UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC

Petitioner

v.

TJTM TECHNOLOGIES, LLC

(record) Patent Owner

IPR2025-00586
Patent No. 8,958,853

PETITION FOR INTER PARTES REVIEW UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 ET. SEQ

TABLE OF CONTENTS

TABLE OF EXHIBITS 4

I. MANDATORY NOTICES 6

A. NOTICE OF LEAD AND BACKUP COUNSEL 6

B. NOTICE OF REAL-PARTIES-IN-INTEREST 6

C. NOTICE OF RELATED MATTERS 6

D. NOTICE OF SERVICE INFORMATION 7

II. CERTIFICATION OF GROUNDS FOR STANDING 7

III. STATEMENT OF PRECISE RELIEF REQUESTED 8

IV. INTRODUCTION 8

A. The ’853 Patent Disclosure 8

B. Overview of Challenged Claims 11

C. Overview of Prosecution History 15

D. Overview of IPR2019-00434 16

V. CLAIM CONSTRUCTION 17

VI. PERSON HAVING ORDINARY SKILL IN THE ART 18

VII. CLAIMS 1-9 ARE NOT ENTITLED TO PROVISIONAL FILING DATE 19

VIII. DETAILED EXPLANATION OF THE REASONS FOR UNPATENTABILITY 19

Ground 1. Claims 1–7 are obvious over Cazanas and Frye 19

A. Overview of the Ground 20

1. Overview of Cazanas 21

2. Overview of Frye 24

B. Rationale (Motivation) Supporting Obviousness and Reasonable Expectation of Success 26

C. Graham Factors 27

D. Analogous Art 27

E. Claim Mapping 28

Ground 2. Claims 8 and 9 are over Cazanas, Frye, and Zhou 60

A. Overview of the Ground 60

B. Rationale (Motivation) Supporting Obviousness and Reasonable Expectation of Success 61

C. Analogous Art 62

D. Claim Mapping 62

IX. NO BASIS FOR § 325(D) DENIAL 69

X. NO BASIS FOR *FINTIV* DENIAL 71

XI. NO BASIS FOR *GENERAL PLASTICS* DENIAL 72

XII. CONCLUSION 73

CLAIMS LISTING APPENDIX 75

CERTIFICATE OF SERVICE 78

CERTIFICATE OF WORD COUNT 79

TABLE OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 8,958,853 ("**the '853 patent**")
1002	Declaration of Dr. Henry Houh
1003	C.V. of Dr. Henry Houh
1004	U.S. Patent No. 8,275,351 B1 ("**Cazanas**")
1005	U.S. Patent Application Pub. No. 2012/0282906 A1 ("**Frye**")
1006	U.S. Patent Application Pub. No. 2014/0277932 A1 ("**Prakah-Asante**")
1007	U.S. Patent No. 8,433,291 B1 (**"Hertzfeld"**)
1008	U.S. Patent Application No. 2011/0294520 A1 ("**Zhou**")
1009	First Amended Complaint, Google in *TJTM Technologies, LLC v. Google LLC*, No. 3-24-cv-01232 (N.D. Cal.)
1010	File History of U.S. Application No. 14/515,477
1011	File History of U.S. Application No. 14/176,107
1012	File History of Provisional Application No. 61/835,234
1013	U.S. Patent No. 8,290,480 B2 ("**Abramson**")
1014	Notice of Service, Google in *TJTM Technologies, LLC v. Google LLC*, No. 3-24-cv-01232 (N.D. Cal.)
1015	*TJTM Technologies, LLC v. Google LLC*, No. 3-24-cv-01232 (N.D. Cal.), Joint Claim Construction Position and Prehearing Statement (Dkt. 44)
1016	IPR2019-00434, Decision Denying Institution, Paper 6
1017	IPR2019-00434, Voluntary Interrogatory Responses, Exhibit 1015

1018	Order granting Motion to Dismiss in *TJTM Technologies, LLC v. Google LLC*, No. 3-24-cv-01232 (N.D. Cal.).
1019	Final Judgment in *TJTM Technologies, LLC v. Google LLC*, No. 3-24-cv-01232 (N.D. Cal.).
1020	Docket Sheet in *TJTM Technologies, LLC v. Google LLC*, No. 25-1218 (Fed. Cir.)
1021	Docket Sheet in *TJTM Technologies, LLC v. Google LLC*, No. 3-24-cv-01232 (N.D. Cal.)
1022	Judge Thompson stay statistics
1023	Federal Circuit time-to-disposition statistics
1024	N.D. Cal. time-to-trial statistics
1025	U.S. Patent No. 8,805,349
1026	U.S. Patent No. 8,971,927
1027	Unified Patents Members, www.unifiedpatents.com/members (last accessed Feb. 24, 2025)
1028	Friesen, Jeff. *Learn Java for Android Development*. Apress, 2010
1029	Laurie, Ben, et al. *Apache: The Definitive Guide*. O'Reilly & Associates, Inc., 1997

Petitioner respectfully requests *inter partes* review of claims 1–9 of U.S. Pat. No. 8,958,853 ("the '853 patent"). This petition is timely filed within one year of the date of service of Patent Owner's complaint. Ex-1014.

I. MANDATORY NOTICES

A. NOTICE OF LEAD AND BACKUP COUNSEL

Lead Counsel	**Backup Counsel**
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B. NOTICE OF REAL-PARTIES-IN-INTEREST

The real-party-in-interest for this petition is Google LLC ("Google").[1]

C. NOTICE OF RELATED MATTERS

The '853 patent was asserted against *Google in TJTM Technologies, LLC v. Google LLC*, No. 3-24-cv-01232 (N.D. Cal.)(filed Feb. 29, 2024). Google was served with the complaint on March 7, 2024. Ex-1014. The '853 patent was found

[1] 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.

invalid under 35 U.S.C. § 101 and final judgment entered. The case is currently on appeal to the U.S. Court of Appeals for the Federal Circuit, *TJTM Technologies, LLC v. Google LLC*, No. 25-1218 (Fed. Cir.).

Prior to being asserted against Google, the '853 patent was also involved in the following matters, none of which is currently pending:

Case Title	Case No.	Filed	Terminated
TJTM Technologies, LLC v. Verizon Communications, Inc.	3-22-cv-02081 (N.D. Cal.)	Mar. 31, 2022	May 15, 2023
TJTM Technologies, LLC v. Samsung Electronics America, Inc.	4-21-cv-05500 (N.D. Cal.)	Jul. 16, 2021	Jan. 25, 2022
SMTM Technology, LLC v. Apple Inc.	4-19-cv-08133 (N.D. Cal.)	Dec. 13, 2019	Oct. 20, 2020
Unified Patents Inc. v. SMTM Technologies, LLC	IPR2019-00434 (PTAB)	Dec. 17, 2018	Sept. 30, 2019
SMTM Technology, LLC v. Apple Inc.	3-18-cv-04111 (N.D. Cal.)	Jul. 10, 2018	Jul. 24, 2018
SMTM Technology, LLC v. Microsoft Corporation	4-15-cv-02396 (N.D. Cal.)	May 29, 2015	Jun. 29, 2015

D. NOTICE OF SERVICE INFORMATION

Please address all correspondence to the lead counsel at the addresses shown above. Petitioner consents to electronic service by email at the addresses listed for counsel above.

II. CERTIFICATION OF GROUNDS FOR STANDING

Petitioner hereby certifies that the '853 patent is available for *inter partes* review, and that Petitioner is not barred or estopped from requesting an *inter partes*

review on the grounds identified in the petition.

III. STATEMENT OF PRECISE RELIEF REQUESTED

Petitioner requests that claims 1–9 of the ’853 patent be canceled based on the following grounds:

Ground 1: Claims 1–7 are obvious over Cazanas and Frye.

Ground 2: Claims 8–9 are obvious over Cazanas, Frye, and Zhou.

IV. INTRODUCTION

A. The ’853 Patent Disclosure

The ’853 patent is titled “Mobile Device Inactive Mode and Inactive Mode Verification.” Ex-1001. Its “subject matter relates generally to a mobile device including functionality for suppressing user notifications of communications received by the mobile device and notifying the sender of the communication that the user is not receiving communications.” Ex-1001, 1:14-18. According to the ’853 patent, “[u]ser distraction caused by mobile devices has become a serious problem in modern society. For example, motor vehicle accidents caused by distracted driving are on the rise and have become as serious as driving while intoxicated. Many drivers are aware of the risks of distracted driving but may lack the resolve to avoid trying to respond to incoming communications.” Ex-1001, 1:22-28. The ’853 patent asserts that “[w]hat are needed are mechanisms to limit user communication distractions without forcing the user to power down a mobile device

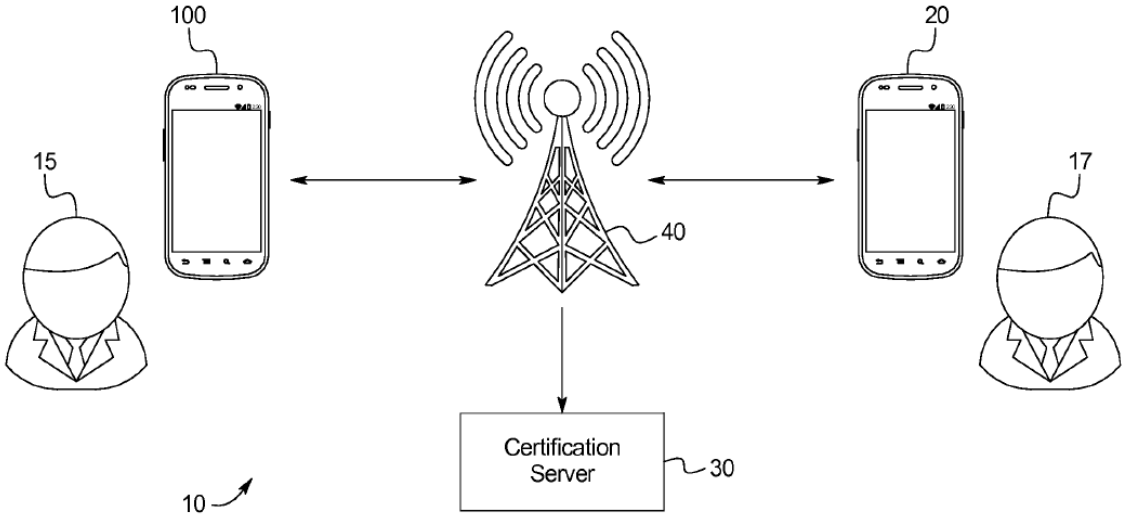
and miss essential communications." Ex-1001, 1:32-35, 1:18-21; Ex-1002, ¶¶24-25.

The '853 patent states that "the proliferation of accidents cause [sic] by distracted driving has created a need to prove that one was not operating a communications device during operation of a vehicle. What are needed are mechanisms to show that a user was not using a communications device during an accident while operating a vehicle." Ex-1001, 1:36-46; Ex-1002, ¶26.

According to the '853 patent, "[t]o meet the needs described above and others, the present disclosure provides a mobile device including functionality for suppressing communications to a user and systems for verifying that a user was not receiving communications during a particular period of time." Ex-1001, 1:50-54. The '853 patent generally describes a "mobile device application" which can be installed on a mobile device. Ex-1001, 1:59-65. "A user may enable an inactive mode of the device to suppress notification of incoming phone calls, text, emails, etc. and automatically notify the sender with an away message. By suppressing the communications distracted driving may be reduced." Ex-1001, 1:66-2:3, *see* Fig. 3; Ex-1002, ¶¶27-28.

Figure 1 of the '853 patent depicts "the ecosystem 10 of an example of a mobile device 100 including functionality for suppressing communications using an inactive mode." Ex-1001, 6:48-56.

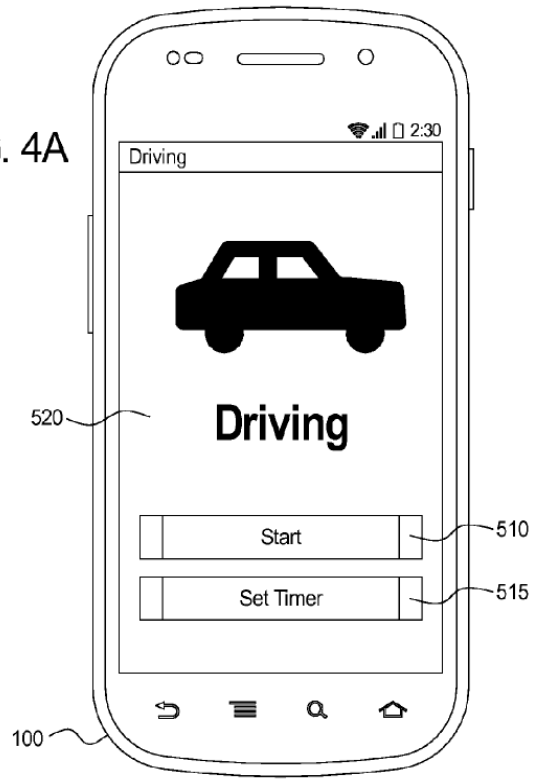
FIG. 1



Ex-1001, Fig. 1, 6:48-56. "As shown in FIG. 1, the ecosystem 10 includes a communications network 40 which provides communications functionality to the mobile device 100, other communication devices 20 which other users may use to communicate to the mobile device 100, and a certification server 30 that may verify that a user 15 was not receiving communications during a particular period of time." *Id.*; Ex-1002, ¶29.

Figure 4A of the '853 patent depicts "an example mobile device user interface showing a start screen used to begin the inactive mode." Ex-1001, 6:10-11, 7:47-51.

FIG. 4A



Ex-1001, Fig. 4A. As one option for configuring the device, "the inactive mode may be automatically initiated upon the pairing of the mobile device and a vehicle." Ex-1001, 2:35-37; 7:58-61, Fig. 4D. "[T]he device may communicate with a certification server to 'certify' that a mobile device was not operational during a certain period as evidence that the phone was not used during driving." Ex-1001, 2:9-11; Ex-1002, ¶30.

B. Overview of Challenged Claims

The '853 patent has one independent claim and eight dependent claims. Independent claim 1 is directed to a "mobile device." The claims are reproduced in the Claim Listing Appendix.

The mobile device of claim 1 stores instructions to cause the mobile device to perform certain actions. The mobile device automatically initiates an "inactive mode" of the mobile device in response to the pairing of the mobile device with a vehicle. When the mobile device is in inactive mode, the mobile device transmits a user-selected away message in response to receiving a communication. While the device is in inactive mode, the mobile device also suppresses one or more sound, visual, or vibration communication cues. Ex-1002, ¶¶31-32.

Dependent claim 2 requires that "all" sound, visual, or vibration communication cues be suppressed. Dependent claim 3 provides for a notification of communications upon completion of the inactive mode. Dependent claims 4–6 are directed to the type of communication received (SMS message, email, cellular phone call, respectively). Dependent claim 7 provides for customization of the away message. Finally, dependent claims 8 and 9 are directed to providing a notification to a "certification server" when the mobile device enters or exits the inactive mode, respectively. Ex-1001, claims 2–9; Ex-1002, ¶33.

The '853 patent claims nothing inventive over the prior art. Ex-1002, ¶34. First, the problem—user distraction by mobile devices while driving—was well-known prior to the earliest possible priority date of the '853 patent (June 14, 2013). *See, e.g.*, Ex-1005, ¶¶0003-0004, ¶0018; Ex-1004, 1:23-31; Ex-1013, 1:25-2:3; Ex-1008, ¶¶0001-0002. Indeed, the problem of distracted driving was so well known

(as of at least 2012) that it was called "a problem of **near epidemic proportions**." Ex-1013, 1:25-2:3.[2] It was also known that the problem was not simply that drivers used their hands to place or answer calls; instead, the problem was known to be that drivers found themselves distracted by **communication themselves**, regardless whether the driver used the mobile device in a hands-free or hand-held manner:

> Researchers have shown that using mobile phones while driving is four times as likely to get into crashes, and the increased crash risk is **similar for hands-free and hand-held phones**.

Ex-1008, ¶0001; *see* Ex-1013, 1:25-2:3; Ex-1002, ¶34.

It was also known that state law bans on mobile device usage while driving were often ignored and not effective. Ex-1008, ¶0002; Ex-1013, 1:25–2:3 ("[S]tatistics show that accidents arising from cellular phone based distractions are increasing as the popularity of such devices increases" despite bans.); Ex-1002, ¶¶35-36.

Not only was the problem known, but so was Patent Owner's alleged solution. As set forth in detail below, the **Cazanas** prior art reference (relied upon herein in Grounds 1 and 2) discloses a system wherein a "mobile station" (e.g., mobile device such as a mobile phone) running a "'Do Not Disturb' Application (DNDA)" can

[2] Emphasis added throughout, unless otherwise stated.

automatically respond to messages received while a user of the mobile station is driving and where the DNDA can be activated automatically in response to pairing the mobile device with a vehicle. Ex-1004, Abstract, 1:15-2:38, 4:48-67, 3:62-66, 5:28-35, 12:34-39. Cazanas explains that "[s]uch an application provides, for example, increased safety when the end-user of the mobile station is operating a vehicle." Ex-1004, 3:58-4:8; Ex-1002, ¶37. Furthermore, Do Not Disturb functionality associated with mobile phones was known to include silencing of notifications. Ex-1007, 4:51-58 (prior art patent to Google); Ex-1002, ¶38.

Frye, also relied upon below in Grounds 1 and 2, describes a system including an application which can adjust the functionality of a mobile device (*e.g.*, a mobile phone) when a user is driving, including by suppressing notifications of received communications. Ex-1005, ¶0005, ¶0014, ¶¶0045-0046, ¶¶¶0133-0134, ¶0020, ¶0025. Frye also discloses that the functionality of the mobile device can be adjusted in response to pairing of the mobile device. Ex-1005, ¶¶0018-0019, ¶0029, ¶¶0025-0027, ¶¶0041-0042, ¶¶0045-0046, ¶0080, ¶¶0014-0016, ¶¶0133-0134. Frye states that, as a result of its methods, "[i]t is believed that the user may focus all of his/her attention on the activity that he/she is then-currently engaged in (such as driving a vehicle) rather than answering voice calls, reading and responding to incoming text messages, and/or the like." Ex-1005, ¶0018; Ex-1002, ¶39.

As set forth herein, the claims of the '853 patent are directed to nothing more

than known mobile device functionality that the prior art recognized to be useful in connection with reducing distracted driving. Ex-1002, ¶40.

C. Overview of Prosecution History

The '853 patent issued from an application filed on October 15, 2014 (14/515,477)("the '477 Application") which claims priority to two earlier applications: U.S. Provisional App. No. 61/835,234 ("the '234 Provisional") filed on June 14, 2013, and U.S. Non-Provisional Application 14/176,107 ("the '107 Application") filed on February 9, 2014. Ex-1001; Ex-1002, ¶41.

During prosecution of the '477 Application leading to the '853 patent, a Track One Request for Prioritized Examination was filed and granted. Ex-1010, 50. No rejections ever issued during prosecution. Instead, an interview took place where, according to an Examiner-Initiated Interview Summary, two pieces of prior art were discussed—Cai[3] and Bauchot[4]. Ex-1010, 37. The Examiner's sole comment regarding the substance of the interview was: "Applicant needs to highlight the novel aspect of the invention." *Id.*; Ex-1002, ¶42.

A Notice of Allowance, accompanied by an Examiner's Amendment, followed the interview shortly thereafter on December 29, 2014. Ex-1010, 33-36.

[3] U.S. Patent Application Publication 2011/0039581.

[4] U.S. Patent Application Publication 2005/0119002.

The Examiner did not set forth any reasons for allowance on the record. It is not clear whether and to what extent Applicant ever "highlight[ed] the novel aspect of the invention" according to the Examiner's Interview Summary comment. Furthermore, a limited amount of prior art was considered during prosecution—only five references listed on the face of the patent. Ex-1002, ¶¶43-44; *see* Ex-1011.

D. Overview of IPR2019-00434

Unified Patents Inc. ("Unified") filed a petition for *inter partes* review of claims 1–7 of the '853 patent on December 17, 2018. Ex-1016. Unified identified only itself as the real party-in-interest, which Unified supported with voluntary interrogatory responses stating that no other entity had any involvement in, knowledge of, or control over the preparation, payment, or decision to file the petition. Ex-1017. Unified's petition asserted three grounds of obviousness: (1) Riemer[5] and Guba[6], (2) Guba, Olincy[7], and Chaudhri[8], and (3) Guba, Olincy, Chaudhri, and Riemer. Ex-1016, 7.

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[5] US 2010/0216509.

[6] US 2011/0009107.

[7] US 2011/0151838.

[8] US 2013/0332721.

The Board denied institution of Unified's petition on July 30, 2019, finding that the petition did not demonstrate a reasonable likelihood of unpatentability. Ex-1016. In particular, the Board found that the grounds did not present a likelihood of success on the merits with respect to two limitations: "[e] receiving a user selection to automatically initiate the inactive mode in response to the pairing of the mobile device with a vehicle"[9] and "[*] in response to the pairing of the mobile device and the vehicle, automatically initiating a process to place the mobile device in inactive mode."[10] According to the Board, the grounds for both limitations suffered from the same deficiency: although the prior art taught "pairing" of a mobile device to a vehicle, this act of pairing was not itself the trigger for placing the mobile device in the "inactive mode" recited in the claim. Ex-1016, 15–16 (Riemer using pairing to determine when a user is in a motor vehicle, rather than to trigger an inactive mode); 17–18 (Guba using pairing to initiate communication policies and safety policy, rather than to trigger an inactive mode).

V. CLAIM CONSTRUCTION

The Board "need only construe terms that are in controversy, and only to the extent necessary to resolve the controversy." *Nidec Motor Corp. v. Zhongshan*

[9] This limitation is labeled "[1f]" in the instant petition filed by Google.

[10] This limitation is labeled "[1h]" in the instant petition filed by Google.

Broad Ocean Motor Co. Ltd., 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quotations omitted). Petitioner submits that no such construction is necessary here and that all claim terms should take their plain and ordinary meaning. Ex-1002, ¶¶48-50.[11]

In IPR2019-00434, the Board considered the term "inactive mode" of claim 1 and stated "the correct construction of 'inactive mode' at least encompasses a mode in which user notifications relating to incoming communications are suppressed." Ex-1016, 9. Citing to the above construction, the parties in the litigation submitted a joint claim construction adopting the Board's construction of "inactive mode." Ex-1015, 2.

For completeness, Petitioner includes Patent Owner's First Amended Complaint. Ex-1009. Patent Owner's infringement allegations are set forth in paragraph 42 of the Complaint and reflect Patent Owner's apparent understanding of the challenged claims.

VI. PERSON HAVING ORDINARY SKILL IN THE ART

The level of ordinary skill in the art was someone with at least an undergraduate degree or equivalent in electrical engineering, computer engineering,

[11] Petitioner reserves the right to propose different claim constructions in other proceedings and to contend that the challenged claims are invalid under 35 U.S.C. § 112.

or computer science, or a master's degree in information science, but relevant practical experience could offset less or different education. Ex-1016, 7-8 (Board adopting this definition); Ex-1002, ¶¶46-48.

VII. CLAIMS 1-9 ARE NOT ENTITLED TO PROVISIONAL FILING DATE

Claims 1–9 are not entitled to the benefit of the '234 Provisional because it lacks any disclosure of (1) pairing a mobile device with a vehicle, or (2) automatically initiating inactive mode based on pairing. Ex-1012. Thus, February 9, 2014 is the earliest possible priority date. Ex-1002, ¶¶51-54.

VIII. DETAILED EXPLANATION OF THE REASONS FOR UNPATENTABILITY

Ground 1. Claims 1–7 are obvious over Cazanas and Frye

Claims 1–7 are obvious under AIA 35 U.S.C. § 103 over U.S. Patent No. 8,275,351 ("**Cazanas**")(Ex-1004), in view of U.S. Patent Application Publication No. 2012/0282906 A1 ("**Frye**")(Ex-1005).[12] Ex-1002, ¶55.

Cazanas is a U.S. patent that issued on September 25, 2012. The application leading to the issuance of the Cazanas patent was filed on May 26, 2010. Ex-1004, (22), (45).

Frye is a U.S. patent application publication that published on November 8,

[12] Frye issued as U.S. Patent No. 8,805,349. Ex-1025.

2012. The application leading to the Frye publication was filed on August 3, 2011. Ex-1005, (22), (43).

The '853 patent is governed by AIA 35 U.S.C. § 102 because its earliest possible priority date (assuming entitlement to the June 14, 2013 provisional filing date) is on or after March 16, 2013. Cazanas and Frye are both prior art under AIA 35 U.S.C. §§102(a)(1) and (2), even to the earliest possible priority date. Ex-1002, ¶¶56-58.

Neither Cazanas nor Frye was cited during prosecution of any application leading to the '853 patent. Ex-1002, ¶59.

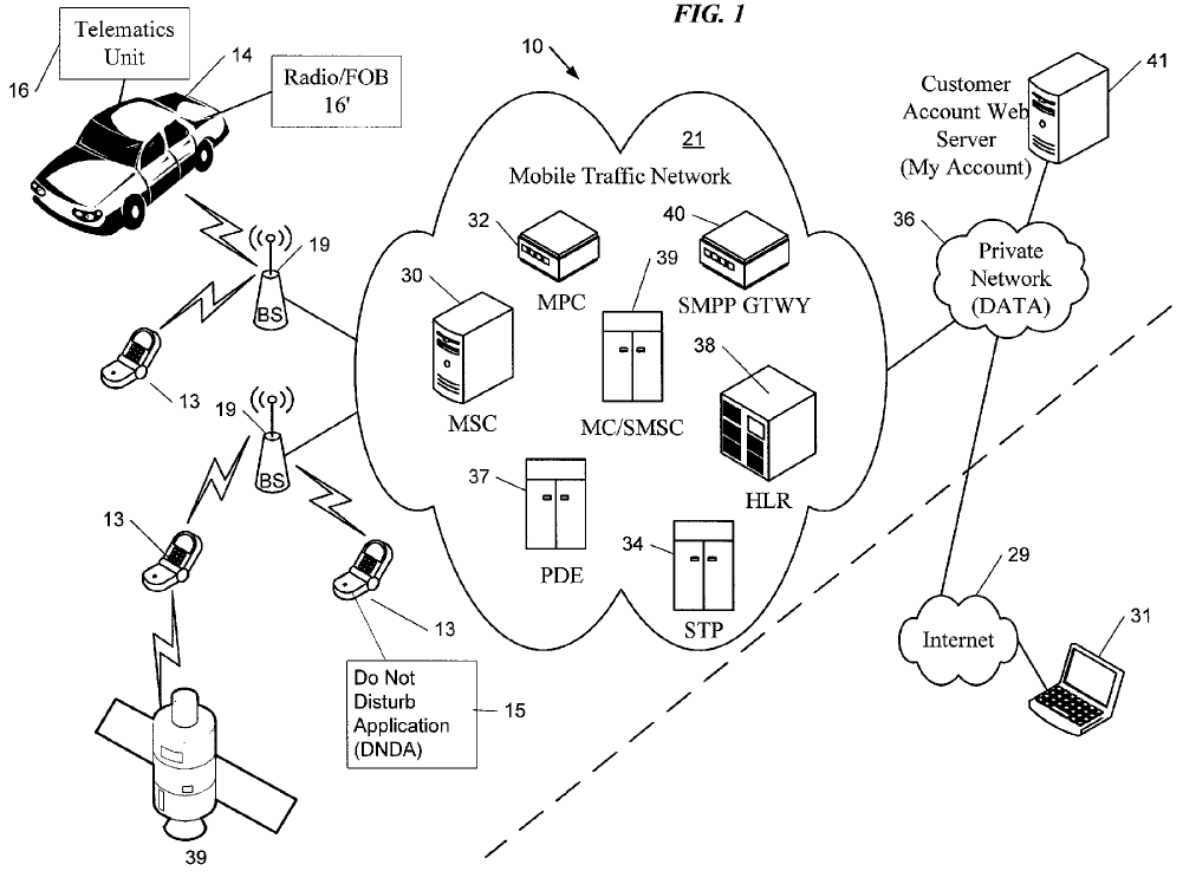
A. Overview of the Ground

The challenged claims are obvious over the combination of **Cazanas** and **Frye**. Ex-1002, ¶60. Cazanas discloses or renders obvious the elements of independent claim 1 alone. Ex-1002, ¶60. Additionally, certain elements of claim 1 are obvious in view of Frye. Ex-1002, ¶60. To the extent that Cazanas alone does not disclose or render obvious **receiving a *user selection* to automatically initiate the inactive mode**, it would have been obvious to permit a user to select the specific conditions for activation of Cazanas' DNDA, including for the user to select that the DNDA should automatically initiate the inactive mode in response to the pairing of the mobile device with a vehicle, in view of Frye's teachings. Ex-1002, ¶60. Furthermore, to the extent that Cazanas alone does not render obvious **suppressing**

sound, visual, or vibration communication cues when the device is in a restricted operation mode, it would have been obvious to incorporate Frye's teachings of suppression of notifications, so that Cazanas' DNDA would not only send away messages but also suppress communication cues (thus also rendering Cazanas' DNDA an "**inactive mode**": "a mode in which user notifications relating to incoming communications are suppressed"). Ex-1016, 9; Ex-1002, ¶60.

1. Overview of Cazanas

Cazanas discloses a "mobile station" (e.g., a mobile phone) running a "'Do Not Disturb' Application (DNDA)" that automatically responds to messages received while a user of the mobile station is driving. Ex-1004, Abstract, 1:15-2:38, 4:48-67. Cazanas' system is depicted below in Figure 1:



Ex-1004, Fig. 1; Ex-1002, ¶61. Cazanas explains that "FIG. 1 illustrates a mobile communication network 10 as may be operated by a carrier or service provider to provide a wide range of mobile communication services and ancillary services or features to its subscriber customers and associated mobile station (MS) users." Ex-1004, 4:11-15. "[M]obile stations 13 typically take the form of portable handsets, smart-phones or personal digital assistants." Ex-1004, 4:47-51; Ex-1002, ¶61.

Mobile station 13 "can include a 'Do Not Disturb' Application (DNDA) 15, that can be downloaded to the mobile station 13 or added thereto in some other way. The DNDA 15 is provided in a mobile station 13 that otherwise provides normal

mobile communications services of the network 10 to a user of the mobile station." Ex-1004, 4:50-56. The "DNDA can be activated to enable the mobile station 13 to begin automatically responding to incoming messaging services messages" when a user is driving. Ex-1004, 5:23-35; Ex-1002, ¶62. Cazanas explains that "[s]uch an application provides, for example, increased safety when the end-user of the mobile station is operating a vehicle." Ex-1004, 3:58-4:8; Ex-1002, ¶62.

Cazanas teaches that "the mobile station can include a Bluetooth transceiver" which "can be used to pair the mobile station 13 with a portion of the vehicle 14." Ex-1004, 10:35-38, 5:17-22, 5:28-35, 12:34-39, 13:20-29, 3:62-67, 2:5-9; Ex-1002, ¶63. The DNDA application can be automatically activated in response to the "pairing" of the mobile device with a vehicle. As Cazanas explains:

> Various illustrated examples reference a 'do-not-disturb' application that is executed on a mobile station. The application can be triggered to **automatically execute** based on numerous factors such as the rate of travel of the mobile station, the **pairing of the mobile station with a portion of a vehicle**, or in response to a predetermined schedule.

Ex-1004, 3:62-66, 5:28-35, claim 3; *see id.*, 12:34-39 ("[T]he application can be executed in response the mobile station 13 being paired to the vehicle 14."); Ex-1002, ¶63.

2. Overview of Frye

Much like Cazanas, Frye also describes a system 10 including an application which can adjust the functionality of a mobile device 98 (e.g., a mobile phone) when a user is driving. Ex-1005, ¶0005, ¶0014, ¶¶0045-0046, ¶0123, ¶¶0127-0128, ¶¶0133-0134, ¶0137, ¶0020, ¶0025. Frye's overall system is illustrated in Figure 1:

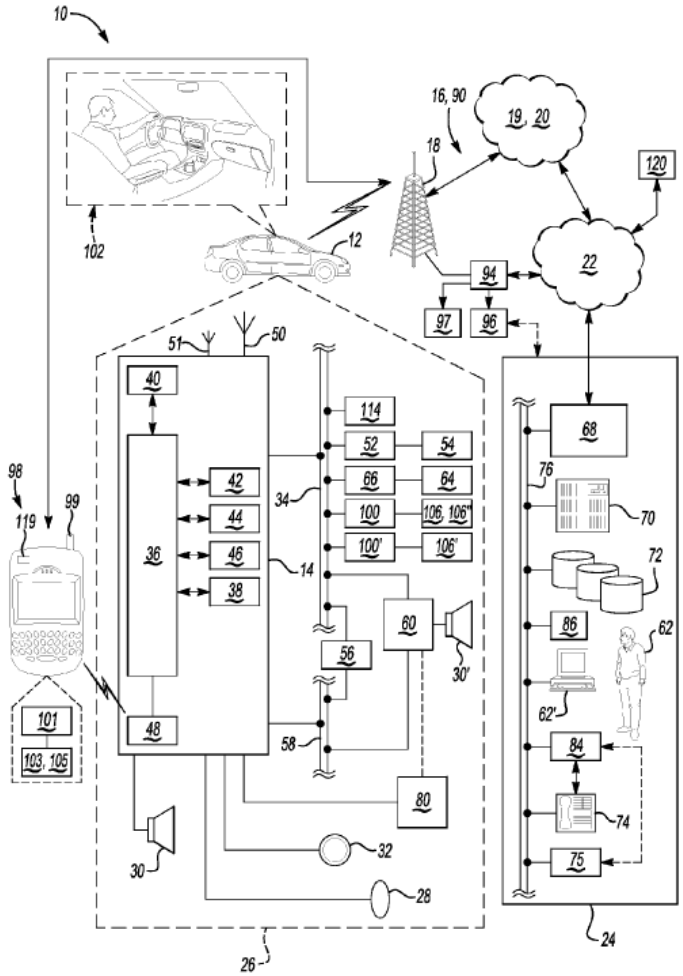


Fig-1

Ex-1005, Fig. 1; Ex-1002, ¶64.

Frye's system can "be used to discourage a driver from using his/her mobile

communications device in a non-hands-free manner while operating a vehicle." Ex-1005, ¶0014, ¶0016, ¶0018. Frye's system, for example, "discourages the driver from using the device in a manner requiring the use of the driver's hands by automatically adjusting a functionality of an audio component disposed inside the vehicle in response to recognizing, via a telematics unit, that the device is not located in or at a predefined location inside a cabin area of the vehicle." Ex-1005, ¶0014. The "predefined location" can be, for example, a device "specifically designed to hold the mobile device." Ex-1005, ¶0015; Ex-1002, ¶65.

A user of Frye's application can select the precise conditions for the adjustment of the functionality of the operation of the mobile device. Ex- 1005, ¶0052, ¶¶0132-0134. By accessing a webpage, a user may input his or her "user preferences (e.g., user-selected adjustments to user-selected functionalities of the mobile device 98 [and] user-selected (i.e., preset) operational modes of the vehicle 12" into a "user profile." Ex-1005, ¶0052. Frye explains:

> [T]he information from the user profile may be used, by the processor 101 while executing the application 103 resident [on the mobile device], to determine i) which functionality of the device 98 should be adjusted and ii) how the functionality is to be adjusted. As used herein, a "functionality" of the mobile device 98 that may be adjusted refers to an element or attribute of the mobile device 98 that is configured to perform a particular function.

Ex-1005, ¶0133; *see* Ex-1005, ¶¶0127-0148, Fig. 8; Ex-1002, ¶66.

Frye also discloses that the functionality of the mobile device can be adjusted in response to "pairing" of the mobile device. Specifically, Frye teaches adjusting the functionality of the mobile device and/or vehicle audio when a mobile device is "pair[ed]" with a vehicle telematics unit but when the mobile device is not present in the "predefined location" such as a mobile device holder. Ex-1005, ¶¶0018-0019, ¶0029, ¶¶0025-0027, ¶¶0041-0042, ¶¶0045-0046, ¶0080, ¶¶0014-0016, ¶0123, ¶¶0132-0135, ¶0137. "[U]pon pairing the mobile device with the telematics unit of the vehicle . . . and thereafter each time the paired mobile device is connected to the telematics unit . . . the adjustment of the functionality of the audio component [of the vehicle system] may be accomplished on command by an in-vehicle telematics unit upon detecting that the mobile device is not located in or at a predefined location inside the vehicle."). Ex-1005, ¶0019. Frye states that, as a result, "[i]t is believed that the user may focus all of his/her attention on the activity that he/she is then-currently engaged in (such as driving a vehicle) rather than answering voice calls, reading and responding to incoming text messages, and/or the like." *Id.*; Ex-1002, ¶67.

B. Rationale (Motivation) Supporting Obviousness and Reasonable Expectation of Success

Cazanas discloses or renders obvious the elements of independent claim 1 alone as set forth in the detail in the "Claim Mapping" section below. Ex-1002, ¶68.

Nonetheless, this ground is also presented in view of Frye, which, together with Cazanas, renders obvious claims 1–7. Ex-1002, ¶68. The rationale supporting obviousness, including motivation to combine and reasonable expectation of success is discussed in detail in the "Claim Mapping" below. Ex-1002, ¶68.

C. Graham Factors

The **level of ordinary skill** in the art is as set forth above in §VI.

The **scope and content of the prior art** are discussed throughout the Ground.

The **differences between the prior art and the claims** are discussed throughout the Ground.

Petitioner is not aware of any **secondary considerations** that would make an inference of non-obviousness more likely. Ex-1002, ¶72.

This discussion of Graham factors applies to all Grounds. Ex-1002, ¶73.

D. Analogous Art

Cazanas and Frye are analogous art because they are in the same field as the '853 patent (mobile devices and associated systems, including wireless network communications) (Ex-1001, 1:14-21, Abstract), and their methods would have been reasonably pertinent to the problems facing the named inventors, because both references concern reducing distracted driving caused by driver operation of mobile devices by controlling mobile device communications (Ex-1001, 1:14-46; Ex-1004, Abstract, 1:5-67; Ex-1005, Abstract, ¶¶0002-0004). Ex-1002, ¶74.

E. Claim Mapping

CLAIM 1

"1[a]. A mobile device, comprising:"

Cazanas discloses a **mobile device**. Ex-1002, ¶76. Cazanas' system contains one or more "mobile stations" which are **mobile device**[s]. Cazanas explains that "[m]obile stations 13 typically take the form of portable handsets, smart-phones or personal digital assistants." Ex-1004, 4:48-50, 9:40-56, Fig. 1, Fig. 2; *see* Ex-1004, 5:44-50 (mobile station can be "a binary runtime environment for mobile (BREW-based) mobile station, a Windows Mobile based mobile station, android, I-Phone, Java Mobile, or RIM based mobile station"). Ex-1002, ¶76. Cazanas' Figure 2, reproduced below, depicts an exemplary mobile station 13:

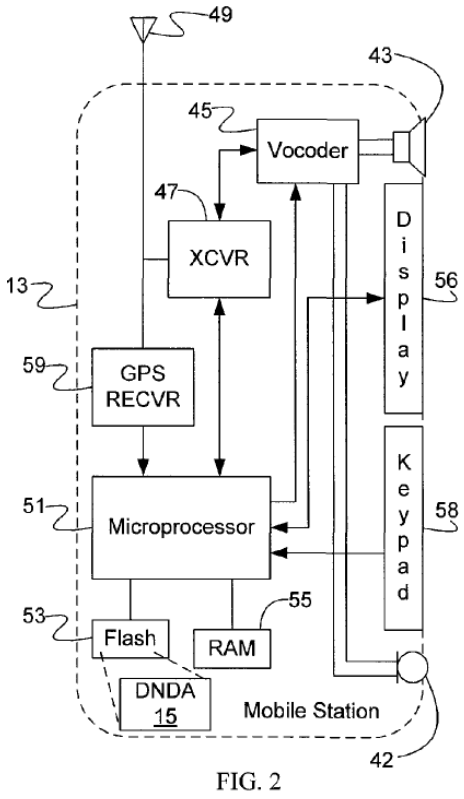


FIG. 2

Ex-1004, Fig. 2, 3:37-38, 4:48-54, 4:44-50; Ex-1002, ¶77.

"[1b] a wireless communication module;"

Cazanas' mobile station (**mobile device**) contains **a wireless communication module** in the form of a digital transceiver. Ex-1002, ¶78. Cazanas explains that "[f]or digital wireless communications, the mobile station 13 [] includes a digital transceiver (XCVR) 47." Ex-1004, 9:57-10:21, Fig. 2 (depicting XCVR 47). The digital transceiver facilitates **wireless communications**: "[t]he concepts discussed here encompass embodiments of the station 13 utilizing any digital transceivers that conform to current or future developed digital wireless communication standards."

Id. "The transceiver 47 provides two-way wireless communication of information, such as vocoded speech samples and/or digital message information." *Id.*; Ex-1002, ¶78.

"[1c] a processor, controlling the wireless communication module; and"

Cazanas' mobile station (**mobile device**) contains "microprocessor 51" which is a **processor**. Ex-1004, 2:49-51, 10:22-24, claim 10; *see* Ex-1004, Fig. 2 (depicting microprocessor 51). Cazanas explains that "microprocessor 51 serves as the programmable controller in that it controls all operations of the mobile station 13 in accord with programming that it executes." Ex-1004, 10:22-24. Since Cazanas' digital transceiver (XCVR) 47 (i.e., the claimed "wireless communication module") is part of mobile station 13 (Ex-1004, 9:57-10:21, Fig. 2), Cazanas' microprocessor 51 controls all operations of the digital transceiver. Cazanas thus discloses a processor, **controlling** the **wireless communication module**. Ex-1002, ¶79.

"[1d] a memory controlled by the processor, the memory including instructions that when executed by the processor cause the processor to perform the steps of:"

Cazanas' mobile station (**mobile device**) contains one or more **memor[ies].** Ex-1002, ¶80. "The mobile station 13 [mobile device] [] includes flash type program

memory 53 and/or a non-volatile random access memory (RAM) 55, for storing various software routines and mobile configuration settings." Ex-1004, 10:22-34, 2:49-52, 11:27-32, claim 10, Fig. 2 (depicting memories); Ex-1002, ¶80.

These memories are **controlled by the processor** (microprocessor 51). Ex-1004, 10:22-34, claim 10, Fig. 2. Cazanas' memory **includ[es] instructions that when executed by the processor cause the processor to perform** process **steps**. As Cazanas explains, the mobile device "includes a machine readable storage medium and executable program instructions embodied in the machine readable storage medium that when executed by a mobile station causes the system to perform various functions." Ex-1004, 2:65-3:3; Ex-1002, ¶81. The processor executes the "Do Not Disturb" Application (DNDA) stored in memory. Ex-1004, claim 10, claim 18, 2:49-53, 10:22-34, 10:39-41, 2:65-3:17. The memory also "stores an operating system, device driver software, call processing software and vocoder control software; and the memory may store any of a wide variety of other applications, such as client browser software and short message service software." Ex-1004, 10:22-34, 14:12-16, 14:42-44; Ex-1002, ¶81.

Given that Cazanas' DNDA is stored in the device memory, it would have been obvious to program Cazanas' **memory** to include **instructions** to perform claim steps [1e]-[1j] in the same memory in which the DNDA is stored. Specifically, it would have been obvious to program Cazanas' memory to implement steps [1e]-

[1j] discussed in the following claim mapping sections. Ex-1002, ¶82. A person having ordinary skill in the art ("PHOSITA") would have been motivated to do so in order for the mobile device to implement the relevant functionality by retrieving the instructions from the local memory during the process of executing the DNDA program. Doing so would involve nothing more than standard mobile device programming. Ex-1002, ¶82.

A PHOSITA would have had a reasonable expectation of success in modifying the operation of Cazanas' system, including Cazanas' DNDA application, according to Frye's teachings. Ex-1002, ¶83. A "reasonable expectation of success" is required only for the limitations actually recited in the claims. *See Intelligent Bio Systems v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). The art in the relevant timeframe was predictable and the proposed modifications involve nothing more than standard electronic device programming and functionality. Ex-1002, ¶83; *see* Ex-1004, 13:40-53; 14:45-51, 3:49-58. Petitioner notes that the '853 patent's general and high-level disclosures support this understanding of the relevant art. *See In re Epstein*, 32 F.3d 1559, 1568 (Fed. Cir. 2004); Ex-1002, ¶83.

"[1e] providing a graphical user interface through which a user customizes one or more functions of the mobile device when placed in an inactive mode;"

This claim element is disclosed, or alternatively rendered obvious, by Cazanas alone or with Frye. Ex-1002, ¶84.

Cazanas' "Do Not Disturb" Application (DNDA) executes on the mobile device and controls the operation of the mobile device when a user is operating a vehicle. Ex-1004, 3:58-4:8, 1:15-37. Cazanas explains that "[s]uch an application provides, for example, increased safety when the end-user of the mobile station is operating a vehicle." Ex-1004, 3:58-4:8. When the DNDA application is active (ON), the mobile device is in an **inactive mode**. Ex-1002, ¶85. This is because the DNDA reduces the likelihood that a user will be distracted by the mobile device while the DNDA is activated, as the "Do Not Disturb" message serves as a warning to deter would-be callers from disturbing the driver during the time that the DNDA is active. Ex-1002, ¶85. Cazanas explains that a "Do Not Disturb" message is sent to "anyone who sends the customer a SMS message while the 'Do Not Disturb' option is active (ON)." Ex-1004, 1:54-67, Fig. 3, 5:36-43, 10:39-54; Ex-1002, ¶85. As explained below in the mapping of the "suppressing" step of claim element [1j], Cazanas' "Do Not Disturb" message serves as a deterrent to would-be callers from disturbing the driver and thus reduces (i.e., suppresses) the number of incoming calls and messages the driver receives while the DNDA is turned on. Because the driver sees or hears fewer communication notifications while the DNDA is turned on (compared to when the DNDA is off), Cazanas teaches an **inactive mode**. Ex-1002, ¶85.

To the extent that the claim language "**inactive mode**" itself requires

suppression of communication cues that Cazanas does not expressly disclose, then it would have been obvious to include Frye's suppression functionality (e.g., Ex-1005, ¶¶0123-0137) into Cazanas' DNDA for the reasons discussed in the claim mapping below for element [1j] (reciting "suppressing one or more sound, visual, or vibration communication cues"). In this way, the combination of Cazanas and Frye teaches or suggests an **inactive mode** in which the "message notification function is restricted," such that "user will not know that the messages have been received" until the DNDA is turned off. Ex-1005, ¶0134; *see* Ex-1016, 9 (Board: "the correct construction of 'inactive mode' at least encompasses a mode in which user notifications relating to incoming communications are suppressed."); Ex-1002, ¶86.

Cazanas discloses that **a user can customize** the use of the DNDA application using a "**graphical user interface**" on the mobile device itself (display 56 and keypad 58). Ex-1004, 11:33-56, 9:35-39, 12:26-31, 10:35-54; 5:36-43; Ex-1002, ¶87. Cazanas explains:

> The display 56 and keypad 58 are the physical elements providing a textual or **graphical user interface**. In addition to normal telephone related input/output, these elements are also used for display of menus and other information to the user and **user input of selections**. For example, these elements can be used t**o input information related to the response message or to configure other parameters of the DNDA 15**. Also, the SMS options panel provided on certain mobile stations can be used to input information related to the

> response message. Of course other **user interface** elements may be used, such as a stylus and touch sensitive display screen, as in a PDA or mobile smartphone.

Ex-1004, 11:33-56; *see* Ex-1004, 9:29-39 (Operation of DNDA schedule "can also be configured on the mobile station 13 via the DNDA 15. Further, one or more response messages can be configured, created, or edited using ... the user interface on the mobile station and the DNDA."), 10:34-54, 1:54-67. Cazanas thus discloses that **customization can be performed by a user** using a **graphical user interface** of the mobile device. Ex-1002, ¶87. Furthermore, it would have been obvious to facilitate user interaction with and customization of the functionality of the DNDA via a graphical user interface on the mobile device because doing so merely represents standard mobile device application functionality as of the relevant time. Ex-1002, ¶87.

Cazanas also discloses *online* graphical user interface options through which a user can customize functions of the mobile device when placed in an inactive mode. Ex-1004, 9:1439 ("[O]ne or more response message[s] can be configured, created, or edited using ***the web site*** or the user interface on the mobile station and the DNDA."). Cazanas explains that a service provider or mobile carrier "offer[s] its subscribers on-line access to a variety of functions related to the subscribers' accounts." Ex-1004, 9:14-39. Cazanas states that "the carrier in our example

operates a customer account web server 43, offering a 'My Account' (Now MyVerizon) type subscriber interface via the Internet" and that the carrier operates a "My Account web site accessible through the Internet 29." *Id.* "[T]he website provides secure user access to **configure the operation of the DNDA** 15." *Id.*; *see* Ex-1004, 11:33-56; Ex-1002, ¶88. A user can access this online information via a mobile device and thus can use a **graphical user interface** of the mobile device to customize the use of the DNDA in this manner as well. Ex-1002, ¶88.

Via either the website accessed on a mobile device or the DNDA user interface, Cazanas teaches multiple options for user **customization**. For example, "[t]he response message can be user configurable each time the DNDA 15 application is executed. Also, predetermined responses can be created or provided and used. Also, response messages can be customized based on the sender of the incoming message." Ex-1004, 5:39-43, 11:33-56, 12:40-43, 10:39-54; Ex-1002, ¶89. A user can "set-up a schedule of activating and deactivating the DNDA 15. For example, if the account holder and user of the DNDA 15 has a regularly scheduled meeting, they can configure the DNDA 15 to execute during that period using the web site." Ex-1004, 9:29-39; Ex-1002, ¶89.

Finally, as set forth under claim element [1d], the processor of Cazanas' mobile device executes **instructions** stored in **memory**, which include instructions to execute the DNDA application. Ex-1004, 10:39-41; Ex-1002, ¶90. These

instructions also obviously include instructions associated with the provision of and user interaction with a graphical user interface through which a user can customize the function of the mobile device when placed in an inactive mode. Ex-1004, 10:39-47 ("[T]he stored program software will also include the Do-Not-Disturb Application (DNDA) 15. The DNDA 15 provides various functionality during its operation. For example, the DNDA 15, when active, enables the mobile station to automatically respond to incoming messaging service messages with a response message such as 'I am not available to respond at this time.' Of course, the response message is user configurable both via the mobile station 13 and via the above-described web site."); *see id.*, claim 10, claim 18, 2:49-53, 10:22-34, 2:65-3:17, 9:35-39, 12:26-31, 11:33-56; Ex-1002, ¶90; *see* claim element [1d] (discussing motivation and reasonable expectation of success to program instructions into Cazanas' memory).

"[1f] receiving a user selection to automatically initiate the inactive mode in response to the pairing of the mobile device with a vehicle;"

Cazanas discloses and renders obvious this claim element. Ex-1002, ¶91. Cazanas teaches that "the mobile station can include a Bluetooth transceiver .... The Bluetooth transceiver can be used to **pair the mobile station 13 with a portion of the vehicle 14**." Ex-1004, 10:35-38, 5:17-22, 5:28-35, 12:34-39, 13:20-29, 3:62-67, 2:5-9, 3:53-57. Cazanas thus discloses that the mobile station (**mobile device**) can

be **pair[ed] with a vehicle**. Ex-1002, ¶91.

Cazanas also discloses that the DNDA application can be automatically initiated (**automatically initiat[ing] the inactive mode**) in response to the pairing of the mobile device with a vehicle. As Cazanas explains:

> Various illustrated examples reference a 'do-not-disturb' application that is executed on a mobile station. The application can be triggered to **automatically execute** based on numerous factors such as the rate of travel of the mobile station, the **pairing of the mobile station with a portion of a vehicle**, or in response to a predetermined schedule.

Ex-1004, 3:62-66, claim 3; *see* Ex-1004, 5:28-35 ("Also, the DNDA 15 can be **activated upon pairing** the mobile station 13 **with the telematics unit 16**. Further, the **activation** can occur when the mobile station 13 is **paired** with a Bluetooth communication unit (e.g., a hands-free unit or radio with Bluetooth capabilities 16′) **with the vehicle 14**."), 12:34-39 ("[T]he application can be **executed in response** [to] the mobile station 13 **being paired** to the vehicle 14."); Ex-1002, ¶92. In each of these quoted disclosures, the act of pairing the mobile device to the vehicle is sufficient to trigger DNDA 15. Cazanas thus discloses and renders obvious that pairing is *sufficient* to trigger the initiation of the inactive mode, and a PHOSITA would thus understand Cazanas as teaching that a user may select any or all of these options as independent triggers for the activation of the DNDA (which results in

initiat[ion] of **inactive mode**). Ex-1002, ¶92.

Cazanas further explains that the conditions for activation of the DNDA can be **select[ed]** by a **user**. Cazanas teaches that the conditions for activation of the DNDA can be **select[ed]** by a user, either on a website or on the mobile device itself. Ex-1004, 9:29-39 ("[T]he web site provides secure **user access to configure** the operation of the DNDA 15.... Of course, this can also be **configured on the mobile station** 13 via the DNDA 15."). Cazanas provides an "example" of a user selection, explaining that a user can

> configure the operation of the DNDA 15, for example, to set-up a schedule of activating and deactivating the DNDA 15. For example, if the **account holder and user** of the DNDA 15 has a regularly scheduled meeting, **they can configure** the DNDA 15 to execute during that period using the web site.

Ex-1004, 9:29-39; *see* Ex-1004, 11:34-56 (discussing "**user** input of **selections**"); 12:20-39; Ex-1002, ¶93. Cazanas thus generally teaches **user selection** of the conditions for operation of the DNDA, an example of which is user selection of a schedule of operation. Ex-1002, ¶93.

A PHOSITA would further appreciate that the DNDA can also be configured to permit a **user** to **select** for the application to be "triggered to automatically execute based on numerous factors such as the rate of travel of the mobile station, **the pairing of the mobile station with a portion of a vehicle**, or in response to a

predetermined schedule." Ex-1004, 3:62-66. Each one of these options is presented as an alternative (using "or") and thus a PHOSITA would readily appreciate Cazanas to be teaching that each option can be selected to serve as a trigger for the operation of the DNDA. A PHOSITA would further recognize triggering upon pairing to be the most conservative (and thus safest) option. Ex-1002, ¶94. Cazanas thus itself discloses, or at least renders obvious, **receiving a *user selection* to automatically initiate the inactive mode in response to the pairing of the mobile device with a vehicle**. Ex-1002, ¶94.

Furthermore, it would have been obvious to permit a user to select the specific conditions for activation of the DNDA, including for the **user** to **select** that the DNDA should automatically initiate the inactive mode in response to Cazanas' "pairing of the mobile station with a portion of a vehicle." Ex-1004, 3:62-66; Ex-1002, ¶95. A PHOSITA would have been motivated to do so for numerous reasons. First, allowing the user to make this selection maximizes flexibility and customization of the application, thus allowing it to best accommodate a user's specific preferences for operation. Ex-1002, ¶95. Second, allowing the user to select when the DNDA should be activated allows for different conditions to be selected for DNDA activation depending on the driver. For example, users may wish to select different triggers for different drivers. On a teenager's phone, it may be desirable for the parent to make a selection on that phone to always trigger the DNDA

whenever the phone is perceived to be in or near the car; whereas an adult may wish to disable that trigger on their own phone, or a passenger (not driving) would also wish to disable triggering DNDA upon pairing. *See* Ex-1008, ¶¶0023, 0040. Third, allowing the user to make this selection on their mobile device represents nothing more than an obvious design choice in view of Cazanas' teachings. Ex-1002, ¶95. Indeed, there are only two options—either (1) the application provider makes the selection for the user, resulting in the functionality always being always enabled for all users, or (2) the user is given the option to select whether and when to enable this functionality for themselves. *See, e.g.*, *Arthrex, Inc. v. Smith & Nephew, Inc.*, 935 F.3d 1319, 1329 (Fed. Cir. 2019) (design choice found obvious where only "two options"); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007); *C.R. Bard v. Medline Indus.*, No. 2020-1900, at *10 (Fed. Cir. Aug. 13, 2021) ("When two equally viable options are available, as here, then, without more, either one would seem to have been obvious."); Ex-1002, ¶95.

This claim element is also obvious in view of Frye, which specifically teaches that a user can **select** the conditions for the operation of an inactive mode on a mobile device. *See, e.g.*, Ex-1005, ¶0052, ¶¶0132-0134. By accessing a webpage, a user may input "user preferences (e.g., **user-selected adjustments to user-selected functionalities** of the mobile device 98 [and] user-selected (i.e., preset) operational modes of the vehicle 12" into a "user profile." Ex-1005, ¶0052. Frye explains:

> the information from the user profile may be used, by the processor 101 while executing the application 103 resident thereon, to determine i) which functionality of the device 98 should be adjusted and ii) how the functionality is to be adjusted. As used herein, a 'functionality' of the mobile device 98 that may be adjusted refers to an element or attribute of the mobile device 98 that is configured to perform a particular function.

Ex- 1005, ¶0133; *see* Ex-1005, ¶¶0123-0148; Ex-1002, ¶96.

Frye further discloses that the functionality of the vehicle audio and/or mobile device can be adjusted in response to the mobile device being **paired** with a **vehicle** telematics unit but when the mobile device is not present in a specific location *(e.g.*, a location designed to hold the mobile device). Ex-1005, ¶¶0018-0019, ¶0029, ¶¶0025-0027, ¶¶0041-0042, ¶¶0045-0046, ¶0080, ¶0123, ¶¶0132-0135, ¶¶0014-0016 ("[U]pon pairing the mobile device with the telematics unit of the vehicle ... and thereafter each time the paired mobile device is connected to the telematics unit ... the adjustment of the functionality of the audio component [of the vehicle system] may be accomplished on command by an in-vehicle telematics unit upon detecting that the mobile device is not located in or at a predefined location inside the vehicle."). For example, in Frye's system, "each time the user removes the device from the predefined location (e.g., from the holder), the audio component [of the vehicle system] is automatically adjusted until, for example, the user places the

device back to the predefined location (e.g., back in the holder)." Ex-1005, ¶0018. Frye states that, as a result, "[i]t is believed that the user may focus all of his/her attention on the activity that he/she is then-currently engaged in (such as driving a vehicle) rather than answering voice calls, reading and responding to incoming text messages, and/or the like." *Id.*; Ex-1002, ¶97.

To the extent that Cazanas alone does not already disclose or render obvious this claim element, it would have been obvious to permit the ***user*** to **select** the specific conditions for activation of the DNDA, including for the ***user*** to select that the DNDA should automatically initiate the inactive mode in response to the pairing of the mobile device with a vehicle in view of Frye's teachings. Ex-1002, ¶98. A PHOSITA would have been motivated to and would have found it desirable to incorporate user selection of conditions for activation of an inactive mode in order to maximize choice, flexibility, and user customization of the application, thus best accommodating user preferences. Ex-1002, ¶98. Doing so would represent nothing more than the predictable use of prior art elements to achieve similar results. Ex-1002, ¶98. One of the reasons it was obvious to allow **user selection** of the precise conditions for the inactive mode is because a parent may wish to make selections to restrict the operation of a teenager's phone. *See* Ex-1008, ¶0023, ¶0040; Ex-1005, ¶0014, ¶¶0095-0096, ¶0101. For example, on a teenager's phone, it may be desirable for the parent to make a selection on that phone to always trigger the

DNDA upon pairing. Ex-1002, ¶98. A parent can also thus be the claimed **user** with respect to a teen driver's phone. Ex-1002, ¶98.

Finally, as set forth under claim element [1d], the processor of Cazanas' mobile device executes instructions stored in memory which include instructions to execute the DNDA application. Ex-1002, ¶99. As set forth under claim element [1d], it would have been obvious to program Cazanas' **memory** to include **instructions** to perform the method of the combination as set forth herein, including performing the claimed functionality as set forth under claim element [1f]. *See* claim element [1d] (discussing motivation and reasonable expectation of success to program instructions into Cazanas' memory); Ex-1002, ¶99.

"[1g] receiving a user selection of an away message to use when the mobile device is in inactive mode;

Cazanas discloses and renders obvious this claim element. Ex-1002, ¶100. Cazanas explains that a **user** can **select** different response messages (**away message[s]**) **to use when the mobile device is in inactive mode**. Ex-1004, 2:44-46, 11:45-54 ("The response message content can be **selected** from one or more stored response message content."). Cazanas explains:

> The response message indicates that the end user of the mobile station 13 is traveling and can not respond at this time. The response message can be an SMS message back to the sender of the incoming SMS message. The response message can be **user configurable** each

> time the DNDA 15 application is executed. Also, predetermined responses can be created or provided and used. Also, response messages can be **customized** based on the sender of the incoming message.

Ex-1004, 5:36-43; Ex-1004, 1:66-67 (system can "automatically activate a **custom** or default Do Not Disturb message"); *see* Ex-1004, 9:36-39, 10:41-47, 11:29-31, 12:40-51, claim 8, claim 16). As can be seen in the quotations above, Cazanas allows a user to create, customize, and select a response message, and Cazanas also permits a user to select a predetermined message. Ex-1002, ¶100. The system **receives** the user selections and implements an away message as directed by the user. Ex-1002, ¶100. It would be further obvious for the system to receive the user selection in order to implement the user's preferences. Ex-1002, ¶100.

Finally, as set forth under claim element [1d], the processor of Cazanas' mobile device executes **instructions** stored in **memory** which include instructions to execute the DNDA application. Ex-1004, 10:39-41 ("the stored program software will also include the Do-Not-Disturb Application (DNDA) 15"); Ex-1002, ¶101. These instructions also obviously include instructions associated with user selection of an away message to use when the mobile device is in inactive mode. Ex-1004, 10:39-47 ("[T]he DNDA 15, when active, enables the mobile station to automatically respond to incoming messaging service messages with a response message such as 'I am not available to respond at this time.' Of course, the response

message is user configurable . . ."); Ex-1002, ¶101. Additionally, as set forth under claim element [1d], it would have been obvious to program Cazanas' **memory** to include **instructions** to perform the method of the combination as set forth herein, including performing the claimed functionality as set forth under claim element [1g]. *See* claim element [1d] (discussing motivation and reasonable expectation of success to program instructions into Cazanas' memory); Ex-1002, ¶101.

"[1h] in response to the pairing of the mobile device and the vehicle, automatically initiating a process to place the mobile device in inactive mode;"

As explained under claim element [1f], Cazanas discloses, or at least, renders obvious, that **in response to the pairing of the mobile device and the vehicle**, the DNDA **automatically initiat[es] a process to place the mobile device in inactive mode**. *See, e.g.*, Ex-1004, 3:62-67 ("The application can be triggered to **automatically execute** based on . . . the **pairing** of the mobile station with a portion of a vehicle."); *id.*, 9:29-39, 12:34-35, 13:20-39; Ex-1002, ¶102.

Furthermore, as set forth under claim element [1d], the processor of Cazanas' mobile device executes **instructions** stored in **memory**, and these instructions include instructions to execute the DNDA application. Ex-1004, 10:39-41; Ex-1002, ¶103. As set forth under claim element [1d], it would have been obvious to program Cazanas' **memory** to include **instructions** to perform the method of the combination as set forth herein, including performing the claimed functionality as set forth under

claim element [1h]. *See* claim element [1d] (discussing motivation and reasonable expectation of success to program instructions into Cazanas' memory); Ex-1002, ¶103.

"[1i] when the mobile device is in inactive mode, in response to receiving a communication from the wireless communication module, transmitting the user selected away message via the wireless module and"

Cazanas discloses and renders obvious this claim element. Ex-1002, ¶104. During periods where the DNDA is activated (ON) (**the mobile device is in inactive mode**)(*see* claim element [1f]), when the mobile device **receiv[es] a communication**, the DNDA **transmit[s]** a response message (**user selected away message**)(*see* claim element [1g]) indicating that a user is unavailable in response to communications:

> [T]he DNDA 15, when active, enables the mobile station to automatically respond to incoming messaging service messages with a response message such as "I am not available to respond at this time."

Ex-1004, 10:42-45, 5:23-43; Ex-1002, ¶104. Communications are **receiv[ed]** and **transmitted** via the wireless communication module. *See* claim element [1b] (discussing the wireless communication module, transceiver 47); Ex-1004, 4:23-32. "The transceiver 47 provides **two-way wireless communication of information**, such as vocoded speech samples and/or digital message information." Ex-1004,

10:4-6. Cazanas specifically explains that "[c]ommunications via the transceiver 47 and the antenna 49 also include **various SMS, EMS and/or MMS messages**, **including the automatic response messages controlled by execution of the DNDA 15**." Ex-1004, 10:12-15; Ex-1002, ¶104.

Finally, as set forth under claim element [1d], the processor of Cazanas' mobile device executes **instructions** stored in **memory** which include instructions to execute the DNDA application. Ex-1004, 10:39-41; Ex-1002, ¶105. As set forth under claim element [1d], it would have been obvious to program Cazanas' **memory** to include **instructions** to perform the method of the combination as set forth herein, including performing the claimed functionality as set forth under claim element [1i]. *See* claim element [1d] (discussing motivation and reasonable expectation of success to program instructions into Cazanas' memory); Ex-1002, ¶105.

"[1j] suppressing one or more sound, visual, or vibration communication cues that would have accompanied the communication had the mobile device not been in inactive mode."

This claim element was obvious in view of Cazanas alone or in combination with Frye. Ex-1002, ¶106. Cazanas' DNDA executes on the mobile device and controls the operation of the mobile device when a user is operating a motor vehicle. Ex-1004, 3:58-4:8, 1:15-37. Cazanas explains that "[s]uch an application provides, for example, increased safety when the end-user of the mobile station is operating a vehicle." Ex-1004, 3:58-4:8. A "Do Not Disturb" message is sent to "anyone who

sends the customer a SMS message while the 'Do Not Disturb' option is active (ON)." Ex-1004, 1:54-67, Fig. 3, 5:36-43, 10:39-54. Ex-1002, ¶106.

As discussed above regarding the "inactive mode" in claim element [1e], Cazanas achieves a net reduction (**suppression**) of incoming calls and messages while the DNDA is turned on, because any would-be caller will see a "Do Not Disturb" message that will warn and deter the would-be caller from disturbing the driver, consistent with Cazanas' stated purpose of reducing disturbances to a driver. Ex-1004, 1:54-67, Fig. 3, 5:36-43, 10:39-54, 3:58-4:8, 1:15-37. Ex-1002, ¶107. Accordingly, when Cazanas' DNDA is on (i.e., the mobile device is in **inactive mode**), the driver receives fewer communication notifications than when the DNDA is off. Ex-1002, ¶107.

To the extent that Cazanas alone does not expressly teach suppressing communication cues when the DNDA is turned on, this suppression function was obvious in view of Frye's express teachings. Ex-1002, ¶108. Frye describes an application that adjusts the functionality of a mobile device when a user is driving. Ex-1005, ¶0005, ¶0014, ¶¶0045-0046, ¶¶0133-0135, ¶0123, ¶0020, ¶0025. Frye's application, when executed on a mobile device, can adjust the functionality of the device by **suppressing all message notifications**. Ex-1005, ¶¶0132-0134. Frye teaches:

> [T]he processor 101 may **restrict the message notification function**

> so that the user will not be notified (via, e.g., a ring tone or a vibration of the device 98) of an incoming text message. Thus, the **disabling of the message notification function** includes the disabling of a ring mode or vibration mode of the user's device 98 whenever a new text message is received. In this example, **the message notification function is restricted** so long as the device 98 is in an adjusted functionality (in this case, disabled) operational mode. As such, incoming messages will be received by the mobile device 98, however the **user will not know that the messages have been received** until the user checks the device 98 for new messages.

Ex-1005, ¶0134; *see* Ex-1005, ¶¶0123-0137, Fig. 8; Ex-1002, ¶108.

Frye thus discloses **suppressing one or more sound, visual, or vibration communication cues that would have accompanied the communication had the mobile device not been in** a "disabled" operational mode (**inactive mode**). Ex-1002, ¶109. Incorporating Frye's teachings of suppression of notifications as part of Cazanas' DNDA operation thus renders the DNDA an "**inactive mode**"—i.e., "a mode in which user notifications relating to incoming communications are suppressed." Ex-1016, 9; Ex-1002, ¶109.

A PHOSITA would have been motivated and would have had numerous reasons to incorporate Frye's teachings of suppression of notifications to ensure that Cazanas' DNDA would similarly suppress communication cues when the DNDA is activated. Ex-1002, ¶110. First, doing so fulfills Cazanas' own stated purpose of

providing "do not **disturb**" functionality that, among other things, will reduce the number of outside disturbances to the driver while operating a vehicle and thus promote safe driving. Ex-1004, 4:5-7. Indeed, as Frye expressly recognizes, distractions from incoming communication cues can be suppressed to such an extent that "the user will not know that the messages have been received" until the disabled notification function is restored. Ex-1005, ¶0134; Ex-1002, ¶111.

Second, silencing communication notifications would have been desirable because it was known to increase driving safety by allowing the user to "focus all of his/her attention on the activity that he/she is then-currently engaged in (such as driving a vehicle)," a goal specifically recognized in Frye and throughout the art. Ex-1005, ¶0018; *see* Ex-1004, 3:58-4:8; Ex-1005, ¶¶0003-0004, ¶¶0013-0014, ¶0110, ¶0117; Ex-1008, ¶¶0001-0002; Ex-1013, 1:25-2:3. Indeed, given the known crash risk posed by both hands-free and hand-held mobile device use, combining Cazanas' away messages with Frye's suppression of communication cues would have been desirable in order to reduce or eliminate both incoming and outcoming mobile device communication use, whether hand-held or hands free. Ex-1008, ¶0001 ("Researchers have shown that using mobile phones while driving is four times as likely to get into crashes, and the increased crash risk is similar for hands-free and hand-held phones."). Ex-1002, ¶112.

Third, given that suppression was a known functionality as part of "Do Not

Disturb" modes in the prior art, incorporating Frye's suppression functionality into Cazanas' DNDA application represents nothing more than an obvious design choice, and the simple combination of prior art elements to achieve predictable results—namely, a DNDA application that both sends an away message and suppresses incoming communication cues. Ex-1002, ¶113. Notably, Do Not Disturb functionality associated with mobile phones already included suppression of notifications:

> [W]hen the DND [Do Not Disturb] mode is activated, the **ringer may be silenced**, **all incoming calls may be blocked** or directed to voicemail, t**he mobile phone 106 may be placed into vibrate, hibernate or stand-by mode or powered off**, or any other action may occur that absolutely or selectively minimizes disturbance of the mobile phone 106 to [a user].

Ex-1007, 4:51-58 (prior art patent to Google). The addition of such notification suppression to Cazanas' DNDA would have been trivial and well within the ability of a PHOSITA. There would have been a reasonable expectation of success in implementing this functionality. Ex-1028, pp. 62-66; Ex-1002, ¶114.

Finally, as set forth under claim element [1d], the processor of Cazanas' mobile device executes **instructions** stored in **memory** which include instructions to execute the DNDA application. Ex-1004, 10:39-41; Ex-1002, ¶114. As set forth under claim element [1d], it would have been obvious to program Cazanas' **memory**

to include **instructions** to perform the method of the combination as set forth herein, including performing the claimed functionality as set forth under claim element [1j]. *See* claim element [1d] (discussing motivation and reasonable expectation of success to program instructions into Cazanas' memory); Ex-1002, ¶115.

CLAIM 2

> ***"2. The mobile device of claim 1 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:***
>
> ***when the mobile device is in inactive mode, in response to receiving the communication from the wireless communication module, suppressing all sound, visual, and vibration communication cues that would have accompanied the communication had the mobile device not been in inactive mode."***

Claim 2 is similar to claim element [1j] except that it further requires that ***all* sound, visual, and vibration communication cues** be suppressed. Ex-1002, ¶116.

Cazanas alone or in view of Frye renders obvious this claim element for similar reasons as set forth under claim element [1j]. Frye expressly teaches "**disabling**" and "**restrict[ing]**" the message notification function to the fullest extent, such that "incoming messages will be received by the mobile device 98, however **the user will not know that the messages have been received** until the user checks the device 98 for new messages." Ex-1005, ¶¶0132-0134; *see* Ex-1005, ¶0110, ¶¶0135-0137; Ex-1002, ¶117.

It would have been obvious to suppress **all sound, visual, and vibration**

communication cues, to the fullest extent as taught by Frye, to facilitate Cazanas and Frye's goals of minimizing distractions to a driver while a vehicle is operating and thereby improving driver safety. Ex-1004, 3:58-4:8; Ex-1005, ¶¶0002-0004; ¶¶0013-0014, ¶0018, ¶0110; *see* analysis for claim 3; Ex-1002, ¶118.

CLAIM 3

"3. The mobile device of claim 1 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:

providing a notification of the communications upon completion of the inactive mode."[13]

Cazanas discloses or renders obvious this claim element. Ex-1002, ¶119. Once the DNDA is deactivated (**completion of the inactive mode**), Cazanas teaches that the user has received and can then respond to messages received when the DNDA was engaged (i.e., in **inactive mode**). Ex-1004, 1:54-67, 3:11-17, 3:58-4:7, 11:5-17, 12:20-22, 12:49-61, 13:11-31. A PHOSITA would thus appreciate that the user has been **notifi[ed]** of a communication so that the user may be able to determine that a communication has in fact been received and then to respond to that

[13] Petitioner notes that this claim language recites "communications" but that claim 1 only refers to "a communication." Petitioner reserves all rights to challenge this claim language under 35 U.S.C. § 112.

communication. *See, e.g.*, Ex-1006, ¶¶0048–0049 (creating and reporting a log of missed calls/messages to the driver), ¶¶0057–0068 (same). It would thus be obvious in view of Cazanas' teachings to **provid[e] a notification of the communications upon completion of the inactive mode**. Ex-1002, ¶119.

This claim element is also further obvious in view of Frye. Ex-1002, ¶120. Frye teaches providing a **notification of the communications upon completion of** a restricted communication mode (an **inactive mode**). As Frye explains:

> If, for example, the functionality is a message notification function of the user's mobile device 98, the processor 101 may restrict the message notification function so that the user will not be notified (via, e.g., a ring tone or a vibration of the device 98) of an incoming text message. Thus, the disabling of the message notification function includes the disabling of a ring mode or vibration mode of the user's device 98 whenever a new text message is received. In this example, the message notification function is restricted so long as the device 98 is in an adjusted functionality (in this case, disabled) operational mode. **As such, incoming messages will be received by the mobile device 98, however the user will not know that the messages have been received until the user checks the device 98 for new messages**.

Ex-1005, ¶¶0132-0134. A PHOSITA would appreciate and understand that the user has been **notifi[ed]** of a communication in order to determine whether any communications have been received when the user checks the device for new

messages. It would thus also be obvious in view of Frye's teachings to **provid[e] a notification of the communications upon completion of the inactive mode**. Ex-1002, ¶120.

Furthermore, to the extent Patent Owner contends that this claim requires that a notification of a communication received during inactive mode is provided *only* upon completion of the inactive mode,[14] doing so is similarly obvious in view of Cazanas and Frye. Ex-1002, ¶121. It would have been obvious to do so to facilitate Cazanas and Frye's goals of eliminating distractions to a driver while a vehicle is operating and thereby enhancing driver safety. Ex-1004, 3:58-4:8; Ex-1005, ¶¶0002-0004, ¶¶0013-0014, ¶0018, ¶0110; *see* analysis for claim 2; Ex-1002, ¶121.

CLAIM 4

"4. The mobile device of claim 1 wherein the communication received from the wireless communication module is an SMS message."

Cazanas explains that **received communication[s]** can be "messaging service messages (e.g., simple messaging service messages (SMS), enhanced messaging service messages (EMS), and multi-media messaging service messages (MMS)) received at the mobile station 13." Ex-1004, 4:48-67, 6:46-7:9, 7:29-34. Cazanas

[14] Petitioner submits that the plain meaning of this claim language contains no such restriction. Ex-1002, ¶121.

explicitly states that "[c]ommunications via the transceiver 47 [**wireless communication module**] and the antenna 49 also include various **SMS**, EMS and/or MMS messages, including the automatic response messages controlled by execution of the DNDA 15." Ex-1004, 10:4-15; Ex-1002, ¶122.

CLAIM 5

"5. The mobile device of claim 1 wherein the communication received from the wireless communication module is an email."

This claim element is obvious over the combination of Cazanas and Frye. Ex-1002, ¶123. While Cazanas does not specifically state that the communication received from the wireless communication module is an e-mail message, Cazanas expressly contemplates the applicability of its teachings to different types of communications. Ex-1002, ¶123. Cazanas states:

> Those skilled in the art will recognize that the present teachings are amenable to a variety of modifications and/or enhancements. For example, although some aspects of the present disclosure describe the DNDA 15 responding only to messaging service messages, it is possible to extent the teaching to respond to incoming voice telephone calls with messaging service messages as well.

Ex-1004, 14:45-51. Cazanas also expressly recognizes that **"e-mailing** and texting" while driving have been banned as distracting to a driver. Ex-1004, 1:15-31. A PHOSITA would thus be motivated to extend Cazanas' teachings to other kinds of communications, including **e-mail**, which Cazanas expressly mentions, and which

is no less distracting to a driver than reading and typing SMS messages (see claim 4 above). Ex-1002, ¶123. Cazanas also specifically teaches that digital transceiver (XCVR) 47 (**wireless communication module**) can be used to send and receive a wide variety of digital communications, which a PHOSITA would recognize would include email. Ex-1004, 9:57-10:3; Ex-1002, ¶123.

Furthermore, Frye specifically teaches that "**electronic mailing (or e-mail) capabilities**" can be controlled using its system. Ex-1005, ¶0133, ¶0025, ¶0108. Thus, a PHOSITA would be motivated to incorporate control of emails into Cazanas' system in view of Cazanas and Frye's teachings and would have had a reasonable expectation of success in doing so. Ex-1002, ¶124; Ex-1014:4-15. *See* claim element [1d] (discussing motivation and reasonable expectation of success). Ex-1002, ¶124.

CLAIM 6

"6. The mobile device of claim 1 wherein the communication received from the wireless communication module is a cellular phone call."

This claim element was obvious over Cazanas alone or further in view of Frye. Ex-1002, ¶125. Cazanas expressly contemplates the applicability of its system to different types of communications:

> [A]lthough some aspects of the present disclosure describe the DNDA 15 responding only to messaging service messages, **it is possible to extend the teaching to respond to incoming voice**

telephone calls with messaging service messages as well.

Ex-1004, 14:45-51. Cazanas also specifically teaches that digital transceiver (XCVR) 47 (**wireless communication module**) can be used to send and receive voice communications. Ex-1004, 9:57-10:3, 9:49-56; *see* Ex-1004, 4:23-32; Ex-1002, ¶125.

Frye also specifically teaches that "**voice calling** capabilities" can be controlled using its system. Ex-1005, ¶0133, ¶0025, ¶0018, ¶0055, ¶0090, ¶0108, ¶0110; *see* Ex-1005, ¶¶0002-0004. Frye states that, as a result of limiting the function of the device/communication systems while a user is driving, "[i]t is believed that the user may focus all of his/her attention on the activity that he/she is then-currently engaged in (such as driving a vehicle) rather than answering voice calls." Ex-1005, ¶0018. A PHOSITA would thus be motivated to incorporate control of voice calling into Cazanas' system such that the system can control and respond to a **cellular phone call** in view of Cazanas and Frye's teachings and would have had a reasonable expectation of success in doing so. Ex-1002, ¶126; Ex-1004, 10:4-15.

CLAIM 7

"7. The mobile device of claim 1 wherein the user selected away message is a user customized away message."

Cazanas discloses and renders obvious this claim element. Cazanas allows a

user to create, **customize**, and select a response message to use (a **user customized away message**). Ex-1004, 1:54-67 (system can "automatically activate a **custom** or default Do Not Disturb message"); *see* Ex-1004, 5:36-43 ("response messages can be **customized**"), 2:44-46, 11:45-52; Ex-1002, ¶127.

Ground 2. Claims 8 and 9 are over Cazanas, Frye, and Zhou

Claims 8 and 9 are obvious under AIA 35 U.S.C. § 103 over Cazanas, Frye, and U.S. Patent Application Publication No. 2011/0294520 ("**Zhou**")(Ex-1008).[15] Zhou was filed on June 28, 2011 and published on December 1, 2011. Zhou is prior art under AIA 35 U.S.C. § 102(a)(1) and § 102(a)(2), even to the earliest possible priority date for the '853 patent (June 14, 2013). Zhou was not cited during prosecution of the '853 patent. Ex-1002, ¶¶128-130.

A. Overview of the Ground

Claim 8 depends from claim 1 and specifies that the instructions in the device's memory include the step of: "when the mobile device is placed in inactive mode, provide a notification to a **certification server** that the mobile device is in inactive mode." Claim 9 depends from claim 8 and adds the step of: "when the mobile device exits inactive mode, provide a notification to a **certification server** that the mobile device exited inactive mode." Ex-1002, ¶131.

[15] Zhou issued as U.S. Patent No. 8,971,927. Ex-1026.

A "certification server" is not defined in the '853 patent. The specification mentions that the certification server's intended use is "to 'certify' that a mobile device was not operational during a certain period as evidence that the phone was not used during driving." Ex-1001, 2:9–18. Using such evidence that the phone was in inactive mode, a driver might "qualify for discounts from an insurance company," and "parents may use such records to verify that teenage drivers are not being distracted." Ex-1001, 2:9–18; Ex-1002, ¶132.

Cazanas and **Frye** each discloses a server that communicates with a mobile device that sends information about the device's usage to the server. The combination of Cazanas and Frye renders obvious sending a notification to the server each time the mobile device enters or exits an inactive mode. Ex-1002, ¶133. However, to the extent the claimed "certification server" further requires the server to be used in a process to certify that the mobile device was paired with a vehicle at a particular time, **Zhou** discloses a certification server used for the very same purpose as in the '853 patent: an insurance company adjusting a driver's premiums based on the driver's use of his/her mobile phone while driving. Ex-1002, ¶¶134-138.

B. Rationale (Motivation) Supporting Obviousness and Reasonable Expectation of Success

The rationale supporting obviousness, including motivation to combine and reasonable expectation of success, is discussed in detail in the "Claim Mapping"

below. Ex-1002, ¶139.

C. Analogous Art

Zhou is analogous art because it is in the same field as the '853 patent (mobile devices and associated systems, including wireless network communications) (Ex-1001, 1:14-21, Abstract), and its methods would have been reasonably pertinent to the problems facing the named inventors. Both references concern reducing the use of mobile devices during operation of a vehicle and incentivizing safer driving with lower insurance premiums. Ex-1001, 1:14–46, 2:9-18; Ex-1008, Abstract, ¶¶0001-0002, ¶0007, ¶0023; Ex-1002, ¶140.

D. Claim Mapping

CLAIM 8

"8. The mobile device of claim 1 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:

when the mobile device is placed in inactive mode, provide a notification to a certification server that the mobile device is in inactive mode."

CLAIM 9

"9. The mobile device of claim 8 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:

when the mobile device exits inactive mode, provide a notification to a certification server that the mobile device exited inactive mode."

Claims 8 and 9 are rendered obvious by the combination of Cazanas, Frye,

and Zhou. Ex-1002, ¶142.

As explained in Ground 1 (incorporated herein in its entirety), Cazanas and Frye render obvious claim 1. Ex-1002, ¶143. Cazanas further teaches that its mobile station 13 (**mobile device**) can communicate with a "customer account **web server 43**" that stores "usage data." Ex-1004, 9:7–25, 4:8–22. Cazanas' "usage data" relates to the use of mobile station 13, as well as billing statements and other on-line information about a subscriber's account. Ex-1004, 9:7–25; Ex-1002, ¶143. Server 43 also gives the user access to configure the operation of the DNDA running on the mobile station. *Id*. In this manner, Cazanas' **server** collects and stores information related to the usage of mobile station 13 and its DNDA. Ex-1002, ¶143.

Frye also teaches a mobile device that can communicate information to a server. In Frye, **mobile device 98** communicates with "**host server 94**." Ex-1005, ¶¶0030-0031. Frye's system "may be configured to send data messages" (**notification**) "each time an RFID connection is established" between a mobile device and an associated holder "and each time the RFID connection is broken." Ex-1005, ¶0157, ¶0153. These messages are automatically sent to an "outside entity," such as the driver's parent, a public safety facility, or uploaded onto "**host server 94**." Ex-1005, ¶0014, ¶0019, ¶0074 ("stored data" on "host server 94" "may be used … to determine a **history of the usage** of the mobile device 98 by the driver while operating the mobile vehicle 12"), ¶0146, ¶¶0150–0151; Ex-1002, ¶144. Thus,

Frye's host server 94 receives a notification each time the mobile device is placed in or removed from a predefined location in the vehicle. Ex-1002, ¶144.

In the combination with Cazanas' DNDA (**inactive mode**) that is triggered upon "pairing with … a vehicle" in Ground 1 (Ex-1004, 3:62–66), Frye renders obvious sending a notification to a server each time the mobile device **enters or exits inactive mode**. In this combination, Frye's notification would be sent each time Cazanas' activating step 310 is triggered upon being "paired" to the vehicle (Ex-1004, 12:23–35) or deactivated per Cazanas' step 350 (Ex-1004, 13:11–29), so that the server would maintain a "history of the usage of the mobile device [] by the driver while operating the mobile vehicle []" (Ex-1005, ¶0074). Frye recognizes that "automatically" sending such notifications to an "outside entity" can deter distracted driving and motivates the user to focus all his/her attention on driving. Ex-1005, ¶0018. Ex-1002, ¶145.

Cazanas and Frye do not expressly disclose that the notifications sent to the server are subsequently used to "certify" that the mobile device was in inactive mode at a particular time, such as in a certification process that allows the driver "to qualify for discounts from an insurance company." Ex-1001, 2:14–15. However, Zhou expressly discloses the same use-case for a certification process as the '853 patent. Zhou discloses storing a driver's mobile phone usage data on a "driving safety data server 104" so that the driver may qualify for lower insurance premiums from an

"insurance company 130" (see Figure 1 below).

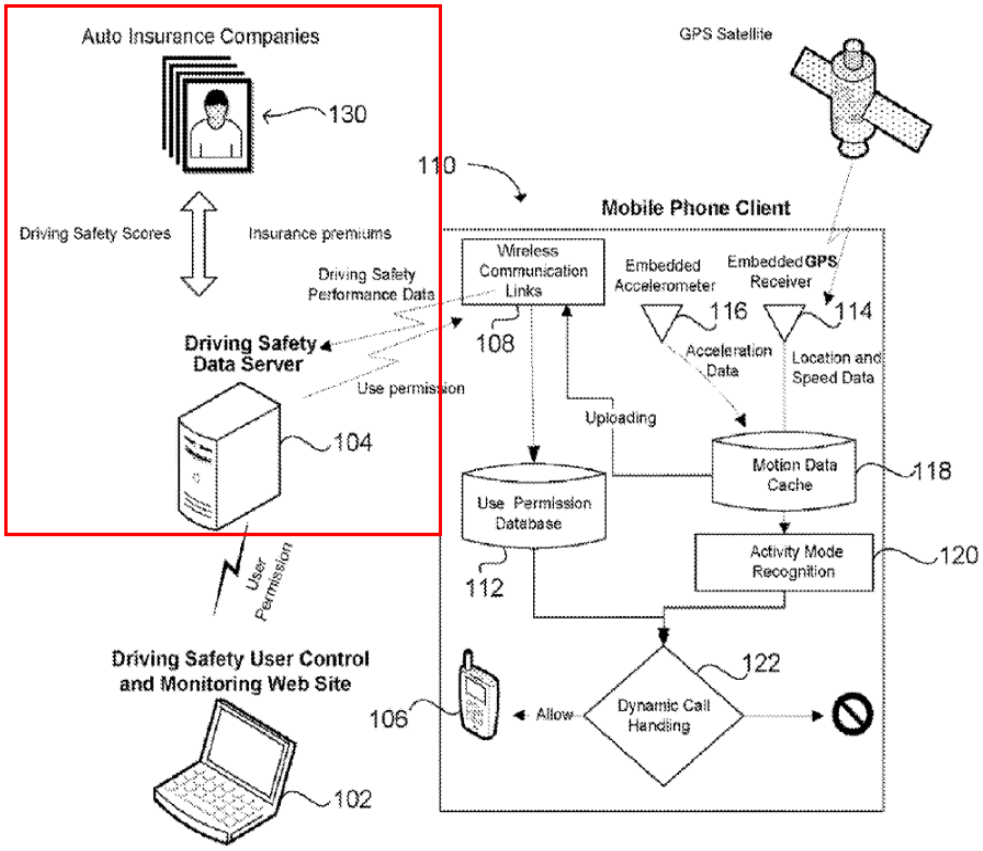


FIG. 1

Ex-1008, Figure 1 (red box added); Ex-1002, ¶146.

As seen above, Zhou teaches a system in which "client 110 unit on a GPS-enabled mobile phone 106 [**mobile device**] establishes a wireless connection 108 to the driving safety data server 104 in a computer network." Ex-1008, ¶0027. Zhou further teaches the "motion data and activity mode estimation results of a user of the mobile phone 106 can be transmitted to the driving safety data **server 104**." Ex-1008, ¶0031. The transmission of data to server 104 is a **notification**. Server 104 is a **certification server** as contemplated in the '853 patent. Ex-1001, 2:9–18.

Zhou's server 104 receives and stores activity data from the mobile phone 106 for the same purpose as the one in the '853 patent: to "share the safety score of the user of the mobile phone 106 with a third party such as an insurance company 130 to obtain insurance premiums," where premiums "can be reduced or increased based on the safety score of the user." Ex-1008, ¶0033, ¶0038, ¶0023; Ex-1002, ¶147.

It would have been obvious to program Cazanas' mobile device's memory to include instructions to transmit a notification to a server to indicate the status of Cazanas' DNDA (**inactive mode**) on the mobile device—specifically, a notification sent to Zhou's certification server each time the DNDA is activated upon pairing (Cazanas' step 310) and unpairing (Cazanas' step 350) the mobile device with the vehicle. Ex-1002, ¶148. A PHOSITA would have been motivated to program Cazanas' mobile device's memory to include instructions to transmit a notification to a server including the functionality of Zhou (**certification server**) and Frye each time Cazanas' DNDA is activated (per claim 8) and each time the DNDA is exited (per claim 9). Ex-1002, ¶148. Doing so would allow the server to contain a certified record showing all the times the mobile device's DNDA was activated and deactivated, and this record can then be used to adjust the owner's insurance premiums as taught by Zhou. Ex-1002, ¶148.

A PHOSITA would have had several reasons to make this combination. Ex-1002, ¶148. First, Frye expressly discloses sending **notifications** to an outside entity

(including server 94) each time a mobile device is not located in a predefined location within a vehicle for the purpose of deterring use of the device while driving. Ex-1005, ¶0157, ¶0153. Frye explains that "the transmission of the information to the outside entity when the RFID connection is broken may deter the vehicle driver (i.e., the owner/possessor of the mobile device 98) from using the device 98 while operating the vehicle 12." Ex-1005, ¶0153. Transmission of Frye's data messages to an outside entity includes "automatically upload[ing] the data message as a post on the host server 94," where the server will maintain "a history of the usage of the mobile device 98 by the driver while operating the mobile vehicle 12." Ex-1005, ¶0146, ¶0074; *see id.* ¶¶0150-0151. A PHOSITA would have been motivated to implement this functionality to deter the use of mobile devices during driving and increase driving safety, by allowing the user to focus all of his/her attention on driving. Ex-1005, ¶0018; Ex-1002, ¶149.

Second, Zhou expressly discloses using a dedicated server to store information about a mobile phone's usage while driving, so that a verifiable record of the device's usage can be shared with the driver's parent or with a third party such as an insurance company. Ex-1008, ¶0007. The data is faithfully maintained on the server for a period of time so that, in the case of an insurance company, the driver's "premium cost may be adjusted periodically based on the user's safety score during the previous period." Ex-1008, ¶0033. Zhou's use of a certification server is

consistent with the automatic uploading of data messages from the mobile device onto Frye's host server 94, which Frye teaches may be used "to determine a history of the usage of the mobile device 98 by the driver while operating the mobile vehicle 12." Ex-1005, ¶0074. A PHOSITA would have been motivated to utilize the functionality of Zhou's certification server for the stated benefits of encouraging "insurance policyholders and insurance companies to work together to improve driver safety performance," "prevent[ing] countless motorized vehicle accidents and deaths," and "enabling a significant amount of money to be saved for the mobile phone owner and insurance company." Ex-1008, ¶0038; Ex-1002, ¶150.

Third, combining Zhou's certification server functionality with the teachings of Cazanas and Frye is a simple combination of known elements according to known methods yielding predictable results. No element performs a different or unexpected purpose in the combination than its purpose in the prior art. A PHOSITA would readily appreciate that information used to evaluate the safety score of a user in Zhou is not limited to motion data or estimates of a user's activity but instead can include any available information about the phone's use that indicates either safe or unsafe driving behavior, including all the times when the device was paired or unpaired from the vehicle. Indeed, Frye teaches that sending a notification "each time" the mobile device is placed or removed from a predefined location within the vehicle serves as a deterrent to using the device while driving. Ex-1005, ¶0157, ¶0153. In

the combination, a record of all the times when the mobile device was paired and unpaired is indicative of the activity of the DNDA, consistent with Cazanas' transmission of device usage data to a server (Ex-1004, 9:14–39), as well as Frye's server 94 containing a history of the usage of the mobile device while driving (Ex-1005, ¶0074). Ex-1002, ¶151.

A PHOSITA would have had a reasonable expectation of success in combining the teachings of Cazanas, Frye, and Zhou as proposed herein. The art in the relevant timeframe was predictable, and sending a notification of each pairing and unpairing event is simpler than Zhou's tracking and storage of location, speed, and acceleration data. Ex-1002, ¶152; *see* Ex-1008, ¶0043, ¶0031. Including timestamps in logging messages recorded to a server was common before 2013, and the '853 patent's general and high-level disclosures confirm that implementing the combination was within the level of ordinary skill. Ex-1029, p. 31; Ex-1002, ¶152.

IX. NO BASIS FOR § 325(D) DENIAL

The Office has never considered any prior art or argument that is the same or substantially the same as the Cazanas, Frye, and Zhou combinations presented in this petition.

During original prosecution, the claims were never rejected, and only two references were discussed: Bauchot and Cai. Ex-1010, 37–38. The Examiner did not set forth any reasons for allowance. Ex-1010, 32–36. Neither Cazanas nor Frye

were cited by the Examiner or submitted by Patent Owner in an IDS. The original prosecution thus cannot serve as a basis for discretionary denial. *Amazon.com, Inc., v. M2M Solutions LLC*, IPR2019-01205, 2020 WL 44835, at *7 (P.T.A.B. Jan. 27, 2020) ("The Board frequently holds that a reference that 'was neither applied against the claims nor discussed by the Examiner' does not weigh in favor of exercising the Board's discretion under § 325(d) to deny a petition.").

In denying Unified's petition in IPR2019-00434, the Board found that Riemer and Guba did not "automatically initiat[e]" an inactive mode "in response to the pairing" of the mobile device and the vehicle. Ex-1016, 15–18. The pairing in Riemer and Guba was used for a different purpose (such as determining when a user was in the vehicle or to initiate certain policies); however, the act of pairing did not itself trigger an inactive mode, according to the Board. *Id.*

Cazanas and Frye remedy this deficiency. Cazanas, in particular, discloses the very function the Board found missing in the earlier petition: the act of pairing being the trigger of an inactive mode. Cazanas expressly teaches that its "do-not-disturb" application is "triggered to **automatically execute** based on ... the **pairing** of the mobile station with a portion of a vehicle." Ex-1004, 3:62-66; *see id*., 5:28-35 ("the DNDA 15 can be **activated upon pairing** the mobile station 13 with the telematics unit 16" or "when the mobile station 13 is **paired** ... with the vehicle 14"); *see id*., 12:34-39 ("the application can be **executed in response** [to] the mobile

station 13 being **paired** to the vehicle 14"). The act of pairing in Cazanas is an independent and sufficient trigger of the DNDA. Ex-1002, ¶92.

Moreover, IPR2019-00434 challenged only claims 1–7; whereas this petition challenges all claims 1–9 (the latter two claims reciting a "certification server" not recited in claims 1–7).

Thus, the grounds presented in this petition are materially stronger than, and not cumulative of, the art previously presented to the Office.

X. NO BASIS FOR *FINTIV* DENIAL

The Board should not deny institution under *Fintiv*. Patent Owner's infringement complaint against Google was ***dismissed*** after the district court found all asserted claims ineligible under § 101. Ex-1018; Ex-1018. Patent Owner filed a notice of appeal to the Federal Circuit, which was docketed on November 26, 2024. Ex-1020. That appeal is still in the briefing phase. The six *Fintiv* factors weigh against discretionary denial or are neutral:

Factor 1. Even if the case were to return to the district court after the pending appeal, there is evidence that the district court is likely to stay the case if this IPR is instituted. Ex-1022 (Judge Thompson's stay statistics).

Factor 2. For any trial to occur, Patent Owner would first need to prevail in its appeal, and then, given that the complaint was dismissed before any answer was filed, the district court case would essentially need to restart from the beginning.

The Federal Circuit's median time-to-disposition for district court appeals is 16.1 months. Ex-1023. The Northern District's average time to jury trial is 30.3 months. Ex-1024. Thus, a trial in the district court (if any) might occur in September 2028 (46.4 months from the appeal docketing date), which is well after a final written decision is expected in this IPR.

Factor 3. The investment in the district court proceeding was limited to Google's motion to dismiss based on § 101. No answer was filed. No claim construction was done.

Factor 4. Subject-matter eligibility was the only validity issue in the district court. No answer was filed, so no affirmative defenses or counterclaims of invalidity were asserted.

Factor 5. Patent Owner sued Google for infringement of the '853 patent after serially suing and settling with multiple other defendants.

Factor 6. The merits of the petition support institution. As explained above regarding § 325(d), the prior art references in this petition (Cazanas and Frye) are new to the Office and clearly teach the limitations the Board found missing in IPR2020-00019.

XI. NO BASIS FOR *GENERAL PLASTICS* DENIAL

Discretionary denial under Section 314(a) is not warranted in light of Unified's petition in IPR2019-00434.

General Plastic ("*GP*") factor one (extended in *Valve*) weighs against discretionary denial. *Valve v. Electronic Scripting*, IPR2019-00062, Paper 11 (Apr. 2, 2019) (precedential). Google is not currently a member of Unified and was not a member when TJTM sued Google for infringement. Ex-1027 (member list). Google did not coordinate the IPR2019-00434 petition with Unified and had no knowledge, direction, or control of Unified's preparation and decision to file Unified's petition. Ex-1017 (interrogatory responses). Nor do Google and Unified have any *Valve*-like "significant relationship."

Material differences in the petitions also favor institution. Google filed its petition, challenging all claims in the '853 patent, after being sued as a defendant in parallel litigation; whereas Unified was not sued and challenged only claims 1–7. As noted above, Google does not rely on ***any*** reference cited in Unified's petition and is not "picking and choosing from [Unified's] work product." *Xilinx v. Arbor Global Strategies*, IPR2020-01568, Paper 12, 10–14 (Mar. 5, 2021) (*GP* analysis weighed against denial where later petition challenged additional claims and its grounds presented "materially different challenges").

XII. CONCLUSION

Petitioner respectfully requests that claims 1–9 be canceled.

Date: March 5, 2025	/Andrew S. Baluch/ (RN 57,503) Andrew S. Baluch Reg. No. 57,503

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CLAIMS LISTING APPENDIX

1[a]. A mobile device, comprising:

[1b] a wireless communication module;

[1c] a processor, controlling the wireless communication module; and

[1d] a memory controlled by the processor, the memory including instructions that when executed by the processor cause the processor to perform the steps of:

[1e] providing a graphical user interface through which a user customizes one or more functions of the mobile device when placed in an inactive mode;

[1f] receiving a user selection to automatically initiate the inactive mode in response to the pairing of the mobile device with a vehicle;

[1g] receiving a user selection of an away message to use when the mobile device is in inactive mode;

[1h] in response to the pairing of the mobile device and the vehicle, automatically initiating a process to place the mobile device in inactive mode;

[1i] when the mobile device is in inactive mode, in response to receiving a communication from the wireless communication module, transmitting the user selected away message via the wireless module and

[1j] suppressing one or more sound, visual, or vibration communication cues that would have accompanied the communication had the mobile device not been in inactive mode.

2. The mobile device of claim 1 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:

when the mobile device is in inactive mode, in response to receiving the communication from the wireless communication module, suppressing all sound, visual, and vibration communication cues that would have accompanied the communication had the mobile device not been in inactive mode.

3. The mobile device of claim 1 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:

providing a notification of the communications upon completion of the inactive mode.

4. The mobile device of claim 1 wherein the communication received from the wireless communication module is an SMS message.

5. The mobile device of claim 1 wherein the communication received from the wireless communication module is an email.

6. The mobile device of claim 1 wherein the communication received from the wireless communication module is a cellular phone call.

7. The mobile device of claim 1 wherein the user selected away message is a user customized away message.

8. The mobile device of claim 1 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:

when the mobile device is placed in inactive mode, provide a notification to a certification server that the mobile device is in inactive mode.

9. The mobile device of claim 8 wherein the memory further includes instructions that when executed by the processor cause it to perform the step of:

when the mobile device exits inactive mode, provide a notification to a certification server that the mobile device exited inactive mode.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing petition for *inter partes* review, together with all exhibits and other documents filed therewith, was served by Priority Mail Express on the date below, on the Patent Owner's counsel of record at the United States Patent & Trademark Office having the following address:

Richards Patent Law P.C.
20 N. Clark Street
Suite 3300
Chicago, IL 60602
UNITED STATES

Date: March 5, 2025 /Andrew S. Baluch/ (RN 57,503)

CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the foregoing petition for *inter partes* review contains 13,861 words, excluding a table of contents, a table of authorities, mandatory notices, a certificate of service or word count, or appendix of exhibits or claim listing, according to the word processing program used to prepare it.

Date: March 5, 2025 /Andrew S. Baluch/ (RN 57,503)