

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

Petitioners

v.

MOBILE DATA TECHNOLOGIES LLC,

Patent Owner

IPR2025-00542
U.S. Patent No. 9,922,348

**DECLARATION OF MAHDI ESLAMIMEHR, PH.D. IN SUPPORT OF
PATENT OWNER'S PRELIMINARY RESPONSE**

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I, Mahdi Eslamimehr, declare as follows:

I. INTRODUCTION

1. I have been retained by Mobile Data Technologies, Inc. (“MDT”) as an independent expert consultant in petition for the *Inter Partes* Review (“IPR” or “Petition”) involving U.S. Patent No. 9,922,348 (“the ‘348 Patent”) presently assigned to MDT. I have been asked to consider the arguments raised by the Petition regarding the validity of the ‘348 Patent. In particular, I have been retained as an expert in computer science to provide analysis and opinions related to whether certain claims of the ‘348 Patent are rendered obvious by prior art asserted by Petitioners (Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc.). I understand that Petitioners have asserted that claims 1-2, 6-9, 12-14, and 17-18 (the “Challenged Claims”) are rendered obvious under 35 U.S.C. §103 by the combination of Randall-Forsyth (Ground 1) and of Pelkey-Eck (Ground 2).

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 IPR2025-00542. I am prepared to testify as to the matters discussed herein.

3. I am over 18 years of age. I have personal knowledge of the facts stated in this Declaration and could testify competently to them if asked to do so.

4. My current employer, Quandary Peak Research, is paid a consulting fee for my time working on this matter.

5. 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. QUALIFICATIONS

6. I, Mahdi Eslamimehr, hold a Ph.D. in Computer Science from the University of California, Los Angeles (UCLA), complemented by an M.S. in Computer Science from Linköping University, Sweden, and an MBA from the London School of Economics and Political Science. Currently, I serve as Executive Vice President at Quandary Peak Research, overseeing Intellectual Property (IP) evaluations and Mergers & Acquisitions (M&A) transactions. Additionally, I am a Professor at the University of Southern California, Department of Computer Science, where I exclusively teach advanced-level courses to Master's and Ph.D. students, specifically Advanced Software Engineering and Software Economics.

7. My professional expertise closely aligns with the technological domains central to regarding mobile computing, wireless communications, network integration, and complex software architectures. My executive role at Quandary Peak involves in-depth evaluation and strategic consulting on complex IP and M&A matters, frequently involving software patents related to mobile technologies,

network functionalities, and integrated application channels similar to those described in the patent at issue.

8. In my academic role at the University of Southern California, I teach and mentor graduate students on advanced software engineering principles, including the design, implementation, and evaluation of complex software systems and their economic impacts. My research and teaching focus extensively on software system integration, concurrency, software reliability, and performance analysis, key technical areas directly applicable to the integration of mobile device functionalities with networked application-based information channels highlighted in the multi-domain solution technologies.

9. My industry experience, notably as Chief Technology and Operating Officer at Clarity Global and through senior research roles at Samsung Electronics R&D Center and Ericsson AB, provided direct involvement in developing and managing software solutions for resource-constrained, network-centric mobile environments. These roles required extensive knowledge of telecommunications protocols, mobile device integration, and distributed software architectures, closely paralleling the technical focus of the patent. For example, while a software engineer at Ericsson from 2006 to 2007, I contributed to analyzing several features related to Symbian OS (different versions) and Symbian-based mobile phones (a wide range of handheld devices). My work involved close collaboration with mobile platforms,

integrating Symbian functionalities, and enhancing the software experience for end users.

10. Furthermore, my scholarly contributions, including numerous peer-reviewed publications and conference presentations, emphasize advanced software testing, reliability engineering, concurrency analysis, and software economic valuation, thereby underscoring my deep theoretical and practical expertise relevant to assessing complex technological innovations.

III. SUMMARY OF OPINIONS

11. It is my opinion that the challenged claims are patentable and that the Petition in this proceeding has not established otherwise. The combinations of references proposed in the Petition do not disclose each limitation of the Challenged Claims, and a person of ordinary skill in the art at the time of the invention (the “skilled artisan”) would not have combined the references in the manner suggested in the Petition.

12. On the contrary, a skilled artisan would not have been motivated to combine the references. Furthermore, even assuming a skilled artisan had been motivated to combine the references in the manner suggested in the Petition, the resulting combination would not have met the claim language. This is true for each of Ground 1 and Ground 2.

13. Petitioners have created combinations that are the result of hindsight, the result of using the challenged patents as a roadmap to select various portions of prior art references and attempting to combine them without a sufficient reason outside the challenged patents for doing so.

14. In forming my opinions in this Declaration, I have considered:

- a. U.S. Patent No. 9,922,348 and its file / prosecution history before the U.S. Patent and Trademark Office;
- b. Petitioners' Petition for Inter Partes Review and attached exhibits;
- c. the Declaration of Henry Houh, Ph.D. submitted as Ex.1003 in the Petition proceeding;
- d. references cited therein in support of the Petition;
- e. Petitioners' Response to Patent Owner's Discretionary Denial Brief in IPR2025-00536; and
- f. my education, training, and experience in the field.

IV. LEGAL PRINCIPLES

A. Claim Construction

15. I understand that the claims of a patent are read in light of the specification of the patent as understood by a person of ordinary skill in the art at the time of the invention (a "skilled artisan"). I understand that "the time of the invention" refers to the effective filing date of the patent in question. For purposes of my analysis, I am considering the effective filing date to be June 18, 2002, the filing date of the original provisional application 60/389,430 to which the '348

Patent claims priority, but my opinions in this Declaration would not change if any claim of the '348 Patent is not entitled to claim priority to the provisional application. I reserve the right to opine further on the question of priority if it later becomes relevant.

16. I understand that claim terms are given their ordinary and customary meaning as would be understood by a skilled artisan in the context of the entire disclosure. A claim term, however, will not receive its ordinary meaning if the patentee acted as its own lexicographer and clearly set forth a definition of the claim term in the specification. In this case, a claim term will receive the definition set forth in the patent.

17. I understand that evidence that is intrinsic to the patent and prosecution history is given more weight than extrinsic evidence. For example, if there are specific statements in the specification that define the invention, those statements are strong evidence of a definition for a term.

18. In this Declaration, unless otherwise stated, I have used what I believe to be the ordinary and customary meanings for the terms used in the claims in the context of the challenged patent.

B. My Understanding of Obviousness

19. I understand that a patent claim is invalid if the claims would have been obvious to a skilled artisan at the time of invention (which, as stated above, I am

presently treating as June 18, 2002, since I understand that date is currently not in dispute). I understand that the obviousness inquiry should not be done with hindsight, but from the perspective of a skilled artisan without knowledge of the teachings of the challenged patent.

20. I understand that a claim is obvious when the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a skilled artisan at the time the invention was made. That is, I understand that one does not evaluate the “obviousness” of individual claim elements, but rather must compare the claimed subject matter as a whole to the prior art.

21. I understand that obviousness can be established by combining multiple prior art references to meet each and every claim element, but I also understand that when making a proposed combination of references, care must be taken to avoid hindsight bias. That is, I am informed by counsel that the determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention, effectively using the claims as a roadmap.

22. I understand that, to support a conclusion of obviousness, there must be an apparent reason for a skilled artisan to combine or modify the prior art references as recited in the claims.

23. As part of this inquiry, I have been asked to consider the level of ordinary skill in the field that someone would have had at the time the claimed invention was made. In determining the level of ordinary skill, I considered the following: (1) the levels of education and experience of persons working in the field; (2) the types of problems encountered in the field; and (3) the sophistication of the technology.

C. Relevant Level of Ordinary Skill in the Art

24. I have been asked to consider the level of ordinary skill in the art that a skilled artisan would have had as of June 2002. It is my opinion that a person of ordinary skill in the art (whom I refer to as a “POSITA”) would have been a person with a bachelor’s degree in information systems, electrical engineering, computer engineering, or computer science, as well as two or more years of relevant industry experience, which would include experience in handheld wireless devices and web site design. More academic experience would compensate for less industry experience and more industry experience would compensate for less academic experience.

25. In the 2002 timeframe, my work included work with mobile devices and the Symbian operating system. Furthermore, based on my review of the materials in this matter, as well as from my post-graduate educational background

and years of professional experience, I am familiar with the level of ordinary skill in the art as of 2002.

V. THE CHALLENGED PATENT

A. Specification

26. The '348 Patent describes a method that enables a mobile device user to transfer content from the mobile device to a server for insertion into a previously established application-based information channel so that the mobile device user can interact with one or more additional users. The '348 Patent describes in col. 10, lines 38-57:

The content management site in the illustrative embodiment is designed to generate and otherwise manage dynamic, time-sensitive, task- oriented mobile sites, including wireless collaborative workspaces and communities. The content management site allows content such as data, media, multimedia, messages, news, features, events, polls, competitions and advertising to be rapidly created, entered into the system, and then subsequently syndicated, distributed, shared, collaborated with or acted upon by users of mobile devices.

By utilizing the content management site, system users can create one or more personal or business mobile sites with various sets of features, and then share such sites via the mobile Internet or other wireless network with friends, family, colleagues, or other groups of any type. The content management site makes it simple for unsophisticated users to upload, enter, create, syndicate, distribute or otherwise manage content that is important to them, in a manner that allows such content to be accessed, shared, and acted upon from a mobile device.

27. The '348 Patent also describes transferring information associated with at least one wireless networking functionality of the mobile device from the mobile device to the server. The '348 Patent indicates in col. 6, lines 12-19:

Examples of such information include information specifying at least one messaging action implementable over the wireless network, information specifying at least one collaboration action implementable over the wireless network, and information specifying at least one location-based service action implementable over the wireless network. Other types of information associated with wireless networking functionalities may also or alternatively be used.

28. The content and the information associated with the at least one wireless networking functionality of the mobile device is integrated into the previously established application-based information channel. This is described in col. 6, lines 12-19 and col. 10, lines 38-57 of the '348 Patent, which are set forth above.

29. The '348 Patent also describes enabling other content from at least one of the additional users to be inserted into the previously established application-based information channel. For example, the '348 Patent indicates in col. 18, line 64 - col. 19, line 3:

Furthermore, the invention allows users to more efficiently communicate, collaborate and otherwise interact with their friends or colleagues instantly and seamlessly within a single system that provides a mobile web site integrating existing wireless networking

functionalities, such as IM, SMS, MMS, location-based services, or email, with personally authored content.

B. Representative Claims

30. The Challenged Claims (1-2, 6-9, 12-14, and 17-18) include independent claims 1, 12, 13, and 17. Petitioners identify independent claims 1, 13, and 17 as including substantially overlapping processing limitation and thus treat them together. Independent claim 12 incorporates the limitations of claim 1. Accordingly, for ease of presentation, I generally treat the independent claims similarly.

31. Independent Claim 1 of the '348 patent recites:

1. An apparatus comprising:
 - a processing element comprising a processor coupled to a memory; and
 - a network interface coupled to the processing element and configured to communicate with a plurality of mobile devices over at least one network;
- the processing element being configured:
 - to receive first device-captured data from a first one of the mobile devices via the network interface;
 - to receive second device-captured data from a second one of the mobile devices via the network interface;
 - and
 - to integrate the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices.

32. Independent Claim 12 of the '348 patent recites:

12. A network-based communication system comprising a plurality of servers configured to communicate over said at least one network, a given one of the servers comprising the apparatus of claim 1.

33. Independent Claim 13 of the '348 patent recites:

13. A method comprising:

receiving first device-captured data from a first mobile device over at least one network;

receiving second device-captured data from a second mobile device over said at least one network; and

integrating the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices.

34. Independent Claim 17 of the '348 patent recites:

17. A non-transitory computer-readable storage medium having embodied therein executable code of one or more software programs, wherein said executable program code when executed by a processing element causes said processing element:

to receive first device-captured data from a first mobile device over at least one network;

to receive second device-captured data from a second mobile device over said at least one network; and

to integrate the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices.

VI. THE PRIOR ART

A. Randall (EX.1005)

35. International Published Patent Application No. WO02/1762, to Randall et al., for “Database For Use With A Wireless Information Device” (“Randall”), published on February 28, 2002, based on an application filed August 22, 2001. It claims priority to three applications dating back to August 22, 2000. It is assigned to Symbian Limited.

36. Randall is directed to “a database for use with a wireless information device” (Randall, 1:7) and “the use of an open, universal data infrastructure for wireless information devices which can be used by application developers to write new applications by extending the attributes of the database using a standard protocol, as opposed to a closed and proprietary protocol” (*Id.*, 3:10-13). Randall contrasts this to “the need to custom build the data sharing infrastructure for each new application.” Randall, 2: 25-27. In other words, Randall is directed to providing an infrastructure for “new applications requiring access to shared content.” *Id.*, 3:17-19.

37. Randall describes an implementation called the ADS system, described as in information distribution architecture. The core structures of the ADS system include (a) Internet servers hosting extensible databases; (b) wireless information devices which can access information on these databases; and (c) applications

resident on these devices which present a common set of APIs to plug-ins from commercial service providers.” *Id.*, 7:16-19. The extensible database “is at the heart of much of the ADS system’s extensibility.” *Id.*, 66. The data is resident on a server, referred to as the “i-server”. *Id.* Table 1, for example, “is an example application view of Alice’s [a Hypothetical user] i- data.” Randall, 66:17-67.

38. The new services and functions Randall purports to allow include different types of mobile call features. *See* Randall, 63 (“Section H An illustration: how the ADS system framework is used in making a telephone call”). As identified in Appendix 1, specific features include “Ring Back” (which allows a caller’s phone to ring automatically when both the caller and intended recipient phones are “clear, on and have network coverage”) and “Home Divert” (which allows user to quote divert all calls on [his/her] home phone to [their] mobile, or vice versa”). Randall, 80. Another example in Appendix 1 is “Take a picture,” which describes using “a special type of mobile phone with the photographic lens in it.” *Id.* Without providing specific implementation details, Randall explains that the user’ phone “takes a digital picture, which you can send to your friends, and “[y]ou can then call them and chat about it.” *Id.* There is no indication that such sending of a picture is part of a Forum or sent with any other information pertaining to the user or their device.

39. While Randall indicates the devices are able to communicate over different types of networks, such as GSM (*id.*, 11-13), it states that “devices based

on the Symbian platform, are smarter than current generation GSM phones...” (*Id.*, 1:19-21).

B. Forsyth (EX.1006)

40. US Patent No. 7,047,030 to Forsyth, for Group Communication Method For A Wireless Communication Device, issued on May 16 2006 based on an application filed May 2, 2002. It claims priority to an application filed May 2, 2001. The application is assigned to Symbian Limited.

41. In general, Forsyth describes a group communication method that leverages the use of a group object, which can be used across different applications. As described in the summary of the present invention, once end users that form a group are identified, “a group object [is] constructed that defines or references members of the group in a way that enables communication to take place from the device and all members of the group.” 2:6-9. The group object may be used by a first application for defining members of the group, as well as “a second application running on the device, unrelated to the first application,” to enable unrelated communication among the group. 2:10-16.

42. Clearly stated by Forsyth: “Fundamental to forums is the idea of there being an object which defines solely the identities of members of a group: as such, it is content and application independent.” 5: 15-17. This confirms that (i) the group object is the basis for communications in Forums, (ii) the object defines solely the

identities of members of a group; they are content independent, and (iii) group objects are also application independent.

43. Forsyth notes that an implementation of the present invention it's called Forums. As described, "it is designed specifically to allow current and very popular Internet type services (e.g. chat/instant messaging between groups) to be handled effectively between mobile devices and to enable a new generation of group-based communications services." 2: 40-47. Forsyth continues by describing the basis for such effective handling, namely the use of group objects. "The content and application independent group object is therefore a foundation stone for building applications which enable a huge range of new group-based communications/interaction functions." 3:14-18.

44. Forsyth describes the group object as separate from the content. "In one implementation, the group object is used to define the **addresses** of multiple recipients for a message." 4:17-19. Moreover, "[t]hat **message** can subsequently be treated as a single 'communication object'", namely, a separate object. 4:17-20. There is no disclosure of a single object with addresses, names, and content.

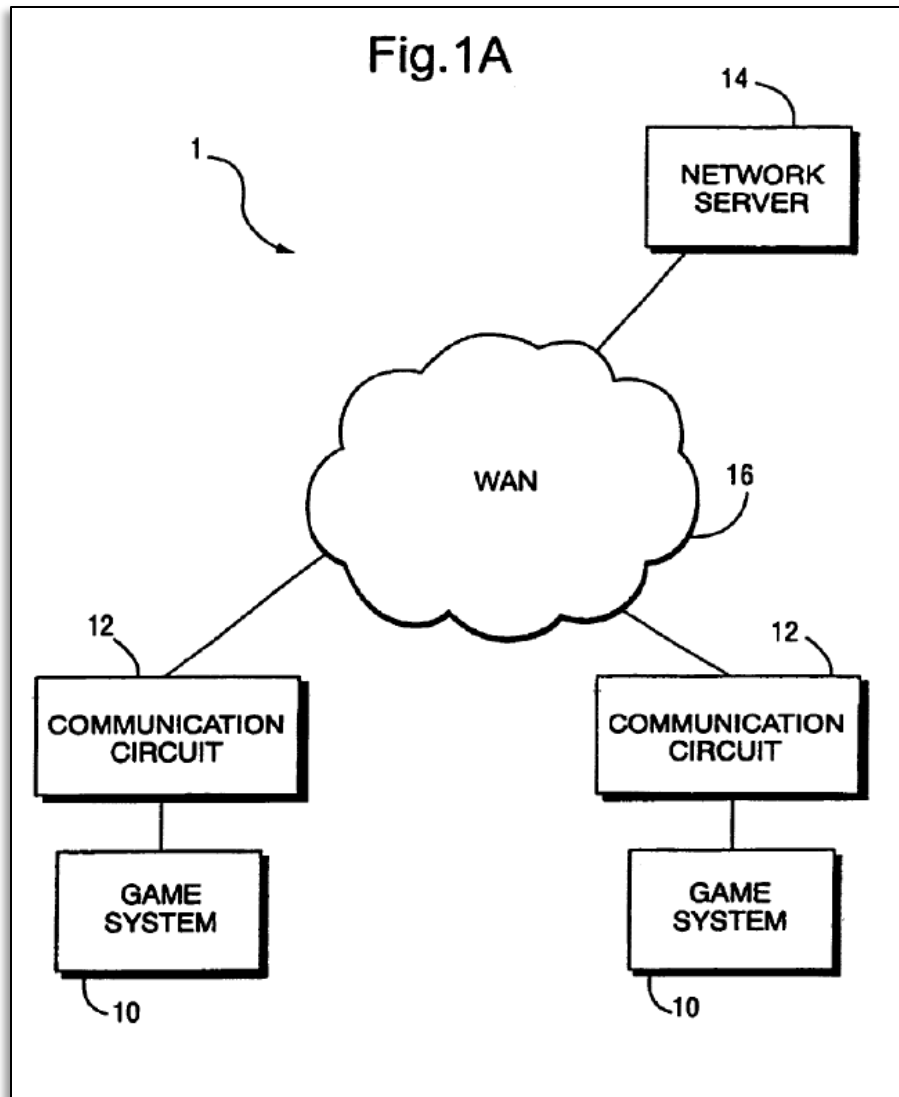
45. Forsyth describes several separate "scenarios." In my opinion, each of these are text-based examples, although some describe the posting of, e.g., photos or MP3 files. However, when describing the photos and MP3 files, it is clear that they

are not captured by the mobile device and uploaded by the mobile device into a Forum.

C. Pelkey (EX.1007)

46. US Patent No. 7,056,217 to Pelkey, for Messaging Service for Video Game Systems with Buddy List that Displays Game Being Played, issued on June 6, 2006, based on an application filed November 28, 2000. It claims priority to an application filed May 31, 2000. The application is assigned to Nintendo Co.

47. In general, Pelkey describes a messaging system that includes at least two video game systems connected to a web server computer (e.g., connected via the Internet) that purportedly communicates messages between users of the video game systems. Abstract, 1:13-16. More specifically, Pelkey describes a basic architecture of the network, in which a messaging service can be implemented, as shown in FIG. 1A:



Pelkey describes a basic implementation in which game systems are connected via communications circuits (e.g., modems, network interfaces, etc.) to a wide area network (e.g., the Internet). A network server is connected to the WAN and able to store games that may be played by users of the network. The messaging service, which can be provided by the network server or may use the network server, is used to communicate messages between users of the video game systems. 2:58 through 3:12.

48. Pelkey describes examples of the game systems that can be used in the messaging system, which include a console system (shown in figure 2) and a portable game system (shown in figures 3A, 3B, and 3C). For each game system (console and portable), a removable video game storage device (i.e., a game cartridge) is used, wherein a given cartridge includes a printed circuit board including a read-only memory (ROM) and potentially read/write memory, wherein the ROM stores instructions and other information pertaining to a particular video game. A user will insert a game cartridge of their choosing into game cartridge slot of the game system, enabling game machine circuitry to access information contained within ROM (and read/write memory), which information controls the game system to play the appropriate video game by displaying images and reproducing sound as specified under control of the ROM game program information. 3:49 through 4:17; 5:22-54.

49. Pelkey further notes that the game cartridge includes program code for a messaging service client. 6:42-46. Pelkey notes that access to the game network (and thus access to the messaging service) is initiated when the user uses a cartridge having program code that includes code for the messenger service client. 9:55-56.

50. Pelkey describes various features of the messaging service (each of which is stored in the network server), including user registration (i.e., initial creation of user account and/or subsequent input of account username for logging in

to account), creation of a user profile or updating user profile (i.e., user profile contains user-specific information, such as name, location, and other attributes or preferences, as well as profile image depicting their appearance or preferred appearance), and creation of a “buddy list” (i.e., a user-created list of other users (“buddies”) that he/she wishes to remain in contact. 6:48 through 7:59.

51. Pelkey notes that the message service allows for a connected user and his/her buddies to communicate with each other on an individual basis and/or via private chat sessions that can be set up. Pelkey describes such communications as typically text-based, but also possible to set up voice over Internet sessions between users. 7:51-56.

52. As such, it is clear that the messaging service of Pelkey is limited to the exchange of text-based messages and, possibly, in some instances, voice-based communication.

53. This is further evidenced by the fact that Pelkey points to the specific input device(s) of a given game system that is usable by a user to create such text-based messages and/or voice communication. For example, “In the case of a game console, an on-screen keyboard may be used, and the game controls are usable to select characters from the on-screen keyboard to create messages. In another implementation, a separate keyboard (not shown) may be connected to the game console. In still another implementation, the input device may be a microphone to

enable voice over IP communications. Voice over IP may be implemented within the messaging service.” 10:65 through 11:7. “In the case of a portable game system, an on-screen keyboard may be used to create messages. If voice input is supported, a microphone may also be used.” 11:8-10.

54. As admitted by Petitioners and their expert, Houh:

(i) Pelkey does not describe integration of messaging and sharing content like photos with multiple users (Ex.1003, ¶176);

(ii) Pelkey does not describe any in-game messaging (Ex.1003, ¶176; Petition, 59-60); and

(iii) Pelkey does not disclose details of the wireless network used to provide wireless messaging from the game system to the server (Petition, 77-78; Ex.1003, ¶213).

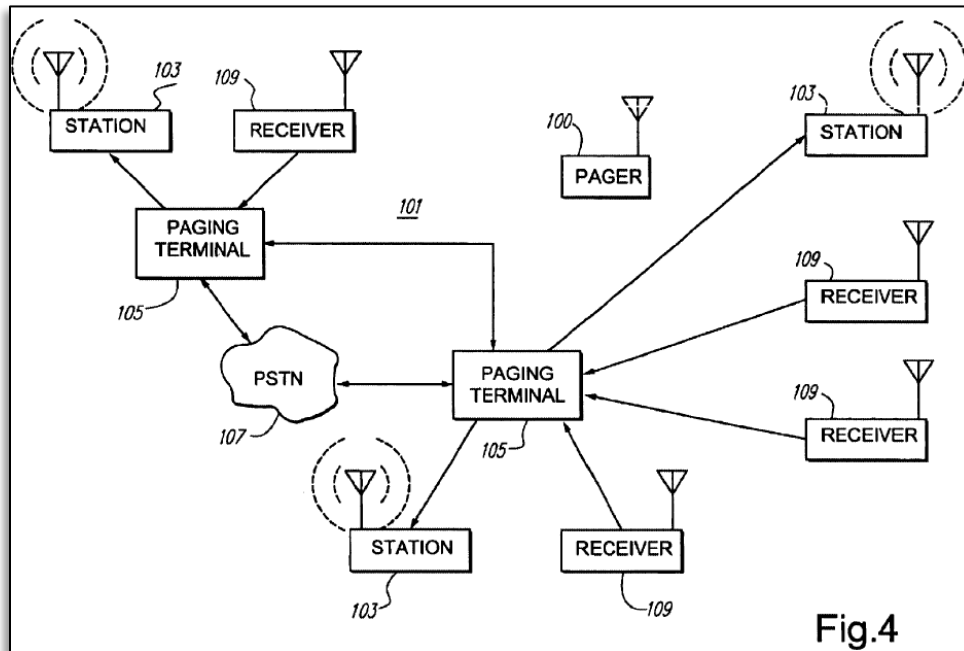
D. Eck (EX.1008)

55. US Patent No. 6,716,103 to Eck, for Portable Game Machine, issued on April 6, 2004, based on an application filed September 11, 2000. It claims priority to an application filed October 7, 1999. The application is assigned to Nintendo Co.

56. Eck generally describes a pager cartridge for use with a portable game machine, in which the pager cartridge houses elements of a two-way pager. 5:8-10. Eck purports that the pager cartridge may be configured to transfer messages received over paging system to portable game machine when coupled to the portable

game machine, wherein such messages may be visually and/or aurally communicated to a user of the portable gaming machine. 6:13-24.

57. Eck provides an architecture of a paging system, over which the pager cartridge is configured to communicate and transmit messages, as shown in FIG. 4:



Eck specifically states (5:45 through 6:7):

FIG. 4...discloses a two-way paging system 101 that includes paging stations 103, paging terminals 105, public switched telephone network (PSTN) 107, paging receivers 109 and a pager 111. While only two paging terminals 105 are shown, a paging system may include many paging terminals. Likewise, the number of other components of paging system 101 is merely illustrative.

Paging stations 103 are also referred to as base stations or paging transmitters. In operation, callers who wish to page a system user use PSTN 107 to call the system user's pager telephone number. In a system including pager-equipped portable game machines, a

computer of the game content provider may be connected to PSTN 107. Alternatively, pages can be originated through a computer network directly connected to a paging terminal. The call is routed, perhaps through a plurality of paging terminals from PSTN 107 to paging terminal 105 that formulates a page. The page is distributed over a communications network to each of paging stations 103. Paging stations 103 in turn transmit the page throughout the geographic coverage area of paging system 101. For example, the page may be broadcast over radio waves on a dedicated frequency. The paging system may operate using any well-known protocol such as Flex, ReFlex (e.g., ReFlex 25) or POCSAG.

If pager cartridge 100 is within the geographic coverage area of paging system 101, pager cartridge 100 receives the page and processes the message embedded within the page.

58. As such, the pager cartridge of Eck communicates messages over a very specific communication network (i.e., a paging system) requiring specific communication protocols and hardware for the transmission of such messages.

59. Eck describes a peer-to-peer (P2P) network architecture, which is decentralized because critical data such as address books and messages are stored and maintained locally on the client devices, specifically within the game cartridges themselves. 7:7-17. Communication between users is not arbitrated by a central server; instead, the system enables “bidirectional transmission of messages” and “broadcasts to all pagers” (16:42-45; 20:8), which are hallmarks of a peer-to-peer or broadcast-based system. This communication is inherently push-based, relying on a system that actively sends data to be received by client devices, as evidenced by

Eck's disclosure of notification circuitry that causes the device to vibrate or beep "when a message is received." 6:44-49.

60. Eck notes that the pager cartridge is arranged in such a manner to allow other cartridges to be "piggy-backed" onto the pager cartridge when the pager cartridge is coupled to (i.e., inserted into the slot) of the game machine. 5:38-43. In particular, Eck states (7:23-35) that:

Pager cartridge 100 is provided with first and second connectors 146 and 148. First connector 146 is configured to permit pager cartridge 100 to be selectively attached and electrically connected to game machine 10 via the connector 40 of game machine 10. In this way, the electronic components of the pager cartridge are accessible to and controllable by CPU 26 of game machine 10 and data (including messages) can be communicated between pager cartridge 100 and game machine 10. Second connector 148 permits game cartridges, read/write memory cartridges, digital cameras cartridges. GPS cartridges and the like to be electrically connected ("piggy-backed") to pager cartridge 100 and, via connector 146 of pager cartridge 100, to game machine 10.

61. Eck further notes that a user of a pager cartridge can become a player in a virtual community for all users having a pager cartridge (which Eck refers to as "PagerWorld"). 10:20-23. The players are represented by a "persona character as players interact with each other (e.g., by sending messages and playing games).

62. As described below, Eck describes various embodiment using the pager cartridge, including both "traditional paging functions" and "be[ing] used in game play." 9:60-61.

VII. DEFICIENCIES OF THE PETITION

A. Obviousness Based on Ground 1 – Randall-Forsyth

63. Petitioners and Houh opine that a POSITA would be motivated to combine Randall and Forsyth. I disagree with Petitioners and Houh.

1. Improper Combination of Randall and Forsyth

64. Based on my review of the petition and the expert declaration, it is my view that the petitioners and their expert are treating Randall and Forsyth as describing a singular system and application. There are numerous instances in the Petition and the Expert's declaration that led me to this conclusion, including:

a. The Petition refers repeatedly to the "Forums server," as if it were a single, identified server. Petition, 18 ("**The Forums server** performs..."). Despite discussing a singular "Forums server," the Petition refers to servers of each of Forsyth and Randall and cites to Houh's discussion of both. *Id.* citing Ex.1003, ¶88; *see also id.* ("**the server** includes 'a memory'..."; "**The Forums server** acts as 'a store for resources...'").

b. While Petitioners point to the "Private Forum Server" in Randall, Figure 4, they also quote from Forsyth in describing the "server." *See* Petition, 18 ("Specifically, **the Forums server** acts as 'a store for resources which group-members may wish to discuss and share (e.g.,

personal information, personal photographs, music, web sites, etc.).”
citing 3:31-34). This portion of Forsyth describes a “central server,”
also described as a “remote server ... designed to handle all aspects of
storing and forwarding messages to the intended recipients,
maintaining message [sic, message] threads and making them [sic,
them] readable to recipients etc.” 3:21-24. This server is not illustrated
in any of Forsyth’s figures and is not referred to as the “private Forum
server” of Randall. As such, I do not see the Petition as establishing
which disclosure of either reference allegedly corresponds to the
apparatus required by limitations 1[A] and 1[B].

c. Similarly, with regard to limitations 1[C]-1[D]/13[A]-
13[B]/17[A]-17[B], Petitioners argue Forums receives first and second
device-captured data at the “server.” Petition, 27-28. The Petition then
describes that server with references to Randall’s inclusion in Figure 4
of the “private Forum Server” and in the very same sentence, continues
describing that server by quoting from Forsyth. Petition, 28.

d. Houh similarly cites to Randall and Forsyth when describing the
“Forums server” without even attempting to establish the servers are
the same. Ex.1003, ¶117 (“As I discussed above, the server, illustrated
in *Randall’s Figure 4* below, ‘handles contacting each group member,

storing messages, allowing message to be read, sending, receiving and distributing messages.’ *Forsyth*, 3:28-31; Randall, 57:4 (describing ‘server side software’), 38:24 (describing server side message handling applications’).”; *see also* ¶88 (“**Both** Randall and Forsyth describe that **the server** performs...”), ¶49 (describing the “Symbian Forums server” functionality with reference to Forsyth and its implementation (“ServML”) with reference to Randall), ¶65 (“Forsyth enhances the functionality of **the Symbian infrastructure**”). Houh fails to establish that the server in Randall is the same server as in Forsyth.

e. Petitioners reference “Forums” in Randall and Forsyth as if they inherently represent the same underlying infrastructure and operational context, despite Randall focusing primarily on an extensible database architecture for sharing application data and Forsyth emphasizing application-independent group objects for communication.

f. The Petition and expert declaration blend descriptions of Randall’s database features, such as server-side extensibility, with Forsyth’s completely separate concept of portable, application-agnostic group objects, creating a misleading impression that these distinct features naturally complement or directly integrate.

g. Petitioners assert without adequate justification that Forsyth's server-side logic for handling message forwarding (based entirely on group object data) could seamlessly merge with Randall's independent concept of data-sharing infrastructure, even though Forsyth explicitly describes its group objects as fundamentally "application independent" and "content independent," which directly conflicts with Randall's specific, extensible application-data approach.

h. The Petition conflates Randall's generic mentions of messaging pathways (e.g., GSM, WAP) with Forsyth's explicit client-server communications in "Forums," despite no clear teaching in either reference that such messaging protocols could or would integrate directly into a combined "application-based information channel" as recited in the challenged patent claims.

65. This blending of Randall and Forsyth into a single conceptual framework lacks explicit support in either reference and improperly uses the challenged patent's claims as a hindsight-driven roadmap.

66. I see no basis for Petitioners' and their expert's approach to treating the disclosures of each of Randall and Forsyth as directed to a single Symbian infrastructure or single Forum application. The fact that each refers to "Forums" does not change my opinion. Indeed, I have worked on and am aware of applications

that, despite having the same name over time, changed materially in their structure and/or operation. One that comes to mind is "Google Hangouts," which has evolved significantly from its initial text-based chat and simple video conferencing functionalities to a fully integrated collaborative platform (Google Meet and Google Chat), involving substantial changes in underlying infrastructure, operational logic, and communication protocols. This demonstrates that a shared name alone does not justify treating distinct references as a unified disclosure.

2. Lack of Motivation to Combine Randall and Forsyth

67. I have reviewed Houh's declaration, Ex.1003, relating to his opinion that a POSITA would have been motivated to combine Randall and Forsyth. *See* Ex.1003, ¶¶69-75. The Petition adopts his position largely verbatim. Petition, 11-14. I disagree that Houh has set forth a valid motivation.

68. He begins by arguing that a "POSITA would have been motivated to combine Forsyth's teachings regarding the use of group objects and additional features and functions to enhance the Forums service taught by Randall." Ex.1003, ¶69. Clearly, he is relying on the notion of "enhance[ing] the Forums service" of Forsyth with Randall's infrastructure, including its extensible database. I disagree this is a motivation as Forsyth already describes the use of "content and application independent group objects." Forsyth, 3:14-18. Forsyth also describes group objects residing on a remote server and the use of pointers to such a central server (*id.*, 3:19-

31), which indicates the use of a central database.

69. Houh also points to Randall's network infrastructure and client-server architecture (Ex.1003, ¶69); however, Forsyth itself already acknowledges the use of a client server architecture (Forsyth, 3:24-31).

70. Houh notes that Forsyth explicitly motivates the combination by virtue of stressing the benefits of group objects, namely, because ““a group created in one application (e.g. for text based instant messaging) can immediately be used in other applications (e.g. a diary/agenda application could use that same group as the recipient list for an invitation to a meeting)’ [and] ‘data specifically created for one group and in one application can be re-used in a different application and the data viewed appropriately for that different application.’” Ex.1003, ¶71 quoting Forsyth, 2:27-32, 2:34-37. But this “strength” has nothing to do with Houh's premise of “enhance[ing] the Forum service.” The benefit described by Houh relates to improving other applications and their implementations.

71. Moreover, a POSITA would not have been motivated to combine the two because Forsyth's described system already accomplishes the goal of group communications without needing Randall's specific infrastructure. Forsyth describes a server that handles message storage, threading, and distribution to group members defined by the group object. This implies a self-sufficient server-side logic for the Forums application. Importing Randall's complex, extensible i-server, with

its separate concepts of i-Tags and i-Groups for granular data access control, would be a redundant and needlessly complex engineering task. It would be akin to replacing a functional engine with a much larger, more complicated one for no clear performance gain in the context of the stated invention of enabling portable group communications.

72. Furthermore, a POSITA would recognize that Randall and Forsyth describe fundamentally different, and arguably conflicting, system architectures. Randall describes a data-centric architecture where the extensible database is the core, and applications are built to leverage its extensible attributes and i-Groups for access control. The system is designed for persistent, structured data sharing. In contrast, Forsyth describes a communication-centric model where the “group object” is a lightweight, application-agnostic entity designed for portability across disparate applications like messaging, calendars, and voice calls. A POSITA would understand that integrating Forsyth’s portable, self-contained communication objects into Randall’s monolithic and highly structured database architecture would be counterintuitive, adding unnecessary complexity and undermining the very application-independence that is the stated foundation of Forsyth’s invention.

73. As such, I view Houh as using the ‘348 patent as a roadmap for his supposed motivation to combine Forsyth and Randall.

3. Ground 1 Lacks Disclosure of Limitations of Independent Claims

a) “web-based shared information channel”

74. Petitioners assert that an individual Forum as used in the Forums application is a “web-based shared information channel.” I disagree with Petitioners’ and Houh’s assertion.

75. Petitioners and Houh cite to two portions in Randall to support their argument that the Forums user interface pages are provided to users via the web. Petition, 35 (citing Randall, 13:22-24, 45:14-15). A POSITA would not view these passages of Randall as disclosing or suggesting a web-based channel. The first is not a technical disclosure of Randall’s implementation, let alone of a web-based channel. Instead, the passage suggests to a POSITA Randall’s implementation is something else that merely “acts in effect” like a web page. The second passage (i.e., 45:14-15) of Randall also does not establish that the web is used. It reads “ServML embraces existing standards and initiatives such as SyncML and XML and uses standard data transports such as WAP or http for data access.” Using standard data transports does not teach or suggest that the information is provided via the web.

76. Additionally, a POSITA would understand that Randall’s disclosure of using standard transports like WAP or HTTP does not render the service “web-based” in the manner required by the claim. Randall explicitly describes its server as a “data repository” that uses a “self-describing meta-language, such as XML with

a standardised schema”. This describes a system designed for structured, machine-to-machine data exchange, akin to a modern API, not a system for delivering human-readable web pages. The WAP protocol itself often uses a binary-encoded version of XML (WBXML) and a protocol stack distinct from the standard Internet, further distancing it from a conventional “web-based” channel. The use of an ADS number formatted as a URL is merely an addressing scheme for a data pointer; it does not imply the existence of a navigable, web-based interface for the Forums application at that address.

77. The Petition also points to Randall’s use of the “ADS naming convention” as supporting Forums being mobile-website accessible “via the web.” Petition, 36. As Petitioners admit, the ADS in Randall is essentially a “pointer to entity specific data held on the web server.” *Id.*; *see also* Randall, 9:13-15 (“wireless information device (as well as web browsers) can access an entity’s database by sending to the server an unchanging pointer or key (an ‘ADS number’) which is unique to that entity”). As such, the ADS number is not associated with a Forums interface. Petitioners’ hypothetical scenario of a user entering an “ADS number associated with the Forum, Naked Chef (e.g., www.forums.com/NakedChef)” (Petition, 37) appears nowhere in Randall and is inconsistent with the express teachings of Randall that the ADS number points to an entity’s database, not a Forum.

78. In my view, Petitioners are taking an inconsistent position in this IPR and the 536 IPR. Specifically, in the 536 IPR my position was that an individual Forum was not an “application-based” channel by virtue of the Forum being implemented by a content and application-independent group object. *See Forsyth, 2:17-39.* Forsyth explains that each Forum relies on a group object that “defines solely the identities of members of a group” and is therefore “application (and hence also content) independent,” expressly so it can be lifted unchanged into a diary, voice, e-mail, gaming, or any other application. Forsyth, 2:25-27. Petitioners attempt to rebut this by disregarding the fact that a Forum—the alleged channel—is implemented using the group object and pointer to the stored group-member information. In this, the 542 IPR, Petitioners take an inconsistent position by relying on use of the ADS and associated pointers to stored data in Randall as establishing an individual Forum is a “web-based” channel.

b) “personalized content application”

In addressing the “personalized content application” recited in the claims, Petitioners state (citing Houh) that:

Forums further provides a user with the capability of creating a personalized Forum which is also a “personalized content application” operating within Forums. (EX-1003, ¶128.)

Petition, 33. This position—that an individual Forum is itself an application operating within the Forums application—is not explained by Petitioners or Houh,

and I disagree with the characterization. Elsewhere, Houh and Petitioners inconsistently consider the individual Forum to be the claimed channel. In any event, I disagree that a POSITA would consider an individual Forum to be an application.

B. Obviousness Based on Ground 2 – Pelkey-Eck

79. Petitioners contend in Ground 2 that the combination of Pelkey and Eck render the Challenged Claims obvious. I disagree for at least the reasons that a POSITA would not have been motivated to combine them as argued by Petitioners and, even if combined, Petitioners’ argument regarding the “previously established application-based information channel into which captured content is to be inserted” fails.

1. Lack of Motivation to Combine Pelkey and Eck

80. Petitioners state, without support, that a “POSITA would have been motivated to combine Eck’s teachings regarding PagerWorld with the network and message server architecture taught in Pelkey.” Petition, 58. I disagree.

81. Petitioners’ motivation to combine the Pelkey and Eck references fails to address fundamental incompatibilities between the two systems. Dr. Houh claims a POSITA would combine the references simply to avoid the cost of Eck’s pager-based system and to gain Pelkey’s internet-based functionality. This rationale collapses under scrutiny because it ignores that the two systems are built on opposing network architectures that a POSITA would not have been motivated to merge.

82. The core technical flaw in Houh's analysis is that he wrongly conflates a system's communication infrastructure with its network architecture. A POSITA would readily understand this critical distinction: infrastructure refers to the physical and logical pathways for data (e.g., the Internet, a pager network, a GSM network), while architecture refers to the rules and logic of how components communicate over that infrastructure (e.g., client-server versus peer-to-peer). *See, e.g.,* EX.1013, 4 (explaining how the WAP *architecture* is meant to operate on a bearer network, i.e. the mobile network *infrastructure*).

83. Furthermore, a POSITA would not have been motivated to combine the references because their communication models are fundamentally incompatible. Pelkey describes a subscription-based, client-server system. Users must register with a central server, which stores and maintains their "buddy lists" and other account information. Communication is akin to a "pull" or subscription model, where clients rely on the server to manage connections and provide status updates. In stark contrast, Eck discloses a push-based, P2P system. Its architecture relies on data being actively "pushed" to client devices, which store their own address books and messages locally on game cartridges. Eck's design does not require constant communication with a central server to operate; it only exchanges data when content is actively transmitted from one peer to another. These are opposing design

philosophies, and the petitioner fails to explain why a POSITA would abandon one for the other, let alone how they could be merged.

84. This architectural clash means the proposed combination is not a "simple substitution" but a complex re-engineering task with no reasonable expectation of success. To force Eck's P2P application logic onto Pelkey's client-server framework, a POSITA would have to discard Eck's decentralized data model and invent a new system for server-side storage and session management. This would fundamentally change the nature of both inventions. Such a radical modification would not have been obvious to a POSITA, and Petitioners provide no evidence or explanation for how it could be accomplished, much less why it would be preferable.

85. This purported motivation also ignores the significant and non-obvious technical challenges a POSITA would have faced. The pager cartridge in Eck operates on a dedicated paging network using protocols, which are fundamentally different from the GSM/WAP or internet-based protocols underlying Pelkey's system. Indeed, neither Eck itself nor Houh describe how the pager cartridge system could be combined with a GSM/WAP-based or internet-based protocol system. A combination would require a redesign of the hardware, including the radio frequency (RF) front-end, baseband processor, and antenna systems to support different frequency bands and modulation schemes. It would also necessitate a complete

rewrite of the firmware and communication software stack. This is not a "simple substitution" of one known element for another; it is a complex engineering project to bridge two disparate communication ecosystems, a task for which Petitioners provide no roadmap or motivation.

86. Petitioners' apparent rationale is that a "POSITA would be motivated to apply the network and message server architecture in Pelkey to Eck in order to avoid the charge-based system for exchanging messages and photos via pager cartridge in Eck. (EX-1003, ¶176.)" Petition, 59. I disagree that a POSITA would have been so motivated, including because Eck already addresses the supposed issue of cost in a different way, thus obviating the need Petitioners point to.

87. Eck explicitly teaches the solution Petitioners claim is missing from Eck—to avoid a charge-based system for exchanging messages. Specifically, Eck describes avoiding cost issues by allowing a user to use "user-generated custom libraries of words, phrases and graphics" to reduce message length. This practice is called "coding," which Eck expressly acknowledges can be used "to reduce message length" and thus "reduce message charges." Eck, 16:59-60; *see also id.* 16:49-63 ("It can be seen that by using 'coding', the length of the messages may be reduced.").

88. Also, Petitioners' cost-avoidance rationale is internally contradictory and fails on its own terms. Petitioners and Houh paradoxically suggest that the combined system would operate over a GSM-SMS network infrastructure. Ex.1003,

¶¶173-177. At the time of the patent's priority date, GSM-SMS was also a prominent charge-per-message system. This means Petitioners' proposed solution to avoid a charge-based system is to implement another charge-based system—a glaring contradiction that undermines Petitioners' entire stated motivation to combine. Further, Pelkey offers no insight into cutting costs that is not already addressed or rendered irrelevant by the express teachings of Eck itself.

89. In my view, Petitioners' and Houh's argument is superficial. For example, neither Petitioners nor Houh address any additional costs of the proposed modification, such as communication and bandwidth costs of the proposed network or the added costs of the network server architecture and other costs of the technical implementation of the GSM-SMS or WAP. These could include increased server-side infrastructure requirements for handling GSM or WAP traffic, licensing and subscription fees associated with GSM/WAP communication services, additional hardware and software integration costs, recurring network usage charges from mobile network operators, and higher maintenance and security expenses to support more complex network protocols.

90. Not surprisingly, neither Petitioners nor Huh point out the specific savings that would motivate the combination or prompt a user to switch to GSM-SMS or WAP, particularly in light of Eck's disclosed "coding" approach for reducing costs, as described above.

91. Petitioners continue that “a POSITA would be motivated to modify the ‘pager cartridge’ in Eck as necessary to use PagerWorld in Pelkey given the disclosed benefits of PagerWorld including ‘exploration and adventure,’ ‘chat and community interaction,’ and ‘character growth.’” Petition, 59 (citing Ex.1003, ¶176; Eck, 10:13-19). I take this to mean that Petitioners are suggesting both a modification to Eck’s “pager cartridge” and a modification of Pelkey. However, neither Petitioners nor Houh ever explain what either modifications would actually be. This is a glaring failure given the nature of changes and fundamentally different architectures of Pelkey (client-server) and Eck (peer-to-peer) discussed above, as well as Petitioners’ admission that “Pelkey does not describe any game play that includes in-game messaging in conjunction with the aforementioned features.” Petition, 60.

92. Petitioners also reiterate Houh’s conclusory opinions that Eck’s PagerWorld game is a known technique, Pelkey’s client-server based messaging server is a known method/product, and “[r]eplacing the pager system infrastructure system in Eck with the client-server architecture in Pelkey is the simple substitution of one known element for another to achieve a predictable result (internet-based functionality).” Petition, 60 citing EX-1003, ¶176. But, again, Houh never explains what those modifications would be given differences in operation and architecture discussed above. Indeed, Houh provides no explanation of how a pager cartridge

could be replaced with a hypothetical “GSM-SMS or WAP cartridge” in the system of Eck. This would include making such GSM-SMS/WAP cartridge accept a digital camera cartridge in a piggy-back fashion. Some issues in making the alleged combination would include redesigning the cartridge interface to accommodate differing electrical and communication protocols between pager and GSM/WAP systems, addressing increased power consumption and battery management demands typical of GSM or WAP devices, implementing necessary changes in software drivers and firmware to manage GSM/WAP-specific network registration, messaging protocols, and error-handling routines, and ensuring robust signal integrity and electromagnetic compatibility, particularly given the distinct operational frequency bands and interference concerns of GSM/WAP compared to paging systems.

2. Houh and Petitioners Fail to Acknowledge that Eck is Directed to Different, Non-PagerWorld Embodiments

93. A POSITA reading Eck would have understood Eck to be describing different embodiments or uses of the pager cartridge, some “traditional paging functions” and others in connection with “game play” (Eck, 9:60-61) and PagerWorld. More specifically, the uses of the pager cartridge for sending photos and sounds identified by Petitioners and Houh do not relate to PagerWorld and thus do not relate to insertion of content in the alleged channel. *See, e.g.*, Eck, 9:25-37 (summarizing the functionality of the “pager-equipped portable game machine,”

explicitly enumerating sending messages separately from allowing playing of pager-compatible games like PagerWorld); *id.*, 9:60-61 (“Apart from traditional paging functions, pager cartridge 100 can be used in game playing.”). Indeed, “pager cartridge 100 is a stand-alone accessory device...which can receive messages even when not attached to game machine 10.” Eck, 22:2-5.

94. Eck, 16:42-45, cited by Petitioners, is directed to this traditional pager functionality, never even suggesting the functionality apply to PagerWorld. See Eck, 16:41-17:4.

95. Eck, 24:30-36, also cited by Petitioners, also does not relate to PagerWorld. It is part of a discussion of an “Example Digital Camera,” including its structure and circuitry. See Eck, 23:35-24:65. Telling, the discussion in this section of radio circuitry integrated in the game machine and functionality is without reference to any game cartridge or PagerWorld.

96. To a POSITA, this distinction is critical. PagerWorld is described as a specific MUD (Multiple User Dungeon) application with its own persistent world, rules, and modes of interaction. The ability to send a picture message, by contrast, is a general utility of the hardware, much like a modern smartphone has a separate camera app and a messaging app. Eck does not teach or suggest that the picture-messaging function is integrated into the PagerWorld application itself. For example, there is no disclosure of posting a captured photo onto a PagerWorld message board

or associating it with a persona character within the game world. The Petition improperly conflates a general device capability with a feature of a specific, separate application, thereby creating a combination of embodiments that is not taught by the reference.

97. A POSITA would have understood that the message-sending functionality is separate from PagerWorld, the alleged application-based information channel. This includes the Message Center described in Eck, including the Compose Message screen 290, which relates only to text. Petitioners and their expert never directly address that the discussions of photos and sounds, on the one hand, and PagerWorld, on the other, are disparate embodiments.

VIII. CONCLUSION

98. 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. I reserve the right to modify my opinions as additional information becomes available to me.

Dated: July 12, 2025

By:



Mahdi Eslamimehr, Ph.D.