a cellular device's speaker; thus, accompanying hardware (e.g., a set-top box) would be needed to receive and playback content (including caching as Kauffman teaches).

Ex.1029, ¶¶44-48. This combined set-top box and TV is analogous to a cellular device that receives and plays content using a speaker. Likewise, Kauffman's computer 16 is analogous to the claims' cellular device, having hardware for caching (e.g., memory and processor) and an output device (e.g., the monitor in Fig. 1).

Thus, Wildseed is incorrect to contend the "hypothetical combination of Kauffman with a cell phone would cache content upstream of the cell phone" and instead, Kauffman would have been understood to teach caching **at** a cellular device. Ex.1029, ¶¶39-48.

G. A POSITA Would Have Combined Frerichs and Kawasaki

Wildseed argues the Petition did not show "sufficient motivation to combine Frerich's cell phone with Kawasaki's neural networks." POR, 34-46; *see also* §III.B.4.a. But because this argument relies on the incorrect assumption that Kawasaki requires neural networks to execute on the end-user's device, addressed *supra*, these arguments do not establish patentability.

Again, while Kawasaki uses neural networks, incorporating Kawasaki's teachings does not require running neural networks on client devices (e.g., cellular devices), and thus the proposed combination **does not require** a 2001-era cellular device to run or develop a neural network. Thus, analyzing whether such a device had ever run neural networks is immaterial to the Petition's combination. Wildseed offers nothing to contend that "small and compact" "data sets" and "algorithms and

rules,” i.e., Kawasaki’s “recognizers” could not be executed on a cell phone, as the Petition proposed and as Dr. Houh confirms. Ex.1029, ¶¶30-38.

Like its substantive attack on Kawasaki, Wildseed’s arguments regarding motivation to combine Kawasaki rest entirely on this mistaken assumption. *See, e.g.*, POR, 36 (“technical challenges”), 37 (“phones did not run neural networks”), 41 (“unnecessary and unprecedented feat”). But because Wildseed is wrong that Kawasaki’s teachings would require cellular devices to execute neural networks, none of these counterarguments impact whether a POSITA would have combined the teachings of Frerichs and Kawasaki as argued.

H. A POSITA Would Have Combined Frerichs and Kauffman

Wildseed argues the Petition did “not provide any reason to combine Kauffman with Frerichs” because the “majority of Petitioner’s discussion regarding combining Frerichs and Kauffman...is directed to similarities between Kauffman and Frerichs” and further, Kauffman doesn’t support the benefit alleged in the Petition of reducing network delay. POR, 46-55. Again, Wildseed is incorrect.

The Petition proposed that a POSITA would have been motivated to combine Kauffman and Frerichs because doing so would have been no more than combining prior art elements (Kauffman’s technique with Frerichs’ methods), and further detailed that Kauffman “augments Frerichs by specifically disclosing implementation details for how advertisements may be played in place of streaming

media content.” Petition, 32. The Petition also argued that “similar caching and pre-loading techniques known in the relevant art...explicitly touted advantages of **improving response time to a user.**” Petition, 33. Such an advantage is a ““universal motivation[]’ known in a particular field to improve technology” which “provide[s] ‘a motivation to combine prior art references even absent any hint of suggestion in the references themselves.’” *Intel Corp. v. Pact XPP Schweiz AG*, 61 F.4th 1373, 1380 (Fed. Cir. 2023); *see also Zup v. Nash Mfg.*, 896 F.3d 1365, 1371 (motivation to combine may be found in POSITA’s “background knowledge”); Ex.1029, ¶¶49-55. The Petition’s motivation-to-combine analysis is consistent with precedent.

Wildseed’s arguments again attack positions that were not advanced in the Petition and thus do not refute the unpatentability arguments. For example, the Petition did not assert that “Kauffman solves a delay caused by intercepting and caching a stream.” POR, 47. The Petition did assert, as Wildseed recognizes, that “Kauffman’s caching can alleviate network delay” (POR, 47) in the context that Kauffman’s teachings “would allow the paused content to be immediately resumed...without further delay caused by network retrieval of the streaming media content” (Petition, 33), but it is not necessary that the reference itself details such a benefit, as a POSITA’s background knowledge must be considered in obviousness. Here, Dr. Houh detailed how Kauffman’s caching technique would reduce network

delay, consistent with the knowledge in the prior art of similar pre-loading techniques.

Dr. Houh explained: “caching paused streaming media content during the playback of an advertisement, as taught by Kauffman, would have been advantageous” because it “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 retrieval of the streaming media content.” Ex.1003, ¶80. In support, Dr. Houh cited Berger (Ex.1019) describing a technique “that provides ‘improvement in response time to the user by preloading information before it is requested by the user.’” Ex.1003, ¶80. Pre-loading content, as Kauffman teaches, and its benefits, are not taught by Frerichs (and Wildseed doesn’t contend they are), and this reasoning establishes **why** a POSITA would have combined Kauffman’s teachings. Wildseed does not address these arguments.

Additionally, Wildseed is incorrect to suggest Kauffman’s architecture “compounds the risk of network delay,” arguing a need for a second network connection. POR, 48-50. In the Petition’s proposed combination, the caching inserter is **at** the end-user device; thus no “second connection” is necessary. Thus, because Wildseed admits content and advertisements are transmitted “from servers to the caching inserter” (POR, 48), in the combination, there is only one connection and no added delay. Further, Wildseed’s argument that “Kauffman teaches away from

caching to reduce network delay” is inapt; nothing in Kauffman criticizes or discourages caching. POR, 48-49.

Wildseed then argues, relying on its narrow view of Kauffman, that “in a hypothetical combination of Kauffman with a cell phone, the caching would take place upstream of the cell phone” and that “in all but one embodiment, Kauffman caches outside of the end-user’s home.” POR, 50-52. But in the embodiment Petitioner relied on, Kauffman **does teach** caching at the end-user’s device (e.g., any “communication [] device at an end-user location”, Ex.1006, cl.17) and there is no need to show a “reason or benefit for caching at a client” where the reference itself explicitly teaches such caching.

Next, Wildseed argues “benefits or expectations of success...apply, if at all, to client devices that are more powerful than cell phones.” POR, 52-55. Wildseed bases its arguments on a misguided view that Kauffman only provides teachings relevant to video. *See* POR, 53-54. But “Kauffman’s techniques are applicable to a wide variety of computing devices” and, although Kauffman “describes techniques with reference to a ‘video stream,’ a POSITA would have understood it to also be applicable to audio streams” in part because audio is less complex than video. Ex.1003, ¶¶62, 68. Wildseed’s arguments hinge on an alleged need to bodily combine the references, which is not required. Wildseed’s arguments regarding “application[s] for a cell phone in 2001 that received streaming audio” or “encoding

used for streaming media content in 2001” (POR, 55) are again distractions, as the patent admits that cellular devices were capable of advanced features “such as playing streamed content.” Ex.1001, 1:39-41; *see also Qualcomm Inc. v. Apple Inc.*, 24 F.4th 1367, 1376 (Fed. Cir. 2022) (admissions are “permissible evidence” in IPR “for establishing the background knowledge possessed by” POSITAs). Thus, the record supports a reasonable expectation of success in combining Frerichs’ teachings with Kauffman’s.

Finally, Wildseed argues a “POSITA would not have been motivated to combine all three references because such a combination would pose even more challenges than either combination alone.” POR, 56-57. Again, these arguments are based on its misinterpretations and not commensurate with the references’ teachings. And importantly, a motivation to combine all three references is not required; at bottom, this is nothing more than a bodily incorporation argument. *See, e.g., MCM Portfolio LLC v. Hewlett-Packard Co.*, 812 F.3d 1284, 1293 (Fed. Cir. 2015) (rejecting argument that art did not disclose combining different functionalities into single chip as required by challenged claims). Indeed, *Intellectual Ventures II LLC v. Ericsson Inc.*, 685 Fed. App’x 913, 918 (Fed. Cir. 2017), addresses this. Ericsson’s IPR petition provided “individual motivations to combine Li with Yamaura, Li with Beta, and Yamaura with Zhaung,” which the Board adopted. 685 Fed. App’x 913, 918 (Fed. Cir. 2017). Intellectual Ventures argued on appeal that the Board erred in

finding obviousness because Ericsson “had to offer a rationale for combining...all of the references together.” *Id.* The Court found “nothing inherently improper” with Ericsson’s approach because “KSR rejected ‘rigid and mandatory formulas’ in analyzing obviousness.” *Id.* The same applies here, where the Petition included reasoning to incorporate Frerichs with each of Kawasaki and Kauffman; under precedent, Wildseed’s claims remain obvious.

I. Dependent Claims

1. Claims 2, 3, 10, and 13 are Obvious

Wildseed argues these claims require “*the provided information*” that is in “*a message sent to the cellular device from another user of another cellular device*” must include the options in claim 2 (e.g., “*a preference..., a demographic data..., content played..., or a geographic location...*”). This interpretation is wrong.

While claim 1 requires “*information associated with a user of the cellular device*” be provided, and claim 1’s information is “*taken by the cellular device from a message,*” claim 2 states “*provided information **additionally includes***” preferences and other data; thus, the dependent claims’ additionally provided information is not limited to information obtained from a message. That is, in claim 1, “*information taken by the cellular device*” is the “*information associated with a user of the cellular device*” provided to a server, and in claim 2, “*a preference*” or the other information categories recited in claim 2 are additionally provided.

This is consistent with the specification: preferences, demographic data, and location data are provided by modules that are **not** “other source module 606” (the only module that provides information from a message). *See* Ex.1001, 9:42-10:24. Thus, while preferences, demographic data, and geographic location data are provided to a server, those information categories are not disclosed as being within a “*message*.”

Accordingly, the patent does not require that the “*preference*” “*demographic data*” or “*geographic location*” be included in the “*message sent to the cellular device from another user of another cellular device*.” The Petition’s showing that these claims are obvious given Frerichs’ radio station preference information remains accurate.

Even if a “*preference*” must be in the “*message*,” the Petition demonstrated obviousness, arguing received emails “would commonly be relevant to...an event of interest (e.g., a concert)” and such emails may contain “the musical style of the concert performer” (Petition, 42-43) (e.g., a musical preference). Thus, even if narrowly construed, these claims are obvious.

For claim 3, “*a game played..., a radio station broadcast..., or a television station broadcast...*” are information which the “behavior module 608” is responsible for. The patent does not contemplate providing such information by “other source module 606” acting on a “*message sent to the cellular device*” nor

would such an interpretation make sense—it is unclear how “*a game played*” by the user would be information included in a message **received** by that user. The Petition’s showing that claim 3 is obvious remains correct.

2. Claims 4 and 11 are Obvious

Wildseed argues the advertisements referenced in the Petition’s analysis of claims 4 and 11 “are not determined using information taken from a message as claim 1 requires” because neither Frerichs nor Kauffman teach such advertisements. But the “determined” advertisement in claim 1 is taught by the Frerichs-Kawasaki combined teachings (*see* Petition, 43-45), which Wildseed doesn’t acknowledge. Incorporating the teachings of Frerichs and Kauffman for claims 4 and 11 with the earlier analysis reveals these claims remain obvious as well.

J. Claim 7 is Obvious.

Claim 7’s “*stream*” is also met by the Petition’s analysis. Wildseed attacks the references in isolation instead of considering the combined teachings, where the Petition relied on the teachings of Frerichs **and** Kauffman. Specifically, Wildseed alleges Kauffman “does not disclose sending two streams to the device that plays content” (POR, 60) but again, this is based on its narrow view of Kauffman, and Wildseed ignores Kauffman’s explicit disclosure that the caching inserter may be at the end-user’s communication device (i.e., within a cellular device). Given Kauffman’s explicit disclosure of advertisement streams received by the caching

inserter in the end-user's communication device, Kauffman teaches this claim.

IV. Conclusion

The Board should confirm all challenged claims are unpatentable.

Respectfully submitted,

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HAYNES AND BOONE, LLP
2801 N. Harwood St., Suite 2300
Dallas, Texas 75201

/Andrew S. Ehmke/
Andrew S. Ehmke
Registration No. 50,271
Lead Counsel for Petitioner

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 Reply, that the number of words in this paper is 5,529. This word count excludes the table of contents, table of authorities, mandatory notices under §42.8, certificate of service, certificate of word count, signature block, and appendix of exhibits. See 37 C.F.R. §42.24(c).

/Andrew S. Ehmke/

Andrew S. Ehmke

Registration No. 50,271

Lead Counsel for Petitioner

CERTIFICATE OF SERVICE

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

Date of service December 8, 2023

Manner of service Electronic Mail:

dalberti@krameralberti.com;
slim@krameralberti.com;
zhiggins@krameralberti.com;
mspecht-PTAB@sternekessler.com;
jfitsimmons-PTAB@sternekessler.com;
rbemben-PTAB@sternekessler.com;
spappas-PTAB@sternekessler.com;
PTAB@sternekessler.com;
KramerAlberti-WildseedMobile@krameralberti.com

Documents served Petitioner's Reply to Patent Owner's Response and Exhibits
1028–1031

Persons served David Alberti; Sal Lim; Zack Higgins
KRAMER ALBERTI LIM & TONKOVICH LLP
577 Airport Boulevard, Suite 250
Burlingame, California 94010

Michael D. Specht; Jason A. Fitzsimmons
Richard M. Bemben; Steven M. Pappas
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1101 K Street, NW, 10th Floor
Washington, D.C. 20005

/Andrew S. Ehmke/

Andrew S. Ehmke

Registration No. 50,271

Lead Counsel for Petitioner