

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS
AMERICA, INC.,
Petitioners

v.

FENDGO, LLC,
Patent Owner

IPR2024-00113

DECLARATION OF GEORGE EDWARDS

IN REGARD TO THE PETITION FOR *INTER PARTES* REVIEW OF

U.S. PATENT NO. 11,265,404 B2

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I. INTRODUCTION

1. I have been retained as an expert in computer science to provide analysis and opinions related to whether certain claims of U.S. Patent No. 11,265,404 (“the ’404 Patent”) are rendered obvious by prior art asserted by Petitioner, Samsung. I understand that Samsung has asserted that:

- Claims 9, 10, and 12-14 are obvious based on the combination of Walker and Kim;
- Claims 14 is obvious based on the combination of Walker, Kim, and Dixit;
- Claim 15 is obvious based on Walker;
- Claims 9-14 are obvious based on the combination of Zellner and Kim;
- Claim 14 is obvious based on the combination of Zellner, Kim, and Dixit;
- Claims 9, 10, and 12-14 are obvious based on the combination of Martin and Kim;
- Claim 14 is obvious based on the combination of Martin, Kim, and Dixit.

2. I submit this declaration as a statement of the opinions I have formed and the factual basis for the opinions. I understand that this declaration is submitted in regard to IPR2024-00113. I am prepared to testify as to the matters discussed here.

3. My employer, Quandary Peak Research, is paid a consulting fee for my time working on this matter. I have no personal interest in this matter, and my compensation does not depend in any way on the opinions I express or the outcome.

II. SUMMARY OF QUALIFICATIONS

4. A detailed list of my qualifications is set forth in my *curriculum vitae*, a copy of which is attached as Exhibit A. Within the broad field of computer science, my specific areas of expertise encompass software engineering, distributed systems, software architecture, software analysis, computer programming, mobile device software, Internet software, computer networks, location-based systems, and embedded software. I have direct experience building and analyzing web applications, mobile apps, cellular networks, email and multimedia messaging services, and databases. I also have experience with mobile applications that send a request for emergency services. Therefore, I believe I am qualified to express expert opinions related to the '404 Patent.

1.1. Educational Qualifications

5. I graduated *summa cum laude* with a Bachelor of Science degree in computer science from Vanderbilt University in 2003. As an undergraduate, I was awarded the Vanderbilt School of Engineering Merit Scholarship. I spent one year in the MS program in computer science at Vanderbilt. During this time, I conducted research on various topics related to software engineering and distributed systems, and I published my findings in several peer-reviewed conference papers and journal articles.

6. I attended graduate school at the University of Southern California, where I was a USC Viterbi School of Engineering Dean's Doctoral Fellow and Annenberg Graduate Fellow. I received an MS in computer science in 2006 and a PhD in computer science in 2010 from USC. My PhD research focused on the analysis of distributed systems, including mobile applications, and their architecture. My research was funded by several government agencies, such as the Department of Defense and the NSA, and large companies, such as Bosch and Infosys. I presented my work at numerous conferences and in academic journals, industry magazines, and other publications. In 2008, I received the USC Computer Science Department's award for outstanding graduate student research.

1.2. Professional Qualifications

7. I am the founder of Quandary Peak Research, Inc., where I hold the titles of President and Principal Computer Scientist. Quandary Peak is a software analysis company with offices and staff experts in the Los Angeles, Nashville, Chicago, Austin, San Francisco, and Washington, D.C, areas. Quandary Peak's software analysis services fall into three areas: (1) audits and compliance in highly regulated industries; (2) technical due diligence in mergers and acquisitions; and (3) litigation and intellectual property. In all three areas, Quandary Peak analyzes software and computer systems to answer questions about the development, structure, behavior, and quality of those systems.

8. In my role as President, I oversee and manage the company's software analysis services. In my role as Principal Computer Scientist, I perform software analysis on behalf of clients. I have analyzed and reverse-engineered a broad variety of complex, real-world software systems, including web applications, desktop applications, mobile apps, and databases. I have conducted many investigations for various companies of the design and implementation of these distributed systems with respect to specific patent claims and other intellectual property considerations, such as copyright infringement and trade secret theft.

9. I was formerly employed as a Lecturer of Computer Science at the University of Southern California. In that capacity, I taught Requirements

Engineering (CSCI 568), a graduate-level software engineering class, and Data Structures and Algorithms (CSCI 102), an undergraduate-level software design and programming class.

10. I also previously worked as a research scientist and software engineer at Blue Cell Software LLC, Intelligent Systems Technology, Inc., IBM, and The Boeing Company. During my time with Blue Cell, I built a simulation-based software design and modeling environment. While at IBM, I conducted research on next-generation mobile architectures, such as large-scale mobile device provisioning systems. At Boeing, I helped to design software for collecting and processing sensor data and geo-location data from military vehicles.

11. I have authored over thirty scholarly journal articles, magazine articles, conference papers, and book chapters on various topics related to software engineering and distributed systems. I have co-authored many peer-reviewed papers specifically related to software design, source code analysis, web applications, mobile devices, and cloud computing.¹

12. I have delivered numerous invited lectures, seminars, and technology demonstrations related to software design and analysis for university courses, research symposia, conferences, workshops, and industry events in the field of

¹ See my *curriculum vitae*. (Exhibit A)

computer science. I have also served as a reviewer, committee member, or panelist for over a dozen computer science journals, magazines, and conferences.

1.3. Prior Testimony

13. On July 17, 2013, I testified by deposition in the matter of *Essociate, Inc. v. Neverblue Media, Inc.*, a patent case in the U.S. District Court for the Central District of California.

14. On November 25, 2013, I testified in U.S. District Court for the Eastern District of Virginia as an expert in mobile devices in a patent infringement matter, *Porto Technology Co., Ltd. and Porto Technology, LLC v. Cellco Partnership d/b/a Verizon Wireless and Verizon Services Corp.*

15. On June 9, 2014, I testified by deposition in the matter of *SecurityBase.com v. Jeffrey Essick, et al.*, a breach-of-contract suit brought in the Superior Court of California for the County of Orange.

16. I testified both by deposition (on June 17, 2014) and in U.S. District Court for the District of Kansas (on June 24, 2014) in the matter of *AgJunction, LLC v. Agrian, Inc. et al.*, a copyright and trade secret case.

17. I testified both by deposition (on October 12, 2015) and in U.S. District Court for the Southern District of California (on December 7 and 8, 2015) in the matter of *Anthony Johnson v. Storix, Inc.*, a copyright infringement matter.

18. On August 15, 2016, I testified by deposition in the matter of *Backflip Software, Inc. v. Cisco Systems, Inc. et al.*, a breach-of-contract suit brought in the Superior Court of California for the County of Santa Clara.

19. On July 12, 2017, I testified by deposition in the matter of *Implicit, LLC v. Trend Micro, Inc.*, a patent case in the U.S. District Court for the Eastern District of Texas.

20. On December 8, 2017, I testified by deposition in the matter of *Farmers Edge Inc., Farmers Edge (US) Inc., and Farmers Edge (US) LLC v. Farmobile, LLC, Jason G. Tatge, Heath Garrett Gerlock, and Randall Thomas Nuss*, a trade secret misappropriation case in the U.S. District Court for the District of Nebraska.

21. On December 14, 2017, I testified by deposition in the matter of *Vesta Corporation v. Amdocs Management Limited, et al.*, a trade secret misappropriation case in the U.S. District Court for the District of Oregon.

22. On December 18, 2017, I testified by deposition in the matter of *eBay, Inc. V. MasterObjects, Inc.*, an *inter partes* review proceeding before the Patent Trial and Appeal Board of the United States Patent and Trademark Office.

23. On May 23, 2018, I testified in U.S. District Court for the District of Nebraska in the matter of *Farmers Edge Inc., Farmers Edge (US) Inc., and*

Farmers Edge (US) LLC v. Farmobile, LLC, Jason G. Tatge, Heath Garrett Gerlock, and Randall Thomas Nuss.

24. On June 28, 2018, and May 25, 2021, I testified by deposition in the matter of *Bryndon Fisher v. The United States of America*, a class action lawsuit in the U.S. Court of Federal Claims.

25. On December 5-6, 2019, I testified by deposition in the matter of *American National Manufacturing, Inc. v. Sleep Number Corporation*, an *inter partes* review proceeding before the Patent Trial and Appeal Board of the United States Patent and Trademark Office.

26. On August 9, 10, and 11, 2022, I testified in the matter of *Farmobile, LLC v. Farmers Edge, Inc.*, a patent case in the Federal Court of Canada.

27. On August 11, 2023, January 19, 2024, and January 29, 2024, I testified by deposition in the matter of *AGI SureTrack LLC v. Farmers Edge Inc. and Farmers Edge (US) Inc.*, a patent case in the U.S. District Court for the District of Nebraska.

28. On July 9 and 10, 2024, I testified by deposition in the matter of *InQuisient, Inc. v. Service Now, Inc.*, a patent case in the U.S. District Court for the District of Delaware.

29. On August 22, 2024, I testified by deposition in the matter of *LQK Corporation v. Overall Parts Solutions*, a breach-of-contract case in the Court of Chancery of the State of Delaware.

III. INFORMATION CONSIDERED

30. In forming my opinions, I have considered:

- U.S. Patent No. 11,265,404 and its file histories;
- Samsung's Petition for *Inter Partes Review* and attached exhibits, including Dr. Michalson's Declaration (Ex. 1002);
- the PTAB's Institution Decision;
- my education, training, and experience in the field;
- other materials cited in this declaration.

IV. LEGAL STANDARDS

A. Overview

31. I am not an attorney or a legal expert. The legal standards I applied in reaching the conclusions expressed throughout this declaration were provided to me by counsel. In preparing this declaration, I have endeavored to faithfully apply these legal standards. I do not intend to offer opinions on the law. Below, I describe the law I applied in forming the opinions in this report.

32. I have been informed that an issued patent is presumed valid and that the challenger of the patent's validity bears the burden of proving invalidity of the patent.

B. Patent Claims

33. Patent claims describe the invention made by the inventors and describe what the patent owner owns and what the owner may prevent others from doing. Claims may describe products, such as machines or chemical compounds, or processes for making or using a product. Claims are usually divided into parts or steps called limitations.

34. There are two types of claims: independent claims and dependent claims. An independent claim sets forth all the requirements that must be met in order to be covered by that claim. Thus, it is not necessary to look at any other claim to determine what an independent claim covers. A dependent claim does not itself recite all of the requirements of the claim but refers to another claim for some of its requirements. In this way, the claim depends on another claim. The law considers a dependent claim to incorporate all of the requirements of the claims to which it refers. The dependent claim then adds its own additional requirements. To determine what a dependent claim covers, it is necessary to look at both the dependent claim and any other claims to which it refers.

35. In that case, the dependent claims incorporate the limitations of the independent claim upon which they depend, and if a reference fails to disclose any of the limitations of an independent claim, the claims which depend on that claim cannot be made invalid by that reference. As a result, any of the references at issue in this proceeding that fail to disclose all of the limitations of an independent claim necessarily also fail to disclose all of the limitations of claims which depend on that claim.

C. Burden of Proof for Invalidity

36. I understand that the party challenging the validity of an issued United States patent in an IPR bears the burden of proving invalidity through facts supported by a preponderance of the evidence. I understand that a “preponderance of the evidence” means evidence sufficient to prove that a fact is more likely true than it is not.

D. Claim Construction

37. I understand that the first step in determining validity is to properly construe the claims. I further understand that, in this proceeding, the Board must determine the scope of the claims by using the same claim construction standard that United States District Courts use. Under this standard, words of a claim are given their “ordinary” and “customary” meaning as understood by a person of skill in the art at the time of the invention. I understand that such a person looks to the

claims, specification, and file history in understanding the meaning of the claim terms. I have applied this understanding in this declaration. I also understand that neither party has proposed constructions for any of the terms in the challenged claims of the '404 Patent.

E. Person of Ordinary Skill in the Art

38. I understand that a person having ordinary skill in the art may be defined by factors such as: (a) the levels of education and experience of the inventor and other persons actively involved in the field; (b) the types of problems encountered in the field; (c) prior art solutions to those problems; (d) rapidity with which innovations are made; and (e) the sophistication of the technology.

F. Prior Art

39. I understand that a patent cannot be invalidated based on one person's testimony alone without corroborating evidence, particularly documentary evidence. Moreover, I understand that corroboration is required of any witness whose testimony alone is asserted to invalidate a patent, regardless of his or her level of interest in relation to that patent. Accordingly, even if the testifying individual has no interest in the litigation, I understand that that corroboration is still required.

40. In this declaration, I may use the phrase "prior art" when describing specific references. However, my use of this phrase should not be interpreted as

agreement that the item(s) described qualify as prior art under the patent laws. I merely use this phrase to address the items labeled as “prior art” by Petitioner and its expert.

G. Anticipation

41. I understand that a patent claim can be found invalid as anticipated if each and every element of the claim, as properly construed, is found either explicitly or inherently in a single prior art reference. However, I also understand that in order to anticipate a patent claim, the reference itself must actually qualify as prior art. If the single prior art reference does not disclose any one claim limitation, then that claim is not anticipated. I further understand that the single prior art reference cannot merely disclose each element; rather, it must disclose all of the elements as arranged in the claim. I have been informed that for a prior art reference to “inherently” disclose something, the reference must necessarily function in accordance with, or include the claimed limitations, to anticipate. The missing descriptive matter cannot merely probably or possibly include the claimed limitations. I further understand that, with respect to an anticipation analysis, it is improper to combine separate, distinct embodiments of a single prior art reference.

42. I understand that for a claim to be anticipated, each claim limitation must be disclosed in a single prior art reference, and the claimed arrangement or combination of those limitations must also be disclosed in that same prior art

reference. I understand that for a reference to be anticipatory, the reference must contain an enabling disclosure. I understand that merely naming or describing the subject matter is insufficient if it cannot be produced without undue experimentation.

H. Obviousness

43. I understand that a patent claim can be found invalid as obvious if the differences between the claim and the prior art references would have been obvious to a person of ordinary skill in the art at the time of the invention, taking into account (1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any objective indicia of non-obviousness. I further understand that a claim can be found to be obvious in light of either a single prior art reference or multiple prior art references. I understand that references qualify as prior art for an obviousness determination only when they are analogous to the claimed invention. Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed; and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. However, as I noted above I also understand that in order to render a patent claim obvious, the reference itself must actually qualify as prior art.

44. To be obvious in light of a single prior art reference or multiple prior art references, there must be a reason either to modify either the single prior art reference or to combine the two or more prior art references to achieve the claimed invention. I understand that this reason may come from a teaching, suggestion, or motivation to combine or may come from the reference or references themselves, the knowledge or “common sense” of one skilled in the art, or from the nature of the problem to be solved, and may be explicit or implicit from the prior art as a whole. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.

45. I further understand that there is no suggestion to combine, however, if a reference teaches away from its combination with another source. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant, or if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant. If when combined, the references would produce a seemingly inoperative device, then they teach away from their combination. I understand that it is improper to combine references where the references teach away from their combination.

46. I understand that the degree of teaching away will depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. I understand that a reference teaches away, for example, if (1) the combination would produce a seemingly inoperative device, or (2) the references leave the impression that the product would not have the property sought by the applicant.

47. I understand that if the teachings of a prior art reference would lead one skilled in the art to make a modification that would render another prior art device inoperable, then such a modification would generally not be obvious. I understand that if a proposed modification would render the prior art device unsatisfactory for its intended purpose, then the proposed modification would generally not be obvious.

48. I understand that it is improper to use hindsight in making the obviousness determination.

49. I understand that some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness must be made. For example, I understand that there may be no rational underpinning to support the legal conclusion of obviousness where systems are already complete and the party

challenging validity seeks to mix and match components, which each exist in the separate systems, from these complete systems.

I. Objective Indicia

50. I understand that objective indicia of non-obviousness must be taken into account in a proper obviousness analysis and that these objective indicia of non-obviousness may include the following: (1) failure of others; (2) long-felt but unmet need for the claimed invention; (3) commercial success attributable to the claimed invention; (4) unexpected results of the claimed invention; (5) initial skepticism; (6) prior art teaching away from the claimed invention; (7) professional approval; (8) licensing; (9) acquiescence to the patent's validity; (10) copying of the claimed invention by others, and (11) progress through the Patent Office. I further understand that a so-called nexus between the merits of the claimed invention and evidence of objective indicia of non-obviousness is required in order for the evidence to be given substantial weight in an obviousness determination. As an example, I understand that nexus can be established if there was commercial success and if the invention disclosed in the patent was that which was commercially successful.

J. Written Description

51. I understand that the priority of a patent claim can be challenged for not meeting the written description requirement, which is found in section 112 of the patent laws.

52. I understand that the amount of detail that must be included in the specification depends on the subject matter that is described and its role in the invention as a whole, in view of the existing knowledge in the field of the invention. I understand that section 112 does not require the drafter to encumber the specification with information known to a person of skill in the field of the invention; nor does section 112 require that the specification reproduce information routinely possessed by persons in the field of the invention.

53. In addition, the written description requirement implements the principle that a patent must describe the technology that is sought to be patented. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. Possession of the claimed invention can be shown by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. Compliance with the

written description requirement is essentially a fact-based inquiry that will necessarily vary depending on the nature of the invention claimed.

54. A question as to whether a specification provides an adequate written description may arise in the context of determining whether an original claim is described sufficiently, or whether new or amended claims are supported by the description of the invention in the application as filed. While there is no verbatim (*i.e.*, exact language) requirement, newly added claims or claim limitations must be supported in the specification through express, implicit, or inherent disclosure. The fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, the applicant was in possession of the invention as claimed.

V. LEVEL OF ORDINARY SKILL IN THE ART

55. I understand that Petitioner has put forth that a person of ordinary skill in the art (“POSITA”) at the time of the ’404 patent’s priority date would have had “at least a Bachelor’s of Science Degree (or equivalent) in an academic area emphasizing electrical engineering, computer engineering, computer science, or a related technical field, and about 1-2 years of experience working with telematics systems (e.g. familiarity with wireless communications, geolocation systems, and human-computer interfaces). A greater amount of education in an academic area emphasizing electrical engineering, computer engineering, computer science, or a

related technical field, would compensate for fewer years of work experience, and more years of work experience would compensate for less education.” Ex. 1002 (Michalson Decl.), ¶¶14-16. At this time, I do not disagree with this characterization of the POSITA.

VI. THE '404 PATENT

56. The following description is applicable to the '404 Patent, entitled “Emergency personal protection system integrated with mobile devices.”

57. Claim 1 is independent and claims 2–8 are dependent from claim 1.

58. Claim 1 is set forth below, with limitation identifiers indicated in brackets.

1. [pre] A mobile device, comprising:

[a] a camera unit, adapted to obtain at least one of image data and audio data;

[b] a location unit, adapted to obtain location data;

[c] a transmitting unit, adapted to transmit the image data, the audio data, and the location data as emergency information to a specified location, along with specific information including owner identification information; and

[d] a panic button, adapted to, when activated, ready itself to perform the following panic button functions:

(1) dialing a public or private network for an emergency purpose and

(2) activating the transmitting unit,

[e] wherein the panic button is activated by a depressing of the panic button together with another button at substantially the same initial time such that no panic button function is activated unless both buttons are depressed.

59. The '404 Patent details a system that merges a self-defense mechanism with a mobile phone to help prevent violent crimes. The '404 Patent suggests that integrating the self-defense mechanism with a mobile device ensures that individuals are less likely to forget the self-defense tool when they travel. Ex. 1001 ('404 Patent), cover.

60. According to the '404 Patent, the self-defense mechanism can activate a camera within the mobile phone to capture still or video images of an attacker. This data, including audio recordings, is sent to the authorities, along with the owner's name and description, geographic location, a timestamp, and other relevant information. These actions can be initiated by pressing a dedicated panic button on the device. Ex. 1001 ('404 Patent), 3:5-13; 6:57-59.

61. The mobile device is designed to support this functionality with a camera for image and audio capture, a location unit for obtaining geographical data, a transmission unit for sending this data, and a panic button that activates all these units. Figure 1A of the '404 patent depicts this setup. Ex. 1001 ('404 Patent), 3:5-13; 6:57-59; Fig. 1A.

VII. ANALYSIS

A. The Architecture of the Invention of the '404 Patent

62. The '404 Patent provides a mobile device with a panic button, where claim 9(d) requires that the mobile device be configured to transmit emergency information “*along with... owner identification information*” to a “specified location” upon activating the panic button. Ex. 1001 ('404 Patent), claim 1. A POSITA would understand that when the panic button is activated, the emergency information and owner identification information are sent together, as opposed to owner identification information being sent prior to activation of the panic button. By including owner identification information with each instance of emergency information, the system does not require any preregistration of the owner identification information at the “specified location,” and the architecture of the system does not have a fixed recipient such as one dedicated operation center or one dedicated data storage facility. The user is therefore able to specify the recipient as a 911 Call Center or some other recipient, such as a “private emergency network specifically set up for these purposes to work with the public authorities in assisting victims.” Ex. 1001 ('404 Patent), 5:47-50. The recipient does not need to maintain a history of prior emergency calls, or otherwise maintain a database of registered users of emergency services. The architecture of the

invention of the '404 Patent does not prevent the “specified location” from being an ordinary telephone number or email address.

63. By requiring that owner identification information be included *along with* the emergency information, the recipient of the emergency information receives all the information required for providing emergency assistance to the user at the time of activation of the panic button “so that help can be dispatched right away,” without requiring any pre-registration on part of the user. Ex. 1001 ('404 Patent), 5:43-59.

B. The Challenged Claims of the '404 Patent Are Not Rendered Obvious by the Combination of Walker and Kim

1. Walker Teaches Away from the '404 Patent

64. Walker teaches a mobile device configured to act as an “electronic eyewitness” for “obtaining evidence linking the identities of criminals to their crimes.” Ex. 1007 (Walker), ¶57. The “invention provides a mobile communications handheld device and remote data recording and storage system which, in a single action, enables a user of the mobile communications handheld device to press a recessed eyewitness button or shout a voice command, which instantly initiates a series of actions, immediately capturing and transmitting streaming video and sound and environmental data detected by various sensors to a *remote data storage facility*.” Ex. 1007 (Walker), ¶38 (emphasis added). Walker

directly teaches a fixed recipient for the transmitted emergency information; namely, the “remote data storage facility.” Ex. 1007 (Walker), ¶38.

65. Indeed, Walker’s architecture teaches away from the architecture of the ’404 invention, requiring a fixed recipient that is a “data storage facility” for maintaining long-term storage of users and their emergency call history, where the trade-off of requiring a preregistration is chosen in favor of prioritizing the long-term storage of call history in a database, as opposed to informing an immediate emergency response for any new user that may not have gone through a preregistration process.

2. Claims 9, 10, and 12-14 of the ’404 Patent Are Not Rendered Obvious by the Combination of Walker and Kim

a. Walker Does Not Disclose Claim Elements 9[c] and 13[c]

66. The system in Walker is designed to allow authorities to “access databases held by data storage facilities when seeking evidence in connection with crimes,” where authorities can enter a “time and location” of a crime or otherwise “[access] all data recorded by the appropriate data storage facility.” Ex. 1007 (Walker), ¶49. Walker further states that “[a]uthorities may potentially access any recordings made within a selected range of distances of a particular location and within a selected range of times. Through such access, authorities will be able to increase the probabilities of linking guilty criminals to their crimes and of

identifying witnesses to crimes.” Ex. 1007 (Walker), ¶49. Walker clearly teaches that its system prioritizes maintenance of a database with long-term storage of emergency calls, and as such would require some form of preregistration of users.

67. In describing the “data recording and storage facility” in one embodiment, Walker designs the data storage facility “to receive, organise according to timeline data, record, store and log all mission critical data and communications transmissions in real time from such handheld devices into a database or databases against device ID's or user accounts.” Ex. 1007 (Walker), ¶85. Walker directly teaches the usage of a preregistration of users where “user accounts” may be created for each user upon preregistration, allowing the “data storage facility” to create a “database link” with the “device owner’s identity or account” anytime a new call is received. Ex. 1007 (Walker), ¶97. This is for the express purpose of maintaining a history of previous calls, allowing access to files “which have previously been recorded by the device owner.” Ex. 1007 (Walker), ¶97. Specifically, Walker states that “[a] new file is created for each new call received by the data storage facility 7. A database link between each file and the device owner's identity or account is made, enabling the device owner and the data storage facility 7 to lookup and access files in the future which have previously been recorded by the device owner.” Ex. 1007 (Walker), ¶97.

68. Dr. Michalson alleges that Walker discloses or suggests “a transmitting unit, adapted to transmit as emergency information the image data, the audio data, and the location data along with specific information including owner identification information.” Ex. 1002 (Michalson Decl.), ¶74. I disagree. Dr. Michalson points to “a file that is linked with the ‘device owner’s identity’” as the “mobile device transmitting information to identify the device owner.” Ex. 1002 (Michalson Decl.), ¶¶89-90. He concedes that “[i]f... Walker does not disclose transmitting owner identification information, then, at a minimum, a person having ordinary skill in the art would have found it obvious to modify Walker to transmit information to identify the device owner.” Ex. 1002 (Michalson Decl.), ¶91.

69. The disclosure in Walker describes a “database link” between each file and the device owner’s identity stored in the “data storage facility.” However, there is no disclosure stating if and how any information identifying the device owner is transmitted by the same mobile device disclosed in Walker, as opposed to being stored in the “data storage facility” by some other means. The claim language specifies that the “transmitting unit” of the claimed invention must be adapted to transmit the owner identification information *along with* the emergency information. Ex. 1001 (’404 Patent), Claim 9. While Dr. Michalson provides support for the device disclosed in Walker to be capable of transmission via cellular networks or e-mail, it does not specify that the “file linked with the device

owner's identity" is transmitted by the same device and does not otherwise describe how the device ownership information may be transmitted at all. In fact, as discussed further below, the data storage facility is intended to maintain "user accounts" or otherwise register users towards maintaining long-term storage of a user's call history. Ex. 1007 (Walker), ¶97.

70. I disagree that a POSITA "would have found it obvious to modify Walker to transmit information to identify the device owner," (Ex. 1002 (Michalson Decl.), ¶91) because Walker does not specify a need for the information to be transmitted by the device *along with* the "emergency information," especially considering the usage of a "data storage facility" to maintain "user accounts." A POSITA would not have been motivated to modify the invention of Walker to include ownership information with emergency information without fundamentally modifying the architecture of the system described in Walker, which by specification includes a fixed "data storage facility" that a POSITA would expect to have registered any active devices during configuration, as opposed to providing ownership information on-the-fly. Dr. Michalson points to no disclosure in Kim to rectify this deficiency. Thus, Walker in combination with Kim does not render these limitations obvious.

b. Walker Does Not Disclose Claim Element 9[d] and 13[d]

71. Dr. Michalson alleges that Walker in combination with Kim discloses or suggests “adapted to activate the camera unit, the location unit, and the transmitting unit, and send the emergency information and the specific information to a specified location when the panic button is activated.” Ex. 1002 (Michalson Decl.), ¶143. As discussed in Section VII.1, the “specified location” of claim 9(d) is intended to be flexible. By including owner identification information with each instance of emergency information, the system does not require any preregistration of the owner identification information with the “specified location,” and the architecture of the system does not have a fixed recipient such as one dedicated operation center or one dedicated data storage facility. The user is then able to specify the recipient as a 911 Call Center or some other recipient, such as a “private emergency network specifically set up for these purposes to work with the public authorities in assisting victims.” Ex. 1001 (’404 Patent), 5:47-50. The recipient then does not need to maintain a history of prior emergency calls, or otherwise maintain a database of registered users of emergency services.

72. As discussed above, rather than allow a flexible recipient, the system provided in Walker has a fixed “remote data storage facility” which maintains a database of users which may include “user accounts” or otherwise requires some form of preregistration with the data storage facility. Ex. 1007 (Walker), ¶97. The

system is only intended to serve users with a registered “device owner identity or account” to allow new calls to be identified with a “database link” between the new call and the user. Ex. 1007 (Walker), ¶97. The data storage facility is then fixed by the system and is not a “specified location” configurable by the user. For example, if a user typically would configure the device to call a public 911 Call Center using preregistration and travels to a location where they may prefer a “private emergency network specifically set up for these purposes to work with the public authorities in assisting victims,” that private emergency network would not have any form of registration with the user to be able to link the user’s call to the user’s identity or account.

73. Dr. Michalson alleges that the “data storage facility” is sufficient as a “specified location” when comparing to “merely broadcast[ing]” the emergency information. Ex. 1002 (Michalson Decl.), ¶138. He later alleges that a POSITA would have understood that a “recipient location” would need to be “selected or specified, for example, by the system designer or the user,” pointing to the usage of an “electronic messaging service” in Walker that would be similar to the “MMS” method discussed in the ’404 Patent. Ex. 1002 (Michalson Decl.), ¶140. However, Dr. Michalson fails to ascribe the purpose of the “specified location” towards allowing flexibility of the recipient as well as allowing a recipient to serve any new user, as this would require the emergency information to be actionable by any

entity regardless of prior registration and thus would require “owner identification information” to be transmitted *along with* the emergency information.

74. Walker teaches that a fixed “data storage facility” maintaining “user identities or accounts” is preferred in favor of long-term storage of user call history, as opposed to emergency calls including owner identification information with each transmission. The trade-off of requiring owner identification information with each transmission is acceptable in the ’404 Patent, due to the difference in purpose where the ’404 Patent is tailored to informing an immediate emergency response for any public or private emergency service rather than long-term storage of evidence of crimes towards an investigation, such as in Walker. Thus, Walker in combination with Kim fails to disclose limitations 9[d] and 13[d].

C. Claim 15 of the ’404 Patent Is Not Rendered Obvious by Walker

75. Based on my review, claim 15 of the ’404 Patent is not rendered obvious by Walker for the same reasons given above in my discussion of claim 9. As can be seen from the below table, the relevant claim limitations in Ground 1A, limitations 9[c] and 9[d], include nearly the same elements as limitations 15[c] and 15[d].

9[c] a transmitting unit, adapted to transmit as emergency information the image data, the audio data, and the location data along with specific information including owner	15[c] a transmitting unit, adapted to transmit the image data, the audio data, and the location data as emergency information to a specified location via text message, along with specific information including owner
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identification information; and	identification information; and
9[d] a panic button, adapted to activate the camera unit, the location unit, and the transmitting unit, and send the emergency information and the specific information to a specified location when the panic button is activated,	15[d] a panic button, adapted to activate the transmitting unit when activated,

76. The Petition and Dr. Michalson’s declaration recognize this, and the Petition states that “[l]imitation 15[c] is the same as limitation 9[c] except that 15[c] further requires that the transmitting unit is adapted to transmit data and information to a ‘specified location via text message.’ *Walker* discloses or suggests limitation 9[c] for the same reasons discussed above in §VIII.A.1.d.” Pet. at 32; Ex. 1002 (Michalson Decl.), ¶179. Regarding the “specified location,” the Petition and Dr. Michalson’s Declaration repeat the same argument presented in connection with limitation 9[d].

77. Accordingly, for the same reasons as discussed above with respect to Ground 1A regarding limitations 9[c] and 9[d], it is my opinion that claim 15 of the ’404 Patent is not rendered obvious by Walker.

D. The Challenged Claims of the ’404 Patent Are Not Rendered Obvious by the Combination of Zellner and Kim

1. Zellner Teaches Away from the ’404 Patent

78. Zellner, like Walker, teaches an architecture fundamentally incompatible with the ’404 Patent due to its reliance on a fixed recipient system

that requires preregistration of users. This architectural difference highlights a distinct purpose, which is not aligned with the goals of the '404 Patent. Zellner describes a system designed primarily for elderly users, focusing on ease of use in emergency situations. Ex. 1008 (Zellner), 1:45-64. The core of Zellner's system is a wearable device equipped with a panic button, which, when activated, transmits an emergency message via TCP/IP to a fixed data center endpoint, often referred to as a Support Service Provider (SSP) or Emergency Service Center (ESC).

79. The '404 Patent, on the other hand, emphasizes a flexible and dynamic emergency response system that does not rely on preregistration. The '404 Patent's invention allows any user to trigger an immediate emergency response by transmitting emergency information *along with* owner identification information to a "specified location" that can be freely configured or changed. This is a critical distinction, as the '404 system is designed to prioritize immediate action and adaptability in emergency situations, without the need for any prior setup.

2. *Claims 9-14 of the '404 Patent Are Not Rendered Obvious by the Combination of Zellner and Kim*

a. Zellner Does Not Disclose Claim Element 9[d] and 13[d]

80. Claims 9.d and 13.d of the '404 patent requires that the panic button be adapted to activate the camera unit, location unit, and transmitting unit, and then

send the emergency information and specific information to a “specified location” when the panic button is activated. Crucially, the term “specified location” implies that the user can configure or choose the destination where the emergency information is sent.

81. The fixed nature of the recipient in Zellner’s architecture directly contrasts with the requirement in claims 9.d and 13.d of the ’404 patent, where the user has the flexibility to specify the location to which the emergency information is sent. Zellner describes a system where the emergency request is sent to a predefined, fixed recipient—specifically, a Support Service Provider (SSP) or Emergency Service Center (ESC). This fixed recipient is part of the system’s architecture and is not user-configurable. Although Zellner discloses “[t]he user may ‘program’ the IP device 20 with pertinent data about the 5 ESC 12 including, for example, the name of the ESC 12, the IP address of the ESC 12, the telephone number and name of the contact person at the ESC 12, the e-mail address of the ESC 12, etc.”, this still limits Zellner to an ESC and does not allow the user to specify any “public or private network for an emergency purpose.” Ex. 1008 (Zellner), 10:3-8.

82. Zellner discloses “[a] support service provider (SSP) 18 receives the phone call from the base unit of the panic button 16 via the carrier network 14. The base unit may send over the phone line an identification code or number pre-

assigned to the panic button 16 by the SSP 18. Therefore, an operator at the SSP 18 may immediately compare the received identification code with a customer database to identify the user of the panic button 16. Upon identifying the user, the operator in the SSP's 18 facility may place a phone call to the ESC 12." Ex. 1008 (Zellner), 1:64-2:5. This passage highlights that Zellner's system relies on a preregistered identification code linked to a user account stored in a customer database managed by the SSP. The system does not dynamically transmit owner identification information during an emergency, but rather relies on pre-existing data. This pre-registration process is crucial to Zellner's operation and differs significantly from the '404 Patent, which allows emergency services to be contacted by any user without prior registration.

83. Zellner further discloses "[a]ll such information may be stored in the SSP's 18 customer database (not shown) when the panic button 16 is assigned to a particular user. Instead of manual database look-up, the SSP 18 may implement an automatic database search and comparison process to instantly identify the operator of the panic button 16 as soon as an alarm indication is received from the base unit." Ex. 1008 (Zellner), 2:10-16. This quote underscores that Zellner's system is designed to rely on pre-stored user information, focusing on database management rather than the dynamic, on-the-fly transmission of information as required by the '404 Patent. This pre-existing data approach is fundamentally at

odds with the '404 Patent's goal of providing an immediate emergency response for any user, regardless of prior registration.

84. Zellner does not teach the key element of claims 9.d and 13.d of the '404 Patent because it does not allow the user to freely specify the location where emergency information is sent. Zellner's architecture is designed around a fixed recipient, the SSP or ESC, which receives all emergency information, and this recipient is predetermined during the setup process. The '404 Patent, however, requires a system where the panic button sends information to a user-specified location, providing flexibility and adaptability that Zellner's fixed system does not offer. Therefore, Zellner cannot be said to disclose or suggest the features required by claim 9.d of the '404 Patent.

E. The Challenged Claims of the '404 Patent Are Not Rendered Obvious by the Combination of Martin and Kim

1. Martin Teaches Away from the '404 Patent

85. Martin teaches "a system and method for reporting an emergency situation to a called party using a wireless device." Ex. 1009 (Martin), Abstract. The architecture of Martin largely relies on a recipient configured to store both emergency information and owner identification information in a database, where user devices can be associated with a "user profile," enabling the database to be used for long-term storage of emergency call history of users. This architecture inherently teaches a fixed recipient with a compatible database for storage of user

profiles and emergency call history for later use, as opposed to a flexible recipient or a “specified location” configurable by the user.

86. Martin’s architecture teaches away from the architecture of the ’404 invention, requiring a fixed recipient such as a “PSAP” or “Operation Center” for maintaining long-term storage of users and their emergency call history, where the trade-off of requiring a registration with a user profile is chosen in favor of prioritizing the long-term storage of call history in a database, as opposed to prioritizing an immediate emergency response for any new user who may want to contact a different “public or private network for an emergency purpose” that is not already configured to maintain a database and user profiles for users.

2. Claims 9, 10, and 12-14 of the ’404 Patent Are Not Rendered Obvious by the Combination of Martin and Kim

a. Martin Does Not Disclose Claim Elements 9[d] and 13[d]

87. Martin includes several embodiments, each of which is described as having an architecture with a fixed recipient and corresponding database at the recipient. For example, Figure 2 shows a “called party” 200 with a database 290, which at step 304 (prior to any keystroke sequence or emergency call) can store emergency information and as well as “information related to wireless device 100” such as a “user profile,” allowing the owner identification information to be “accessible by the called party.” Ex. 1009 (Martin), 4:33-45. A similar database

390 is described in the same figure. This information is organized according to owner identification information or “user profiles,” enabling long-term storage of emergency call history that can be later retrieved and used as “evidence in litigation,” for instance. Ex. 1009 (Martin), 5:57-62.

88. Figure 4 similarly shows an embodiment using 911 calls to a PSAP 400 connected to a database 490, where the database contains “information of the kind typically maintained in a 911 database.” Ex. 1009 (Martin), 6:8-9. Figure 6 involves an undercover law enforcement agent using the wireless device during an “undercover operation,” where the recipient is an “Operation Center 600.” Ex. 1009 (Martin), 7:2-3. In each of these architectures, the recipient or “called party” is fixed and configured for long-term storage of both the emergency information and specific information such as the “user profile” or owner identification information.

89. This architecture with a fixed endpoint is designed to keep track of users with their user profiles. Users are intended to perform some kind of registration with the recipient before any emergency calls are made, such as in steps 304 and 504 which both allow the user profile or owner identification information to be stored in the database of the recipient before a keystroke sequence is performed. In each case, the system enables the user profile to be stored at the recipient’s database, such as in step 504. Ex. 1009 (Martin), 6:22-28.

90. The common thread among these embodiments is a recipient intended to be fixed in the system according to the requirements of the embodiment, whether the embodiment requires a recipient with a database intended to maintain long-term history of emergency calls of users such as in Figures 3 and 5, or an operation center specifically tailored to the user for a purpose such as an undercover police operation. A POSITA would not understand these systems to include a “specified location” configurable by the user, because Martin favors long-term storage capabilities or otherwise depends on prior associations between the user device and called party, as opposed to a flexible system that shares all the necessary emergency and owner identification information on-the-fly without any requirement for a “user profile” or otherwise maintenance of a database for reference and retrieval at a later time.

VIII. CONCLUSION

91. In conclusion, it is my opinion that the challenged claims of the '404 Patent are not rendered obvious by the prior art cited in the Petition.

92. I hereby declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct, and that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true. I understand that willful false statements are punishable by fine or imprisonment or both. *See* 18 U.S.C. Section 1001.

Dated: August 26th, 2024



George Edwards, PhD