

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZOOM COMMUNICATIONS, INC.,
Petitioner

v.

RICOH COMPANY, LTD.,
Patent Owner

Case IPR2026-00407
Patent No. 10,904,487

DECLARATION OF DR. VIJAY MADISETTI

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I. INTRODUCTION

1. My name is Dr. Vijay Madisetti. I have been retained by Ricoh Company, Ltd. as an independent expert consultant in this *inter partes* review (“IPR”) proceeding before the United States Patent and Trademark Office (“PTO”) regarding US Patent No. 10,904,487 (“the ’487 Patent”).

II. PROFESSIONAL BACKGROUND

2. All of my opinions stated in this Declaration are based on my own personal knowledge and professional judgment. In forming my opinions, I have relied on my knowledge and experience in designing, developing, and researching the technology referenced in this Declaration.

3. I am over 18 years of age and, if I am called upon to do so, I would be competent to testify as to the matters set forth herein. I understand that a copy of my current curriculum vitae, which details my education and professional and academic experience, is being submitted as Exhibit 2014. The following provides a brief overview of some of my experience that is relevant to the matters set forth in this Declaration.

4. I received my Bachelor of Technology (Honors) in Electronics and Electrical Communication Engineering at the Indian Institute of Technology (IIT) in Kharagpur, India in 1984. I obtained my Ph.D. in Electrical Engineering and Computer Science at the University of California at Berkeley in 1989. I received

the Demetri Angelakos Outstanding Graduate Student Award from the University of California at Berkeley and the IEEE/ACM Ira M. Kay Memorial Paper Prize in 1989. I am now a tenured Full Professor in the Colleges of Computing and Engineering at Georgia Tech and serve as its representative to the European Telecommunications Standard Institute (ETSI). I am knowledgeable and familiar with topics including software engineering, web applications, cloud computing, user interface design, wireless networks, and associated software and firmware design—including software and firmware design for wireless and telecommunications terminals and base stations in general and ETSI/3GPP/3GPP2 standards based cellular architecture and infrastructure. I have created and taught undergraduate and graduate courses in hardware and software design for computer science and engineering applications at Georgia Tech for the past thirty years. I have been the principal investigator (“PI”) or co-PI in several active research programs in these areas, including DARPA’s Rapid Prototyping of Application Specific Signal Processors, the State of Georgia’s Yamacraw Initiative, the United States Army’s Federated Sensors Laboratory Program, and the United States Air Force Electronics Parts Obsolescence Initiative. I have received an IBM Faculty Award and NSF’s Research Initiation Award.

5. I have designed several specialized computer and communication systems over the past two decades at Georgia Tech for tasks such as wireless

audio/video processing and messaging/protocol processing for portable platforms, such as cell phones and Personal Digital Assistants. I also developed UIs for tools for electronic design automation of complex chipsets and their reverse engineering processes for the U.S. Air Force and Lockheed Martin and Boeing in the late 1990s and early 2000s. I have worked on designing systems that are efficient from performance, size, weight, area, and thermal considerations. I have developed courses and classes for the industry on these topics, and many of my lectures in advanced computer system design were developed under the sponsorship of the United States Department of Defense in the late 1990s and have been used by several U.S. and international universities as part of their course work. I graduated more than 20 Ph.D. students that now work as professors or in technical positions around the world.

6. Over the years, I have been an active consultant to industry and various research laboratories (including Massachusetts Institute of Technology Lincoln Labs and Johns Hopkins University Applied Physics Laboratory). As part of that involvement in the industry, I have been actively involved in product development. For example, in the early 2000s, I designed three GSM multiband mobile phones for a leading telecom equipment manufacturer in Asia, and in the mid-2000s, I developed wireless baseband and protocol stack software and assembly code for a leading telecommunications handset vendor that focused on efficient realization of

speech codecs and echo-cancellation and for another in the optimization of their 3G software stack. My work in this regard included creation of software code, and analysis and revision of existing software code.

7. I have also founded three companies in the areas of embedded software, military chipsets involving imaging technology, and wireless communications. The first of these companies, VP Technologies, offers computing systems for helicopter imaging systems for the United States Air Force. The second of these companies, Soft Networks, LLC, offers software for multimedia and wireless computing platforms, including the development of a set-top box for Intel that decodes MPEG-2 video streams and imaging codes for multimedia phones. The third of these companies, Elastic Video, uses region-of-interest based video encoding to capture high-quality video at low bit rates, with primary application for wireless video systems. I also have extensive experience developing user interfaces for products. Recent examples of such work include my work developing a crypto exchange prototype, and my work on a web-based document management environment, called CatchUp, which is now commercialized as CatchUp Cloud (<https://catchup.cloud>).

8. I have authored more than 110 refereed journal publications and around forty peer-reviewed conference publications. I have served as associate editor or on the editorial board for technical journals, including IEEE Transactions on Circuits & Systems II, International Journal in Computer Simulation, and International

Journal in VLSI Signal Processing. I have also authored or co-authored several books, including VLSI Digital Signal Processors (IEEE Press 1995) and the Digital Signal Processing Handbook (CRC Press, 1998, 2010). I also co-authored Quick-Turnaround ASIC Design in VHDL (Kluwer Academic Press 1996) and Platform-Centric Approach to System-on-Chip (SoC) Design (Springer 2004). I am also the editor of several books, including the three-volume DSP Handbook set: Volume 1: Digital Signal Processing Fundamentals, Volume 2: Video, Speech, and Audio Signal Processing and Associated Standards, and Volume 3: Wireless, Networking, Radar, Sensory Array Processing, and Nonlinear Signal Processing, published in 2010 by CRC Press, Boca Raton, Florida. More recently I have authored Cloud Computing (2014, CreateSpace Press), and Internet of Things (2014, CreateSpace), and the book, Cloud Computing, was nominated as a Notable Book of 2014 by the Association of Computing Machinery (ACM) in July 2015.

9. I have worked in the area of user interfaces over the past twenty years as part of my extensive development in mobile and portable applications for mobile phones and portable devices since the early 2000 timeframe. I developed commercial products for leading companies and was part of the team that developed the user interfaces for a Soft Switch, called SNX 8500, that provides voice and VOIP services for enterprises. In addition to authoring textbooks and research papers in the area of wireless messaging interfaces, I have developed web-based document

management systems and web-based fintech applications. I have submitted approximately 100 invention disclosures and provisional patents over the past ten years. I am listed as a first inventor on over thirty issued US patents. Many of my patents disclose techniques for efficient user interface design including use of multilevel hierarchies and other UI innovations in the area of user interfaces for work environments.

10. I have been extensively involved in the activities of one of the premier standard setting organizations in the world, the IEEE, since the 1980s, and was a member of the IEEE Press Board from 1995-1997. I was the Technical Program Chair of IEEE ICASSP in 1996. I was also the Associate Editor of IEEE Transactions on Circuits & Systems II from 1994 to 1997. I am also the director of the IEEE Atlanta Chapter, and the author of several drafts of IETF proposals in the area of VOIP and Voice/Video streaming over the internet. I have been elected a Fellow of the IEEE. The Fellow is the highest grade of membership of the IEEE, a world professional body consisting of over 300,000 electrical and electronics engineers, with only one tenth of one percent (0.1%) of the IEEE membership being elected to the Fellow grade each year. Election to Fellow is based upon votes cast by existing Fellows in IEEE.

11. I have also been awarded the 2006 Frederick Emmons Terman Medal by the American Society of Engineering Education for contributions to Electrical

Engineering, including authoring a widely used textbook in the design of VLSI digital signal processors. I was awarded VHDL International Best Ph.D. Dissertation Advisor Award in 1997 and the NSF RI Award in 1990. I was Technical Program Chair for both the IEEE MASCOTS in 1994 and the IEEE Workshop on Parallel and Distributed Simulation in 1990.

III. COMPENSATION

12. My work on this matter is being billed at my customary rate of \$700 an hour. Also, I am being reimbursed for reasonable expenses I incur in relation to my services. I have no pecuniary interest in the outcome of this proceeding. I understand I will be paid regardless of the outcome of any proceeding in which my work is used.

IV. LEGAL CONSIDERATIONS

13. I am not an attorney and have not been asked to offer my opinion on the law. However, as an expert offering an opinion on whether the claims of the '487 Patent are patentable, I have been told that I am obliged to follow existing law. My understanding of the law is based on information provided by counsel.

14. I understand that in an IPR proceeding, a patent claim is unpatentable if it is shown by a preponderance of the evidence that the claim is anticipated or obvious. I also understand that the anticipation or obviousness determination is viewed from the perspective of a person of ordinary skill in the art ("POSITA") at

the priority date of the '487 Patent, which I have been asked to treat as May 9, 2015.

A. Anticipation

15. I understand that a reference anticipates a claim if it discloses each and every element recited in the claim, arranged as in the claim, so as to enable a POSITA to make and use the claimed invention without the need for undue experimentation in light of the general knowledge available in the art. I understand that a U.S. Patent document is presumed to have sufficient description to include sufficient detail for a POSITA to make and use the subject matter that document describes.

16. I also understand that a claim limitation may be present in an alleged prior art reference either expressly or inherently, but inherency may be established only if such limitation is necessarily present in the reference. I understand inherency cannot be established by probabilities or possibilities, and the mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency.

B. Obviousness

17. For a claim to be obvious, I understand that every limitation of the claim must be disclosed in a combination of prior art references, as viewed from the perspective of a POSITA. I understand that a POSITA is presumed to know the relevant prior art.

18. I understand that while there is no rigid rule that a reference or combination of references must contain a “teaching, suggestion, or motivation” to combine references, some motivation to combine or modify prior art references must exist in the references or the knowledge generally available to a POSITA, otherwise the challenged claims would not have been obvious. I also understand that the “teaching, suggestion, or motivation” test can be a useful guide in establishing a rationale for combining elements of the prior art. In addition, I have been informed and I understand that there must be a reasonable expectation of success in combining prior art disclosures to arrive at the claimed invention.

C. Claim Interpretation

19. I understand that a claim term is interpreted according to its ordinary and customary meaning as a POSITA would have understood the term in light of the surrounding claim language, other claims, the specification, and the patent’s prosecution history, which are referred to as intrinsic evidence. I also understand that prior art references cited in the patent’s prosecution history are considered intrinsic evidence. I further understand that evidence outside the patent and its prosecution history (e.g., dictionaries and technical articles, as well as the POSITA’s general knowledge and experience) may inform the context in which a POSITA would have understood the claims of a patent. I understand this ordinary and customary meaning applies absent unique circumstances, such as where a patent

clearly expresses an intent to set forth a special meaning for a term.

V. OVERVIEW OF TASK & BASIS FOR OPINIONS

20. I have been asked to review the '487 Patent. I have been asked to provide opinions related to certain issues from the perspective of a POSITA, having knowledge of the relevant art, as of the priority date, and—except where otherwise noted—the opinions stated in this declaration are from that perspective. The qualifications and abilities of such a person are described in Section VII below.

21. More particularly, I have been informed that the Patent Trial and Appeal Board (the “Board”) will decide whether the Petition (Paper 2) (“Pet.”) establishes by a preponderance of the evidence that at least one claim of the '487 Patent is unpatentable. At this stage, I have been asked to focus my analysis on the Petition’s and Dr. Almeroth’s proposed invalidity theories related to the challenged independent claims of the '487 Patent.

22. In preparing this declaration, I have considered the '487 patent in its entirety and the general knowledge of a POSITA as of the priority date. My opinions are based on my education, training, and experience, as well as items that I reviewed to prepare my opinions, including the Petition, Dr. Almeroth’s declaration (EX1003), and the other exhibits listed in the Petition (pg. viii-ix). I understand that other issues may arise that require further explanation, and I will provide that explanation if appropriate. As a result, I respectfully reserve the right to update and

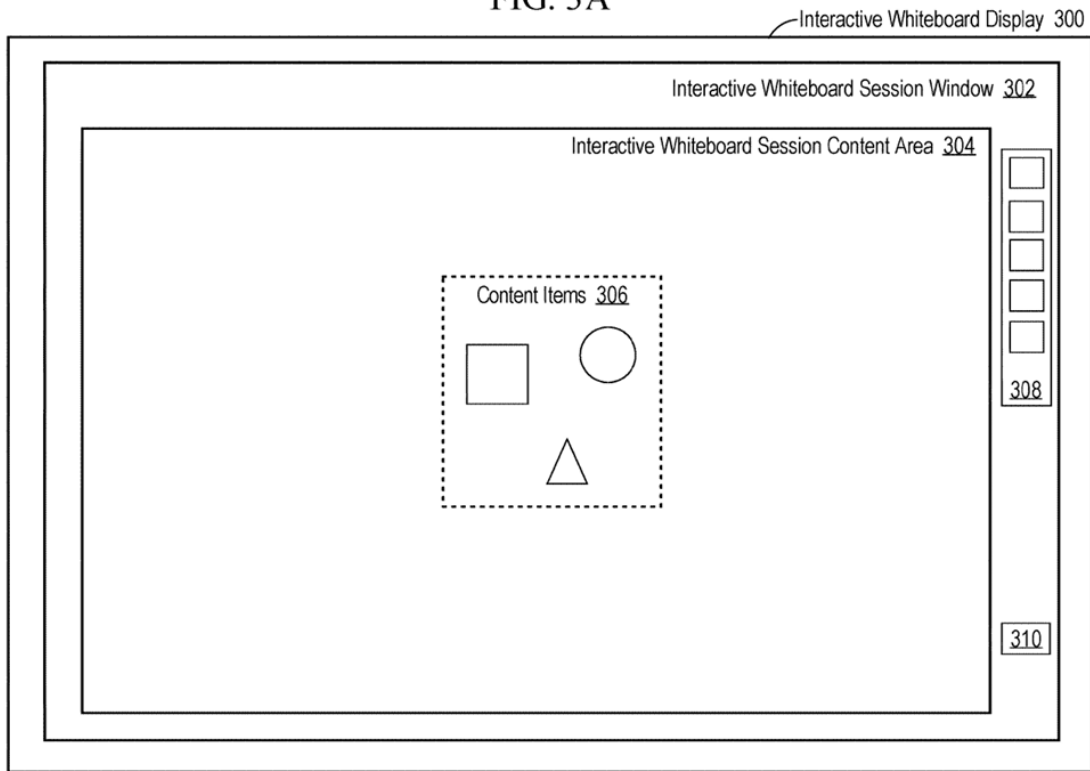
supplement this declaration and the information and opinions provided herein.

VI. OVERVIEW OF THE '487 PATENT

23. U.S. Patent No. 10,904,487 (“the ’487 Patent”) is entitled “Integration of videoconferencing with interactive electronic whiteboard appliances.” The ’487 Patent describes a device that “includes the capability to integrate and manage, in a user-friendly manner, interactive electronic whiteboard sessions and videoconferencing sessions between the interactive whiteboard appliance and one or more client devices.” EX1001, Abstract.

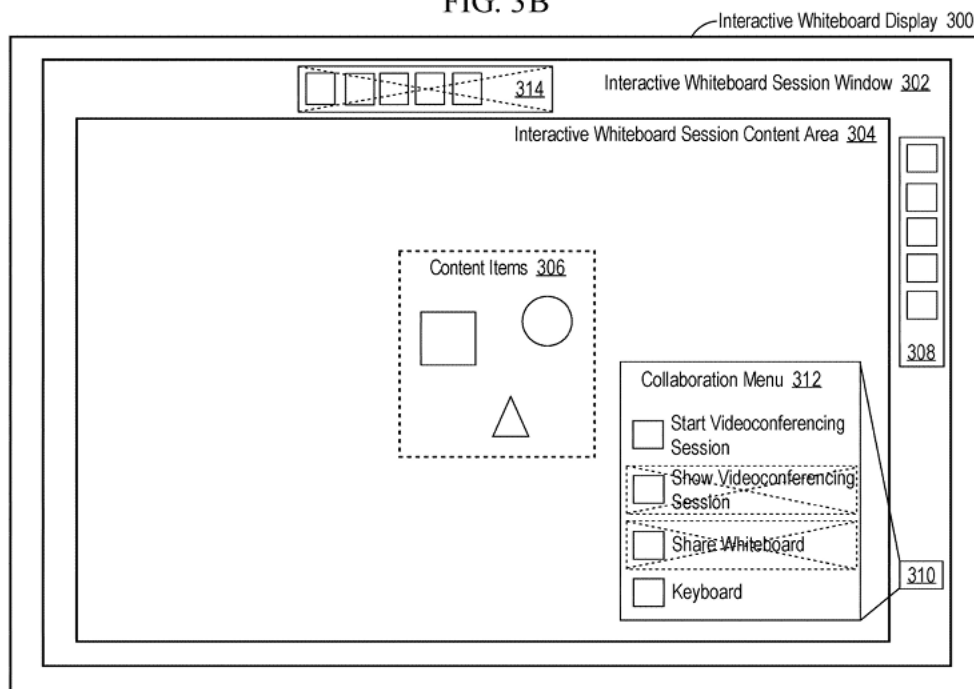
24. “FIG. 3A depicts an example interactive whiteboard display 300 after interactive whiteboard appliance 102 has been powered up.” EX1001, 6:39-41. As depicted in FIG. 3A (reproduced below), the display includes “an interactive whiteboard session window 302 and an interactive whiteboard session content area 304 that displays content items 306.” EX1001, 6:41-45.

FIG. 3A



25. The display also shows “a collaboration menu icon 310” and, as depicted in FIG. 3B (reproduced below), “selection of the collaboration menu icon 310 causes a collaboration menu 312 to be displayed.” EX1001, 6:48-50.

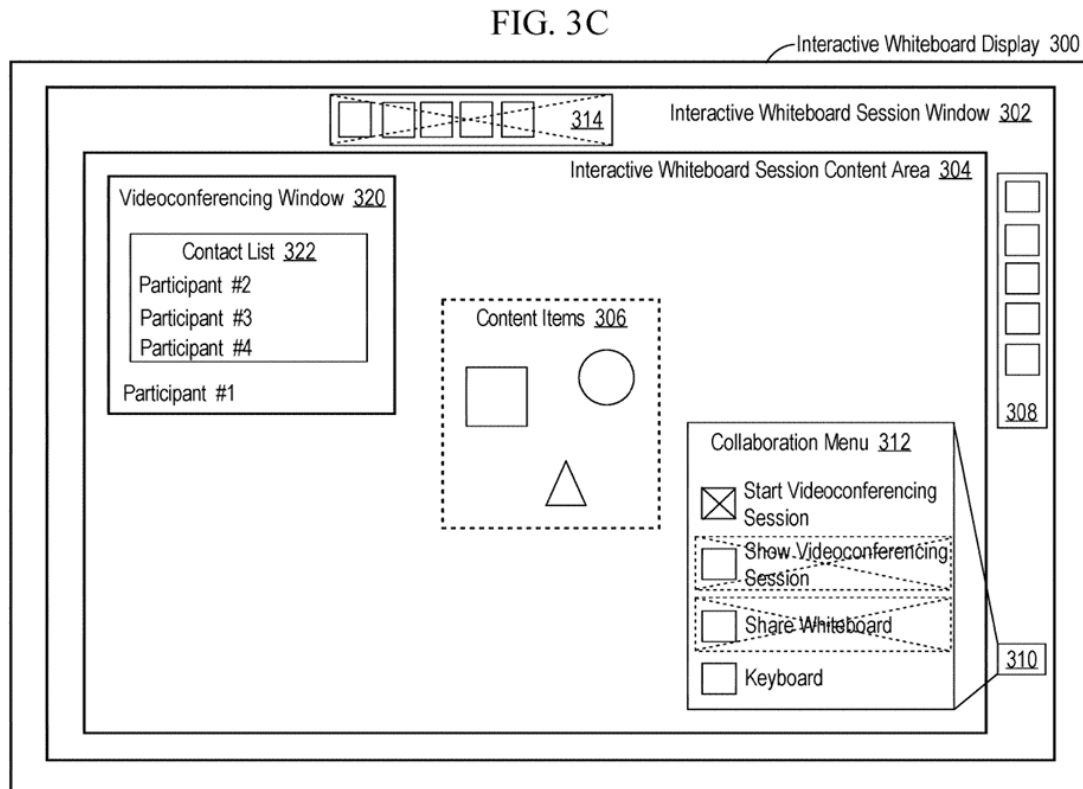
FIG. 3B



“Collaboration menu 312 provides user access to various controls for initiating and switching between an interactive whiteboard session window and a videoconferencing session window.” EX1001, 6:51-54.

26. One example of these controls is the “Start Videoconferencing Session” option. EX1001, 7:8-13. “[I]n response to user selection of the ‘Start Videoconferencing Session’ item from the collaboration menu 312, application manager 128 invokes the collaboration client 126.” EX1001, 7:8-13. The application manager then waits “for a collaboration client window to be created” and, “[o]nce confirmation has been received that a collaboration client window has been created, then ... the collaboration client window is set to the top and the interactive whiteboard session window is moved below.” EX1001, 7:14-21.

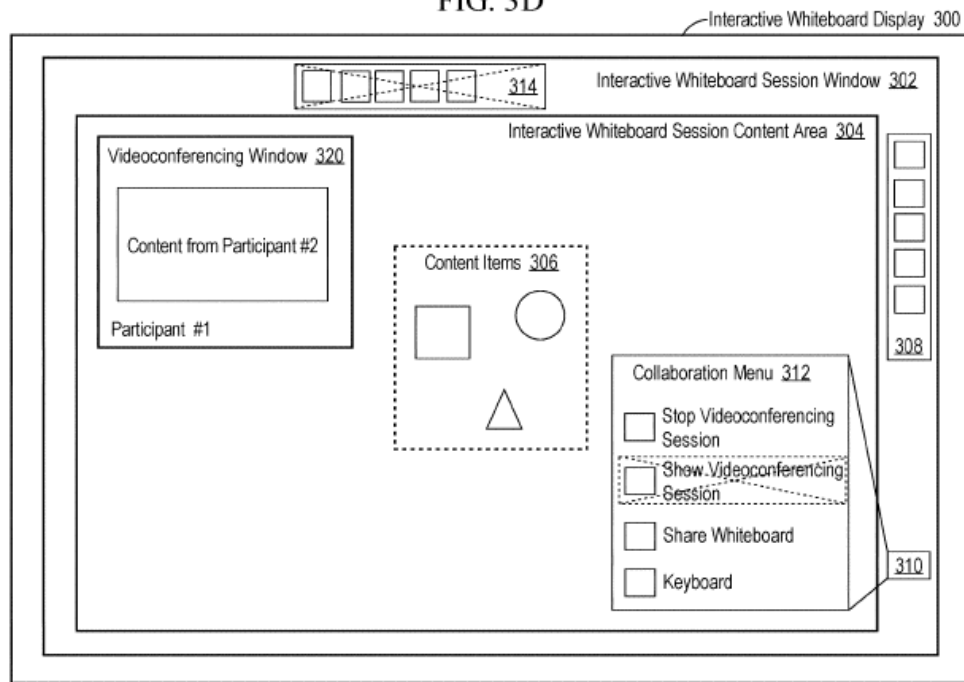
27. FIG. 3C of the '487 Patent (reproduced below), “depicts interactive whiteboard display 300 after a user has selected the ‘Start Videoconferencing Session’ option from collaboration menu 312. In response to this selection, application manager 128 causes a videoconferencing window 320 to be displayed in interactive whiteboard session content area 304.” EX1001, 7:45-50.



In other words, the videoconferencing session window 320 is overlaid on the interactive whiteboard session window 302. EX1001, 7:15–21.

28. “FIG. 3D depicts interactive whiteboard display 300 after a videoconferencing session has been established between the interactive whiteboard appliance 102 (“Participant #1”) and Participant #2.” EX1001, 7:58–61.

FIG. 3D



29. The Petition challenges the three independent claims of the '487 Patent: Claims 1, 8, and 15. Dr. Almeroth treats claims 8 and 15 identically to claim 1 with respect to Limitations [1.f] and [1.g]. EX1003, ¶¶106-117.

A. Independent Claim 1

30. Claim 1 recites, [1.pre] A whiteboard device comprising:

[1.a] a display;

[1.b] a network interface;

[1.c] one or more processors; and

[1.d] one or more memories communicatively coupled to the one or more processors, the one or more memories storing instructions which, when processed by the one or more processors, cause:

[1.e] an interactive whiteboard session window, including at least an interactive whiteboard session content area, to be displayed on the display,

[1.f] wherein a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard session window; and

[1.g] after receiving the instruction for starting the video conference session via the selection menu overlaid on the interactive whiteboard session window, a videoconference window to be overlaid on the interactive whiteboard session window.

EX1001, 10:63–11:13.

B. Independent Claim 8

31. Specifically, claim 8 recites:

[8.pre] One or more non-transitory computer-readable media storing instructions which, when processed by one or more processors, cause:

[8.a] an interactive whiteboard session window, including at least an interactive whiteboard session content area, to be displayed on a display of a whiteboard device,

[8.b] wherein a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard session window; and

[8.c] after receiving the instruction for starting the video conference session via the selection menu overlaid on the interactive whiteboard session window, a videoconference window to be overlaid on the interactive whiteboard session window.

EX1001, 11:46–59.

C. Independent Claim 15

32. Claim 15 recites:

[15.pre] A computer-implemented method comprising:

[15.a] an interactive whiteboard session window, including at least an interactive whiteboard session content area, to be displayed on a display of a whiteboard device,

[15.b] wherein a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard session window; and

[15.c] after receiving the instruction for starting the video conference session via the selection menu overlaid on the interactive whiteboard session window, a videoconference window to be overlaid on the interactive whiteboard session window.

EX1001, 12:29–41.

VII. LEVEL OF ORDINARY SKILL IN THE ART

33. I understand that a patent must be analyzed from the perspective of a POSITA as of the patent's priority date, which is typically considered to be the patent's earliest filing date.

34. For simplicity at this stage, I apply the level of skill proposed by Dr. Almeroth for my analysis. In particular, a POSITA as of May 9, 2015, would have had at least one of the following combinations of education and experience:

(1) a bachelor's degree in computer science, software engineering, electrical engineering, computer engineering,

or a comparable technical field, together with at least two years of professional experience in software development, graphical user interface (GUI) design, videoconferencing systems, interactive display systems, or a closely related field; or (2) a master's degree or higher in one of the same technical fields, with coursework or research focused on areas such as human-computer interaction, multimedia systems, real-time communications, or collaborative computing, together with at least some practical experience in software development for graphical or interactive applications. Additional education could substitute for less professional experience, and conversely, additional professional experience could compensate for less formal education.

EX1003, ¶71. As explained above, I meet the qualifications of this POSITA.

VIII. OVERVIEW OF THE PRIOR ART

A. U.S. Patent No. 8,593,502 (“Saleh-502”)

35. U.S. Patent No. 8,593,502 is titled “Controlling videoconference with touch screen interface” and lists as its first inventor Youssef Saleh. I will refer to this reference as “Saleh-502.”

36. As shown in FIG. 2 of Saleh-502, a videoconferencing system 10 “includes a videoconferencing unit 100 ... and includes a touch screen display device 200.” EX1004, 4:55-59.

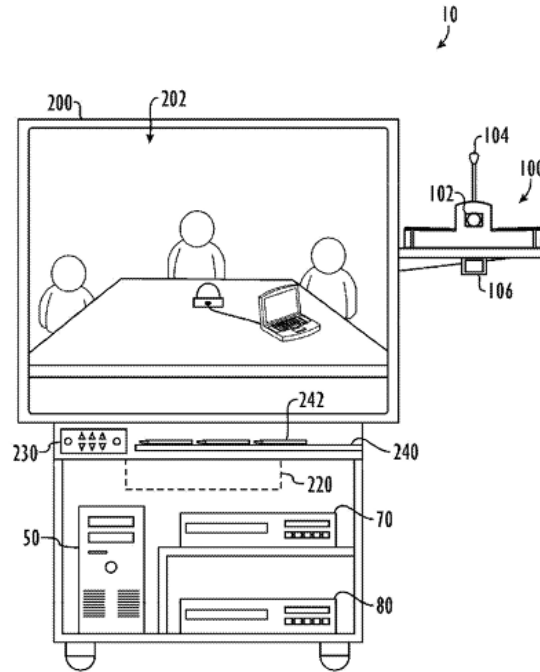


FIG. 2

As would be understood by a POSITA, “the touch screen display device 200 is capable of both displaying video to the user and receiving touch and annotations from the user.” EX1004, 5:10-12. In addition to touch sensors, “the control panel 230 of the display device 200 can include at least one sensor configured to operate in conjunction with the videoconferencing unit 100.” EX1004, 5:35-38. As shown in FIG. 2, the control panel 230 is located on a frame of the system and is external to touch screen 202. The system can have other controls that are distinct from the touch screen such as a tray 240, which “can have various tools 242, such as pens and erasers.” EX1004, 5:39-45. “One or more sensors (not shown) on the tray 240 (such as optical sensors, proximity sensors, or other sensors) can produce sensor responses that detect when a user moves (i.e., picks up or replaces) a certain pen or eraser tool

242 from the tray 240.” EX1004, 5:39-45.

37. Saleh-502’s system can be used in several distinct modes of operation, each associated with a different type of content presented on the display. EX1004, 8:56–13:60. These include “a videoconference mode of operation,” as shown in FIG. 6, in which video of remote participants is displayed (EX1004, 9:33-41); an “annotation mode,” as shown in FIG. 8, in which a user may annotate over displayed content (*id.*, 12:30-52); and a “whiteboard mode,” as shown in FIG. 9, in which whiteboard content 452 is displayed on screen 202 (*id.*, 13:42-60).

38. In the videoconference mode of operation, the system “establishes and conducts a videoconference by establishing a videoconference connection with remote endpoints via a network, by sending video of the videoconference to the RGB input of the display device (200), and by transferring graphical user interfaces and touch data between the display device (200) and the unit (100).” EX1004, 9:33–41. This mode is accessed by touching “a first button 231 configured to initiate a videoconference mode of operation” on the external control panel 230. EX1004, 9:32–35. In the videoconference mode, screen 202 of the display device 200 can show a video conference that has been initiated in a full screen view, as best shown in FIG. 6 (reproduced below) which depicts an established videoconference. EX1004, 9:33–40.

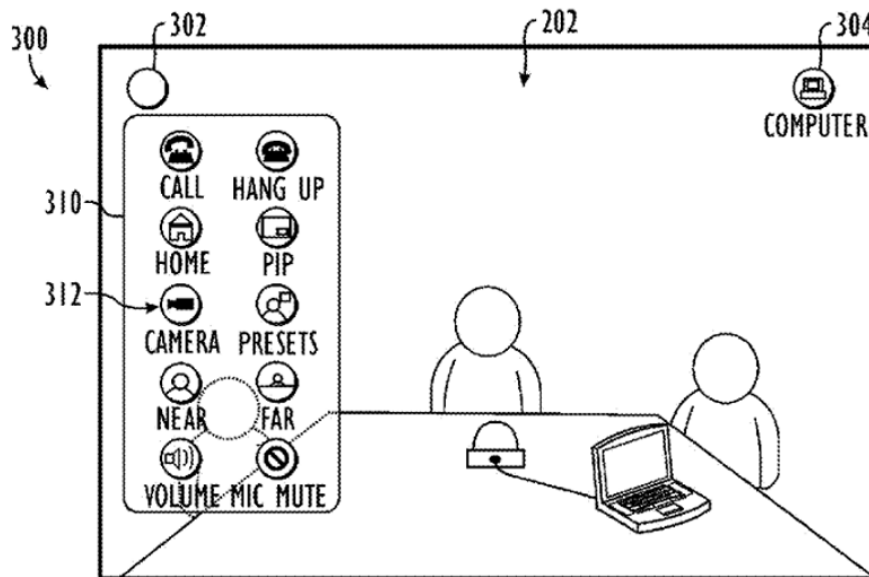
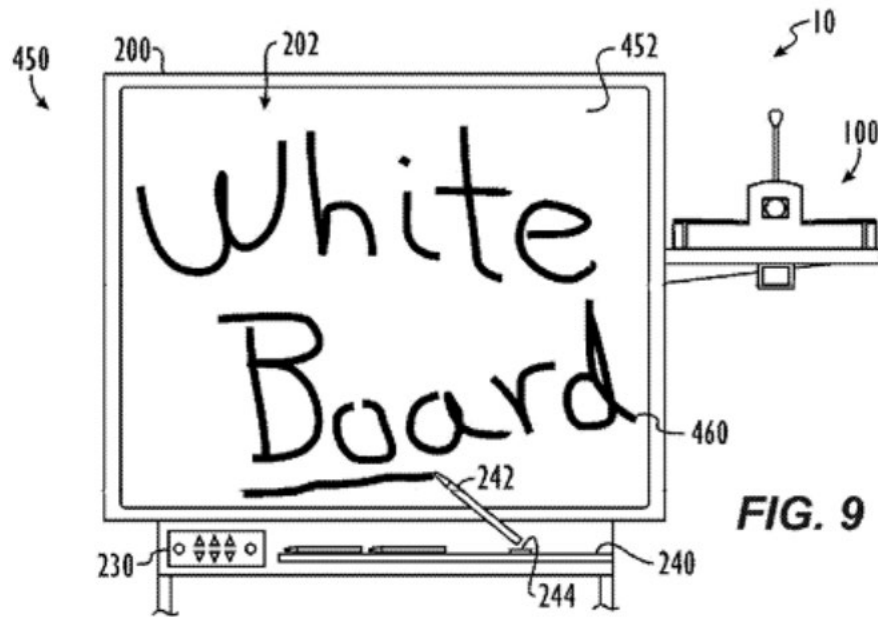


FIG. 6

As depicted in FIG. 6, screen 202 can display a button 302 during the video conference (i.e., “while video is being displayed”). EX1004, 10:61-66. For the interface shown in the videoconference mode, a menu 310 (shown above) “can be invoked when the user selects a button 302 displayed on the top left of the screen 202 while video is being displayed.” EX1004, 10:61-66.

39. The videoconferencing unit can also operate in “a whiteboard mode 450,” shown in FIG. 9 (inset below). EX1004, 13:42-60.



“To access this [whiteboard] mode 450, a user can pick up an electronic pen 242 from the tray 240 of the display device 200 ... and the videoconferencing system 10 automatically goes into the whiteboard mode 450.” EX1004, 13:43-52.

40. In the whiteboard mode 450, a video is not displayed on screen 202 and, instead, whiteboard content 452 is displayed over the existing interface on the screen. Saleh-502 describes an example of this transition where the system is initially in the videoconference mode and “currently displaying video data of a graphical user interface or the camera on display device 200” (e.g., as shown in FIG. 6). EX1004, 13:64-14:3. Saleh-502 describes that “when the user picks up the pen 242 from the tray 240,” the system “automatically goes into the [whiteboard] mode of operation” and “generates the whiteboard content 452” to be displayed on the screen. EX1004, 13:64-14:3. As shown above in FIG. 9, after this transition to the

whiteboard mode 450, the “video” interface is no longer displayed (e.g., button 302 and menu 310 are omitted from display).

41. As best shown in FIG. 10, Saleh-502 also describes a separate user-interface device 500 having a touch-screen panel 502, which may be used in addition to, or instead of, touch-screen display device 200. EX1004, 15:47–16:16.

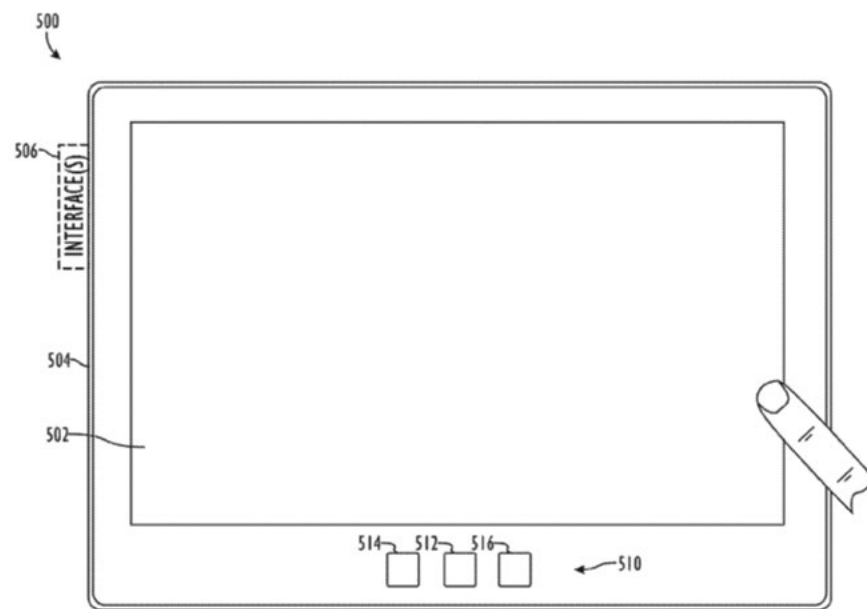


FIG. 10

A POSITA would understand this device 500 to be a tablet that is separate from the display device 200. Device 500 can include various menus or screens, such as those displayed in FIGs. 11A-21. EX1004, 11:50-54. For example, the touch device 500 may depict various menu interfaces (e.g., “a layout control screen 580” of FIG. 18). EX1004, 20:21–27, FIG. 18. Alternatively, “the touch screen device 500 can operate in an annotation/whiteboard mode of operation” where it can display a whiteboard without any of the other menus or icons. EX1004, FIG. 22.

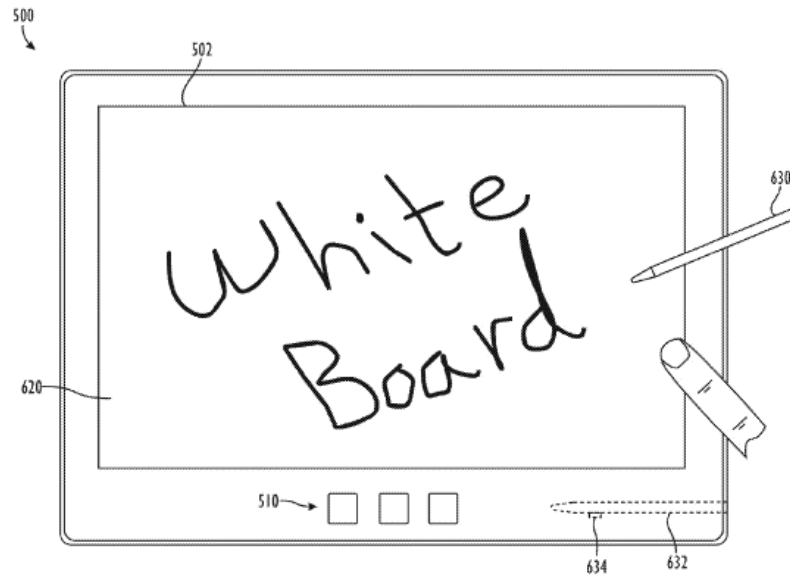


FIG. 22

42. As disclosed above and in later portions of this declaration, Dr. Almeroth has not shown that, Saleh, at the very least, discloses or renders obvious the following limitations:

- [1.f]/[8.b]/[15.b] wherein a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard session window; and
- [1.g]/[8.c]/[15.c] after receiving the instruction for starting the video conference session via the selection menu overlaid on the interactive whiteboard session window, a videoconference window to be overlaid on the interactive whiteboard session window.

B. U.S. Patent Publication No. 2016/0301729 (“Gurevich”)

43. U.S. Patent Publication No. 2016/0301729 is titled “Methods and systems for presenting video in a context-sensitive manner” and lists as its first inventor Lina Gurevich. I will refer to this reference as “Gurevich.”

44. Gurevich describes a conferencing system that attempts to solve the problem where “the video is usually handled by a video application component of the conferencing system that is provided by a third party (relative to the shared whiteboard application) resulting in the video being displayed within its native user interface.” EX1005, ¶[0004]. Gurevich explains that “the default native presentation or user interfaces of the video application components often do not integrate well with the presentation interfaces of the interactive board application components.” EX1005, ¶[0042]. To solve this issue, Gurevich's “video interface application component running on the computing device 30 processes video streams handled by the video application component prior to display of the video stream on the interactive surface 42 of the interactive board 40 to separate the video stream from its default native presentation interface allowing the separated video stream to be further processed and presented on the interactive surface 42 of the interactive board 40 in a manner customized for the interactive board.” EX1005, ¶[0050].

45. The first step in Gurevich is to establish a conference session “between the local site 22 and the remote sites 24 and 26, the host conferencing applications running on the computing devices 30, 50 and 70 allow audio, video and data to be shared between the local and remote sites.” EX1005, ¶[0045]. The conference is established after verification, as “participants of the conference session typically must be verified before being permitted to join the conference session.” EX1005,

¶[0048]. This can be “achieved by requiring participants to enter a valid conference session password” or other alternatives such as “a knock-to-join feature that allows a participant to ‘knock’ on an established conference session.” EX1005, ¶[0048].

46. After the conference session is established, Gurevich’s description rests on the assumption that “the video stream received from remote site 26 has been selected for presentation on the interactive surface 42 of interactive board 40 and is processed by the video interface application component before being passed to the interactive board component for display on the interactive surface 42 of the interactive board 40.” EX1005, ¶[0052]. Thus, the processes described in Gurevich begin after a conference is established and a user has already selected a video to be presented on the display. EX1005, ¶¶[0048], [0052].

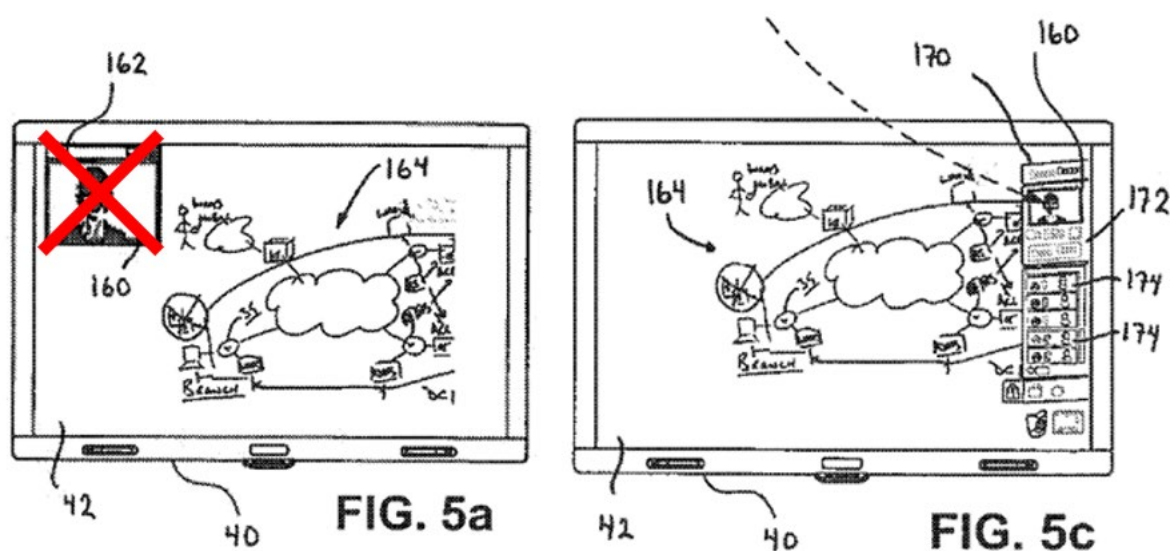
47. After the video is selected for presentation, Gurevich’s process begins when “the computing device 30 receives the incoming video stream,” and the interface application “suppresses the default output of the video application component ... inhibiting the decoded video stream from being displayed on the interactive surface 42 of the interactive board 40 in its received format.” EX1005, ¶[0052]. “The video interface application component also separates decoded video frames of the video stream from the default native presentation interface of the video stream ... by bit-splitting, that is by copying only the pixels of the decoded video frames and not the portions of the video stream representing window GUI or

borders.” EX1005, ¶[0052]. “The video interface application component then outputs the processed decoded video frames to the interactive board application component allowing the interactive board application component to present the processed video stream on the interactive surface 42 of the interactive board 40 in a manner better suited for the interactive board 40.” EX1005, ¶[0052]. Thus, Gurevich displays the video within its improved interface only after a conference has been established and a user has selected that video for presentation.

48. Gurevich provides an example of this improved presentation where “the video streams are presented in a horizontal video strip 202 within a presentation interface 200” with a “tool bar 210 comprising selectable control elements 212 extend[ing] along the right edge of the presentation interface 200.” EX1005, ¶[0059]. The control elements 212 include “commands such as removing a video stream from the video strip 202, changing the transparency of the presentation interface 200[,] etc.” EX1005, ¶[0059].

49. An example of this operation is shown in Gurevich’s FIGs. 5a and 5c (annotated and reproduced below). “FIG. 5a shows the video stream 160 ... displayed on the interactive surface 42 of the interactive board 40 within its default native presentation interface 162 together with annotations 164.” EX1005, ¶[0057]. Instead of displaying this default native presentation interface 162, “FIG. 5c shows the video stream 160 displayed on the interactive surface 42 of interactive board 40

after processing at step 148 within an alternative presentation interface 170 provided by the interactive board application component.” EX1005, ¶[0057]. “In this example the presentation interface 170 is at a different location on the interactive surface 42 than the default native presentation interface 162 and comprises a tool bar 172 with selectable control elements to allow the display of the video stream 160 on the interactive surface 42 to be altered.” EX1005, ¶[0057]. “The presentation interface 170 also comprises icons 174 representing other participants of the conference session.” EX1005, ¶[0057].



50. As disclosed above and in later portions of this declaration, Dr. Almeroth has not shown that, Gurevich, at the very least, discloses or renders obvious the following limitations:

[1.f]/[8.b]/[15.b] wherein a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard

session window; and

[1.g]/[8.c]/[15.c] after receiving the instruction for starting the video conference session via the selection menu overlaid on the interactive whiteboard session window, a videoconference window to be overlaid on the interactive whiteboard session window.

IX. THE PETITION’S GROUNDS 1A/1B FAIL TO ESTABLISH THAT THE PRIOR ART DISCLOSES THE CHALLENGED CLAIMS

A. Ground 1A – Saleh-502 Anticipation Theory

51. The Petition’s Ground 1A relies solely on Saleh-502 anticipating the independent claims. Pet., 19-20. For the reasons below, Saleh-502’s disclosures do not meet the elements recited in the independent claims.

1. Dr. Almeroth Incorrectly Relies on Two Distinct Elements in An Attempt to Meet the Claimed Instruction for Starting a Video Conference Session

52. Claim 1 recites “a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard session window” (Limitation [1.f]) and that the processors cause “a videoconference window to be overlaid on the interactive whiteboard session window” “after receiving the instruction for starting the video conference session via the selection menu” (Limitation [1.g]). Thus, for Limitation [1.f], the selection menu can “receive an instruction for starting a video conference session” and Limitation [1.g] describes an operation that results “after receiving the instruction” of Limitation [1.f]—that operation being videoconference window is overlaid on the interactive whiteboard

session window.

53. For Limitation [1.f], Dr. Almeroth identifies the “Call button” of Saleh-502’s menu 310 as the claimed “instruction for starting a video conference session” for Limitation [1.f]. EX1003, ¶113 (“Selecting this Call button from within the transparent menu 310 ... constitutes receiving an ‘instruction for starting a video conference session’ as recited in the claims”). However, Saleh-502 does not disclose that the selection of this call button would cause a videoconference window to be overlaid on the screen, as is required for Dr. Almeroth’s mapping of Limitation [1.g].

54. In fact, Dr. Almeroth does not even allege that selection of the call button would meet the features of Limitation [1.g] and, instead, identifies a different element of Saleh-502 as allegedly disclosing the operation recited in Limitation [1.g]. Specifically, Dr. Almeroth relies on a separate “picture-in-picture (PIP) button” to allegedly cause a window to be overlaid on the screen. EX1003, ¶118. However, the PIP button does not meet the requirements of Limitation [1.f] as the selection of this button does not “receive an instruction for starting a video conference session.” Rather, the PIP button merely “swap[s] near and far video” in a video conference session that has already been initiated. EX1004, 7:63-64. The swapping of views after a video conference has already begun does not disclose the claimed “instruction for starting a video conference session.”

55. As shown below, the Call button (highlighted yellow below) is a

separate element from the “PIP button” (highlighted blue below) and would require a separate selection and execute separate instructions.

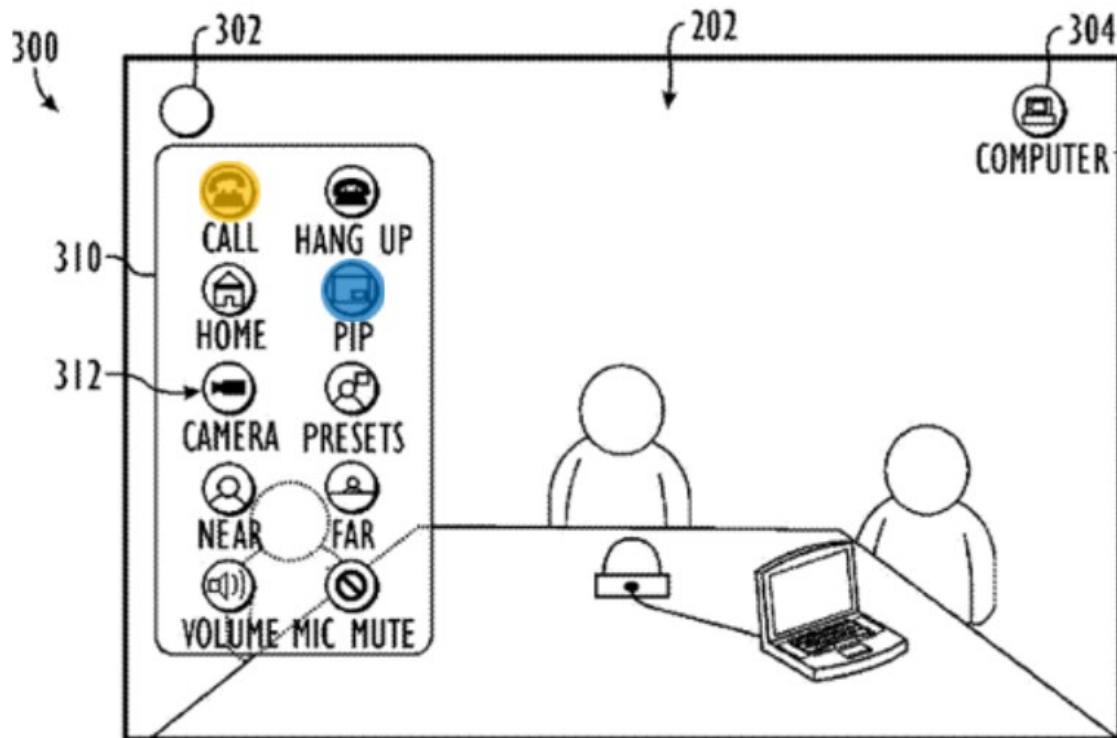


FIG. 6

For the reasons above, Dr. Almeroth’s reliance on two different elements to meet “an instruction for starting a video conference session” as recited in Limitation [1.f] and “*the* instruction for starting *the* video conference session via the selection menu” in Limitation [1.g] does not show that Saleh-502 discloses each and every element recited in claim 1.

56. Dr. Almeroth treats Limitations [8.b] and [15.b] as being identical to Limitation [1.f] and treats Limitations [8.c] and [15.c] as being identical to Limitation [1.g]. Accordingly, Dr. Almeroth’s analysis of claims 8 and 15 also fails

to show Saleh-502 discloses each and every feature of those claims for the same reasons as claim 1.

2. Limitations [1.g]/[8.c]/[15.c]

57. Limitation [1.g] recites that the processors “cause ... a videoconference window to be overlaid on the interactive whiteboard session window” “after receiving the instruction for starting the video conference session via the selection menu overlaid on the interactive whiteboard session window.” Saleh-502 does not disclose this feature.

58. Dr. Almeroth contends the “picture-in-picture (PIP) button” or the icons of “layout control screen 580” discloses the claimed functionality. However, neither of the identified features of Saleh-502 meet the claimed operation.

59. Dr. Almeroth first points to the PIP (picture-in-picture) button (shown in Saleh-502’s FIG. 6) as allegedly disclosing the claimed feature. EX1003, ¶118. The PIP button can be toggled to “allow the user to ‘swap near and far video in picture-in-picture (PIP).’” EX1004, 7:62–64. A POSITA would understand Saleh-502’s disclosure of swapping in picture-in-picture refers to an interface in which one video (e.g., far video of remote participants) is shown on the entirety of the display (*see* EX1004, FIG. 2) and another video (e.g., near video of local participants) is shown in a smaller display box (*see* EX1004, FIG. 18). That is, Saleh-502’s ability “to ‘swap near and far video in picture-in-picture (PIP)’” (EX1004, 7:62-64) would

simply swap the appearance of those videos (e.g., near video now shown in entire display and far view shown in the smaller display box). This does not meet the claimed operation.

60. Saleh-502 also states that the “Mute and PIP on the menu 310 can be toggling buttons for muting the audio and producing picture-in-picture on the screen 202.” EX1004, 11:10-20. As shown in FIG. 6, Saleh-502’s menu 310 is displayed on screen while the system is in the videoconference mode “while video is being displayed.” EX1004, 10:61-66.

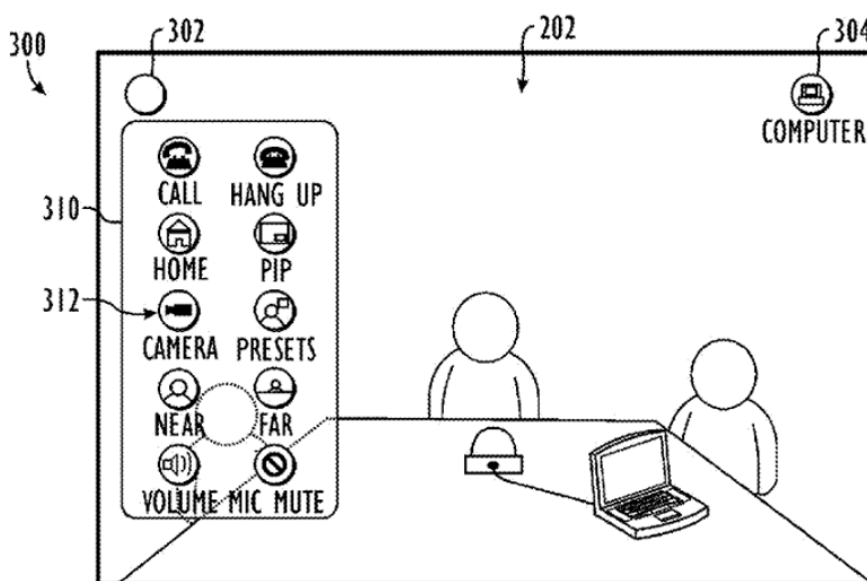


FIG. 6

Accordingly, to the extent that Saleh-502 discloses producing a video window based on the selection of the PIP button, that window would be displayed with the “video” that is displayed in FIG. 6. Saleh-502 does not disclose that the PIP display window would be overlaid on the whiteboard content. Saleh-502’s PIP feature concerns

overlaying one video stream (near-end or far-end video) on top of another video stream and is not disclosed with respect to its whiteboard mode. EX1004, 7:62–64; 13:42-14:14. Dr. Almeroth does not identify any single disclosure that states the PIP button would cause a window to be overlaid on the whiteboard content.

61. Dr. Almeroth also identifies a “layout control screen 580” that is displayed on the device 500. EX1003, ¶119. As shown in FIG. 18 (reproduced below), layout control screen 580 provides four icons that allow for the “adjustment of video size, picture-in-picture properties, including presence and removal” and “dual monitor emulation mode, which allows for two image streams to be displayed side-by-side on a single monitor.” EX1004, 20:21-37.

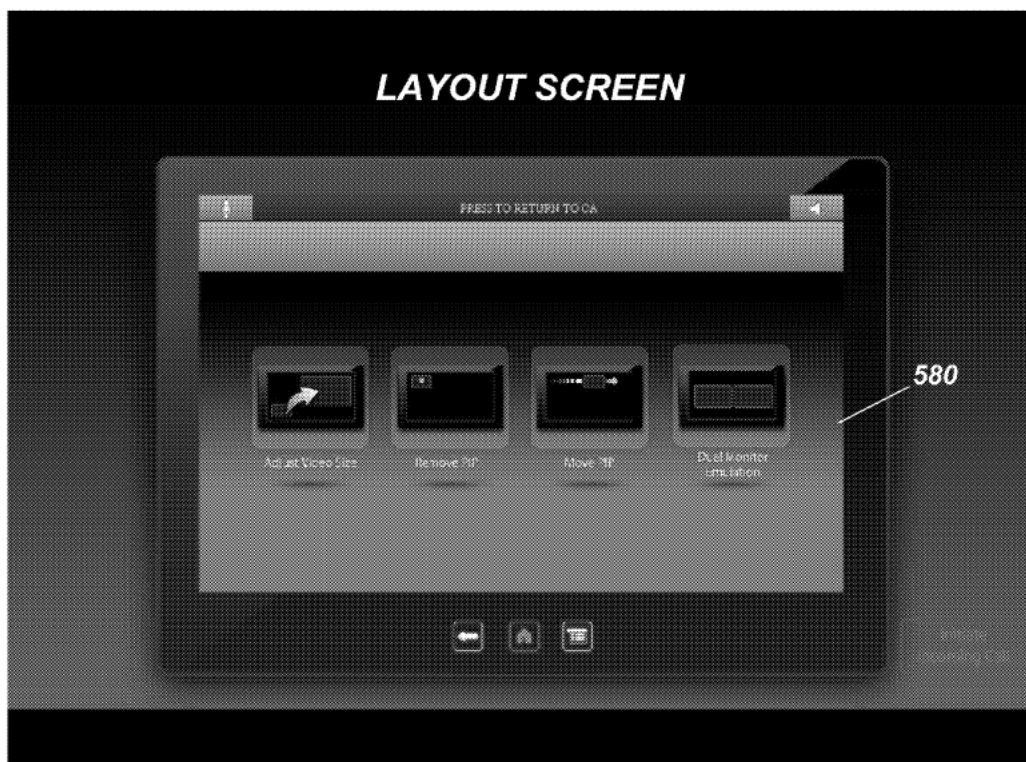


FIG. 18

62. As shown above, the interface shown on layout control screen 580 corresponds to the handheld interface device 500 shown in FIG. 10 and not the display screen 202 of the system shown in FIGs. 6-9. *Compare* EX1004, FIGs. 10 and 18 (showing handheld tablet 500) *with* EX1004, FIGs. 6-9 (showing larger screen 202 mounted to frame); EX1004, 14:30-48 (describing device 500 as a separate interface). To the extent that Dr. Almeroth intends to assert that the selection of any of the icons of layout control screen 580 would meet Limitation [1.g], this would be inconsistent with his mapping to Limitation [1.f]. Limitation [1.g] recites that the instructions are received “via the selection menu overlaid on the interactive whiteboard session window” and Dr. Almeroth identifies the menu 310 on Saleh-502’s screen 202 as the claimed selection menu. EX1003, ¶¶111-113. Accordingly, any instructions received via the icons of layout control screen 580 would not be “via the selection menu” as required by the claims.

63. Nevertheless, none of the identified icons of layout control screen 580 would result in “a videoconference window to be overlaid on the interactive whiteboard session window,” as claimed. As illustrated in FIG. 18 of Saleh-502 (above), there are four icons that allow a user to (1) “adjust [the] video size” of the display box; (2) “remove PIP”; (3) “move PIP”; and (4) perform “dual monitor emulation.” EX1004, FIG. 18; EX1004, 20:21–27. The first three operations relate to an existing window being enlarged, removed, or moved. *See* EX1004, FIG. 18

(depicting operations). As shown in Saleh-502's FIG. 18, the fourth operation results in the separate display of two monitors in a non-overlapping manner. None of these operations cause a videoconference window to be overlaid on any content, let alone the whiteboard content as is required by Limitation [1.g].

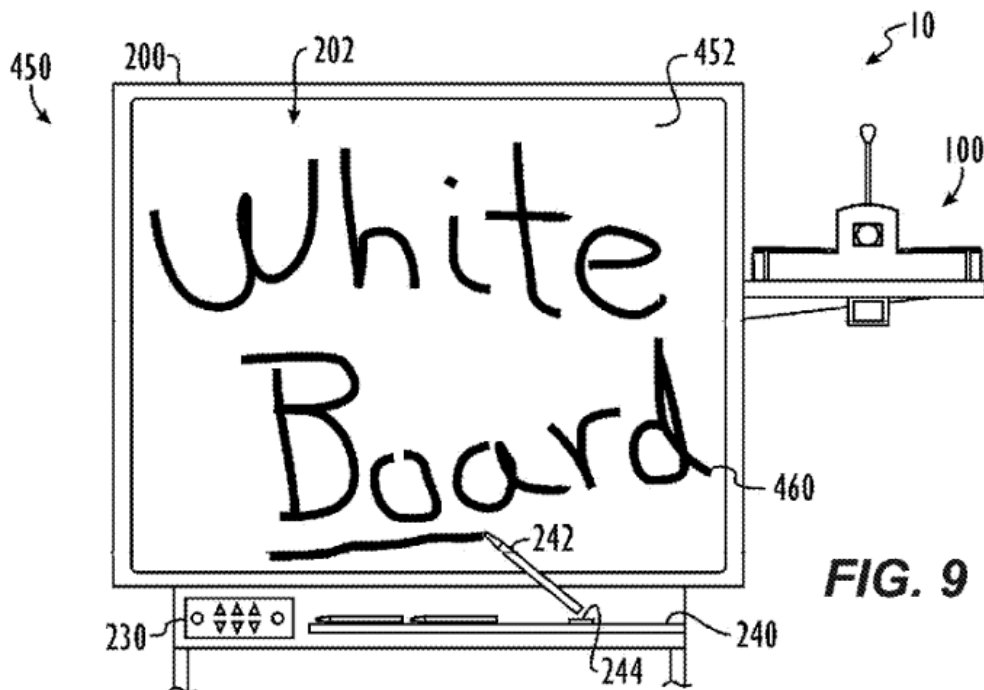
64. As explained above, neither PIP button of menu 310 nor the icons of layout control screen 580 disclose the operation of Limitation [1.g]. Dr. Almeroth appears to concede this point. Instead of relying on these disclosures individually, Dr. Almeroth contends that Saleh-502 only anticipates Limitation [1.g] when "three independent disclosures" are read together. I disagree. Each of the identified disclosures fails to teach the claimed features. First, Dr. Almeroth points to whiteboard content and videoconference video being displayed on the same screen 202 (although at different times). EX1003, ¶120. This plainly does not disclose the claimed operation and fails to account for the different "modes" described by Saleh-502 (see my Section VIII.A), each of which would have its own interface that would be displayed at different points in time and not necessarily overlap with one another. For the second and third disclosures, Dr. Almeroth points to objects (e.g., menu or PIP box) being shown while video from a video conference is displayed. EX1003, ¶120. Again, this does not meet the claimed operation and Saleh-502 does not extend this display functionality to the interface in its whiteboard mode. EX1004, 13:42-14:14.

65. The cited parts of Saleh-502 simply do not disclose or fairly suggest that its system is operable to overlay a videoconference window on a whiteboard session and Dr. Almeroth does not provide any evidence to the contrary. See EX1003, ¶¶120-123.

3. Limitations [1.f]/[8.b]/[15.b]

66. Limitation [1.f] recites “a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard session window.” Saleh-502 does not disclose this feature.

67. Dr. Almeroth identifies the whiteboard content 452 displayed on the whiteboard screen 202” as shown in Saleh-502’s FIG. 9 (inset below) as the claimed *interactive whiteboard session window*. EX1003, ¶¶109-110.



68. Dr. Almeroth also identifies Saleh-502's menu 310 as corresponding to the claimed selection menu. EX1003, ¶111. However, Saleh-502 does not teach that this transparent menu 310 is overlaid on the whiteboard content 452. Rather, as is shown in FIG. 6 of Saleh-502 (inset below) the transparent menu is “displayed *over video* currently displayed on the screen 202.” EX1004, 11:3-5.

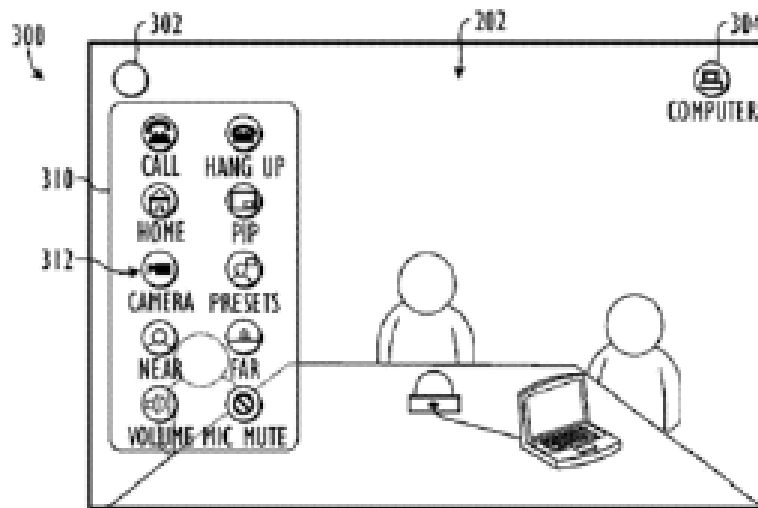


FIG. 6

This transparent menu 310 “can be invoked when the user selects a button 302 displayed on the top left of the screen 202 while *video* is being displayed.” EX1004, 10:61-67. Saleh-502 describes that when a *video feed* is being shown on screen 202, a button 302 is also displayed on the screen and can be selected to invoke the menu 310. EX1004, 10:61-11:5.

69. Saleh-502's disclosure is consistent in that its menu is displayed on the “video” when Saleh-502's system is in the videoconference mode and not on any

other content in Saleh-502's other modes. EX1004, 10:61-11:5; EX1004, 13:42-14:14. Specifically, Saleh-502 does not disclose that this button 302 or menu 310 is displayed on screen 202 when the whiteboard content 452 is shown on the screen. EX1004, 13:42-14:14; FIG. 9. A POSITA would have understood that the video displayed in the videoconference mode was distinct from the whiteboard content 452 that is displayed in Saleh-502's whiteboard mode 450. Simply because screen 202 displays a menu 310 on a "video" in one interface for a first mode does not mean that this menu 310 would be displayed on different "content" when the system is operating in a different mode.

70. Dr. Almeroth's arguments otherwise rely on a single sentence of Saleh-502: "the button 302 is transparent or hidden and is available from all screens including those containing video of participants and content." EX1004, 10:66-11:1; *see* EX1003, ¶112. But this fails to teach or suggest that the specific menu 310 of FIG. 6 would be displayed on top of whiteboard content 452 when read in the context of Saleh-502's disclosure. In fact, Saleh-502 only discusses its button 302 or menu 310 in the context of screens displaying "video" and omits these features when discussing operational modes where the user can annotate the screen. *See* Section VIII.A (discussing Saleh-502's different modes of operation); EX1004, 10:61-11:5 (menu 310 is invoked "while video is being displayed"; button 302 is available from all screens that "contain[] video"; menu 310 is "displayed over video"), FIG. 6 (only

image depicting menu 310, which is displaying over a video conference), FIG. 8 (screen depicting a non-video annotation mode 400 in which button 302 and menu 310 are **not** displayed); FIG. 9 (screen depicting a non-video whiteboard content 452 in which button 302 and menu 310 are **not** displayed).

71. The omission of button 302 from whiteboard content 452 is consistent with Saleh-502's description of its whiteboard mode. EX1004, 13:42-60. As explained in my Section VIII.A, to access whiteboard content 452, a user can pick up an electronic pen 242 from the tray 240 and the system will "automatically" go into the whiteboard mode 450. EX1004, 13:42-60. In an example where Saleh-502's system is displaying the videoconference shown in FIG. 6 and a user picks up the pen 242, then "the videoconferencing unit 100 automatically goes into the annotation mode of operation" that "generates the whiteboard content 452" (shown in FIG. 9). EX1004, 13:61-14:3. This whiteboard content 452 is displayed over the screen when the whiteboard operation is invoked and, likewise, would be displayed over any button 302 that was previously depicted on the screen. In this operation, neither button 302 nor menu 310 would be overlaid on whiteboard content 452. This interpretation is consistent with every other embodiment shown in Saleh-502. EX1004, 21:29-30, FIG. 22; *see id.* at FIGs. 11A-21. In fact, of Saleh-502's numerous examples of its interfaces (FIGs. 6-22) these menus and icons are conspicuously absent from the display when the device is "in an

annotation/whiteboard mode of operation.” Accordingly, a POSITA would have understood that the reference to button 302 being available in “all screens” in the context of a videoconference mode would not mean that menu 310 is displayed on whiteboard content 452 in whiteboard mode.

B. Ground 1B – Saleh-502 Alone Obviousness Theory

72. The Petitioner’s Ground 1B relies on an obviousness theory solely for Limitation [1.g]. Pet., 34-35. However, Dr. Almeroth’s obviousness theory does not address the deficiencies identified above in my Sections IX.A.1 and IX.A.3.

C. Ground 2 – Saleh-502 and Gurevich Obviousness Theory

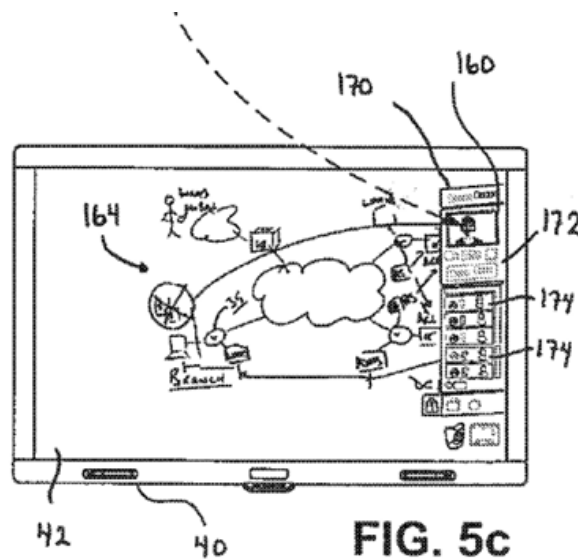
73. The Petition’s Ground 2 relies on a combination of Saleh-502 with Gurevich. Pet., 19-20, 49. For the reasons below, Petitioner’s and Dr. Almeroth’s obviousness theories do not disclose the elements of the independent claims.

1. Limitations [1.g]/[8.c]/[15.c]

74. Limitation [1.g] recites that the processors “cause ... a videoconference window to be overlaid on the interactive whiteboard session window” “after receiving the instruction for starting the video conference session via the selection menu overlaid on the interactive whiteboard session window.” Gurevich does not disclose this feature.

75. The Petition and Dr. Almeroth do not address the timing aspect of this Limitation. See EX1003, ¶¶182-187. The Petition identifies Gurevich’s toolbar 210

and selectable control elements 212 as the claimed *selection menu* and the video stream (e.g., 160) as the claimed *videoconference window*. Pet., 62, 66. However, Gurevich's toolbars 172, 210 (the alleged *selection menu*) are displayed simultaneously with its presentation interface 162 and video stream 160 (the alleged *videoconference window*)—not **after** receiving instructions via the selection menu. As explained above in my Section VIII.B and as shown in Gurevich's FIG. 5c (reproduced below), video stream 160 is overlaid on Gurevich's interactive surface 42 **at the same time** that the presentation interface 162 and toolbar 172 is initially displayed, not after receiving the instruction for starting the video conference session via the selection menu.



In Gurevich's operation: (1) a video conference is established, (2) the video streams are "processed ... to separate the video streams from their native default presentation interfaces," (3), "the video streams are presented in a horizontal video strip 202

within a presentation interface 200” that can include a tool bar 210 with control elements 212. EX1005, ¶[0059]. Thus, the video stream is displayed *at the same time as* tool bar 210 and elements 212 and the mapping in the Petition fails to disclose every feature of Limitation [1.g].

2. Limitations [1.f]/[8.b]/[15.b]

76. Limitation [1.f] recites “a selection menu to receive an instruction for starting a video conference session is overlaid on the interactive whiteboard session window.” Gurevich does not disclose this feature.

77. The Petition and Dr. Almeroth identify the presentation interface 170 that includes “a tool bar 172 with selectable control elements” and “icons 174 representing other participants of the conference session” as corresponding to the claimed *selection menu*. Pet., 62 (quoting EX1005, ¶¶[0053], [0057]); EX1003, ¶177. However, none of the tool bars, icons, or other GUI elements disclosed in Gurevich disclose a capability of starting a video conference session and, thus, cannot meet the claimed selection menu that “receive[s] an instruction for starting a video conference session.” The Petition and Dr. Almeroth provide two theories to fill this gap.

a) No Motivation to Combine

78. As explained above, neither Saleh-502 nor Gurevich disclose Limitations [1.f]/[8.b]/[15.b]. The Petition and Dr. Almeroth provide two

obviousness theories to fill this gap.

79. First, the Petition states that “a POSITA would understand all of the various tool bars disclosed in Gurevich ... would include a control for starting a videoconference as this is a necessary menu function for Gurevich’s combined videoconferencing-whiteboard system.” Pet., 63 (citing EX1003, ¶¶179-180). However, as explained above in my Section VIII.B, Gurevich’s toolbars (e.g., 172, 210) are displayed after a videoconference has already been initiated and selected for presentation. It would not make sense to include a control for starting a videoconference in the tool bar, when the videoconference must be initiated before that tool bar is shown. In other words, a POSITA would not modify Gurevich’s toolbar to include a start videoconference element on tool bar 210 as the videoconference has already been started when that tool bar is displayed.

80. Second, Petitioner and Dr. Almeroth turn to Saleh-502’s disclosure to make the same modification. Dr. Almeroth asserts that the modification would combine Saleh-502’s “call initiation control element” (i.e., call button) “with Gurevich’s overlaid tool bar.” EX1003, ¶179. This proposed modification merely adds Saleh-502’s call button to Gurevich’s “existing tool bar.” EX1003, ¶179 (combination requires “adding an additional selectable element to the existing interface” and “adding a button to an existing toolbar”). However, as explained above and in my Section VIII.B, Gurevich’s toolbar is described exclusively as a set

of controls for managing video streams that are *already being displayed*. Gurevich's toolbar, icons, and other control elements are only displayed after the videoconference has already been initiated (EX1005, ¶[0045], [0048]-[0049]) and it would be illogical to add “the specific videoconference-initiation control” of Saleh-502 to this interface when the videoconference has already been initiated. *See also* EX1005, ¶[0052] (“the video stream ... has been selected for presentation ... *before* being passed to the interactive board component for display on the interactive surface 42 of the interactive board 40” and *before* display of Gurevich’s interface or toolbars).

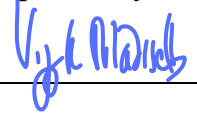
81. For both theories, the Petition’s and Dr. Almeroth’s proposed modifications result in a superfluous button that would not provide any functionality (e.g., a button to start a call is not needed for a toolbar that is only displayed after a call has been started). A POSITA would not have made such a modification.

X. CONCLUSION

82. All statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and these statements were made with the knowledge that willful false statement and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Respectfully submitted,

Dated: October 5, 2026



Dr. Vijay Madisetti