

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

FLIP PHONE GAMES INC.,
Plaintiff,

v.

PLR WORLDWIDE SALES
LIMITED,
Defendant.

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§
§

CIVIL ACTION 2:23-cv-00139-JRG

JURY TRIAL DEMANDED

**DECLARATION OF HENRY H. HOUH, PH.D.
IN SUPPORT OF PLAYRIX'S PROPOSED CLAIM CONSTRUCTIONS**

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I. Introduction

1. I, Henry H. Houh, have been retained by Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Defendant PLR Worldwide Sales Limited (“Playrix”) as a technical expert in this matter. I understand that Plaintiff Flip Phone Games Inc. (“Flip Phone Games” or “Plaintiff”) has accused Playrix and other Defendants of infringing claims 1-10 of U.S. Patent No. 8,688,089 (the “’089 patent”), claims 1-5, 7-10, 12-16, and 18-20 of U.S. Patent No. 9,427,662 (the “’662 patent”), claims 1-9 of U.S. Patent No. 9,731,202 (the “’202 patent”), claims 1-14 of U.S. Patent No. 10,617,958 (the “’958 patent”), and claims 1-7 and 9-15 of U.S. Patent No. 11,117,056 (the “’056 patent”), collectively, the “Asserted Claims” and “Asserted Patents.” I have been asked to provide opinions regarding certain terms that appear in the ’089, ’662 and ’202 patents.

2. I have been asked to explain certain aspects of the technology that are relevant to understanding the Asserted Patents. Specifically, I have been asked to consider and render opinions on the proper constructions of certain claim terms and phrases of the Asserted Patents. The opinions expressed in this Declaration are my own. Unless otherwise stated, I have personal knowledge of the facts stated in this Declaration. This Declaration is subject to amendment and/or supplementation on the basis of information that may be made available to me in the future. I reserve the right to submit additional materials related to my opinions about the constructions of the claim terms at issue in this case, including without limitation, a declaration in support of any subsequent claim construction brief filed by Playrix and/or a declaration responding to any expert testimony submitted by Plaintiff. I also reserve the right to submit additional expert reports in this matter in accordance with the case schedule.

II. Personal Background

3. I am over the age of 18 and am competent to make this declaration. I have personal knowledge or have developed knowledge of these technologies based upon education, training, or experience, of the matters set forth herein.

4. I received a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology (“MIT”) in 1998. Beforehand, I received a Master of Science degree in Electrical Engineering and Computer Science in 1991, a Bachelor of Science degree in Electrical Engineering and Computer Science in 1989, and a Bachelor of Science degree in Physics in 1990, all from MIT.

5. I am currently self-employed as an independent technical consultant. Until late 2022 I was also president of a company that provides supplemental science, technology, engineering, and mathematics (“STEM”) education to children of all ages. We taught programming to children aged 6-16, and I helped develop many of the programming classes, including game design on Android and iOS phones. We also developed our own 3D design tool, and we received a DARPA grant to further improve the tool, on which I was the principal investigator. Today, the tool is available online at www.blockscad3d.com and is used in schools and makerspaces worldwide.

6. After I finished my undergraduate education, I became a research assistant in the Telemedia Network Systems (“TNS”) group at the Laboratory for Computer Science. The TNS group built a high-speed gigabit network and created applications that ran over the network. Example video applications included ones for remote video capture, processing, storage, and display of video on computer terminals. In addition to working on the design of core network components, designing and building the high-speed links, and designing and writing the device drivers for the interface cards, I also set up the group’s web server.

7. I also helped to build the web pages that initiated the above-mentioned video sessions via a web interface. Vice President Al Gore visited our group in 1996 and received a demonstration of—and remotely drove—a radio-controlled toy car with a wireless video camera mounted on it that was built by our group. This toy car device received commands transmitted over a network from a remote computer, and video data from the toy car was transmitted wirelessly then over a computer network back to the user controller. On occasion, we allowed users visiting our web site to drive the toy car from their remote computer while they watched the video on their computer. The video stream was encoded by TNS-designed hardware, streamed over the TNS-designed network, and displayed using TNS-designed software.

8. Our video system featured a software toolkit that would be used to create custom interfaces for controlling and interacting with video. The toolkit included button components to fast-forward, pause, stop, and other controls such as a speed control and slider components. Our software could also be used to initiate the video playback interface on another computer.

9. I co-authored and presented a paper with a colleague about our video demonstrations on the web at the first World Wide Web conference held in Geneva, Switzerland at CERN. CERN is the birthplace of the Web, and the conference was hosted by Tim Berners-Lee, the inventor of the Web. In addition, we also presented a paper that provided dynamic web pages based on data extracted from a database, which we called an “Active Page.” We allowed users to edit and correct data in the database to demonstrate full integration of a web page with a database. During this time, I started a company that set up advertisement-supported web sites for college recruiting. I also programmed image maps, and early technology used or creating hotspot links on images. We also provided consulting services to companies to set up their web sites. Clients

included Bay Networks, which included product marketing materials as well as product specifications, and Data Networks magazine.

10. I defended and submitted my Ph.D. thesis, titled “Designing Networks for Tomorrow’s Traffic,” in January 1998. As part of my thesis research, I analyzed local area and wide area flows to show a more efficient method for routing packets in a network, based on traffic patterns at the time.

11. From 1997 to 1999, I was a Senior Scientist and Engineer at NBX Corporation, a start-up that made business telephone systems for streaming packetized audio over data networks instead of using traditional telephone lines. Our system incorporated an auto-attendant, which was a basic interactive voice response (IVR) application to route calls to an extension or voice mailbox. For example, the auto-attendant could be programmed to provide a prompt such as “Press 1 for sales, 2 for support, 3 for directions, or dial an extension” and route the call accordingly based on the caller’s touch tone input. Our voicemail system also provided voice prompts and menu selections in which a caller or user may select various options in the voicemail system.

12. As part of my work at NBX, I designed the core audio reconstruction algorithms for the telephones, as well as the packet transmission algorithms. I also designed and validated the core packet transport protocol used by the phone system. The protocol was used for all signaling in the phone system, including for the setup of conference calls. The NBX system also featured a computer interface for initiating phone calls, which could also initiate conference calls. The NBX system also supported the Telephony Application Programming Interface (“TAPI”) that allowed other computer programs to integrate with our system telephony features. We obtained U.S. Patent No. 6,697,963, entitled “Telecommunication method for ensuring on-time delivery of packets

containing time-sensitive data,” as part of this work. NBX was later acquired by 3Com Corporation and the phone system is used by numerous businesses and remains available online.

13. From 1999-2004, I was employed by Empirix or its predecessor company, Teradyne. Empirix was a leader in test tools for telecommunications protocols and systems, providing functional testing tools as well as load testing tools. One of Empirix’s core products was e-Test Suite, a web site test platform that was used for functional and load testing. For example, H&R Block used our software to determine if their on-line tax-filing software would both perform the correct calculations and handle the load expected during the tax season. Other customers included Nintendo, Cisco, Lucent, British Telecom, American Airlines, Bank of America, Cannon, and Countrywide Home Loans. Another one of Empirix’s core products was the Hammer, a telecommunications test platform that was used for functional and load testing. The Hammer was commonly used to test IVR systems, and Hammer also offered a testing service for IVRs. From my work with the testing service business, I received U.S. Patent 7,590,542, titled “Method of generating test scripts using a voice-capable markup language.” The ’542 patent disclosed a method “for generating test scripts for testing an IVR from an IVR’s voice-capable markup language application.” ’542 patent at Abstract. From 2000-2001, I conceived of and built a test platform for testing Voice-over-IP (VoIP) based on highly parallel network processors. The first application on this new test platform was a cloud emulator for simulating the effects of transmitting VoIP over a busy network. The platform was based on a multi-core high performance network processor chip.

14. In 2005, as part of my role at BBN Technologies, I helped create BBN’s Avoke call analytics business, which was a service for testing and monitoring the IVR systems within call centers. Avoke was used by companies and organizations such as Dell and the Center for Medicare

and Medicaid Services (CMMS). Avoke analyzed millions of calls into the CMMS call center IVRs during the roll-out of the Affordable Care Act.

15. Also at BBN, I helped found PodZinger Inc., now known as RAMP Inc. PodZinger utilized BBN's speech recognition algorithms to search through the spoken words in audio and video segments. While I was Vice President of Operations and Technology, PodZinger followed its initial prototype with a full streaming audio and video search solution. The words spoken in the video could be used to target advertising content at particular points in the video.

16. I have been awarded several United States patents, and I have several patent publications including the following examples:

- U.S. Patent No. 7,975,296, "Automated security threat testing of web pages";
- U.S. Patent No. 7,877,736, "Computer language interpretation and optimization for server testing";
- U.S. Patent No. 7,801,910, "Method and apparatus for timed tagging of media content";
- U.S. Patent No. 7,590,542, "Method of Generating Test Scripts Using a Voice-Capable Markup Language";
- U.S. Patent No. 6,967,963, "Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data".

17. Additional details concerning my professional qualifications, experience, and publications are set forth in my curriculum vitae ("CV"), which is attached as **Appendix A**. My CV also includes a list of my testimony for the past five years.

18. I am being compensated at a rate of \$720 per hour for my time spent working on this case. My compensation is not affected by the outcome of this case.

III. Overview of Materials Considered

19. In reaching the opinions expressed in this Declaration, I have reviewed and considered the materials cited in this Declaration, the Asserted Patents and their file histories, the extrinsic and intrinsic evidence cited by the parties in their “Patent Local Rule 4-2” disclosures, and my own knowledge and experience.

IV. Legal Principles

20. In formulating my opinions, I have been instructed to apply certain legal standards. I am not a lawyer. I do not expect to offer any testimony regarding what the law is. Instead, the following paragraphs summarize the law as I have been instructed to apply it in formulating and rendering my opinions found later in this declaration.

21. I understand that claim construction is analyzed from the perspective of a person having ordinary skill in the art. I understand that the person of ordinary skill in the art is a hypothetical person or ordinary creativity, not an automaton. I understand that a person of ordinary skill, while not someone who undertakes to innovate, is capable of drawing inferences and taking creative steps. I understand that, in determining the level of skill in the art, courts consider the type of problems encountered in the art, prior art solutions to those problems, rapidity with which innovations are made, sophistication of the technology, and the educational level of active workers in the field. I understand that not all of these factors will be relevant in a given case.

22. I understand that in assessing how a person of ordinary skill in the art (a “POSITA”) would understand a claim term, one must consider the claim language, the patent’s specification, and the patent’s prosecution history, which are collectively called the “intrinsic evidence.”

23. I understand that, based on the intrinsic evidence (*i.e.*, the claim language, specification, and file history of the patent), one should try to come to a conclusion about how a

POSITA would understand the term in the context of the patent as of the effective filing date, *i.e.*, priority date, of the patent application.

24. I understand that in assessing how a POSITA would understand a claim term, it is permissible, and sometimes helpful, to consult other evidence that is not part of the “intrinsic evidence,” such as expert and inventor testimony, dictionary definitions and technical treatises. I understand that this type of evidence is called “extrinsic evidence.” However, I understand that this should be done only when the meaning is unclear from the intrinsic evidence.

25. I understand that the plain and ordinary meaning of a claim term is the meaning that the term would have to a POSITA as of the effective filing date, *i.e.*, priority date, of the patent application. Here, I understand that the effective filing date of the Asserted Patents is June 26, 2007.

26. I understand that a patent must conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention, and that a claim that fails to meet this requirement is invalid for indefiniteness. I understand that a claim is invalid as indefinite if, viewed in light of the specification and file history from the perspective of a person skilled in the relevant art at the time the patent was filed, the claim fails to inform those skilled in the art about the scope of the invention with reasonable certainty. I understand that indefiniteness must be proven by clear and convincing evidence.

V. POSITA

27. I understand that in co-pending IPRs, petitioner proposed that a person of ordinary skill in the art (“POSITA”) would have had an undergraduate degree in game design or development, computer science, computer engineering, or a related field, with at least two years of experience working with computer gaming systems or software application development, and that less work experience may be compensated by a higher level of education or vice versa. I

understand that patent owner offered no alternate proposal. I have therefore applied petitioner's definition for purposes of this declaration.

VI. Tech Background

A. User Interface Elements

28. Graphical user interfaces on computers as of the priority date were based on a user's interaction with items on a screen that included graphical and text display elements, navigational controls, inputs such as text fields, drop down select menus, check boxes, radio buttons, toggles, push buttons and numerous other types of controls. User interaction could cause different types of responses, including changing the visual appearance, the change to another screen or page of the interface, and even the execution of an external application. For example, the selection of a web address in a PDF viewer document could cause an external web browser to launch a web browser. Video games utilized similar interfaces. For example, buttons in a video game menu could "Start a New Game," "Load a Save Game," or "Exit Game." Selecting the buttons could take the user to a different screen.

29. Programming environments, such as Visual Studio, allowed programmers to easily and efficiently add user interface elements to applications and connect them to actions. Visual Studio was first released by Microsoft in 1997, and continues to be available today through numerous generations of improvements and upgrades.

B. Video Game Platforms

30. As of the priority date, video game platforms were predominantly console-based, but games were also available on mobile devices such as phones and personal digital assistants ("PDAs") such as the Palm Pilot and Symbian devices. Games were also available on phones, though this time period predated the iPhone revolution.

31. The Xbox 360 was released in 2005, and could optionally be connected to the network and into the Xbox LIVE service that allowed for multiplayer gaming and downloadable content purchases.

32. Japan led the way in downloadable games on phones. Games on phones were announced by 1999, with titles such as Poker and Fours. By 2001, with phones supporting the Java language and featuring higher resolution color screens, major publishers such as Taito, Konami, Namco, and Disney planned on release mobile games.

C. Downloadable Content in Video Games

33. The Xbox LIVE service allowed for games to download content such as “new missions, new multiplayer maps, new characters, new golf courses, new season sports rosters, new vehicles, etc. Some games support only DLC and do not support Online Multiplayer but almost every Online Multiplayer enabled game supports DLC and at some point will release new content.”

D. In-game Advertising

34. Some games also included in-game advertising. Many games included simulation of real-world environments such as race car driving, sports events in a stadium, and virtual worlds that users could explore and even “live.” Such games afforded numerous spaces for advertising, analogous to real world advertising. Advertising could be built into the game, and thus could not be changed unless the game itself was updated. However, some games included the capability to retrieve advertisements over the network in what was known as “dynamic advertising.” Game publishers could “insert new ads anytime into games that have online capability. This means that a Coca-Cola vending machine in a game could be replaced by a Pepsi vending machine next week.”

VII. The Asserted Patents

A. The “Hot Spot” Patents

35. The ’089 patent is titled “Methods and Systems for Providing In-Game Hot Spots.” The ’662 patent is titled “Methods and Systems for Providing In-Game Hot Spots.” I refer to the ’089 and ’662 patents together below as the “Hot Spot” patents.

36. The Hot Spot patents are directed to providing “hot spots,” i.e. “in-game feature[s] that include[] an activation element and a content element that is triggered by the activation element.” ’089 patent at 1:60-63, 2:21-23. The activation element is “an area location or an item, sometimes hidden in the game, that can be triggered by a user or some other in-game element.” *Id.* at 2:27-29. The content element is “displayed when the hot spot is activated” and “may include ... a message, and the message may be promotional.” *Id.* at 2:34-37.

B. The ’202 Patent

37. The ’202 patent is titled “Methods and Systems for Updating In-Game Content.”

38. The ’202 patent is directed to providing “updated content for video games that operate on [mobile communication devices].” ’202 patent at Abstract. The updated content is selected by a server, which determines “whether updated content should be sent to the particular mobile communication device,” as well as “which updated content to download.” *Id.* at 5:64-6:5. The updates may be “promotional in nature.” *Id.* at Abstract.

VIII. Claim Terms

A. “non-promotional” (’089 patent, claims 1 and 6; ’662 patent, claims 1, 5, 13, and 16)

39. The term non-promotional appears in the ’089 and ’662 patents. I understand that the parties dispute the meaning of “non-promotional” as follows:

Playrix’s Proposed Construction	Flip Phone Games’ Proposed Construction
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Indefinite	Plain and ordinary meaning
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40. In my opinion, this term is indefinite because viewed in light of the intrinsic evidence from the perspective of a POSITA at the time the patent was filed, the claim fails to inform those skilled in the art about the scope of the invention with reasonable certainty.

41. The term “non-promotional” is a negative limitation of the term “promotional.” It does not have an established meaning in the art. Thus, a POSITA would need to rely upon the intrinsic evidence when attempting to understand the scope of the claim term.

42. Here, the specification of the ’089 and ’662 patents uses the term “non-promotional” only twice, and the usage does not help define the bounds of the term at all. *See* ’089 patent at 2:34-44 (“In some embodiments, the hot spot information identifies the content [] to be displayed when the hot spot is activated. ... The content may be promotional in nature, but can also be non-promotional.”), 7:2-3 (“The updated message may not be promotional, or it may advertise the in-game availability for promotional content.”); *see also* ’662 patent at 2:38-48.

43. Nor does the usage of the term “promotional” help to define the bounds of its negative counterpart. The specification of the patents use the term “promotional” a number of times to refer to in-game advertising space sold to third-parties. ’089 patent at 1:50-52 (“providing in-game advertising space in the palm of a user’s hand is an attractive proposition for both buyers and sellers of the space.”), 7:2-11 (“messaging displayed... might state ‘ad space is available.’”); *see also* 4:32-47, 60-62, 6:44-54, 6:62-7:24, 8:1-10, 10:14-25. The specification does not provide any other indication of what would or would not be promotional.

44. I agree that advertising space sold to third-parties is promotional. Indeed, in the video game context a user may encounter an advertisement in-game that promotes out-of-game content, such as a billboard promoting Nike sneakers. Those of skill in the art would understand

this information to be promotional. However, I understand that the Plaintiff the term “promotional” more broadly and does not agree that the term is limited to advertisements or advertisement space sold to third parties. If the term “promotional” is not so limited, the lack of clarity provided by the intrinsic record renders this term indefinite, in my opinion.

45. By the effective filing date of the '089 and '662 patents in 2007, video games could display various types of messages and content to users. For example, users may activate a pop-up in-game, prompting the user to purchase (using legal tender) in-game currency for the game they are currently playing. Maple Story, a massively multiplayer online role-playing game (“MMORPG”) from Nexon, was one example of such a game. It included a cash shop icon that a user could select to display items that could be purchased using Nexon cash (which could be purchased using legal tender). Items for purchase included costumes and avatar.



You can purchase fashionable cloths, messenger items, hair salon coupons, plastic surgery coupons, and other appearance-altering items here. Click on CASH SHOP at the bottom of the game UI to enter.

* YOU WON'T BE ABLE TO ENTER THE CASH SHOP IMMEDIATELY IN THE MIDDLE OF A FIGHT.



4 PURCHASE THE ITEM

To make the purchase, press the [Buy] button located below the item image. A confirmation window will pop up and by clicking [ok], your purchase will be complete.



5 SUCCESSFUL PURCHASE

After clicking on [ok] on the confirmation screen, the item will be transferred to your cash item inventory.

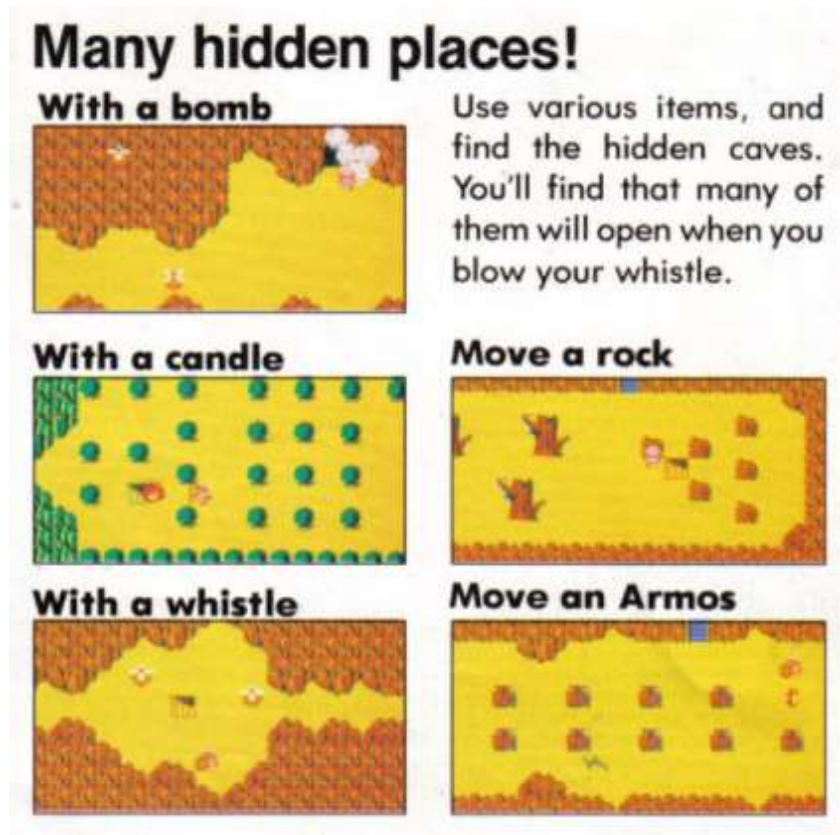


6 TRANSFER YOUR ITEM TO THE INVENTORY

Double-click on the cash item that you've just purchased in the Cash Item inventory. That'll transfer the item to whichever inventory it belongs. You can only begin to use the purchased cash items AFTER transferring them to the item inventory in the game.

46. As yet another example, users could also activate in-game virtual stores that allowed users to purchase equipment for the game using in-game currency (not legal tender). For instance, the popular *Legend of Zelda* game from Nintendo contained numerous “hidden” objects,

events, and locations. Players could use items to activate these hidden spots, which could include caves or other virtual stores where in-game creatures offer items for sale. The information displayed to the user could also relate entirely to other types of in-game content, such as a notification encouraging users to explore a newly-added area in the game or to play special games or levels.



Be sure to meet all the people...

The key is to meet a lot of people, get information, and gather weapons and items.



- ♥ Heart Container or Water of Life
- 👵 Old Woman selling red & blue Water of Life
- 📜 Molblins give you a reward
- 🔴 You must pay a door repair charge
- ❓ You can get some information
- 💰 Money-making game
- 📧 Letter to little Old Woman
- S-1 Merchant (See price list on right)

Buyer's Guide

	Magic Shield	Key	Blue Candle	Enemy Bait	Heart	Bomb	Wooden Arrows	Blue Ring
Shop. 1	90			100	10			
Shop. 2	130					20	80	
Shop. 3	160	100	60					
Shop. 4	160	100	60					
Shop. 5	130					20	80	
Shop. 6	90			100	10			
Shop. 7	90			100	10			
Shop. 8	160	100	60					
Shop. 9	130					20	80	
Shop. 10	160	100	60					
Shop. 11	90			100	10			
Shop. 12	160	100	60					
Shop. 13	160	100	60					
Shop. 14		80		60				250
Shop. 15	130					20	80	

47. A POSITA would not with reasonable certainty know whether the above examples would be classified as promotional or simply standard gaming elements or features. And the '089 and '662 patent fail to inform a POSITA what (if anything) other than in-game advertising space sold to third-parties would be qualified as promotional or non-promotional content.

48. I also understand Plaintiff Flip Phone Games asserts that “non-promotional” should have its “plain and ordinary meaning”—i.e., that it should not be construed. However, I understand that Plaintiff has not explained what it contends is the plain and ordinary meaning of promotional. As described above, “promotional” and “non-promotional” are not terms of art in the field with an established meaning, and therefore a person of ordinary skill in the art would not understand the scope of this term without further guidance from the patent.

B. “preset location” ('662 patent, claim 1)

49. I understand that the parties dispute the meaning of “preset location” as follows:

Playrix's Proposed Construction	Flip Phone Games' Proposed Construction
Indefinite	Plain and ordinary meaning

50. I understand Playrix asserts that the term “preset location,” as used in the ’662 patent, is indefinite. It is my opinion that a POSITA, upon reading the patent and file history, would not reasonably understand this term to have any particular meaning, and as such, I understand that the term is indefinite.

51. Claim 1 of the ’662 patent recites “contacting a server for hot spot information to download, comprising providing the server with at least one of: a game for which hot spot information is desired, a scene for which hot spot information is desired, an element for which hot spot information is desired, the model type of the mobile communication device, the service plan to which the mobile device belongs, the service provider for the mobile communications device, the base location of the mobile communication device, the current location of the mobile communication device, a version identifier for hot spot information currently on the mobile communication device, user-identification information, preset location, amount of game-play time, game score, and level of play.”

52. It is unclear, however, what is meant by “preset location.” The term appears only once in the specification of the patent, in a similar context as it does in the claim. ’662 patent at 13:37-46. This usage does not offer any clarification as to the meaning of the term. Nor does the rest of the specification of the ’662 patent. For example, it is unclear whether the “location” in question is an in-game location (such as a particular store in the game) or an out-of-game, geographic location (such as a particular country). The patent’s specification contains references to both. *See, e.g.*, ’662 patent at 5:7-9 (“a new hot spot location may be placed in-game (i.e., as part of the gaming environment of the mobile video game)”), 6:6-7 (“[o]ther checks are also possible, such as the geographic location of the user”).

53. Moreover, as can be seen above, the claim language also recites among the list of items that can be provided to the server “the current location of the mobile communication device.” This element of the claim appears to be referring to a geographic location, thereby adding additional confusion regarding whether preset location refers to a preset geographic location or some preset in-game location.

54. Similarly, it is unclear what it means for a location to be “preset.” For example, a location of interest (whether in-game or geographic) could be hard-coded into the game’s code, or it could be updated via regular access to a server, or it could be set by a user in the game’s configuration options, or it could be selected by the user immediately prior to the request for hot spot information. The ’662 patent provides no indications as to which, if any, of these would be considered “preset.”

55. I understand Flip Phone Games asserts that “preset location” should have its “plain and ordinary meaning”—*i.e.*, that it should not be construed. However, I understand that Plaintiff has not explained what it contends is the plain and ordinary meaning of “preset location.” The term “preset location” is not a term of art in the field, and therefore a person of ordinary skill in the art would not understand the scope of this term without further guidance, which the ’662 patent does not provide.

C. “based on one of the factors” (’202 patent, claim 1)

56. I understand that the parties dispute the meaning of “based on one of the factors” as follows:

Playrix’s Proposed Construction	Flip Phone Games’ Proposed Construction
Indefinite	Plain and ordinary meaning

57. I understand Playrix asserts that the term “based on one of the factors,” as used in the ’202 patent, is indefinite. It is my opinion that a POSITA, upon reading the patent and file

history, would not reasonably understand this term to have any particular meaning, and as such, I understand that the term is indefinite.

58. Claim 1 of the '202 patent recites “checking what updated video-game content to send based on one of the factors including a type of the mobile communication device, a telecom service associated with the mobile communication device, and a service provider of the telecom service.” However, claim 1 does not include any prior recitation of “factors” to serve as the antecedent basis for the claimed “the factors.”

59. I understand that when a claim term lacks antecedent basis, it is relevant to determine whether a POSITA could understand what the scope of the claim was meant to cover. Here, it is not clear whether the claimed “checking what updated video-game content to send” must be performed based on one of the three enumerated factors, or whether it could be based on other, non-claimed factors. For example, the specification recites a variety of other factors that may be used to make the determination, such as “sex, age, or interests of the user.” '202 patent at 6:3-10. It is unclear, therefore, whether “the factors” recited in claim 1 might also include sex, age, and interests, or might even include additional factors beyond those explicitly recited in the specification.

60. I understand Flip Phone Games asserts that “based on one of the factors” should have its “plain and ordinary meaning”—*i.e.*, that it should not be construed. However, as described above, “based on one of the factors” lacks antecedent basis, and without any such antecedent basis, it is unclear what the scope of claim 1 is meant to cover, rendering the term indefinite.

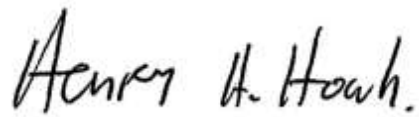
IX. Additional Statements

61. It is my understanding that claim construction discovery in this action is still ongoing, and fact discovery has yet to begin. As such, I reserve the right to revise and/or supplement the opinions expressed in this Declaration in light of new information or allegations

disclosed by, or on behalf of, Plaintiff. I further reserve the right to rely on and utilize visual aids, demonstratives, and the like to illustrate and support my opinions.

62. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 28 U.S.C. § 1001.

Submitted on March 1, 2024.

A handwritten signature in black ink that reads "Henry H. Houh." The signature is written in a cursive, slightly slanted style.

Henry H. Houh, Ph.D.

APPENDIX A

Henry H. Houh

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Education

Massachusetts Institute of Technology, Cambridge, MA

- PhD in Electrical Engineering and Computer Science, February 1998. “Designing Networks for Tomorrow's Traffic,” thesis supervised by Professor David Tennenhouse and Professor John Guttag. GPA 4.7/5.0
- Master of Science in Electrical Engineering and Computer Science, February 1991. “Demonstration of a laser repetition rate multiplier,” thesis. GPA 4.5/5.0
- Bachelor of Science in Electrical Engineering and Computer Science, June 1989. “Boundary element analysis of arbitrarily shaped dielectric structures,” thesis. GPA 4.7/5.0
- Bachelor of Science in Physics, February 1990. GPA 4.7/5.0

MITx, Cambridge, MA

- September 2020 – present: Enrolled in Statistics and Data Science MicroMasters program, a sequence of five MIT-offered graduate-level courses in statistics and machine learning, culminating in a MicroMasters certificate. Have completed four of five required courses.

Experience

Houh Consulting Inc. / Independent Consultant

- 2009 - present: Technical consultant specializing in Social Networking, Web 2.0, Web Site Development, Data Networking, Optical Networking, Telecommunications, Media Streaming and Voice Over IP. Clients include: Akin Gump Strauss Hauer & Feld LLP, Arnold & Porter Kaye Scholer LLP, BBN, Baker Botts LLP, Barnes & Thornburg LLP, BBN Technologies, Beus Gilbert McGroder PLLC, Bracewell LLP, Christensen O'Connor Johnson Kindness PLLC, Cooley LLP, Covington & Burling LLP, Cozen O'Connor P.C., DLA Piper, Davis Polk & Wardwell LLP, Desmarais LLP, Duane Morris LLP, Erise IP, P.A., Faegre Baker Daniels LLP, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Fish & Richardson P.C., Goldman Ismail Tomaselli Brennan & Baum LLP, Haynes and Boone, LLP, Kaye Scholer, Kellogg Huber Hanson Todd Evans & Figel PLLC, Kirkland & Ellis LLP, Klarquist Sparkman, LLP, McCarthy Tetraault LLP, McGuireWoods LLP, Morgan, Lewis & Bockius LLP, Munger Tolles & Olson LLP, Orrick, Herrington & Sutcliffe LLP, O'Melveny & Myers LLP, Orrick, Herrington & Sutcliffe LLP, Paul Hastings LLP, Paul, Weiss, Rifkind, Wharton & Garrison LLP, Perkins Coie LLP, Quinn Emanuel Urquhart & Sullivan, LLP, Sidley Austin LLP, Smith Baluch LLP, Sterne, Kessler, Goldstein & Fox PLLC, Troutman Sanders LLP, Venable LLP, Weil, Gotshal &

Manges LLP, Wiley Rein LLP, Wilmer Cutler Pickering Hale and Dorr LLP, and Winston & Strawn LLP.

BlocksCAD Inc. (H3XL spin-out)

- 2014 - present: Founder and member of Board of Directors. BlocksCAD is a visual Computer-Aided Design (CAD) program, designed to teach children mathematics and geometric visualization. BlocksCAD is being used in U.S. schools and worldwide in maker spaces, with 350,000+ users. BlocksCAD was selected to be part of the LearnLaunch 2017 Boost Accelerator, the MIT Play Labs 2018 Summer Accelerator, and the MassChallenge 2018 Boston Cohort. Recipient of DARPA DSO grant in 2014, and SBIR grant from the USDA in 2019.

H3XL Inc. d/b/a Einstein's Workshop (formerly Lexington Robotics)

- 2009 - 2022: Founder and President. Started a science, technology, engineering and math enrichment program and creative/maker space, in 7,000 square feet of space. Serve 2,000+ kids and families annually. As of end of 2022, have delivered an estimated 250,000 student-instruction-hours of STEM courses. Principle Investigator for 2-year DARPA grant to improve 3D Computer Aided Design tool developed in-house for the purposes of teaching 8 year olds and up 3D CAD.

Eons

- 2008 - 2009: Chief Technology Officer. Created product that Eons acquired from BBN Technologies. Integrated BBN product with Eons social networking platform and significantly increased the Eons group creation rate. Helped evaluate advertisement platform offerings and rolled out the "Boom Network" advertising network. Eons raised \$32 million from General Catalyst Partners, Charles River Ventures, Sequoia Capital, and Intel Capital.

BBN Technologies

- 2007 - 2008: Delta Division, Vice President of Technology. Grew "Boomerang" counter-sniper project engineering team and significantly de-risked \$10 million worth of product deliveries. Identified sales team leading to \$10 million dollars of new sales within 6 months and \$100+ million in additional orders in the following two years. Boomerang was a significant asset leading to the acquisition of BBN by Raytheon in 2009. Created new business plan and grew team; launched new fully-featured social networking web site in 5 months. Served as lead expert witness in patent infringement lawsuit, resulting in \$58 million jury award to client; verdict for patents I testified on were upheld on appeal which resulted in a \$120 million settlement.
- 2004 - 2007: Delta Division, Director of Technology, responsible for commercializing IP and creating new businesses. Hired and grew division's initial engineering team. Wrote three business plans, two of which were funded. For call center business plan, acted as general manager, hiring and managing engineering team, inside sales team, and identifying and recruiting a new general manager. Identified and recruited other key employees to Delta Division, including senior members of team leading to successful internal sales growth and spin-outs of projects. Contracted by BBN to BBN spin-out PodZinger as VP of Operations and Technology. Additional areas studied include mesh networking, network security, satellite communications, and semantic web.

PodZinger Inc. (BBN spin-out, also known as EveryZing and now RAMP)

- 2006: Vice President of Operations and Technology. Significantly upgraded capability of consumer-facing search site and redeployed web site from company to co-location facility. Identified key portions of infrastructure for upgrading and cost reduction. Helped write business plan, evaluating advertisement models of revenue. Hired in operations replacement and phased back to BBN.

Commonwealth Capital

- 2004: Entrepreneur-in-residence (informally), performed technical due diligence on business plans, brainstormed ideas for new businesses with venture partner. With venture partner, left for portfolio company BBN to form core of commercialization team.

Empirix, Inc./Teradyne, Inc.

- 2001 - 2004: Chief Technologist, Engineering Manager, Web Application Test Group. Researched potential new product areas; developed product plan and prototype. Responsible for three new and existing products. Managed off-shore development team. Chief architect for all web testing products. Re-architected core testing product, helped write javascript interpreter. Provided technical vision for core product.
- 2000 - 2001: Chief Technologist, Communication Infrastructure Test Group. Responsible for incorporating new technology internally, tracking new technologies, technical evaluation of partnerships and potential acquisitions. Helped develop division strategy. Developed plans which formed core capabilities for successful new products introduced in 2004-5.
- 2000 - 2001: Engineering Manager, Communications Infrastructure Test Group. Execution of new product plan developed in prior role. Grew team from four existing engineers to team of over 30 on immediate team and over 40 on project. Delivered new platform in one year. Platform and derivatives accounted for large portion of booked products for the division within 2 years and is currently (2008) a key portion of new product offerings.
- 2000: Empirix was formed as a spin-out of Teradyne in January 2000. Reported to CEO in carve-out of Empirix from Teradyne.
- 1999: (Teradyne) Director of Business Development, Software Test Units. Reported directly to Chairman of the Board/Founder and then to general manager of software test unit (6 divisions of Teradyne). Evaluated and researched acquisition and partnership candidates. Internally assessed technology position in market and gaps in product lines. Worked with senior division staff to develop new product strategies. Attended internal Teradyne divisional board meetings. Chairman served as my mentor.

3Com Corporation/NBX Corporation

- 1999: Software Engineer 5. Continued work after 3Com acquisition of NBX. Built cross-division relationships for new products and research directions. NBX was acquired by 3Com in March 1999.
- 1997 - 1999: (NBX) Senior Scientist and Engineer. Work in IP Telephony. Architected next-generation product. Protocol design and validation for core protocol now used tens of millions of times daily. Led team in integration of IP protocols into current product. Designed audio reconstruction algorithms. Developed applications for bug analysis and diagnosis of system

problems. Implementation of network simulator. Work on collaborative projects with external partners. Worked to identify gaps in product. Representative at numerous trade shows. Innovated novel methods of using product.

MIT Department of Electrical Engineering and Computer Science, Cambridge, MA

- 1991 - 1998: Research assistant, Telemedia Network Systems Group. Design, development, and implementation of Gigabit ATM network for distributed multimedia system. Studied host interface design issues. ATM network simulation.
- Spring 1989, Fall 1990, Spring 1995: Teaching assistant, Computation Structures digital systems course. (Spring 1995 Head TA)
- 1988 - 1989: Head laboratory teaching assistant for Computation Structures. Responsibilities included writing and revising lab assignments, and maintaining the lab.
- 1987: Laboratory teaching assistant for Computation Structures.
- 1987: Design, construction, and programming of 16-bit computer.

Agora Technology Group, Incorporated

- 1994 - 1996: Founder and CEO. Conceived and oversaw development of targeted advertising-supported Web sites. Responsible for company's vision and direction. Attended the first two WWW Conferences, presenting a workshop and paper at the first, and appearing on the "Commercialization and Economics of the Web" panel and chairing the "Where Commercial Services and the Web Are Headed" panel at the second. Sold company intact; is currently an operating stand-alone company.

AT&T Bell Laboratories, Holmdel, NJ

- 1989 - 1990: Implementation of cascaded all-optical fiber logic gate. Modelocking of all-fiber erbium laser. Construction of modelocked laser repetition rate booster. Strong optics laboratory and fiber optic experience.
- Summer 1988, 1987: Research in integrated optics. Analysis of rectangular waveguides using microwave modeling. Fabrication of integrated optical components.

Honors

- MIT Alumni Association Great Dome Award, 2010, Baker 60th Anniversary Reunion Co-Chair (highest group award given by MIT Alumni Association)
- MIT Alumni Association Presidential Citation Award (now known as Great Dome), 2008, Member of MIT Chairman's Salon committee
- MIT Alumni Association Bronze Beaver Award, 2007 (highest individual award given by MIT Alumni Association)
- MIT Alumni Association Volunteer Honor Roll, February 2004
- MIT Alumni Association Lobdell Award, 1999
- Boston Museum of Science Gold Pin for 1000 hours of Volunteer Service, April 1999
- MIT Alumni Association Presidential Citation Award (now known as Great Dome), 1997, Member of Alumni Online Communications Committee

Patents and Patent Publications

- U.S. Patent #9,697,231, H. Houh, J. Stern, R. Spina, M. Meteer, “Methods and apparatus for providing virtual media channels based on media search,” July 4, 2017.
- U.S. Patent #9,697,230, H. Houh, J. Stern, “Methods and apparatus for dynamic presentation of advertising, factual, and informational content using enhanced metadata in search-driven media applications,” July 4, 2017. See also WO2007056485.
- U.S. Patent #7,975,296, L. Apfelbaum, H. Houh, T. Mayberry and G. Friedman, “Automated security threat testing of web pages,” July 5, 2011. See also US20030159063, WO2003067405.
- U.S. Patent #7,877,736, H. Houh and J. N. Stern, “Computer language interpretation and optimization for server testing,” January 25, 2011. See also US20050138104, WO2005043300.
- U.S. Patent #7,801,910, H. Houh and J. N. Stern, “Method and apparatus for timed tagging of media content,” September 21, 2010. See also US20070112837, US20090222442, WO2007056535.
- U.S. Patent #7,590,542, D. C. Williams, W. C. Hand, H. Houh, A. R. Seeley, “Method of Generating Test Scripts Using a Voice-Capable Markup Language,” September 15, 2009. See also EP1530869, US20030212561, WO2003096663.
- U.S. Patent #6,967,963, H. H. Houh, P. Anderson, C. Gadda, “Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data,” November 22, 2005. See also EP1060400, WO2000033092, CA2318774.
- U.S. Patent #5,144,375, M. C. Gabriel, H. H. Houh, N. A. Whitaker, “Sagnac Optical Logic Gate,” September 1, 1992. Also issued as European Patent # EP0456422, July 23, 1997, German Patent #DE69126913, August 28, 1997
- U.S. Patent Application Publication No. 20020015387, “Voice Traffic Packet Capture and Analysis Tool for a Data Network” (Abandoned in 2007)
- U.S. Patent Application Publication No. 20020016708, “Method and Apparatus for Utilizing a Network Processor as Part of a Test System” (Abandoned in 2007)
- U.S. Patent Application Publication No. 20020016937, “Method and Apparatus for Utilizing a Network Processor as Part of a Test System.” (Abandoned in 2007) See also WO2002011413.
- U.S. Patent Application Publication No. 20070106646, “User-directed navigation of multimedia search results” (Abandoned in 2009)
- U.S. Patent Application Publication No. 20070106660, “Method and apparatus for using confidence scores of enhanced metadata in search-driven media applications” (Abandoned in 2009)
- U.S. Patent Application Publication No. 20070106685, “Method and apparatus for updating speech recognition databases and reindexing audio and video content using the same” (Abandoned in 2015)
- U.S. Patent Application Publication No. 20070118873, “Methods and apparatus for merging media content” (Abandoned in 2015)
- U.S. Patent Application Publication No. 20090222442, “User-directed navigation of multimedia search results” (Abandoned in 2016)
- U.S. Patent Application 11/395,732, “Search snippet creation for audio and video data” (Abandoned in 2009)
- U.S. Patent Application 11/774,931, “Methods and apparatus for managing a social networking web site”
- U.S. Patent Application 11/774,947, “Methods and apparatus for organizing media files”
- U.S. Patent Application 11/774,956, “Methods and apparatus for managing an online event”

- U.S. Provisional Patent Application 61/086,909, “Measuring and ranking relationship activity”
- U.S. Provisional Patent Application 61/086,914, “Detecting media object commonality”
- U.S. Provisional Patent Application 61/086,904, “Message categorization based on message characteristics”
- U.S. Provisional Patent Application 61/086,905, “Photo tagging to request action”

Trials, Testimony and Depositions

- Case No. 1:06CV682 (CMH/BRP), Verizon vs. Vonage, U.S. District Court for the Eastern District of Virginia, filed expert report, was deposed and testified at trial.
- Case No. 1:08CV157 (CMH/TRJ), Verizon vs. Cox, U.S. District Court for the Eastern District of Virginia, was deposed and testified at trial.
- Case No. 5:09-cv-476, Two-Way Media vs. AT&T, U.S. District Court for the Western District of Texas, filed expert report, testified at trial.
- Case No. 2:10-cv-248 (RAJ/FBS), ActiveVideo Networks vs. Verizon, U.S. District Court for the Eastern District of Virginia, filed expert report and was deposed as an expert witness.
- Case No. 1:11-cv-00880-TSE-JFA, Bear Creek Technologies, Inc. vs. Verizon Services Corp., et al, U.S. District Court for the Eastern District of Virginia, was deposed as an expert witness.
- Case No. 3:10-CV-298-BBC, AlmondNet, Inc. vs. Microsoft Corp., U.S. District Court for the Western District of Wisconsin, filed expert report.
- Case No. 6:10-cv-00597, Guardian Media Technologies, Ltd. Vs. AT&T Operations, Inc. et al., U.S. District Court for the Eastern District of Texas, Tyler Division, filed expert report.
- Case No. ESCV2010-02282C, The Octopus Solution LLC v. Gary Brown et al., Essex, MA Superior Court, testified at trial.
- Investigation No. 337-TA-882, In the matter of Certain digital media devices, including televisions, Blu-ray disc players, home theater systems, tablets and mobile phones, components thereof and associated software, U.S. International Trade Commission, filed expert reports, was deposed and testified at hearing.
- Investigation No. 337-TA-995, In the matter of Certain communications or computing devices, and components thereof, U.S. International Trade Commission, filed expert reports, and was deposed.
- Case No. 8:12-cv-122-LES-TDT, Prism Technologies LLC v. AT&T Mobility LLC, U.S. District Court for the District of Nebraska, filed expert report, was deposed and testified at trial.
- Case No. 11-2684 (JWL), Sprint Communications Co., L.P., v. Comcast Cable Communications, LLC, et al., U.S. District Court for the District of Kansas, filed expert report and was deposed.
- Case No. 11-2686 (JWL), Sprint Communications Co., L.P., v. Time Warner Cable, Inc., et. al., LLC, et al., U.S. District Court for the District of Kansas, filed expert report, was deposed, and testified at trial.
- Case No. 12-487 (SLR), Cox Communications, Inc., et al., v. Sprint Communications Company L.P., et al., U.S. District Court for the District of Delaware, filed expert report and was deposed.
- Case IPR 2014-00039, Microsoft Corporation v. B.E. Technology LLC, U.S. Patent No. 6,628,314. Submitted declaration and cross-examined in deposition.
- Case IPR 2014-00086, Apple, Inc. v. Evolutionary Intelligence, LLC, U.S. Patent No. 7,010,536. Submitted declaration and cross-examined in deposition.
- Case No. 6:11-CV-421, Stragent, LLC v. Intel Corporation, U.S. District Court for the Eastern District of Texas, Tyler Division, deposed and testified at trial as a fact witness.

- IPR2014-01366, IPR2014-01367, IPR2014-01368, Samsung et al. v. Straight Path, submitted IPR declarations and was deposed.
- IPR2015-1006, IPR2015-1007, Cisco v. Straight Path, submitted IPR declarations.
- IPR2014-01457, IPR2014-01459, Microsoft v. Biscotti, submitted IPR declaration and was deposed.
- IPR2016-00302, Apple v. Nonend, submitted IPR declaration.
- IPR2014-00812, Yelp and Twitter v. Evolutionary Intelligence, submitted IPR declaration.
- IPR2015-00307, Cisco v. AIP, submitted IPR declaration.
- Microsoft v. Acacia, submitted IPR declaration.
- IPR2015-00342, AT&T Mobility LLC and Cellco Partnership d/b/a Verizon Wireless v. Solocron, submitted IPR declaration.
- Mediatube v. Bell Canada, Canadian Federal Court, submitted expert report and testified at trial.
- CBM2016-00036, Google v. At Home Bondholder's Liquidating Trust, submitted CBM declaration.
- IPR2016-01198, IPR2016-01201, Apple, Inc. v. VoIP-Pal.com, Inc., submitted IPR declaration and was deposed.
- Case No. 3:14-cv-2824-VC, Trend Micro Incorporated v. Rpost Holdings, Inc., et al, submitted expert report and was deposed
- Akamai v. Limelight Networks, IPR2016-01631, IPR2016-01711, IPR2017-00249, IPR2017-00349, submitted IPR declarations and was deposed
- Hyperlync Technologies v. Verizon Sourcing, No. 650151/2015 New York Supreme Court, submitted declaration and was deposed
- Cascades Streaming Technologies v. Big Ten Networks, submitted expert reports and was deposed
- Klaustech, Inc. v. Google LLC., Case No. 4:10-CV-05899-JSW (N.D. Cal.), submitted expert report and was deposed
- Cisco v. Uniloc, IPR2017-00198, IPR2017-00058, submitted IPR declarations and was deposed.
- Cisco v. Uniloc, IPR2017-00597, submitted IPR declaration and was deposed
- Twitter v. Youtoo Technologies, LLC, IPR2017-01133, IPR2017-01131, submitted IPR declarations and was deposed
- Taser International Inc. (now Axon Enterprise, Inc.) v. Digital Ally Inc., IPR2017-00375, submitted IPR declaration and was deposed
- Taser International Inc. (now Axon Enterprise, Inc.) v. Digital Ally Inc., IPR2017-00376, IPR2017-00515, IPR2017-00775, submitted IPR declarations
- HTC Corporation v. IPA Technologies, IPR2018-00306, IPR2018-00307, submitted IPR declaration
- Hulu v. Soundview, IPR2018-00864, IPR2018-01023, submitted IPR declarations and was deposed
- XpertUniverse v. Cisco, 3:17-cv-3848, U.S. District Court for Northern District of California, submitted declaration in support of claim construction and was deposed
- Improved Search v. Microsoft, C.A. No. 16-cv-650-JFB-SRF (Del.), submitted declaration in support of claim construction
- Apple v. Uniloc, IPR2018-00361, IPR2018-00394, IPR2018-00395, IPR2019-00700, IPR2019-00701, IPR2019-01667, submitted IPR declarations
- LG Electronics v. Uniloc, submitted IPR declaration
- SRC Labs and Saint Regis Mohawk Tribe v. Microsoft, 2:18-cv-00321-JLR, U.S. District Court for Western District of Washington at Seattle, submitted declaration in support of claim construction and was deposed

- Verizon Wireless v. Barkan Wireless IP Holdings LP, submitted IPR declarations
- Verizon Wireless and Samsung Electronics America Inc. v. Barkan Wireless IP Holdings LP, IPR2019-199, IPR2019-200, IPR2019-234, IPR2019-631, IPR2019-632, submitted IPR declarations
- Samsung Electronics America Inc. v. Barkan Wireless IP Holdings LP, IPR2019-100, submitted IPR declaration
- Cisco Systems Inc. v. Meetrix IP LLC, IPR2019-539, IPR2019-540, IPR2019-541, IPR2019-542, IPR2019-543, IPR2019-544, submitted IPR declarations
- GMG Products LLC v. Traeger Pellet Grills LLC, PGR2019-24, PGR2019-34, PGR2019-35, PGR2019-36, submitted PGR declaration and was deposed
- Uniloc 2017 LLC v. Google LLC, 2:18-cv-00502-JRG-RSP, U.S. District Court for the Eastern District of Texas, Marshall Division, submitted declaration in support of claim construction
- Microsoft Corporation v. Uniloc 2017 LLC, IPR2020-00102, IPR2020-00103, submitted IPR declarations
- Microsoft Corporation and HP Inc. v. Syncloud Technologies, LLC, IPR2020-00316, IPR2020-01031, IPR2020-01032, IPR2020-01269, IPR2020-01270, IPR2020-01271, submitted IPR declarations
- Seven Networks, LLC v. Apple Inc, 2:19-cv-115-JRG, U.S. District Court for the Eastern District of Texas, Marshall Division, submitted declaration in support of claim construction
- Unified Patents Inc. v. Ortiz & Associates Consulting, LLC, IPR2019-00743, submitted IPR declaration
- Uniloc 2017 LLC v. Apple Inc., 3:19-cv-01905-JD, U.S. District Court for the Northern District of California, San Francisco Division, submitted declaration in support of claim construction and was deposed
- ClearPlay Inc. v. Dish Network LLC et al.; 2:14-cv-00191, U.S. District Court for the District of Utah, Central Division, submitted expert report and re-examination declarations, was deposed, and testified at trial
- AMC Networks, Inc. et al v. Sound View Innovations, LLC, IPR2020-00482, submitted IPR declaration
- Case No. 1:17-cv-01734-RGA, Sprint Communications Co., L.P., v. Charter Communications, Inc., et al., U.S. District Court for the District of Delaware, filed expert report and was deposed.
- CommScope Technologies LLC et al. v. Barkan Wireless IP Holdings LP et al., IPR2020-00827, IPR2020-00829, IPR2020-00831, IPR2020-00833, IPR2020-00835, IPR2020-00838, submitted IPR declarations
- Cisco Systems Inc. v. Monarch Networking Solutions LLC, IPR2020-01226, submitted IPR declaration
- CoolTV Network.com v. Blackboard, Inc., Facebook, Inc., International Business Machines Corporation, Kaltura, Inc., Limelight Networks, Inc., Microsoft Corporation, Ooyala, Inc., Snap, Inc., and Trapelo Corp., submitted declaration in support of claim construction and was deposed
- Facebook, Inc. v. Onstream Media Corporation, IPR2020-01507, IPR2020-01508, IPR2020-01525, IPR2020-01527, IPR2020-01528, submitted IPR declarations
- Hisense Co LTD. v. Maxell, LTD, IPR2020-01598, IPR2020-01600, submitted IPR declarations
- Microsoft Corp. v. O'Brien, IPR2021-00015, submitted IPR declaration and was deposed
- Sable Networks Inc. v. Cisco Systems, Inc., WA:20-CV-00288-ADA, U.S. District Court for the Western District of Texas, Waco Division, submitted declaration in support of claim construction
- Peloton Interactive, Inc. v. Icon Health and Fitness Inc et al., IPR2021-00342, submitted IPR declaration

- Hulu, LLC v. SITO Mobile R&D IP, LLC et al., CBM2020-00028, IPR2020-00158, IPR2020-00206 , IPR2020-00219 , IPR2020-00265 , IPR2020-00298 , IPR2020-00304 , IPR2020-00308 , submitted CMB and IPR declarations and was deposed
- Twitter, Inc. and Google LLC v. B.E. Technology, LLC, IPR2021-00482, IPR2021-00483, IPR2021-00484, IPR2021-00485, submitted IPR declarations
- MG Freesites LTD v. ScorpCast, LLC, IPR2021-00511, submitted IPR declaration
- Avionte, LLC v. Sandeep Acharya, Samar Basnet, and Aqore LLC, Arbitration, Hon. Jeffrey Keyes (Ret.)
- Microsoft Corporation v. WSOU Investments, LLC d/b/a Brazos Licensing and Development, IPR2021-00751, submitted IPR declaration
- SAP America, Inc. v. Express Mobile, Inc., IPR2021-01144, IPR2021-01145, IPR2021-01146, submitted IPR declarations
- StratosAudio Inc. v. Hyundai Motor America, 6:20-cv-01125-ADA, U.S. District Court for the Western District of Texas, Waco Division, submitted claim construction declaration and was deposed
- Peloton Interactive, Inc. v. Ifit Health and Fitness Inc, IPR2022-00029, IPR2022-00030, submitted IPR declarations and was deposed
- Investigation No. 337-TA-1263, In the matter of Certain televisions, remote controls, and components thereof, U.S. International Trade Commission, filed expert reports, was deposed, and testified at hearing
- Alexander Stross v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-00861-AB(JC), filed expert reports, and was deposed
- Ralph Ledergerber v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-00862-AB(JC), filed expert reports and was deposed
- John Walmsley v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-00863-AB(JC), filed expert reports and was deposed
- Bernhard Kuhmstedt v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-02044-AB(JC), filed expert reports and was deposed
- Netflix, Inc. v. CA, Inc., IPR2021-01319, submitted IPR declaration and was deposed
- F45 Training Pty Ltd. v. Body Fit Training USA Inc., C.A. No. 20-1194 (LPS) (D. Del.), filed expert report
- Apple v. Fintiv, IPR2022-00976, IPR2022-01149, IPR2022-01150, IPR2023-00399, submitted IPR declarations and was deposed
- Estech Systems, Inc. v. Howard Midstream Energy Partners d/b/a Howard Energy Partners, C.A. No. 6:20-cv-777-ADA (Western District of Texas, Waco Division), filed expert reports and was deposed
- Echelon Fitness Multimedia, LLC. v. Peloton Interactive, Inc., IPR2020-01187, submitted IPR declaration and was deposed
- VIZIO. V. Maxell Ltd., IPR2022-01458, submitted IPR declaration
- Maxell, Ltd. et. el. v. VIZIO, Inc., Case No. 2-21-cv-06758 (C.D. Cal.). filed declaration and was deposed
- Microsoft Corporation v. SurfCast, Inc., submitted IPR declarations
- The Walt Disney Company et. al. v. WAG Acquisition LLC, IPR2022-01227, IPR2022-01228, IPR2022-01346, submitted IPR declarations and was deposed
- Rakuten Rewards et. al. v. IBM, submitted IPR declarations and was deposed
- Fubotv Media Inc. v. SITO Mobile R&D IP, LLC et. al., submitted IPR declarations
- Unified Patents, LLC v. Noblewood IP LLC, IPR2022-01111, submitted IPR declaration
- Unified Patents, LLC. v. Pedersen, Peter Henrik, IPR2023-00029, submitted IPR declaration
- Ericsson Inc v. Dali Wireless Inc., submitted IPR declarations

- Universal Electronics, Inc. et. al. v. Roku, Inc., IPR2022-00818, submitted declarations and was deposed
- Google LLC. v. Wildseed Mobile LLC et. al., IPR2023-00244, IPR2023-00245, IPR2023-00246, IPR2023-00247, IPR2023-00248, submitted declarations
- Lululemon Athletica Canada Inc. et. al. v. Nike, Inc., IPR2023-00180, IPR2023-00424, submitted declarations
- Zoho Corporation, et. al. v. Meetrix IP, LLC, IPR2023-00371, IPR2023-00377, IPR2023-00379, IPR2023-00380, IPR2023-00382, submitted declarations
- WSOU Investments, LLC d/b/a/ Brazos Licensing and Development v. Google LLC, 6:20-cv-572, U.S. District Court for the Western District of Texas, Waco Division, submitted reports and was deposed
- Google LLC v. Safecast Limited LLC, IPR2023-00652, submitted declaration
- Investigation No. 337-TA-1338, In the matter of Certain smart televisions, U.S. International Trade Commission, filed reports and was deposed
- Cisco Systems, Inc. v. Orckit IP LLC, IPR2023-00714, submitted declaration
- SupplyPro, Inc. v. Sandvik Machining Solutions AB, et. al., AAA Case No. 01-22-000-7897. submitted declaration
- TrackThings LLC v. NETGEAR, Inc., Case No. 22-00981-RGA-JLH, U.S. District Court for the District of Delaware, submitted declaration
- Walt Disney Parks & Resorts US Inc. v. Agile Journeys LLC; IPR2024-00029, submitted declaration
- Aylo Freesites Ltd v. Dish Technologies LLC; IPR2024-00043, IPR2024-00044, IPR2024-00045, IPR2024-00046, IPR2024-00047, IPR2024-00048, IPR2024-00146, IPR2024-00147; submitted declarations

Publications

- “IP switching: server driven flow classification,” H. H. Houh, *Proceedings of the Washington University Workshop on Integration of IP and ATM*, November 1996.
- “Aurora at MIT,” D. D. Clark, H. H. Houh, and D. L. Tennenhouse, Editors, *MIT Laboratory for Computer Science Technical Report 673*, December 1995.
- “ViewStation Applications: Implications for Network Traffic,” C. J. Lindblad, D. Wetherall, W. Stasior, J. F. Adam, H. H. Houh, M. Ismert, D. Bacher, B. Phillips, and D. L. Tennenhouse, *IEEE Journal of Selected Areas in Communications*, 1995.
- “The VuNet Desk Area Network: Architecture, Implementation, and Experience,” H. H. Houh, J. F. Adam, M. Ismert, C. J. Lindblad, and D. L. Tennenhouse, *IEEE Journal of Selected Areas in Communications*, 13 (4), May, 1995.
- “Reducing the Complexity of ATM Host Interfaces,” H. H. Houh and D. L. Tennenhouse, Hot Interconnects II Symposium Proceedings, Stanford, August 11-12, 1994.
- “Media-intensive data communications in a ‘desk-area’ network,” J. F. Adam, H. H. Houh, M. Ismert, and D. L. Tennenhouse, *IEEE Communications*, August 1994.
- “ViewStation Applications: Intelligent Video Processing Over A Broadband Local Area Network,” C. J. Lindblad, D. J. Wetherall, W. Stasior, B. Phillips, D. Bacher, J. Adam, H. Houh, M. Ismert, and D. L. Tennenhouse, *Proceedings of the 1994 USENIX Symposium on High-Speed Networking*, Oakland, CA, August 1994.

- “The Media Gateway: Live Video on the World Wide Web,” H. H. Houh, C. J. Lindblad, J. Soo, D. L. Tennenhouse, and D. J. Wetherall, Workshop at the 1994 World Wide Web Conference, Geneva, Switzerland, May 1994.
- “Active Pages: Intelligent Nodes on the World Wide Web,” H. H. Houh, C. J. Lindblad, and D. J. Wetherall, Proceedings of the 1994 World Wide Web Conference, Geneva, Switzerland, May 1994.
- “Wavelength Division vs. Code Division Access Methods for Optical Networks,” H. H. Houh, Area Exam Paper, May 1993.
- “Experience with the VuNet: A Network Architecture for a Distributed Multimedia System,” J. F. Adam, H. H. Houh, D. L. Tennenhouse, Proceedings of the 18th Conference on Local Computer Networks, pp. 70-76, September 1993
- “The VudBoard: A Simple DMA Interface,” H. H. Houh, Proceedings of the 4th Gigabit Minijam, January 1994.
- “A Software-Oriented Approach to the Design of Media Processing Environments,” D. L. Tennenhouse, J. Adam, D. Carver, H. Houh, M. Ismert, C. Lindblad, W. Stasior, D. Weatherall, D. Bacher, and T. Chang., submitted to the International Conference on Multimedia Computing and Systems, May 1994.
- “A Network Architecture for Distributed Multimedia Systems,” J. F. Adam, H. H. Houh, M. Ismert, and D. L. Tennenhouse, submitted to the International Conference on Multimedia Computing and Systems, May 1994.
- “The Viewstation Collected Papers,” D. L. Tennenhouse, J. Adam, C. Compton, A. Duda, D. Gifford, H. Houh, M. Ismert, C. Lindblad, W. Stasior, R. Weiss, D. Wetherall, D. Bacher, D. Carver, and T. Chang, MIT Laboratory for Computer Science Technical Report, MIT/LCS/TR-590, November 1993.
- “The Viewstation Collected Papers II,” W. F. Stasior, D. L. Tennenhouse, J. F. Adam, D. R. Bacher, H. H. Houh, M. Ismert, C. J. Lindblad, B. M. Phillips, D. J. Wetherall, MIT Laboratory for Computer Science Technical Report, MIT/LCS/TR-696, April 1996.
- “A System's Perspective of the Sagnac Fiber Logic Gates and Their Possible Applications,” A. Huang, N. Whitaker, C. Gabriel, H. Avramopoulos, P. M. W. French, H. H. Houh, and I. Chuang, Applied Optics, September 10, 1994
- “Complete Switching in a Three-Terminal Sagnac Switch,” H. Avramopoulos, P. M. W. French, M. C. Gabriel, H. H. Houh, N. A. Whitaker, T. Morse, IEEE Phot. Tech. Lett. **3** (3), 235
- “Complete Switching in a Three-Terminal Sagnac Switch,” H. Avramopoulos, P. M. W. French, M. C. Gabriel, H. H. Houh, N. A. Whitaker, IEEE/LEOS Annual Meeting, Paper PDP-13, November 1990
- “All-optical phase-locked oscillator,” N. A. Whitaker, Jr., H. H. Houh, H. Avramopoulos, T. F. Morse, IEEE/LEOS Annual Meeting, Paper ELT2.4/MOO3, November 1990
- “Passive modelocking of an all-fiber erbium laser,” H. Avramopoulos, H. H. Houh, N. A. Whitaker, M. C. Gabriel, T. F. Morse, IEEE/LEOS Conference on Optical Amplifiers and their Applications, Paper PDP-8, August 1990
- “Transverse modes, waveguide dispersion, and 30ps recovery in submicron GaAs/AlAs microresonators,” J. L. Jewell, S. L. McCall, A. Scherer, H. H. Houh, N. A. Whitaker, A. C. Gossard, and J. H. English, Appl. Phys. Lett. **55** (1), July 3, 1989

Leadership, Activities and Interests

- Leadership
 - Reading Symphony Orchestra
 - Board of Directors (Treasurer), 2022 - present
 - Discovery Museums (Acton, MA)
 - Board of Directors, 2023 – present
 - Board of Directors, Development Committee, 2023 – present
 - Science and Technology Advisory Council, 2012 - present
 - Tau Beta Pi National Engineering Honor Society
 - Executive Councilor Elect, to serve 2024-2026
 - Advisor, MA B Chapter at MIT, 2003 - present
 - District Director (National Officer), Tau Beta Pi, New England Area, 1991 - 2003
 - President, MA B Chapter at MIT, Fall 1988 - Spring 1989
 - Laureate award, 1989
 - MIT Alumni Association Board of Directors
 - National Selection Committee, 3 year term, 2020 – 2023
 - K-12 STEM Initiatives Co-chair, 2013 – 2017
 - Awards Committee Chair, 2012 – 2014
 - Awards Committee, 3 year term, 2011 – 2014
 - Vice President, 2 year term, 2004 – 2006
 - Alumni Ad-Hoc Committee, Chair, 2005-2006
 - Board Member, 2 year term, 1997 – 1999
 - MIT Club of Boston
 - Board of Directors, 2006 - 2011
 - K-12 Initiatives Chair, 2009 - 2012
 - VP of Communications, MIT Club of Boston, 2003 - 2006
 - Past-President, MIT Club of Boston, 2002 - 2003
 - President, MIT Club of Boston, 2001 - 2002
 - President-Elect, MIT Club of Boston, 2000 - 2001
 - VP of Programs, MIT Club of Boston, 1999 - 2000
 - Activities Super-Chair, MIT Club of Boston, 1998 - 1999
 - MIT Enterprise Forum of Cambridge, Inc.
 - Past Chair, 2009 – 2011
 - In-NOW-vation Co-chair, 2010
 - Chair, 2007 - 2009
 - Vice Chair, 2005 - 2007
 - Executive Board Member, 2002 - 2011
 - Winter Workshop Co-Chair, February 2007 - conceived idea for conference, which sold-out and produced largest attendance numbers in recent memory
 - Spring Workshop Co-Chair, Spring 2004
 - Membership Committee Chair, Fall 2003 - 2006
 - 25th Anniversary Dinner Chair, Fall 2003
 - As Membership Chair and Board Member, started Special Interest Groups in 2004; a SIG won the MIT Presidential Citation award, the MIT Alumni Association's highest award for organizations, in 2006
 - Estabrook Elementary School PTA

- Advisory committee to the superintendent on PCB issue, 2010-2011
 - 4th Grade after-school science program co-organizer, 2010-2012
 - 4th and 5th Grade before-school Math Olympiad co-organizer, 2009-2013
 - 5th Grade BBQ and Yearbook Committee, 2011, 2013
 - Family Math Night volunteer, 2008-2012
- MIT Class of 1989
 - Secretary, five consecutive 5 year terms, 1989 - 2014
 - 30-year Reunion Committee, 2019
 - 25-year Reunion Committee, 2014
 - 20-year Reunion Committee and Gift Committee, 2009
 - 15-year Reunion Committee and Gift Committee, 2004
 - 10-year Reunion Committee and Gift Committee, 1999
 - 5-year Reunion Committee, 1994
 - Interim Treasurer, 1993 - 1994
 - Instituted annual senior class career fair, now raising over \$100,000 annually for senior class activities, Fall 1988
- Strong, consistent record of leadership dating to high school
- Acting
 - ‘21’ (Sony Pictures), credited as “Chinatown Dealer,” 2007, Kevin Spacey's movie about the MIT Blackjack Team inspired by “Bringing Down the House” by Ben Mezrich, opened nationwide on March 28, 2008. 21 was the number one movie in US for two weeks and number one globally for one week. 21 also topped the DVD sales, Blu-ray sales and DVD rental charts.
 - Spring Lake Theater Company, first New York-area off-broadway production of “A Chorus Line,” played role of Mark, Summer 1990
- Former member of the MIT Blackjack team
- Producer for 10,000 Maniacs’ 2013 album “Music from the Motion Picture”
- Executive Producer for 10,000 Maniacs’ 2015 album “Twice Told Tales”
- Violist, violist, harpist, guitarist, singer, actor: played in many amateur/semi-professional groups including Firebird Pops Orchestra, Reading Symphony Orchestra, MIT Summer Philharmonic Orchestra, Carlisle Chamber Orchestra, Rivers Symphony Orchestra, Opera51 Orchestra, Freisinger Chamber Orchestra, Merrimack Valley Philharmonic, Longwood Symphony, MIT Symphony, and Somerville Community Chorus
- Violist, “Coming Home” album by Karen Phillips, 2014
- Google Scholar citations: 2079, h-index: 21, i10-index: 26 (since 2017: 662/12/14)
- Erdos-Bacon number of 7
- Erdos-Bacon-Sabbath number of 11