

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DRAFTKINGS INC.  
Petitioner

v.

WINVIEW IP HOLDINGS, LLC  
Patent Owner

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IPR2026-00175  
U.S. Patent No. 11,338,189

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**DECLARATION OF DR. HENRY HOUH REGARDING CLAIMS 14, 15,  
17, 19, 20, 22-26, 31, 33-35, 37, AND 38 OF U.S. PATENT NO. 11,338,189**

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I, Henry Houh, Ph.D., declare as follows:

## **I. INTRODUCTION**

1. My name is Henry Houh. I make this declaration based upon my own personal knowledge and, if called upon to testify, would testify competently to the matters stated herein.

2. I am making this declaration at the request of DraftKings Inc. (“DraftKings” or “Petitioner”) as an independent expert consultant in this proceeding before the United States Patent and Trademark Office and to provide testimony pertinent to Petitioner’s Petition for *Inter Partes* Review of U.S. Patent No. 11,338,189 (“’189 patent”). I understand that Petitioner is challenging the patentability of claims 14, 15, 17, 19, 20, 22-26, 31, 33-35, 37, and 38 (“Challenged Claims”) of the ’189 patent.

## **II. QUALIFICATIONS AND EXPERIENCE**

3. My complete qualifications and professional experience are described in my Curriculum Vitae, a copy of which can be found in **Appendix A**. The following is a brief summary of my relevant qualifications and professional experience.

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. From its founding in 2012 until October 2022, I was also president of a company that provides supplemental science, technology, engineering, and mathematics (“STEM”) education to children of all ages.

6. I first entered telecommunications in 1987 when I worked as a summer intern at AT&T Bell Laboratories as part of a five-year dual degree program at MIT. I continued to work at AT&T Bell Laboratories as part of this MIT program. While at MIT, I was a teaching assistant (“TA”) in the Electrical Engineering and Computer Science Department’s core Computer Architectures course. I first was a TA as a senior for a role typically reserved for graduate students. I later became head TA. The course covered various topics in computer architectures. As a TA, I helped write homework assignments, lab assignments, and exams. I also taught in the recitation sections.

7. Later, as part of my doctoral research at MIT from 1991-1998, I was 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 applications included ones for remote video capture, processing, 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. Also, I helped to maintain, install, and upgrade the networking devices used within the group, along with other graduate students. When I started with the TNS group, the networking infrastructure consisted of shared coaxial cable-based Ethernet, with bridges and repeaters interconnecting various network segments. I became familiar with the Ethernet specifications in order that we not configure our network improperly, typically by chaining too many repeaters together. We gradually replaced the coaxial Ethernet infrastructure with twisted pair 10BASE-T wiring that were interconnected via hub repeaters, for which we also had to mind the Ethernet specifications. Eventually, many of the hub repeaters were upgraded to switches. I also studied the various parts of the Ethernet specifications both independently and through graduate course work in networking.

8. 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. Also, around this time, network-based real-time multiplayer games such as Doom began to become popular. I helped set up and maintain such a server.

9. 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. The traffic flow data included Ethernet, IP, TCP or UDP, and RTP header information, which I analyzed to come to the conclusions in my thesis.

10. While I was in graduate school, I started a company that provided web site design services and targeted advertising opportunities. We also sold targeted advertising placements. As the web became popular first at colleges and universities, we focused initially on building college recruiting web sites and sold

advertisements to companies wishing to target students to recruit at specific colleges. We developed technology that utilized the web user's college affiliation to customize advertisements targeted to students at that college.

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. NBX was later acquired by 3Com Corporation and the phone system is still used today by numerous businesses.

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. 6,967,963, entitled "Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data," as part of this work. The first release of the phones had integrated Ethernet repeater hubs

embedded in them, and I worked with the documentation and field support people to develop sets of guidelines so that customers would not build their networks to violate the Ethernet specifications, typically by chaining too many hub repeaters and NBX phones together. The first release of the phones also worked using Ethernet-layer packets (without the use of IP). I also programmed the first prototype of our phone which communicated using IP, and I demonstrated our IP phones working over the Internet when we attended a trade show in California. The phone connected over the Internet to our headquarters in Andover, MA.

13. From 1999-2004, I was employed by Empirix or its predecessor company, Teradyne. Teradyne had traditionally made products to test chips and hardware, but the founder and board chairman, Alex d'Arbeloff wanted to expand the company's products to include software systems testing. Teradyne made a number of acquisitions to achieve this goal, and I was hired to work for Mr. d'Arbeloff to work with all the acquired software test divisions. These divisions were later spun-out of Teradyne into a separate company, Empirix. Empirix was a leader in test tools for software systems including telecommunications protocols and systems, providing functional testing tools as well as load testing tools. From 2000-2001, I conceived and built a test platform for testing Voice-over-IP (VoIP). The first application on this new test platform was a cloud emulator for simulating the

effects of transmitting VoIP over a busy network. The test platform was based on a network processor chip, which could be programmed to cut-through packets while processing packet data such as various protocol layer headers including addresses included therein and even packet data contents. I also designed a protocol analyzer built on the same platform. The application captured and performed protocol decoding at various layers in the protocol stacks of captured packets, including detailed Ethernet header decoding, IP header decoding, TCP header decoding, UDP header decoding, RTP header decoding, and many other specified protocols. The application was also designed to reconstruct entire conversations that spanned multiple packets.

14. In 2006, as part of my role at BBN Technologies, 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. I also created a social networking web site, which BBN sold to a venture-funded startup company. In the process of creating the web site, I designed and specified the authentication and authorization protocols.

15. I am being compensated for my work on this matter at my standard consulting rate of \$950 per hour. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this investigation. My opinions are based on my own views and understanding of the prior art, the knowledge of a person of ordinary skill in the art, and the '189 patent. My compensation is not dependent on and in no way affects the substance of my statements, opinions, or conclusions in this declaration and it is also not dependent on any testimony I give or on the outcome of this proceeding.

16. I have no financial interest in Petitioner or Patent Owner. I similarly have no financial interest in the '189 patent, and I have had no contact with the named inventors of the '189 patent.

### **III. LEGAL PRINCIPLES**

17. I am not an attorney. For the purposes of this declaration, I have been informed about certain aspects of the law that are relevant to my opinions. My understanding of the law was provided to me by Petitioner's attorneys and is reflected below.

#### **A. Scope of Opinion**

18. I have been informed and understand that the petitioner in an *inter partes* review may request cancellation of claims as unpatentable only on grounds

that such claims are anticipated or would have been obvious to a person of ordinary skill in the art at the time of the purported invention, and only on the basis of prior art consisting of patents and/or printed publications. My opinions in this matter address only such grounds.

**B. Anticipation**

19. I have been informed that a patent claim is anticipated and therefore unpatentable if every element of the claim is present in a single prior art reference.

**C. Obviousness**

20. I understand that a claim is unpatentable if, at the time the alleged invention was made, it would have been obvious to a person of ordinary skill in the art. I understand that a claim can be obvious based on the teachings or suggestions of either a single prior art reference or a combination of two or more prior art references. I understand that the obviousness analysis requires an understanding of the scope and content of the prior art, any differences between the prior art and the alleged invention, and the level of ordinary skill in evaluating the pertinent art.

21. I understand that in order to be considered for obviousness, prior art must be analogous to the patent at issue. I further understand that art is analogous if it either pertains to the same field of endeavor as the patent at issue or, alternatively,

if it is reasonably related to the problem faced by the inventor(s) of the patent at issue.

22. I understand that a claim would have been obvious if it unites old elements with no change to their functions or alters prior art by mere substitution of one element for another known in the field such that the combination yields predictable results. Also, I understand that obviousness does not require a physical combination or example, but rather is concerned with what the combined teachings would have taught or suggested to persons of ordinary skill in the art at the time of the alleged invention.

23. In connection with obviousness, I have been informed that there must have been some reason or motivation for a person of ordinary skill in the art to have combined or modified the relevant teachings in the prior art to obtain the claimed invention, and one of ordinary skill in the art must have had a reasonable expectation of success making the combination or modification.

24. I understand that a claim would have been obvious if a person of ordinary skill in the art would have had reason to combine multiple prior art references or add missing features to reproduce the alleged invention recited in the claims. I further understand that there is no rigid requirement of finding an express teaching, suggestion, or motivation to combine within the references, although such

an express teaching or suggestion may be helpful in identifying a reason for the combination.

25. If a person of ordinary skill in the art can implement a predictable variation, that variation is likely unpatentable as obvious. For the same reason, if a technique has been used to improve one device and a person of ordinary skill in the art would have recognized that it would improve similar devices in the same way, using the technique to make such an improvement would have been obvious.

26. I understand that when considering obviousness, it is important not to use the benefit of hindsight derived from the patent being considered. I also understand that one of ordinary skill in the art has ordinary creativity (i.e., is not a mindless automaton).

27. In sum, I understand that a determination of whether a claim would have been obvious is based upon the following non-exclusive considerations:

- whether prior art references teach or disclose known concepts combined in familiar ways, such that when combined they would yield predictable results;
- whether a person having ordinary skill in the art could implement a predictable variation, and would see the benefit of doing so;

- whether the claimed elements represent one of a limited number of known design choices, where those skilled in the art would have had a reasonable expectation of success in implementing that design choice;
- whether a person having ordinary skill would have been motivated based on the prior art to combine known elements in the manner described in the claim;
- whether there is a teaching or suggestion in the prior art to make the modification or combination of elements claimed in the patent; and
- whether the alleged invention applies a known technique that had been used to improve at least one similar device or method in a similar way.

28. I further understand that certain additional factors, commonly referred to as secondary considerations or objective indicia, may support or rebut the obviousness of a claim. I understand that secondary considerations include, among other things, commercial success of the patented invention, skepticism of those having ordinary skill in the art at the time of invention, unexpected results of the invention, any long-felt but unsolved need in the art that was satisfied by the alleged invention, the failure of others to make the alleged invention, praise of the alleged invention by those having ordinary skill in the art, copying of the alleged invention by others in the field, and contemporaneous and independent invention by others. I

understand that there must be a nexus (i.e., a connection) between any such secondary considerations and the alleged invention. I also understand that secondary considerations cannot be used to overcome anticipation. I further understand that contemporaneous and independent invention by others is a secondary consideration tending to show obviousness.

29. I reserve the right to respond to any allegations that Patent Owner may put forth in this proceeding suggesting that secondary considerations tend to rebut the obviousness of any claim of the '189 patent as discussed in this declaration.

**D. Claim Dependency**

30. I understand patents may include two types of claims: independent claims and dependent claims. An independent claim stands alone and simply recites the limitations it covers. In contrast, a dependent claim depends from either an independent claim or another dependent claim, and incorporates all the limitations recited in the claim or claims from which it depends along with the limitations it recites itself.

**E. Claim Construction**

31. I understand that a claim term in an inter partes review is to be interpreted according to standards applied by district courts. First, the language of the claims themselves is of primary importance in the effort to determine precisely

what it is that is patented. The terms used in a claim are generally given the ordinary and customary meaning that the terms would have to a person of ordinary skill in the art in question at the time of the alleged invention, unless the term is expressly defined in the patent. The person of ordinary skill in the art reads the claim in the context of the entire patent, including the specification. Next to the language of the claims, the specification is the single best source for interpreting the claim terms. The claims may also be interpreted using the record of correspondence between the patent applicant and the Patent Office, and also with reference to other sources of evidence that can help to define the meaning of terms to a person of ordinary skill in the relevant time frame. I define the relevant time frame in Section V below.

\* \* \*

32. My analysis in this declaration is in accordance with the above-stated legal principles.

#### **IV. MATERIALS CONSIDERED**

33. In forming my opinions, in addition to my knowledge and experience, I have considered the materials cited herein and listed in **Appendix B**.

#### **V. PRIORITY DATE**

34. I have been informed that the earliest claimed priority date of the '189 patent is January 10, 2006, which is the filing date of the provisional application to which the '189 patent claims priority. I have formed my opinions in reference to

this priority date. Even if the Patent Owner alleges an earlier invention date, my opinion would not change as long as the references cited below remain prior art to the '189 patent. Should Patent Owner suggest a different priority date, I reserve the right to revise my opinions accordingly.

## **VI. LEVEL OF ORDINARY SKILL**

35. I am familiar with the level of ordinary skill in the art with respect to the '189 patent around its earliest claimed priority date. Based on my experience working, teaching, and conducting research in the relevant field, and based on my review of the '189 patent specification, claims, file history, and prior art, I believe a person of ordinary skill in the art ("POSITA") around the time of the alleged invention of the '189 patent would have had at least a Bachelor's degree in computer science, computer engineering, or a related subject and two or more years of experience in the field of distributed systems, networking, and software design, with additional education substituting for experience and vice versa.

36. In determining the level of ordinary skill in the art, I considered, for example, the type of problems encountered in the art, prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. I met or exceeded the knowledge and experience that a POSITA would have had in 2006.

## VII. TECHNOLOGY BACKGROUND

### A. Background and Evolution of Fantasy Sports

37. Fantasy sports originated in the mid-20th century, with early versions of fantasy golf and football appearing in the 1950s or 1960s. Exhibit 1009 (Ruihley) at 19; Exhibit 1010 (Trippiedi) at 204. The modern era of fantasy sports began in 1960 with the creation of a fantasy baseball auction process by Bill Gamson. Exhibit 1009 (Ruihley) at 19; Exhibit 1010 (Trippiedi) at 204-05. This format allowed participants to draft real-life players and compete based on their statistical performance, a model that remains foundational today. Exhibit 1009 (Ruihley) at 19. Specifically, in Gamson's model, each participant paid in \$10 and was given an imaginary budget of \$100,000, which each participant then used to bid on Major League Baseball players to assemble his or her fantasy baseball team. Exhibit 1009 (Ruihley) at 19. In Gamson's early model of fantasy sports, the enjoyment came from watching the statistics for one's assembled team. Exhibit 1009 (Ruihley) at 19.

38. In 1979, Daniel Okrent invented a new iteration of fantasy baseball called "roisserie baseball," so named for a restaurant called *La Rotisserie Francaise* where a group of Okrent's friends met to discuss the fantasy league. Exhibit 1009 (Ruihley) at 20. Okrent created a more advanced scoring system for roisserie

baseball based on the statistics most important in winning a baseball game, where current-season statistics for players drafted to a participant's team would contribute to the overall performance of their team. Exhibit 1009 (Ruihley) at 20; Exhibit 1011 (Vichot). Further, Okrent adapted the rules of the fantasy league such that participants had to fill all positions of a regular baseball team in their fantasy roster. Exhibit 1010 (Trippiedi) at 205. This basic structure for a fantasy sports league is still predominantly in use today. Exhibit 1010 (Trippiedi) at 205.

39. The advent of the internet and increases in computing power in the 1990s revolutionized fantasy sports with the launch of the first major online fantasy sports system, and the automation of data collection and scoring, making the games more accessible and less time-consuming. Exhibit 1012 (Hu) at 4-5. The rise of online fantasy sports lowered the barrier to entry and increased participation to an estimated 500,000 participants by 1990. Exhibit 1011 (Vichot); Exhibit 1009 (Ruihley) at 20-21. With the rise of the internet also came an increase in the use of statistics. In 1996, Motorola and Sports Team Analysis and Tracking Systems, Inc. created "a wireless device that would deliver in-game score and [statistics] information." Exhibit 1010 (Trippiedi) at 206. By the mid-2000s, real-time statistics and live in-game information were "common features of fantasy sports." Exhibit 1010 (Trippiedi) at 206. As of 2003, players spent around \$175 annually on

league fees and related services, and by the early 2000s, fantasy sports had become a billion-dollar industry, with over 15 million users in the United States alone. Exhibit 1013 (Farquhar) at 1209.

**B. Technical Aspects of Mobile Betting and Fantasy Sports Platforms**

40. The form of modern fantasy sports had taken its shape well before 2006. It was known that fantasy sports were offered on many major websites. Exhibit 1012 (Hu) at 1-2. It was also known that participants could “assemble teams from real players and compete based on those players’ real-world performances,” and then “face off against each other, accumulating points according to a variety of criteria” such as hits, home runs, and strikeouts in baseball, for example. Exhibit 1012 (Hu) at 2. By 2006, technology such as Java applets had been developed to provide live updates on scores in fantasy sports contests. Exhibit 1012 (Hu) at 2. Statistics and other information could be sent out directly to clients, who often created their own live Web scoreboards and conducted their own scoring for their fantasy leagues based on the data. Exhibit 1012 (Hu) at 3. Additionally, participants in fantasy sports contests could create their own leagues, create informal money pools, and enter multiple leagues for different sports like fantasy football, baseball, and basketball. Exhibit 1012 (Hu) at 5-6.

41. Like online fantasy sports, mobile applications to play fantasy sports were developed and well-understood by 2006. Exhibit 1016 (Coulton) at Abstract. As early as 2003, fantasy sports mobile applications had begun relying on the increasing capabilities of cell phones. Exhibit 1016 (Coulton) at 1-2. It was known that certain device constraints on memory and screen size guided the development of mobile applications. Exhibit 1016 (Coulton) at 2. This required app developers to create efficient applications with user interfaces to receive user inputs. Exhibit 1016 (Coulton) at 2. Early mobile applications relied on Short Message Service (“SMS”) messages to gather information, while more advanced mobile applications could use other means like General Packed Radio Service to gather data from a server. Exhibit 1016 (Coulton) at 4. An example of the client-server architecture for receiving live updates in a fantasy sports mobile application as of 2003 is shown below in Coulton, Figure 1.

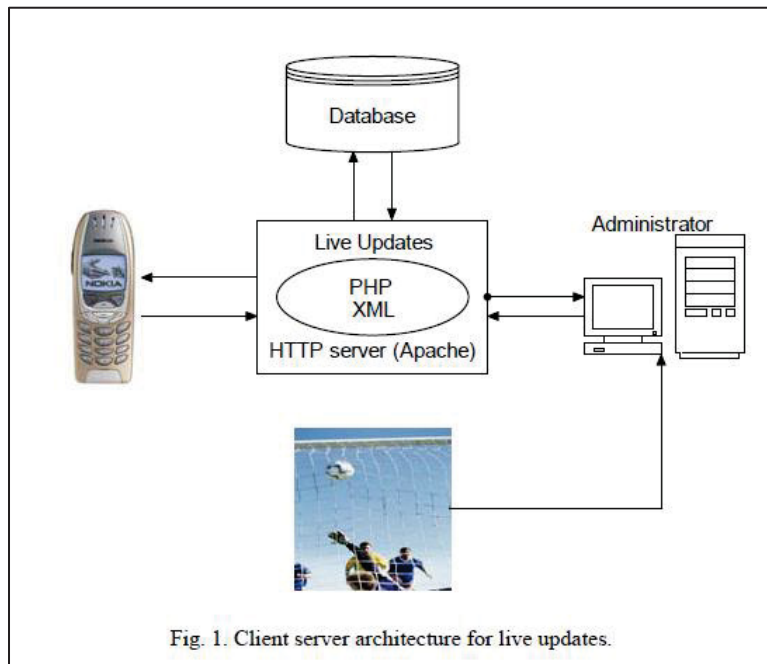


Exhibit 1016 (Coulton), Figure 1

42. As shown, live updates were a well-known part of the application and involved sending requests to a server, receiving live information, and storing that information in memory. Exhibit 1016 (Coulton) at 5.

43. It was known as of 2005 that users could generate their own competition groups. Exhibit 1014 (Harmon) at 66-67. Typically, one participant called the “commissioner” would choose a platform on which their group could play, such as an interactive fantasy game website. Exhibit 1014 (Harmon) at 66. The commissioner could “determine the type of draft that best addresses the needs of the league,” and the scoring system for the competition. Exhibit 1014 (Harmon) at 68. Users would then be added to the league, such as by a username and password for a

specific site. Exhibit 1014 (Harmon) at 66. Players could choose from competitions across a variety of different sports, sporting events, or television shows, and players could even configure their leagues to result in a variety of possible fantasy game structures according to their preferred style of play. *See* Exhibit 1014 (Harmon) at 73-74, 319-327

### **VIII. OVERVIEW OF THE '189 PATENT**

44. The '189 patent purportedly describes an invention relating to the field of “distributed gaming utilizing a mobile device.” Ex. 1001 ('189 patent) at 1:45-47. Based on my review, however, the '189 patent describes nothing more than several long-known concepts in sports betting. In particular, the alleged invention of the '189 patent is based on allowing users to simultaneously participate in multiple contests that correspond to a live event. The '189 patent claims a method of conducting multiple contests of skill or chance whereby users are able to simultaneously and in real time participate in multiple contests, as well as devices for conducting and for participating in such contests. But nothing about this supposed invention is novel or non-obviousness. According to the '189 patent, the purportedly novel aspect of the alleged invention is based on allowing users to simultaneously participate in multiple contests based on a single entry. But simultaneous participation across multiple contests is a longstanding feature of

fantasy sports. The '189 patent claims nothing more than what was already known in prior art fantasy-sports contests. As I discuss herein, the prior art clearly describe similar fantasy sports contests, including contests that allow users to simultaneously compete in multiple competitions based on the same set of selections and contests that allow users to continue participating in real time.

**A. Alleged Invention**

45. The '189 patent is generally directed to “a method of and system for conducting multiple competitions of skill for a single performance.” Exhibit 1001 ('189 patent) at 2:36-37. The '189 patent acknowledges that several aspects of its alleged invention were known before the priority date. For example, before the priority date of the '189 patent, players could participate in games of skill or chance, e.g., by using mobile devices, such as cell phones, to interact with a television. Exhibit 1001 ('189 patent) at 1:52-64. Moreover, methods and devices of *conducting* contests that involve simultaneous games of skill or chance were known in the prior art. Exhibit 1001 ('189 patent) at 1:65-2:2. But according to the '189 patent, however, methods and devices that enable *participating* in multiple simultaneous games of skill or chance, e.g., by answering the same questions or making the same selections related to a single event, was novel and inventive. Exhibit 1001 ('189 patent) at 2:38-41. The methods described in the '189 patent

involve enabling users (1) to choose which competitions to join from among several options, and (2) to make a single set of selections related to the event. Exhibit 1001 ('189 patent) at 2:44-50. The results for each competition can then be separately calculated, so that the user can understand their score or ranking for each competition group. Exhibit 1001 ('189 patent) at 2:44-50.

46. According to the '189 patent, users may simultaneously participate in contests, e.g., by joining one or more competitive groups, which may be system generated or user generated. Exhibit 1001 ('189 patent) at 8:38-43; Figure 1, step 100. When users first enter a fantasy sports contest, they are informed of the competitive groups (i.e., competitions) that are available, and the users then select groups to join. Exhibit 1001 ('189 patent) at 8:59-9:8, Figure 1. A server receives these selections and determines results (e.g., scores and/or standings) for each user in each competition. Exhibit 1001 ('189 patent) at 9:12-16, Figure 1. Those results are stored and sent to the user on their personal device. Exhibit 1001 ('189 patent) at 9:22-48, Figure 1.

47. As noted above, the '189 patent indicates that the advantage of its alleged invention arises from allowing users to simultaneously participate in multiple competitions. Exhibit 1001 ('189 patent) at 14:4-5. This supposedly increases user interaction and engagement, because the user would be more

motivated to join multiple competitions with various formats such that the same selections or entries might perform well in one competition even though they underperform in another. Exhibit 1001 ('189 patent) at 14:6-34.

48. The '189 patent is simply incorrect. Fantasy sports contests that allow users to simultaneously and in real time participate in multiple competitions were well known in the art. As I demonstrate below, the claims of the '189 patent are either anticipated or rendered obvious by the prior art.

**B. Prosecution History**

49. The '189 patent issued was first filed on September 17, 2020 as U.S. Patent Application No. 17/024,330 (the "'330 application"). Through a number of intervening patent and patent applications, the '330 application claims priority to U.S. Prov. Application No. 60/757,960, which was filed on January 10, 2006. I have not analyzed the appropriateness of the priority chain between the '189 patent and the provisional patent application from which it claims priority. Solely for the purposes of simplicity, my analysis relies on prior art as of January 10, 2006. Should Patent Owner suggest a different priority date, I reserve the right to revise my opinions accordingly. I have been informed that, based on this priority date, the '189 patent is subject to the pre-AIA version of the Patent Law.

50. During examination, the '330 application received only one non-final office action on August 24, 2021. In that office action, the Examiner rejected all pending claims on the basis of non-statutory obviousness-type double patenting over U.S. Patent No. 10,806,988. Ex. 1007 (FH189) at 919. The Examiner did not reject the claims of the '330 application as anticipated or obvious. Following a terminal disclaimer over U.S. Patent No. 10,806,988, the claims were allowed. Ex. 1007 (FH189) at 1084.

## **IX. OVERVIEW OF THE PRIOR ART**

51. As I address throughout this declaration, all limitations of the challenged claims of the '189 patent were well known. To demonstrate this, my analysis relies on the following prior art reference.

### **A. Hughes**

52. U.S. Patent No. 7,614,944 to Hughes et al. ("Hughes") (Exhibit 1003) was filed on August 30, 2002, before the earliest claimed priority of the '189 patent. I understand that Hughes therefore qualifies as prior art to the '189 patent. Hughes was not cited as the basis of any rejection during the pendency of the '189 patent. In my opinion, failing to reject the claims in view of Hughes amounted to examiner error because Hughes was disclosed and describes the limitations of the challenged claims.

53. The disclosure and invention of Hughes relate to fantasy sports contests whereby users are able to simultaneously compete in multiple contests that each correspond to the same live sporting event. Exhibit 1003 (Hughes) at 1:9-21 (“this invention relates to systems and methods for providing multi-level fantasy sports contests in fantasy sports contest applications”), 1:33-43, 2:44-47, 12:20-25, 13:4-13. In particular, the focus of Hughes is on a fantasy sports contest application, which manages the numerous fantasy sports contests and which is implemented at a central computer server or at a user device. *Id.* at 7:62-8:2, 9:25-32; 11:8-16; Figure 1. Hughes explains that users participate in the fantasy sports contests, e.g., by creating a roster of players that are submitted to individual contests (which Hughes refers to as “award leagues”) that correspond to real-life sporting events. *Id.* at 1:16-43 6:57-61, 18:11-13. But the user’s participation does not end there. Hughes teaches that users may continue participating after submitting their roster in a variety of ways, such as by managing their roster and/or by predicting the outcome of plays in real time. *Id.* at 6:55-7:12. Users receive scores and rankings by comparing their roster to the outcomes in the corresponding real-life sporting events. *Id.* at 1:22-31, 7:13-25, 18:53-19:21, 20:66-21:5.

54. The stated of goal of Hughes’s invention lies in simplifying how users enter and simultaneously compete in multiple fantasy sports contests. *Id.* at 2:18-22

(“It is therefore an object of the present invention to provide improved ways for *allowing the user to participate in multiple leagues.*”). To accomplish this, Hughes’s fantasy sports contest application includes functionality that “allow[s] the user to enter the same team... or roster to compete in more than one award leagues.” Exhibit 1003 (Hughes) at 15:57-61. This “allows the user to enter multiple award leagues (in the same sports category), *while maintaining only one team.*” *Id.* at 16:18-20.

**B. Berner**

55. U.S. Patent No. 5,813,913 to Berner et al. (“Berner”) (Exhibit 1005) issued on September 29, 1998, before the earliest claimed priority of the ’189 patent. I understand that Berner therefore qualifies as prior art to the ’189 patent. I also understand that the ’189 patent expressly incorporates Berner into its own specification by reference. Exhibit 1001 (’189 patent) at 5:61-66, *see also* 1:65-2:22. Without conceding the appropriateness of this incorporation by reference, I understand that this means that the full disclosure of Berner is included in the ’189 patent. Applicant incorporated Berner by reference in its preliminary amendments of both U.S. Patent No. 11,951,402 and U.S. Patent No. 11,918,880, which are in the same family as the ’189 patent, to disclose that “game data includes a lockout signal to prevent improper game inputs by participants.” Exhibit 1017 (FH880) at

89-90; Exhibit 1018 (FH402) at 68. Berner was not cited as the basis of any rejection during the pendency of the '189 patent.

56. The disclosure and invention of Berner relate to an apparatus that allows multiple groups of participants to play a game of skill simultaneously. Exhibit 1005 (Berner) at Abstract (“A game of skill played simultaneously by several players (for example, a live television quiz game) whereby each participant player effectively competes only against players having a similar skill level in order to provide a strong motivation.”), 1:36-44 (“a game of skill played simultaneously by several participants remote from each other in conjunction with at least one common game event where each participant player of a game receives one or more scores”), claim 1. The apparatus described in Berner “includes a central computer system (CCS) 11 which regulates or controls the overall system.” Exhibit 1005 (Berner) at 2:7-9, Figure 1. Berner explains that the CCS 11 broadcasts game data to a remote control unit 12 in the customer’s home by way of a link 13 to a satellite dish, radio, or TV station 14, and then a mass communications link 16. Exhibit 1005 (Berner) at 2:17-22. The broadcasted game data “includes lockout signals involving player predictions.” *Id.* at 2:28-29. The lockout signal is intended to prevent improper game inputs by participants of the game, such as bets on an outcome that

are placed after the underlying event has occurred. *Id.* at claims 3, 5. In my experience, preventing such bets are necessary to ensure fairness in competition.

57. In describing its lockout signal, Berner points to the lockout signal described in U.S. Pat. No. 4,592,546 to Fascenda and Lockton (“Fascenda”; Exhibit 1008). Exhibit 1005 (Berner) at 2:28-29. Like Berner, Fascenda describes a “game of skill playable by several remote participants in conjunction with a live event such as a football game....” Exhibit 1008 (Fascenda) at 1:54-57. In particular, Fascenda describes games of skill wherein players predict a future play. *Id.* at 2:37-40. To ensure fairness, Fascenda’s device includes a microprocessor 23 with real-time clock 23a, (*id.* at 3:12-15) that receives inputs from a keyboard and an FM receiver 24, (*id.* at 3:46-53). According to Fascenda, the device implements a lockout by comparing the times of signals indicating that (1) a player made a prediction and (2) the relevant live event (e.g., a snap in a football game) occurred. Exhibit 1008 (Fascenda) at 3:53-61, Figure 3. If the prediction was *after* the relevant event occurred, the player’s prediction is ignored. Exhibit 1008 (Fascenda) at 3:61-65, Figure 3 (“This is in essence the lockout feature which ensures that the play is entered before the snap time. If it is entered afterward, then the ignore score flag 39 is set which in essence aborts any attempt at scoring or use of this prediction.”). Berner therefore

prevents untimely player predictions using this same type of lockout signal that Fascenda describes. Exhibit 1005 (Berner) at 2:28-29.

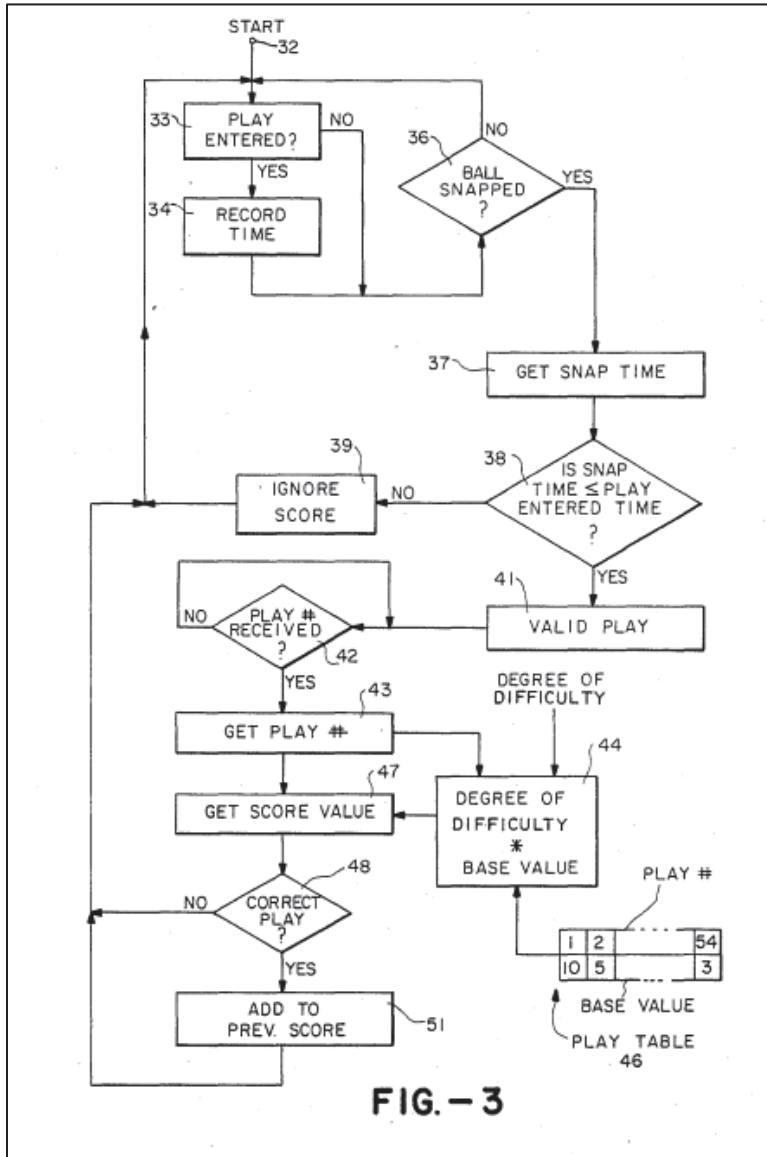


Exhibit 1018 (Fascenda), Figure 3

C. Barber

58. U.S. Patent No. 8,538,563 to David Barber (“Barber”) (Exhibit 1006) was filed on August, 30, 2002, before the earliest claimed priority of the ’189 patent. I understand that Barber therefore qualifies as prior art under to the ’189 patent. Barber was not cited as the basis of any rejection during the pendency of the ’189 patent.

59. The disclosure and invention of Barber relate to “systems and methods for providing wagering opportunities in conjunction with fantasy sports contests.” Exhibit 1006 (Barber) at 2:11-13. The fantasy sports contests are managed by a fantasy sports contest application that allows users to place a wager the fantasy sports contest. Exhibit 1006 (Barber) at 2:28-31. When entering the fantasy sports contest, users place a wager “based on a portion of a sporting event, a sporting event, or more than one sporting event that is related to a fantasy sports contest....” Exhibit 1006 (Barber) at 2:39-51; *see also id.* at 21:31-39 (“[T]he fantasy sports contest application may provide to fantasy sports contestants the ability to wager based on more than one event.”). According to Barber, “multiple fantasy sports contest leagues can be grouped together in a fantasy sports contest.” Exhibit 1006 (Barber) at 3:25-34. Moreover, the contests may include a number of leagues that are limited to a particular sport or that span multiple sports, or the contest may not be subdivided into leagues at all. *Id.* According to Barber, users may enter wagers by

wagering between contest leagues or between contestants of different leagues. Exhibit 1006 (Barber) at 3:48-61, 18:29-50.

60. In the fantasy sports contests described in Barber, users' wagers may earn fantasy sports contest points, points redeemable for prizes, non-cash prizes, or money. Exhibit 1006 (Barber) at 3:8-13, 3:23-24. For example, a predetermined payout schedule may be established, e.g., allowing the winning user to receive "a specified percentage of the *sum of all the entry fees* to a wagering pool" or may use a pari-mutuel approach. Exhibit 1006 (Barber) at 3:13-19.

#### **X. GROUNDS FOR FINDING THE CHALLENGED CLAIMS INVALID**

61. It is my opinion that the Challenged Claims are unpatentable on the following grounds.

- **Ground I:** Claims 14, 15, 17, 22, 24, 25, 31, and 37 are invalid as anticipated by Hughes.
- **Ground II:** Claims 19, 20, 34, and 35 are invalid as obvious over Hughes in view of Berner
- **Ground III:** Claims 23, 25, 26, 33, and 38 are invalid as obvious over Hughes in view of Barber

62. The discussion below demonstrates in detail that claims 14, 15, 17, 19, 20, 22-26, 31, 33-35, 37, and 38 of the '189 patent are unpatentable as obvious.

**A. Ground 1: Claims 14, 15, 17, 22, 24, 25, 31, and 37 are Anticipated by Hughes**

**1. Independent Claim 24**

*a) 24[preamble]: “A method programmed in a memory of a device comprising:”*

63. Hughes discloses “a method programmed in a memory of a device” because Hughes states that it “relates to systems and *methods* for providing multi-level fantasy sports contests in fantasy sports contest applications.” Exhibit 1003 (Hughes) at 1:9-11. Hughes describes methods for implementing multi-level fantasy sports contests that allow users to compete both simultaneously and in real time in multiple contests corresponding to the same live sporting event. *Id.* at 1:16-21, 1:33-43, 2:44-47, 12:20-25, 13:4-13. For example, Hughes states that “the fantasy sports contest application may create award leagues that are associated with one or more sponsors to provide multi-level fantasy sports contests.” *Id.* at 2:44-47. Hughes states that a “fantasy sports contest application may be entirely or partially implemented on one or more server 102,” which means it would be programmed in the memory of a computer server. *Id.* at 7:62-8:2, 9:25-32. Figure 1 of Hughes shows a schematic diagram of a fantasy sports contest system to implement Hughes’s fantasy sports contest application, including a Fantasy Sports Database 106, a Server 102, Processing Equipment 118, and Input Device 120, and other components:

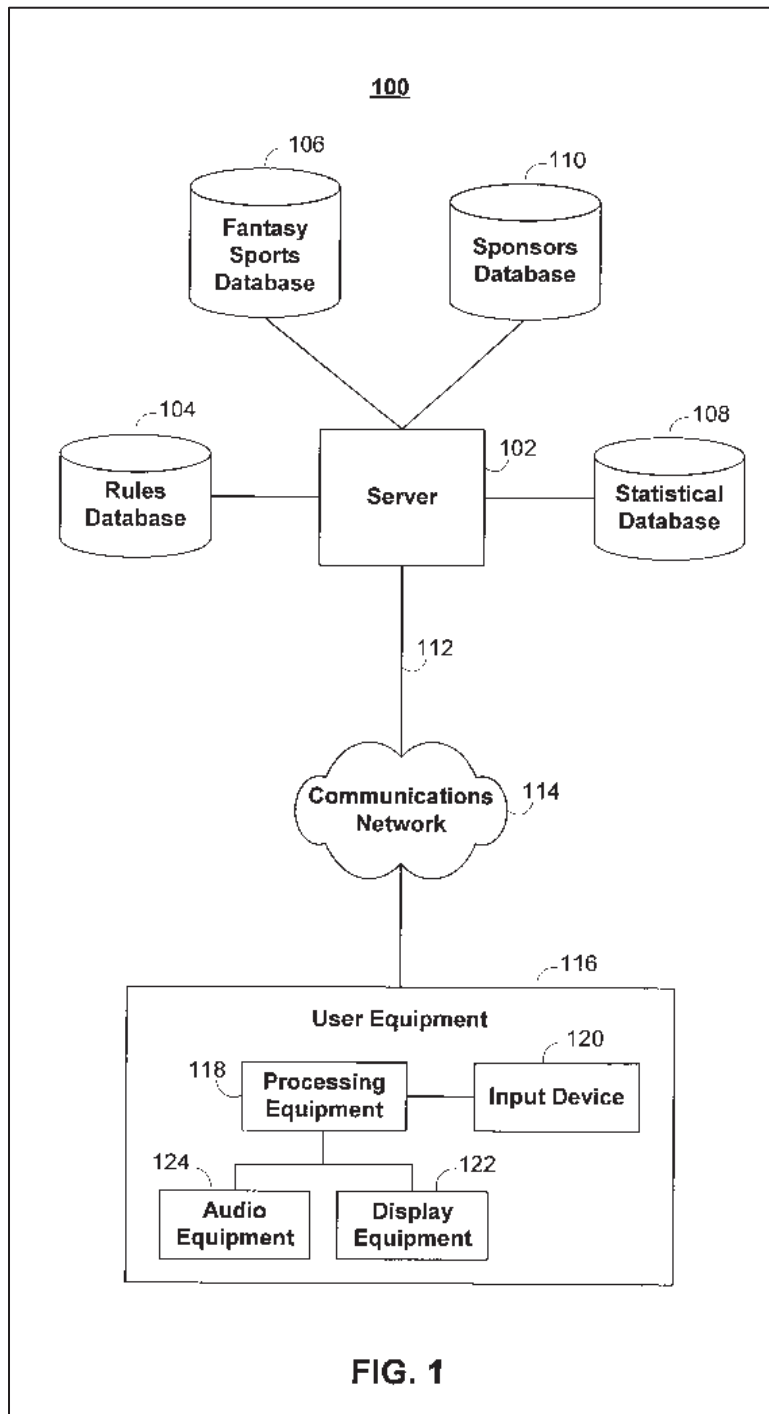


Exhibit 1003 (Hughes), Figure 1

64. Hughes teaches that “[t]he fantasy sports contest application may be any suitable software, hardware, or both that may be used to implement the features of the present invention.” *Id.* at 11:8-10. The fantasy sports contest application is implemented, for example, in devices including “at user equipment 116, at server 102, at any other suitable location..., or at any combination thereof.” *Id.* at 11:10-16, Figure 1. A POSITA would have understood that the verb “program” means to “create a computer program,” which is a “sequence of instructions that can be executed by a computer....Also called: software.” Exhibit 1015 (Microsoft Dictionary) at 424. A POSITA also would have understood that “software” means “computer programs; instructions that make hardware work,” and is divided into two main varieties: system software, and applications. Exhibit 1015 (Microsoft Dictionary) at 489. A POSITA would have known that “executable programs” are programs that can be run, and that this term applies to compiled programs that can be loaded into memory and run by a computer’s processor. Exhibit 1015 (Microsoft Dictionary) at 200. A POSITA also would have understood that executing a program “implies loading the machine code of the program into memory and then performing the instructions.” Exhibit 1015 (Microsoft Dictionary) at 200. A POSITA would therefore have understood that, in order to run Hughes’s fantasy sports contest application or any other kind of application or software, the software must be stored

in a memory of the device on which it is to be run, either in long-term memory or transient memory. A POSITA would have understood, therefore, that Hughes discloses a set of instructions in a computer program that are loaded into a memory of a device such as the user equipment, server, or another suitable location to be run, because Hughes's application is implemented "at user equipment 116, at server 102, at any other suitable location (that is not necessarily shown in system 100), or at any combination thereof." Exhibit 1003 (Hughes) at 11:8-16. Thus, Hughes teaches a method programmed in a memory of a device.

***b) 24[a]-[b]: "a. generating a list of multiple contests of skill or chance to join;  
b. presenting the list of multiple contests of skill or chance to join,""***

65. Hughes teaches elements 24[a]-[b]. As I will describe below, Hughes explains that its fantasy sports contest application administers multiple fantasy sports contests, including multiple sub-contests of skill or chance, and presenting those contests in lists to users wishing to enter the contests. See Sections X.A.1.b)(1)-X.A.1.b)(3) below.

***(1) "multiple contests"***

66. Hughes teaches that the fantasy sports contest application generates a fantasy sports contest with multiple sub-contests, each of which is referred to as an "award league." For example, Hughes discloses that "[t]he fantasy sports contest

application may create award leagues of different levels and focus on various geographical units,” Exhibit 1003 (Hughes) at Abstract, and explains that the application may create award leagues that provide multi-level fantasy sports contests or focus on particular characteristics of the users, 2:40-58. For example, these award leagues could be based on geographic location, age, sex, or any other suitable criteria. *Id.*

67. Hughes describes an example fantasy sports contest in which a corporate sponsor creates multiple local, regional, national, and international award leagues in which the sponsor’s customers can participate. *Id.* at 3:4-22, 12:7-25, 12:60-13:3. Hughes provides a schematic of these multiple award leagues in Figure 4, depicting multiple local award leagues, regional award leagues, award leagues, culminating in a final international award league and arranged in a bracket:

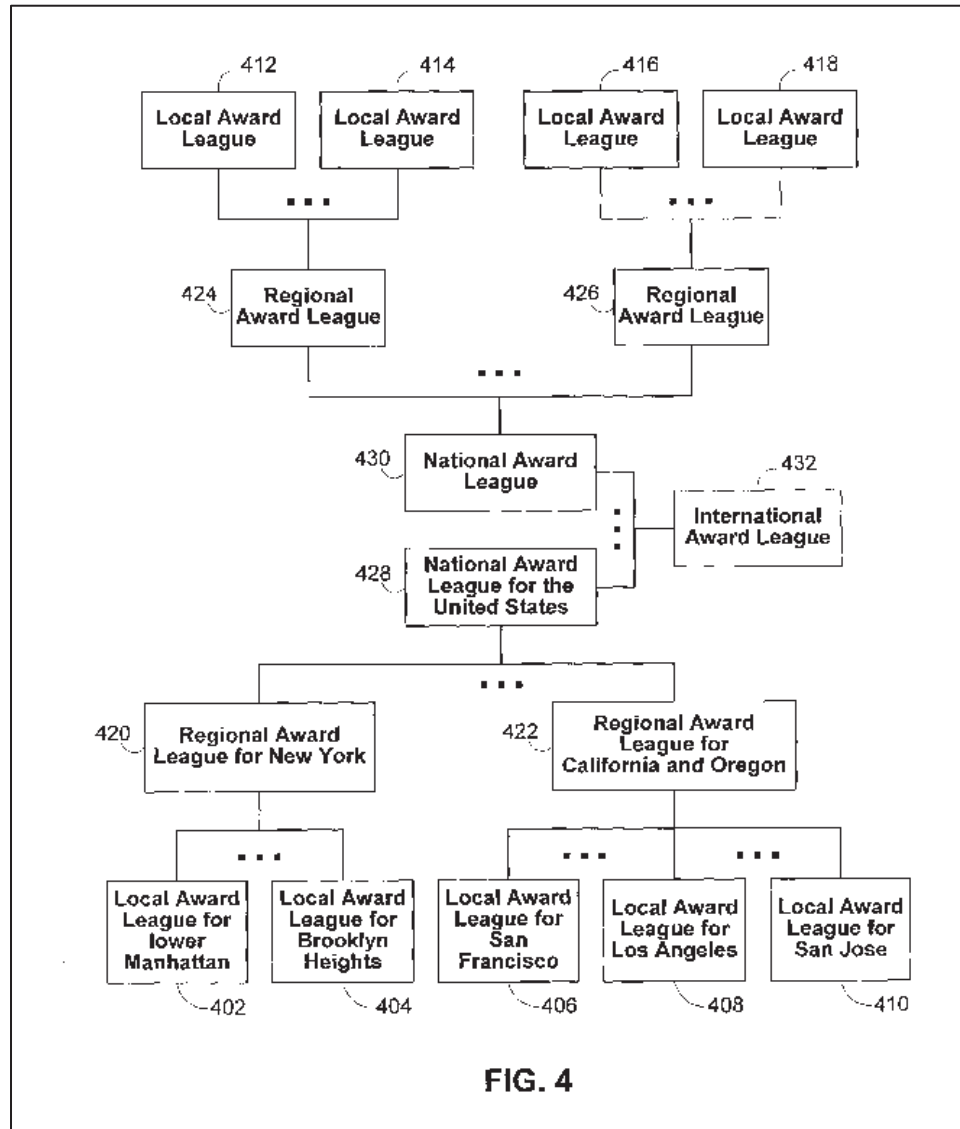


Exhibit 1003 (Hughes), Figure 4

68. In these embodiments, the fantasy sports contest, either directly or through a sponsor, generates various award leagues that are geographically focused and associate via geographical relationships, such as allowing only users from a particular geographic area. *Id.* at 12:30-46.

69. Hughes also explains that a user may simultaneously participate in multiple of these contests at the same time, including, for example, award leagues at different levels. *Id.* at 3:17-22, 12:20-25, 13:4-13. Hughes states that an object of its invention is to facilitate user participation in multiple leagues having uniform rules, showing it is expressly an objective of Hughes to facilitate multiple fantasy sports contests. *Id.* at 2:18-22.

70. Thus, Hughes discloses multiple contests for a user to join as part of a fantasy sports contest.

**(2) “contests of skill or chance”**

71. Hughes discloses “contests of skill or chance.” Hughes describes fantasy sports contests including games of skill in a variety of forms. For example, Hughes states that the “fantasy sports contests of the present invention may include any suitable sports contest in which the user is given the ability to make decisions that may affect the standing of the user in the sports contest.” Exhibit 1003 (Hughes) at 6:52-55. Players of the fantasy sports contests may, for example, create and maintain a sports team roster in the capacity of a general manager and determine or guess whether particular outcomes will occur. *Id.* at 6:57-7:13. Hughes discloses that user inputs may involve either skill, including knowledge of the sporting event, or random chance, noting that “contests may involve the user determining or

guessing (i.e., blindly or with calculation) whether particular outcomes will occur.”  
*See, e.g., id.* at 7:7-11. The fantasy sports contest application disclosed in Hughes may provide the user with statistics to inform their contest-related decisions, such as “statistical information on real-life games and players, tracking users' scores in the fantasy sports contest.” *See id.* at 1:28-32, 7:32-56. Hughes fantasy sports contest application invites the user to make rosters or predictions that are scored against real-life outcomes, such that the fantasy sports contests mirror those described in the '189 patent. *See, e.g.,* Exhibit 1001 ('189 patent) at 6:27-29 (“Player A... tries to get the best possible score by *predicting the plays correctly* before they happen.”). Therefore, the award leagues in Hughes’s fantasy sports contests are contests of skill or chance.

**(3) “generating a list of multiple contests... to join”  
“presenting the list of multiple contests... to join,”**

72. Hughes discloses “generating [and/or presenting] a list of multiple contests...to join.” As I described above, the fantasy sports contest application of Hughes operates a fantasy sports contest with multiple sub-contests called award leagues. *See* Section X.A.1.b)(1) above; Exhibit 1003 (Hughes) at Abstract, 2:40-58. Hughes discloses that when a user wishes to participate in the fantasy sports contests, the fantasy sports contest application presents the available award leagues to the user, e.g., as a list displayed at a user device. Exhibit 1003 (Hughes) at 8:29-

36 (describing the display of fantasy sports contest data on display equipment 122), 13:31-63 (“the fantasy sports contest application may allow the user to select the code from a drop down list,”), 17:6-28 (“Screen 900 displays in drop down menu 904 the various 20 award leagues that the user has participated or is currently participating in as determined by the fantasy sports contest application”); *see also id.* at 8:18-23, 9:33-36 (describing communication between a server device and a user device). A POSITA would understand that, to **present** a list of available award leagues, the fantasy sports contest application must first **generate** a list of available award leagues. A POSITA would further understand, as Hughes discloses presenting on web browsers such as WebTV, that any web page presented on the browser would be first generated by the web server. Thus, Hughes discloses both generating and presenting the list of multiple contests to join.

73. For example, Hughes discloses presenting the available award leagues in a fantasy sports contests login screen. *Id.* at 13:31-63. Figure 5 shows an example of how an embodiment of the fantasy sports contests login may look:

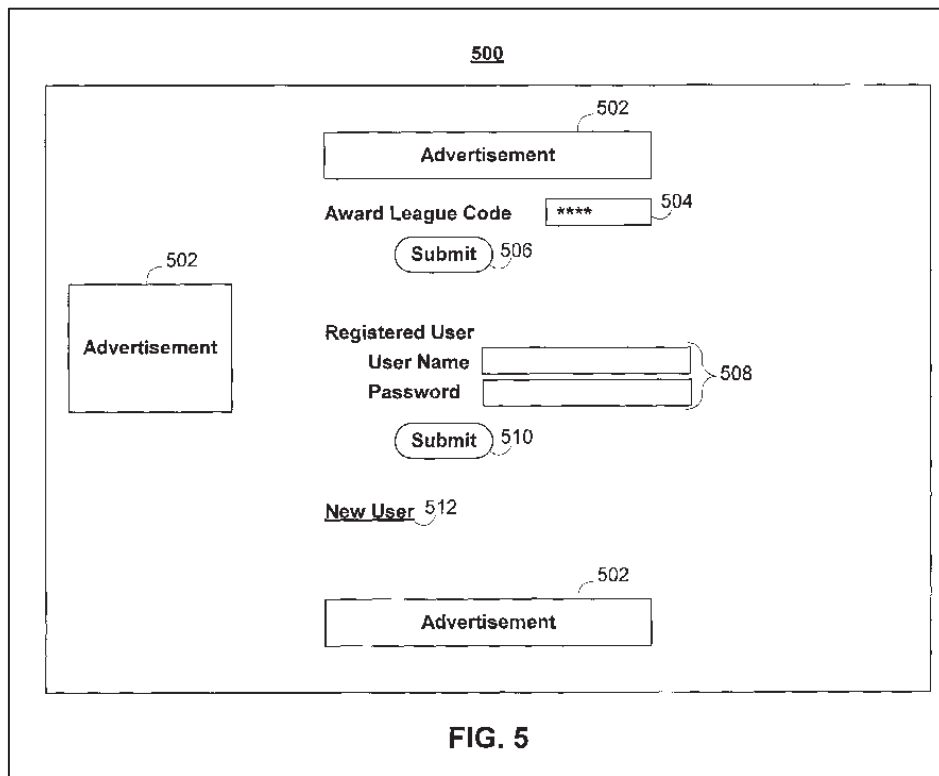


Exhibit 1003 (Hughes), Figure 5.

74. Hughes explains that a user may use the display screen to search for a specific award league with an award league code. *Id.* at 13:31-34. Hughes further explains that the list of available award leagues could be presented to the user in the form of “a drop down list” or “any other suitable approach to search for the award league,” allowing the user to select the relevant code as a user input. *Id.* at 13:43-47.

75. Hughes also discloses presenting the available award leagues in a fantasy sports contest award league registration screen. *Id.* at 13:64-37. Figure 6 shows an example of how an embodiment with the registration screen could look:

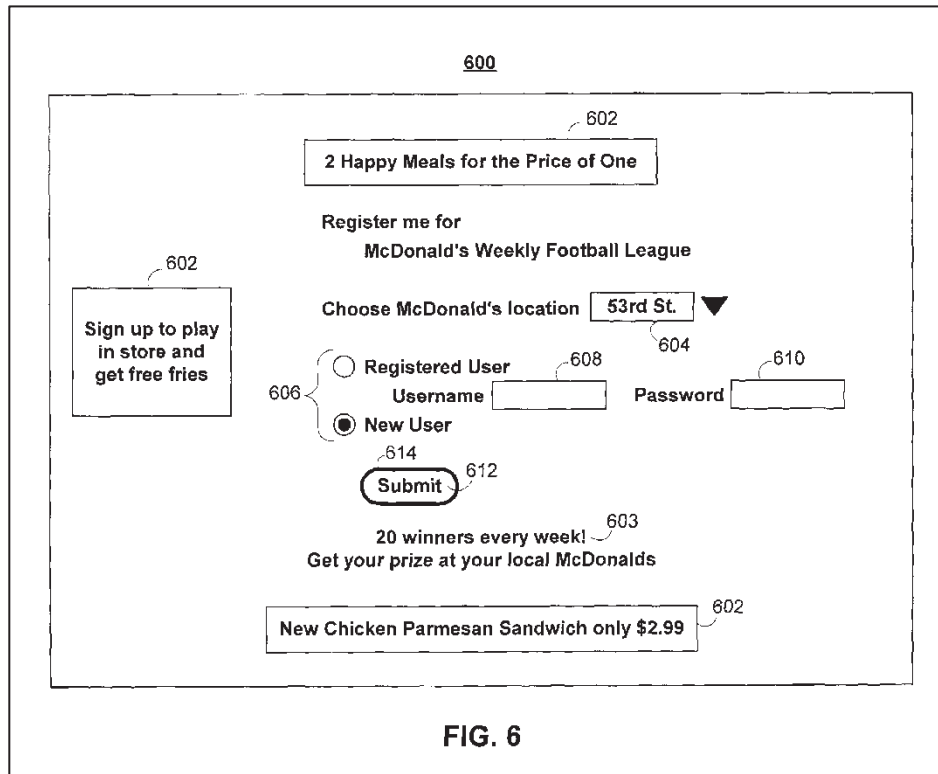


Exhibit 1003 (Hughes), Figure 6.

76. Hughes explains that a user may select the desired award league from “a drop down menu” on the registration screen. *Id.* at 14:10-14.

77. Each of these examples from Hughes shows that the fantasy sports contest application generates and provides a list of the available award leagues to users. Thus, Hughes teaches generating and/or presenting the list of multiple contests of skill or chance to users.

*c) 24[c]: “wherein the multiple contests of skill or chance correspond to one or more events;”*

*24[e]: “wherein the multiple contests of skill or chance are selected from single entry contests and multiple entry contests”*

78. Hughes teaches element 24[c] and this portion of element 24[e]. Hughes's award leagues are contests of skill or chance that correspond to one or more live sporting events and may be selected from single entry or multiple entry contests.

79. Hughes describes methods for implementing multi-level fantasy sports contests that allow users to compete in multiple contests of skill or chance corresponding to the same live sporting event, including, for example, football, baseball, basketball, golf, tennis, horse racing, or other team or individual contests. Exhibit 1003 (Hughes) at 1:33-43. Similarly, the '189 patent describes, for example, contests of skill in which participants can predict aspects of one or more football games. Exhibit 1001 ('189 patent) at 1:52-58, 6:1-4, 6:27-29, 8:52-55.

80. Hughes also discloses that users may use a number of ways to enter the fantasy sports contests. For example, players may use the same entry to compete in one or more award leagues. Exhibit 1003 (Hughes) at Abstract, 3:27-31 ("In some embodiments of the present invention, the fantasy sports contest application may allow the user to enter the same team (e.g., football team, basketball team, volleyball team, baseball team, etc.) or roster to compete in more than one award leagues."), 6:55-61, 15:57-65. Entry into a contest may require only one selection or could involve multiple selections by the user. For example, some embodiments allow the

user's entry merely by submitting the roster, while other embodiments require multiple selections by the user to enter into the award league. Users may also be able to act as a general manager and modify their roster by selecting player positions, selecting starters or relievers, or by making trades with other users. *Id.* at 6:55-61, 7:32-47. Hughes discloses that users can make predictions about the outcome of a specific portion of the sporting event, for example, "whether a particular golfer will make the next put[t]." *Id.* at 7:5-11. As such, Hughes discloses that the user may enter multiple selections into the award league.

81. Hughes does not limit the timing or methods by which entries are allowed in its award leagues. Rather, Hughes states that improved ways for users to join a contest are a problem to be solved by its invention. Exhibit 1003 (Hughes) at 1:65-67, 2:10-14. Hughes addresses these issues of entry into the award leagues in its fantasy sports contest application by allowing unlimited entries into the award leagues, Exhibit 1003 (Hughes) at 16:43-46 ("[T]hus the fantasy sports contest application allows *unlimited numbers of users* to compete in a single award league."), and explaining that "the fantasy sports contest application may allow a user to join an award league at any time during the season," *Id.* at 4:21-23. By comparison, the '189 patent states that users enter the contests "on an ad hoc or seasonal basis." Exhibit 1001 ('189 patent) at 6:44-47. Hughes's description of the

timing and methods of entry into the contests provides at least as much detail as the '189 patent.

82. Thus, Hughes teaches that the multiple contests correspond to one or more events and may be either single entry or multiple entry contests.

*d) 24[d]: “c. receiving user input including event selections related to the one or more events and to which of the multiple contests of skill or chance the selections are to be applied, wherein the event selections are separately applied to each of the selected multiple contests of skill or chance,”*

83. Hughes teaches element 24[d]. As I will describe below, in the fantasy sports contests described in Hughes, users select which award leagues to enter from the list of options and provide rosters and predictions that are separately applied to each selected award league. *See* Sections X.A.1.d)(1)–X.A.1.d)(3) below.

*(1) “...user input including event selections related to the one or more events”*

84. Hughes discloses “user input including event selections related to the one or more events.” As noted above, Hughes describes a fantasy sports contest application that conducts a fantasy sports contest involving multiple award leagues that users may participate in. *See* Section X.A.1.a)-b) above; *see* Exhibit 1003 (Hughes) at Abstract, 1:9-21, 1:33-43, 2:40-58, 7:62-8:2, 9:25-32, 12:7-25, 13:4-13. Users enter the fantasy sports contests in the application by providing selections

related to a live sporting event, similar to the operation of a conventional fantasy sports league:

In known fantasy sports contests, *a user selects a roster, a team, a particular individual, or a group of individuals in an athletic contest*. The user is given the ability to take on the role of a fictional general manager with powers which may include the ability to draft, trade, dismiss and otherwise manage the player or players on the user's fantasy sports team.

Conventionally, either a fantasy sports contest provider or a league commissioner sets the rules under which a group of fantasy sports users compete against each other in a fantasy sports contest. For example, *for every goal scored in real-life by a member of the user's fantasy soccer team, the user may be awarded five points in the fantasy sports contest*.

Exhibit 1003 (Hughes) at 1:16-27; *see also id.* at 1:33-43 (explaining that fantasy sports contest may be based around a variety of “real-life athletic events”).

85. Hughes explains that the user in a team-oriented fantasy sports contest “may [] have responsibilities such as creating a team roster (e.g., drafting players), selecting player positions, selecting starts, selecting relievers, making trades, and otherwise maintaining the composition of the user’s team roster.” *Id.* at 6:57-61. Hughes discloses that users of the fantasy sports contests may then enter their roster or rosters into one or more award leagues. *Id.* at 18:11-13 (“[T]he fantasy sports contest application may allow the user to draft a new team to enter into an award league.”), 15:57-61 (“[T]he fantasy sports contest application may allow the user to enter the same team... or roster to compete in more than one award leagues.”). When a user creates a roster, the user necessarily makes selections, for example, of the particular players and their roles on the team. These roster selections determine how the fantasy sports contest will be scored, based on the performance of the actual players in the corresponding sporting event. Hughes thus discloses an event selection related to the corresponding sporting event.

86. Hughes explains that some embodiments allow the user to play a different role than the general manager, including making other kinds of predictions about the sporting event. Exhibit 1003 (Hughes) at 7:5-12. For example, Hughes discloses that “fantasy sports contests may involve the user determining or guessing (i.e., blindly or with calculation) whether particular outcomes will occur.” *Id.* at 7:7-

11. For example, the user may predict the real-time outcome of a specific play or occurrence in a live sporting event, like whether a golfer will make the next putt. The '189 patent also allows similar kinds of predictions like predicting plays. Exhibit 1001 ('189 patent) at 6:27-29 (“Player A... tries to get the best possible score by *predicting the plays correctly before they* happen.”), 9:12-15 (“users then participate in the competitions by sending user selections (e.g. predictions) to a server within the network for monitoring, analyzing and determining results based on the selections”). Such user predictions of real-time outcomes are also event selections related to the corresponding sporting event.

**(2) “...user input including... to which of the multiple contests of skill or chance the selections are to be applied”**

87. Hughes discloses allowing users to select from among multiple award leagues to participate in, and provides users their rosters or predictions of real-time outcomes. Exhibit 1003 (Hughes) at 13:4-8, 13:31-47, 17:6-28, 17:32-18:10. Hughes’s disclosure allows users to specify to which award leagues the roster or predictions are to be applied.

88. For example, Hughes explains that the user may select which award leagues to enter using a login screen. *Id.* at 13:31-63 (“FIG. 5 shows an illustrative *fantasy sports contest login 500* in accordance with one embodiment of the present

invention in which the user may search for a particular award league using an award league code. *Screen 500 may include* one or more advertisements 502 and various *login or search information.*”). A user may use the display screen to search for a specific award league using an award league code. *Id.* at 13:38-41 (“the fantasy sports contest application may allow the user to search for a specific award league by entering the corresponding award league code in field 504 and submit the entered code using submit button 506”). Hughes discloses that the user may also “select the code from a drop down list, or type in the name of the sponsor, or using any other suitable approach to search for the award league.” *Id.* at 13:43-47. The latter approach is similar to the ’189 patent, wherein a user joins desired contests by selection from a list. Exhibit 1001 (’189 patent) at 8:59-9:11 (“For example, an intermediate user couples to the network using his cellular phone and is greeted with a list of competitions available for him to join...In the step 106, each user who has coupled to the network joins the groups desired.”). In both Hughes and the ’189 patent, the user provides input to select which award leagues to enter, whether from a list, a dropdown menu, a search functionality, or another selection method.

89. Hughes also explains that a user may choose to apply a previously made roster to award leagues. Exhibit 1003 (Hughes) at 17:32-18:10. For example, a user may have a roster from a non-award league, and the fantasy sports contests

application may allow the user to select one or more award leagues in which to enter that roster. *Id.* at 17:32-36 (“In some embodiments of the present invention, the fantasy sports contest application may allow a user who have not previously drafted a team for an award league to select a team from the teams that the user had drafted previously for a non-award league of the same sport.”). Hughes discloses that in some embodiments, the rules may be different between leagues, requiring either the user or the fantasy sports contest application to modify a team drafted for one league before it can be played in another league. *Id.* at 17:36-53. Thus, the user provides input to select the award leagues to which its roster will be applied and may make other inputs to the roster itself during this process.

**(3) “receiving user input...”**

90. As noted above, Hughes describes a user providing input including both their roster (i.e., event selection) and to which award leagues to apply the roster. *See* Section X.A.1.d)(1)-(2) above. Hughes explains multiple embodiments in which user input is provided at a user device. *See, e.g.*, Exhibit 1003 (Hughes) at 8:18-28 (“User equipment 116 may include processing equipment 118 for receiving and transmitting fantasy sports contest data. The user may interact with processing equipment 118 using input device 120 such as a remote control, a keyboard, a voice-recognition device, a track ball, a mouse, any other suitable device, or any

combination thereof”), 13:4-8, 13:31-47 (“Screen 500 may include one or more advertisements 502 and various login or search information.”), 17:6-28 (“Screen 900 displays in drop down menu 904 the various award leagues that the user has participated or is currently participating in as determined by the fantasy sports contest application”), 17:32-18:10. Hughes states that the user device can be a user’s television and provides that “there are typically multiple pieces of user television equipment” and that “fantasy sports contest data, advertisement data, or any other suitable data may be communicated by one or more distribution facilities.” *Id.* at 9:33-65. In other cases, Hughes allows the user to make selections at a terminal, such as a personal computer. *Id.* at 14:59-15:6 (“the fantasy sports contest application may allow the user to access a specific award league in a fantasy sports contest application using a terminal located at the sponsor’s physical location. A terminal may be any combination of hardware and software that may be suitable for implementing at least a part of a fantasy sports contest application to receive and transmit user-related data”); *see also id.* at 15:7-10 (associating the terminal with user equipment of Figure 1). Hughes’s disclosure mirrors that of the ’189 patent, as it explains that, regardless which equipment is used, the user equipment may communicate over a network with the computer server that implements the fantasy sports contest application. *Id.* at 8:18-23 (“Communication network 114 may be

used for communication between users having user equipment 116 and server 102.”), 11:8-16 (explaining that the fantasy sports contest application is implemented at the server); Exhibit 1001 (’189 patent) at 9:12-15 (“users then participate in the competitions by sending user selections (e.g. predictions) to a server within the network for monitoring, analyzing and determining results based on the selections”). Based on Hughes’s disclosure, a POSITA would have understood that, in order to operate fantasy sports contests, the user input provided at the user equipment is received by the computer server via a communication link. As Hughes further teaches that “the fantasy sports contest application may be implemented ... at server 102” Exhibit 1003 (Hughes) at 11:12-16, any user input would be communicated over the network 114 and received at the application on server 102 so that the application can utilize such user inputs.

**(4) “the event selections are separately applied to each of the selected multiple contests of skill or chance”<sup>1</sup>**

91. As has been discussed, Hughes discloses a fantasy sports contest in which a user may participate in multiple simultaneous award leagues. See Section X.A.1.b) above. In these award league contests, the user’s roster represents an event selection and is separately applied to each award league that the user enters.

92. Hughes explains that “the fantasy sports contest application may allow the user to enter the same team (e.g., football team, basketball team, volleyball team, baseball team, etc.) or roster to compete in more than one award leagues.” Exhibit 1003 (Hughes) at 15:57-61. Hughes also states that its fantasy sports contest application “allows the user to enter multiple award leagues (in the same sports category), while maintaining only one team” by having the fantasy sports contest application implement a uniform set of rules for all award leagues of the same type. *Id.* at 16:14-20. Hughes explains that a user may apply a previously made roster

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<sup>1</sup> In contrast to claim 1 of the ’189 patent, which specifies “the event selections are separately *and simultaneously* applied to each of the selected multiple contests of skill or chance,” claim 24 only requires that the selections are “separately applied” to each contest. Exhibit 1001 (’189 patent) at claims 1, 24.

from a different league, such as a non-award league, to be used in other leagues such as award leagues. Exhibit 1003 (Hughes) at 17:32-18:10. For example, a user may have already prepared a roster for a non-award league, and the fantasy sports contests application may allow the user to select one or more award leagues in which to enter that roster. *Id.* at 17:32-36. Hughes states that the rules may be the same between non-award leagues and award leagues, so the fantasy sports contest application may adapt the roster to the rules of the award leagues or allow the user to review the roster before it is applied to the award league, showing that the selected team is applied separately between non-award and award leagues. *Id.* at 17:36-46. Once the user enters their single roster into these separate award leagues, the user receives separate scores and standings based on the roster, showing that the roster (i.e., event selections) is also applied separately to each of the scored contests. *Id.* at 18:53-19:21, 20:66-21:5. Figure 12; *see also* Section X.A.1.f)(3) below. Hughes therefore allows a user to separately participate in multiple contests with the same entry, which is a goal of the '189 patent. Exhibit 1001 ('189 patent) at 6:29-33. Thus, Hughes teaches that the user's event selections are separately applied to award league that the user chooses to enter.

***e) 24[e]: “wherein the event selections enable simultaneously and in real time participating in the selected multiple contests of skill or chance; ”***

93. Hughes teaches element 24[e]. Hughes describes fantasy sports contests in which a user's roster (i.e., event selection) may be entered into multiple award leagues so the user may simultaneously participate in these award leagues. Exhibit 1003 (Hughes) at 15:57-61, 16:18-20; *see* Section X.A.1.d) above. Hughes states that users "make decisions that may affect the standing of the user in the sports contest," including "selecting player positions, selecting starters, selecting relievers, making trades, and otherwise maintaining the composition of the user's team roster." Exhibit 1003 (Hughes) at 6:52-61. Users of Hughes's fantasy sports contest application may also make event selections regarding the award league or leagues they would like to enter. Exhibit 1003 (Hughes) at 17:63-67. The selections made by players in Hughes's fantasy sports contest application enable simultaneous and in real time participation in fantasy sports contests, as I will discuss below. *See* Sections X.A.1.e)(1)-X.A.1.e)(2) below.

***(1) "enable simultaneously... participating in the selected multiple contests of skill or chance"***

94. As I discussed above, Hughes explains that its fantasy sports contest application allows users to enter a single roster into multiple simultaneous award leagues. *See* Section X.A.1.d) above; Exhibit 1003 (Hughes) at 15:57-61. Hughes elaborates that "the fantasy sports contest application allows the user to enter multiple award leagues (in the same sports category), while managing only one

team.” Exhibit 1003 (Hughes) at 16:18-20. Hughes discloses that users participate in these multiple award leagues “at the same time”:

As another example, the fantasy sports contest application may allow the McDonald's Corporation to create *numerous local award leagues, multiple regional award leagues, multiple national award leagues, and an international award league* to allow McDonald's customers all over the world to participate in one or more McDonald's award leagues (e.g., a World Cup Soccer League).... The fantasy sports contest application may *allow the user to simultaneously participate in McDonald's local, regional, national, and international award leagues at the same time* and may award prizes to the user based on, for example, weekly scores, leaderboard standings, or any other suitable criteria.

*Id.* at 3:4-22; *accord id.* at 12:7-29. Thus, Hughes teaches that the user's roster enables simultaneously participating in the selected multiple contests.

(2) ***“enable... in real time participating in the selected multiple contests of skill or chance”***

95. Hughes teaches “in real time” participation in the fantasy sports contests through multiple types of user interaction with the award leagues.

96. ***First***, Hughes discloses a style of participation in fantasy sports contests wherein users participate in real-time on a continuing basis by “determining or guessing (i.e., blindly or with calculation) whether particular outcomes will occur.” *Id.* at 7:5-12. Hughes discloses that in this method of participation the user may predict the real-time outcome of a specific play or occurrence in a live sporting event. *Id.* For example, Hughes notes that a user might be able to predict “whether a particular golfer will make the next put[t].” *Id.* at 7:10-11. These types of predictions necessarily disclose participation “in real time” because a user must make predictions while the underlying event is ongoing, potentially even watching the event live or remotely to gain information that might inform the prediction. The ’189 patent discloses identical predictions to Hughes’s predictions of imminent outcomes in the corresponding sporting event (i.e., “the ***next*** put[t]”). For example, the ’189 patent describes players “tr[ying] to get the best possible score by ***predicting the plays correctly before they happen.***” Exhibit 1001 (’189 patent) at 6:27-29. The ’189 patent notes that a similar kind of real-time participation in sports betting was known in the art. *Id.*, 1:52-58 (“[C]ompanies are able to now use the

cellular phone and other mobile communication devices... to control television viewers in games of skill based upon predicting, for example, what the quarterback may call on the next play within a football game.”).

97. **Second**, Hughes teaches another form of fantasy sports contests that involve continued, real time participation. Hughes teaches that a user participates continuously in contests where users act as a general manager by assembling a roster. Exhibit 1003 (Hughes) at 6:55-64. Hughes explains, for example, that the user can participate by “selecting play positions, selecting starters, selecting relievers, making trades, and otherwise maintaining the composition of the user’s team roster.” *Id.* at 6:57-61. Hughes states that the fantasy sports contest “may last an entire season, a portion of the season, a definite period of time (e.g., one month, two weeks, three days, one hour, etc.), the duration of a particular event (e.g., Wimbledon, etc.), a portion of a particular event, or any other suitable period of time.” *Id.* at 6:66-7:4. Such participation in Hughes’s award league may involve “maintaining the composition of the user’s team roster” throughout an entire season, or at least for weeks or months. *Id.* at 6:57-7:4. Thus, selection of the roster before the start of the season would occur before the “contest” (i.e., the season) occurs, and any changes to the roster, the starters for a particular game, trades between teams, or other activities a general manager might perform during the season, would occur “in real

time.” A POSITA would have understood that such continued user participation in the role of a general manager during the sports season involves “in real time participating” in the award league.

98. Hughes discloses a fantasy sports contest application with award leagues wherein users enter rosters. A POSITA would understand, in this context, that Hughes’s disclosure of continued maintenance of a roster and of real-time predictions within multiple award leagues constitutes “in real time participating” in multiple contests. In this respect, Hughes discloses a similar level of detail to the ’189 patent as to how to implement real-time participation. The ’189 patent states as background knowledge that the fantasy-sports contest could involve some sort of live prediction of the next play in a game. Exhibit 1001 (’189 patent), 1:52-58 (discussing “games of skill based upon predicting, for example, what the quarterback may call on the next play within a football game”).

99. Thus, Hughes teaches a contest in which the user’s roster enables in real time participating in the selected multiple contests.

*f) 24[f]: “d. storing results and standings based on the event selections, wherein the standings are based on the results, wherein the standings are separated for each of the multiple contests of skill or chance; and”  
“e. transmitting the standings to the device.”*

100. Hughes teaches element 24[f]. As detailed below, Hughes describes determining scores and standings for each award league in which a user participates. *See* Sections X.A.1.f)(1)–X.A.1.f)(3) below.

***(1) “results and standings based on the events selections, wherein the standings are based on the results”***

101. As I discussed above, and acknowledged in Hughes, users in conventional fantasy sports contests earn points by comparing the user’s selections to real-life performances in the corresponding sporting event. *See* Section VII above; Exhibit 1003 (Hughes) at 1:22-32, 1:40-43 (“The performance of these selections in real-life contests collectively determines the user's performance in the fantasy sports contest.”). Hughes states of its fantasy sports contests that “any suitable one or more scoring systems” may be used, including, for example, “straight point systems (e.g., points are awarded and subtracted based on real life plays without regard to the performance of other players on other fantasy teams in a league), rotisserie systems (e.g., points are awarded based on the user's relative ranking against other users), [and] head-to-head systems (e.g., users in a league are matched against one another in a round-robin series of one-on-one contests during the course of a season).” *Id.* at 7:13-25. Hughes states that the scores (i.e., results) for its award leagues implemented by its fantasy sports contest are determined

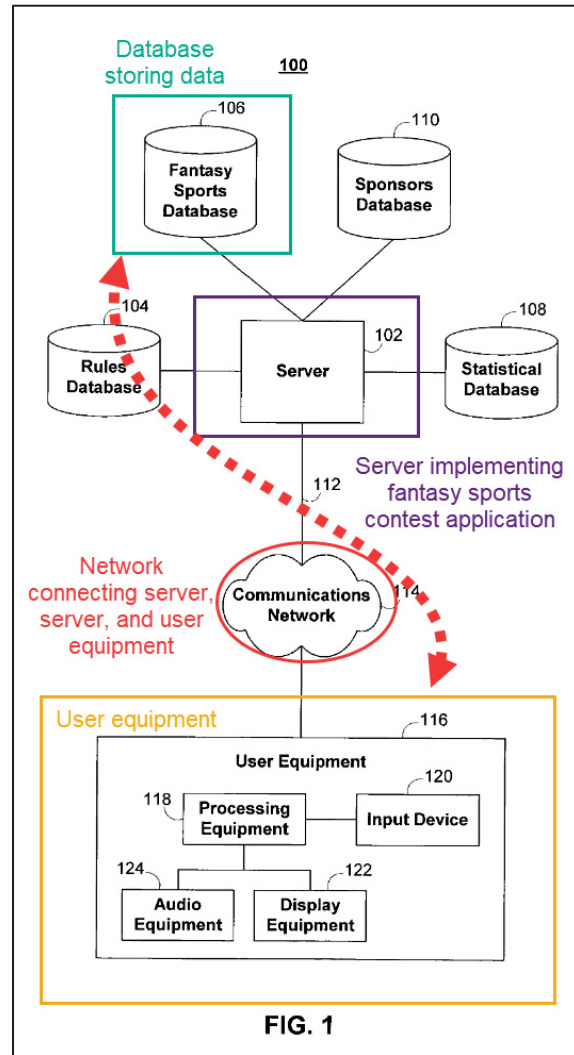
separately for each award league that a user participates in. Exhibit 1003 (Hughes) at 18:53-19:21, 20:66-21:5 (“[T]he fantasy sports contest application may display user performance information such as **scores, rankings**, prizes, or any other suitable information in connection with all the award leagues that the user currently participates in as shown in FIG. 12.”). Hughes discloses that a user’s standings may be reported on a scoreboard screen. *Id.* at 18:66-19:1.

102. Hughes discloses that, based on a user’s score (i.e., the “results”), the fantasy sports application assigns a user a standing or a ranking in the award league. Exhibit 1003 (Hughes) at 3:17-22, 7:37-47. Hughes teaches that its fantasy sports application both determines and conveys a user’s score and ranking. *See, e.g.*, Exhibit 1003 (Hughes) at 3:17-22 (“The fantasy sports contest application may...award prizes to the user based on, for example, **weekly scores, leaderboard standings**, or any other suitable criteria.”), 5:32-36 (“Performance information may include, for example, **weekly scores**, league names, **rankings within the leagues**, prizes won, or any other suitable performance or user related information.”), 18:48-50 (“Performance information may include, for example, **weekly score**, league names, **rankings within the leagues**, prizes won, or any other suitable performance information.”), 19:11-13 (“The fantasy sports contest application may show the

user's *ranking* and prize related information in various award leagues *based on this score* in scoreboard grid 1206.”).

**(2) “storing results and standings” and “transmitting the standings to the device”**

103. Hughes teaches that a user’s score (i.e., “results”) and the user’s ranking (i.e., “standing”) are both stored in a database and then transmitted to user equipment. Hughes elaborates that a user’s score and the user’s ranking in each contest are fantasy sports contest-related information. Exhibit 1003 (Hughes) at 7:37-41 (“[F]antasy sports contest-related information may include information regarding the user’s one or more rosters, *the user’s standing in one or more fantasy sports contests, point tallies associated with the user in one or more fantasy sports contests...*”). Hughes indicates that fantasy sports contest-related information is stored in a fantasy sports database. *Id.* at 8:7-10, Figure 1. As shown in the below annotated Figure 1, Hughes notes that a number of databases, including the fantasy sports database, rules database, statistical database, sponsors database, and other suitable databases (marked in green), are accessed by the server in implementing the fantasy sports contest application (marked in purple), and the scores (i.e. results) and standings are stored in one or more of these. Exhibit 1003 (Hughes) at 7:64-8:10, 9:13-18, Figure 1.



104. Hughes explains that fantasy sports contest data, such as a user's score (i.e., results) and rankings (i.e., standings), are transmitted from the server to the user equipment and that the data may be displayed for the user on display equipment (marked in orange). *Id.* at 8:18-32. The annotated Figure 1 above shows that a communications network (marked in red) connects the server, databases, and user equipment. In one embodiment, for example, Hughes explains that “[d]ata from

main facility 202 may be communicated to television distribution facility 208 over communication link 210,” and that “[c]ommunication link 210 may be any suitable communication link for communicating fantasy sports contest data (e.g., contest data, advertisement related data, user data, any other data used in the rotisserie sports contest application, or combination thereof).” *Id.* at 8:56-67. Hughes further explains that the television distribution facility “may receive fantasy sports contest data (e.g., rosters, *standings*, statistical information, or any other suitable data),” and that the facility may provide such data “to user television equipment 222 via communication link 220.” *Id.* at 9:13-15, 9:33-36.

105. Thus, Hughes teaches that the results and standings are stored in a database and transmitted between the server and the user device.

**(3) “wherein the standings are separated for each of the multiple contests of skill or chance”**

106. Hughes teaches that the standings for each award league are separately stored in the fantasy sports database, because the structure of Hughes’s fantasy sports application requires it to report the results for each award league.

107. Hughes discloses that scores and standings are determined for each award league that a user participates in. For example, Hughes states that “fantasy sports contest-related information may include information regarding the user's one or more rosters, the user's standing in one or more fantasy sports contests, point

tallies associated with the user in one or more fantasy sports contests.” Exhibit 1003 (Hughes) at 7:37-41. Hughes’s statement that the fantasy sports contest-related information includes “the user’s standing in *one or more fantasy sports contests*” necessarily implies that those standings are stored separately in the one or more databases. *Id.* at 7:66-8:13. Hughes also explains that the standings for each of the multiple award leagues may be separately displayed to the user. Exhibit 1003 (Hughes) at 18:53-19:21, 20:66- 21:5 (“[T]he fantasy sports contest application may display user performance information such as scores, *rankings*, prizes, or any other suitable information in connection *with all the award leagues* that the user currently participates in as shown in FIG. 12.”). For example, Hughes states that a scoreboard screen may include “the user’s performance information in all the award leagues for a particular sports category that the user competes in.” *Id.* at 18:65-19:1. Hughes states that, in an embodiment, the scoreboard screen may include a grid to “show the user's ranking and prize related information in various award leagues.” *Id.* at 19:11-13. An exemplary scoreboard screen is shown in Figure 12 of Hughes:

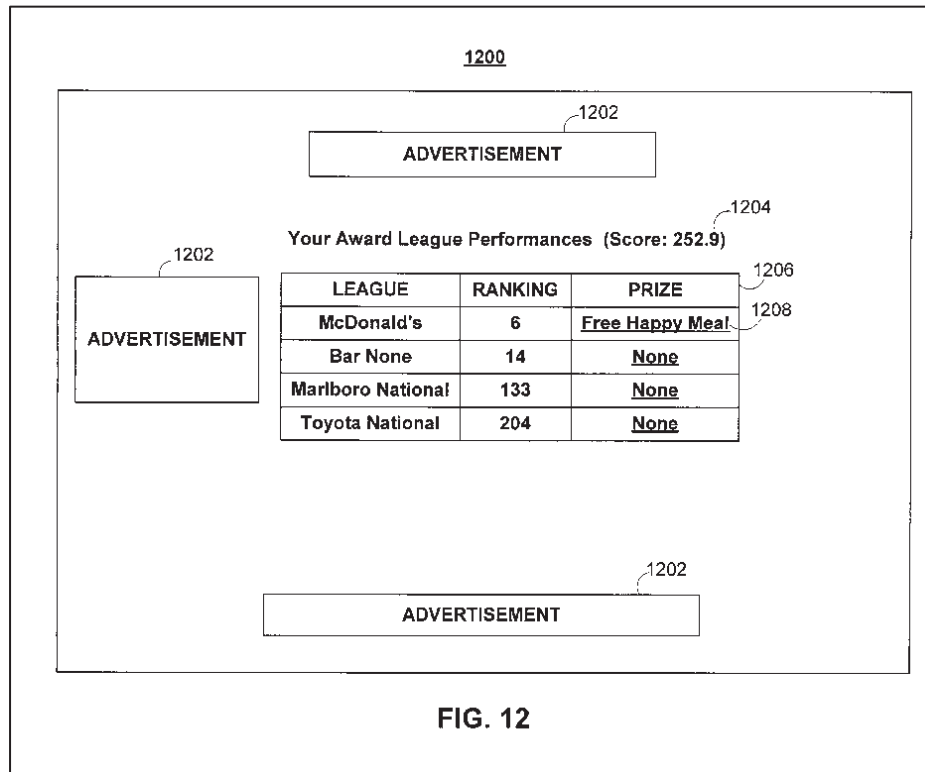


Exhibit 1003 (Hughes), Figure 12.

108. Hughes's scoreboard screen includes a column that separately displays a user's ranking across each of four award leagues in which the user participated, which demonstrates that in the demonstrated embodiment the standings are separated.

109. A POSITA would have understood that, in order to display standings separately for each award league (e.g., as shown in Figure 12), the standings would also have been *stored* separately. For example, if the standings were aggregated in such a way that they were no longer separate or distinguishable, it would be impossible to display the separate standings for each award league, and the system

would instead display the aggregated standing. Thus, Hughes teaches the standings are separated for each of the multiple contests of skill or chance.

\* \* \*

110. Because Hughes teaches the preamble and limitations [a]-[f] of claim 24, Hughes anticipates claim 24.

## 2. Dependent Claim 25

*“The method as claimed in claim 24 wherein users are provided a currency for watching the one or more events or participating in the multiple contests of skill or chance.”*

111. As I discussed above in Section X.A.1, Hughes anticipates the method as claimed in claim 24. As I will explain next, Hughes also discloses the additional limitation of dependent claim 25. Thus, Hughes anticipates dependent claim 25.

112. As I described above for elements [a]-[b] and [d] of claim 24, Hughes describes a fantasy sports contest involving multiple award leagues that users may participate in. *See* Section X.A.1.b) and X.A.1.d) above. Hughes states that in some embodiments, users participate in the fantasy sports contest application by creating and maintaining a sports team roster and entering it into more than one award leagues. *Id.*; Exhibit 1003 (Hughes) at Abstract, 3:27-31, 6:55-61 (“the user may participate in the capacity of a general manager.”), 15:57-65 (“enter the same team...or roster to compete in more than one award leagues.”). Hughes teaches that

users may receive fictional dollars (i.e., a currency) to prepare rosters and thus participate in award leagues:

For example, *the fantasy sports contest application may give the user a certain amount of fictional dollars to spend on drafting athletes for the user's roster* in a football award league. The fantasy sports contest application may assign each available football player a fictionally dollar value based on, for example, performance from the previous season, statistical value associated with the user, real-life salary, any other suitable approach, or combination thereof. The fantasy sports contest application may then *allow the user to exchange a portion of the user's wealth for athletes according to the dollar amount associated with the athlete*. This draft system allows the same athlete to be drafted by multiple users, thus the fantasy sports contest application allows unlimited numbers of users to compete in a single award league.”).

Exhibit 1003 (Hughes) at 4:7-20; *accord id.* at 16:33-46. In this exemplary embodiment, the “fictional dollars” are a currency as they represent dollars that can be exchanged for value within the game, and the claims do not require that the currency be an actual currency in current circulation. Thus, Hughes teaches that users are provided a currency for participating in the multiple contests of skill or chance.

### **3. Dependent Claim 31**

*“The method as claimed in claim 24 wherein promotional awards are awarded for participating.”*

113. As I discussed above in Section X.A.1, Hughes anticipates the method as claimed in claim 24. As I will explain next, Hughes also discloses the additional limitation of dependent claim 31. Thus, Hughes anticipates dependent claim 31.

114. As I described above for elements [a]-[b] and [d] of claim 24, Hughes describes a fantasy-sports contest involving multiple award leagues that users may participate in. *See* Section X.A.1.b) and X.A.1.d) above. Hughes teaches that users may receive prizes based on their performance in the fantasy sports contests. Exhibit 1003 (Hughes) at 2:47-50 (“Award leagues may be any suitable fantasy sports league having one or more sponsors that offer rewards or some other form of recognition to users who compete within the league”), 2:59-3:3 (“The restaurant may offer incentives such as a free drink to all participants of the league on Monday night and

may offer additional prizes to the winners (e.g., free dinner for two).”), 4:26-35 (“The fantasy sports contest application may produce winners and award prizes in these award leagues on semi-cumulative or non-cumulative basis”), 8:46-55 (explaining that sponsor information may include prizes); 11:31-12:6 (“The restaurant may offer incentives such as a free drink to all participants of the league on Monday night and may offer additional prizes to the winners”). Hughes explains in numerous embodiments that users may receive promotional awards, for example a free drink, simply for participating in the award league. Exhibit 1003 (Hughes) at 2:59-3:3, 11:31-12:6. Thus, Hughes teaches that promotional awards are awarded for participation.

#### **4. Dependent Claim 37**

*“The method of claim 24 wherein the multiple contests of skill or chance include different types of competitions selected from single day competitions, multiple day competitions and season long competitions.”*

115. As I discussed above in Section X.A.1, Hughes anticipates the method of claim 24. As I will explain next, Hughes also discloses the additional limitation of dependent claim 37. Thus, Hughes anticipates dependent claim 37.

116. As I describe regarding elements [a]-[b] and [d] of claim 24, Hughes teaches a fantasy-sports contest involving multiple award leagues that users may participate in. See Section X.A.1.b) and X.A.1.d) above. Also, regarding element

[e] of claim 24, Hughes teaches that the award leagues are not limited or restricted in time and may last “an entire season, a portion of the season, a definite period of time (e.g., one month, two weeks, three days, one hour, etc.), the duration of a particular event (e.g., Wimbledon, etc.), a portion of a particular event, or any other suitable period of time.” *See* Section X.A.1.e) above; Exhibit 1003 (Hughes) at 6:66-7:4. Hughes explains that users have more opportunities to enter the fantasy-sports contests when the award leagues are administered using various lengths relative to the corresponding sporting events. Exhibit 1003 (Hughes) at 1:65-67, 2:10-14, 4:21-23. “For example, within a season long contest, the fantasy sports contest application may provide one or more weekly contests that award the users according to, for example, weekly score.” *Id.* at 4:32-35. Hughes discloses that the award leagues may include contests of different lengths, such as both season-long contests and weekly (i.e., multiple day) contests. Thus, Hughes teaches multiple contests of skill or chance that include different types of competitions.

## **5. Independent Claim 14**

***a) 14[preamble]: “A device for participating in multiple real time contests of skill or chance corresponding to one or more events comprising:”***

117. Hughes discloses the preamble of claim 14.

***(1) “a device for participating in... contests of skill or chance corresponding to one or more events”***

118. Hughes describes “systems and methods for providing multi-level fantasy sports contests in fantasy sports contest applications.” Exhibit 1003 (Hughes) at 1:9-11. The fantasy sports contest application implements multi-level fantasy sports contests allowing users to compete simultaneously and in real time in multiple contests corresponding to the same live sporting event. *Id.* at 1:16-21, 1:33-43, 2:44-47 (“the fantasy sports contest application may create award leagues that are associated with one or more sponsors to provide multi-level fantasy sports contests”), 12:20-25, 13:4-13. Figure 1 shows a diagram of an illustrative fantasy sports contest application as described in Hughes:

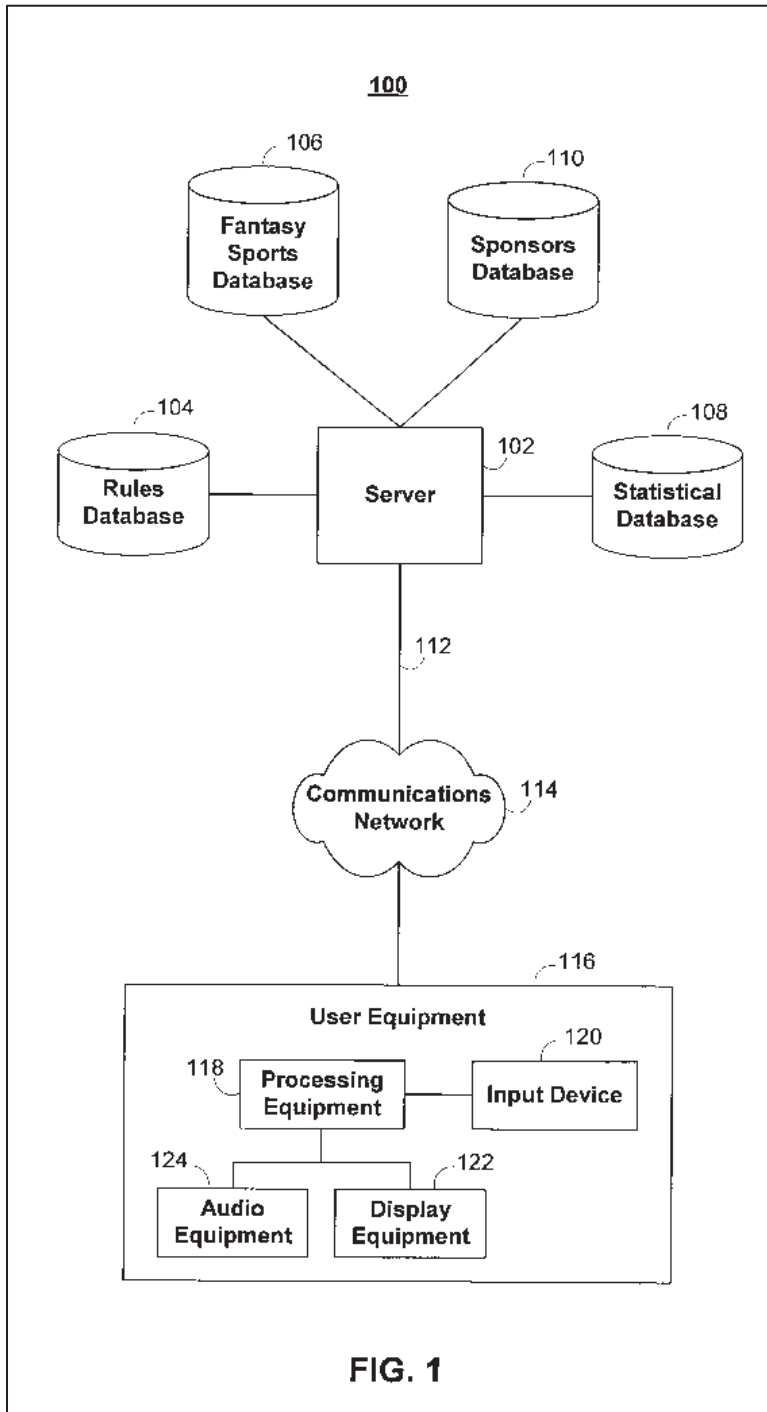


Exhibit 1003 (Hughes), Figure 1.

119. Figure 1 shows that the system includes *user equipment*, allowing a user to make inputs and selections related to the fantasy sports contests. *Id.* at 8:18-36 (“User equipment 116 may include processing equipment 118 for receiving and transmitting fantasy sports contest data. The user may interact with processing equipment 118 using input device 120 such as a remote control, a keyboard, a voice-recognition device, a track ball, a mouse, any other suitable device, or any combination thereof.”); *see* Section X.A.5.d) below.

120. As I described above in Section X.A.1.c), Hughes explains that its fantasy sports contest application administers different fantasy sports contests corresponding to one or more sporting events.

121. Thus, Hughes teaches a user device for participating in multiple contests of skill or chance corresponding to one or more events.

**(2) “multiple real time contests of skill or chance”**

122. As I described above in Section X.A.1.b), Hughes teaches that the fantasy sports contest application generates a fantasy sports contest with multiple sub-contests, each of which is referred to as an “award league.” For example, Hughes explains that a user may simultaneously participate in multiple of these award league contests, such as “local, regional, national, and international award leagues,” at the same time. *Id.* at 3:17-22, 12:20-25, 13:4-13. Hughes states that an

object of its invention is to facilitate user participation in multiple leagues having uniform rules, showing it is expressly an objective of Hughes to facilitate multiple fantasy sports contests. *Id.* at 2:18-22 Moreover, as I will discuss below in Section X.A.5.e)(2), Hughes teaches award leagues with real-time participation (i.e., real time contests).

123. Thus, Hughes discloses a server device for conducting multiple, real time, simultaneous contests.

***b) 14[a]: “a. a communications module for coupling to a server; and”***

124. Hughes discloses element 14[a]. Hughes states that a communication network can connect the user equipment (i.e., the device) to a server. Exhibit 1003 (Hughes) at 8:18-24. Figure 1 shows the communication network between the user equipment and the server:

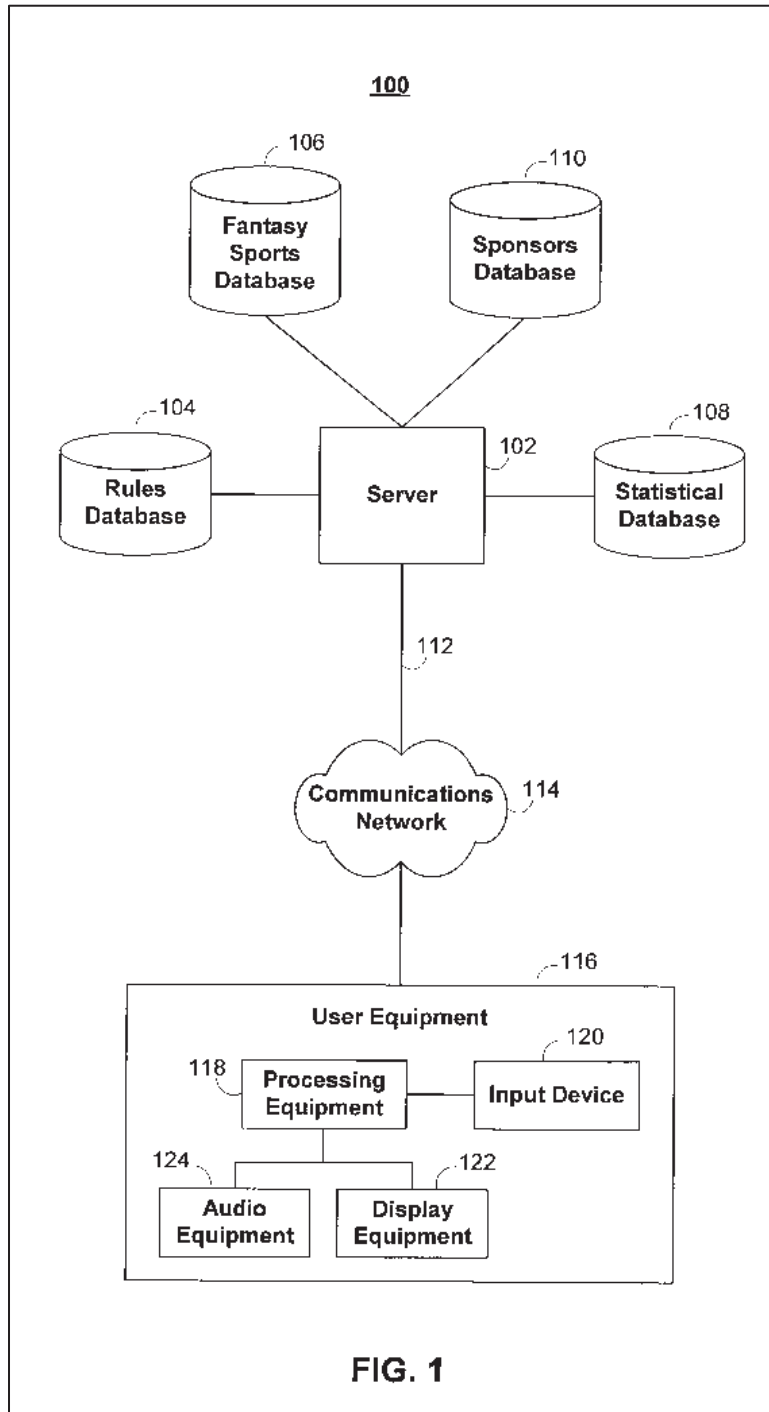


Exhibit 1003 (Hughes), Figure 1

125. The line connecting the user's equipment to the communication network shows that the user equipment connects to the communications network and the server through a communications module. Exhibit 1003 (Hughes), 8:18-24, 15:7-10. Thus, Hughes teaches a communications module for coupling the user device to a server.

***c) 14[b]: “b. an application for utilizing the communications module for coupling to a server to communicate with the server to allow a user to simultaneously compete in the multiple real time contests of skill or chance,”***

126. Hughes discloses element 14[b]. Hughes teaches a fantasy sports contest application that administers fantasy sports contests that involve multiple, simultaneous award leagues.

***(1) “an application for utilizing the communication module for coupling to a server to communicate with the server”***

127. As I explained above, Hughes describes “systems and methods for providing multi-level fantasy sports contests in fantasy sports contest applications.” See Section X.A.5.a) above; Exhibit 1003 (Hughes) at 1:9-11, 1:16-21, 1:33-43, 2:44-47, 12:20-25, 13:4-13. Hughes explains that, in one embodiment, fantasy sports contests are implemented using a fantasy-sports contest application which may be implemented on a server. *Id.* at 7:62-8:2, 9:25-32. Figure 1 shows a diagram

of an illustrative fantasy sports contest system for implementing Hughes's fantasy-sports-contest application:

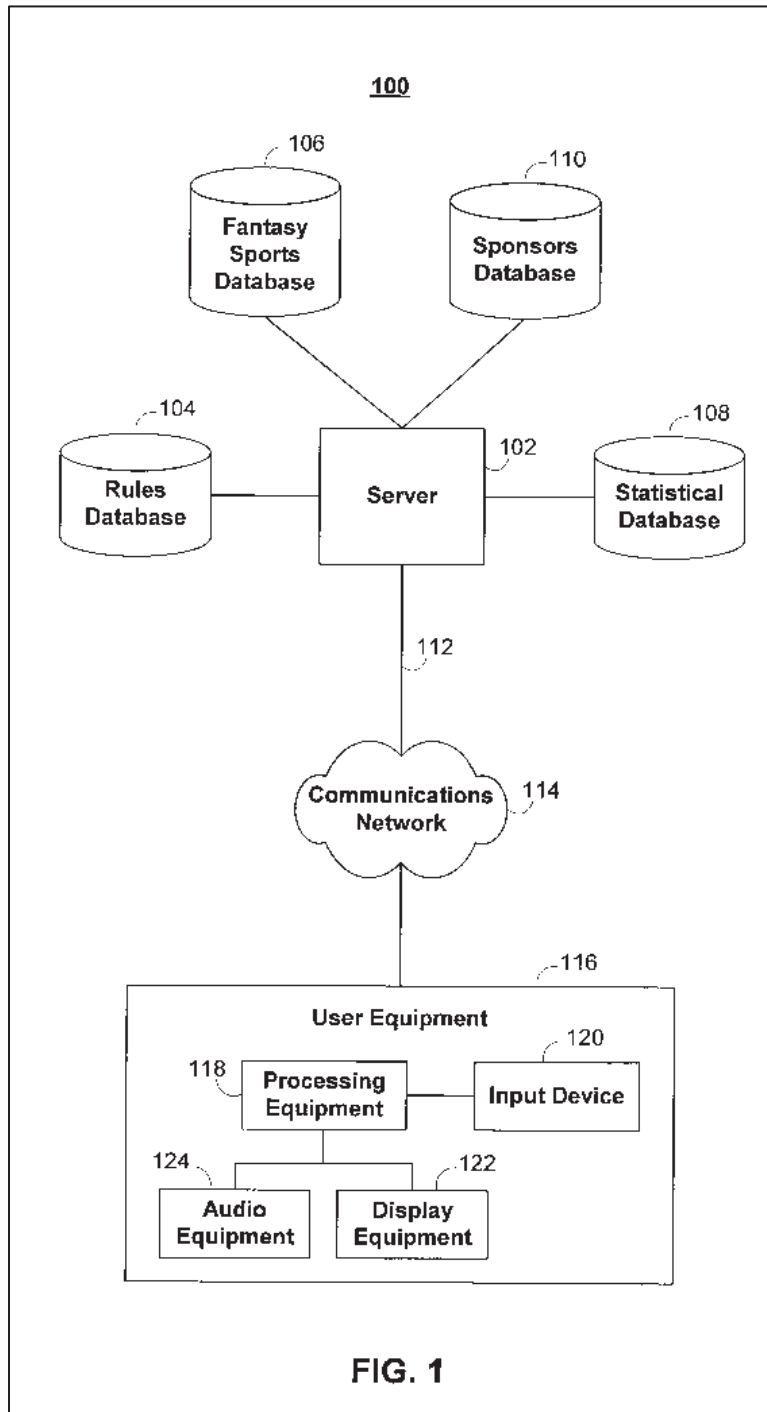


Exhibit 1003 (Hughes), Figure 1

128. Referring to Figure 1, Hughes teaches that “[t]he fantasy sports contest application may be any suitable software, hardware, or both” that is implemented, for example “*at user equipment 116, at server 102*, at any other suitable location..., or at any combination thereof.” *Id.* at 11:8-16. Hughes explains multiple embodiments in which user input is provided at a user device. *See, e.g.*, Exhibit 1003 (Hughes) at 8:18-28 (“User equipment 116 may include processing equipment 118 for receiving and transmitting fantasy sports contest data. The user may interact with processing equipment 118 using input device 120 such as a remote control, a keyboard, a voice-recognition device, a track ball, a mouse, any other suitable device, or any combination thereof”), 13:4-8, 13:31-47 (“Screen 500 may include one or more advertisements 502 and various login or search information.”), 17:6-28 (“Screen 900 displays in drop down menu 904 the various award leagues that the user has participated or is currently participating in as determined by the fantasy sports contest application”), 17:32-18:10. The user device is communicably linked to the computer server that implements the fantasy sports contest application. *Id.* at 8:18-23 (“Communication network 114 may be used for communication between users having user equipment 116 and server 102.”), 11:8-16 (explaining that the fantasy sports contest application is implemented at the server), 15:7-10 (“The

terminal may include processing equipment 118 for receiving and transmitting fantasy sports contest data.”). Thus, Hughes discloses a fantasy sports contest application that utilizes the communication network to link the user device to the server.

**(2) “to allow a user to simultaneously compete in the multiple real time contests of skill or chance,”**

129. As I describe below, Hughes explains that its fantasy sports contest application allows users to enter a single roster into multiple award leagues that occur simultaneously. *See* Section X.A.5.d)-e) below; Exhibit 1003 (Hughes) at 15:57-61 (“[T]he fantasy sports contest application may allow the user to enter the same team (e.g., football team, basketball team, volleyball team, baseball team, etc.) or roster to compete in more than one award leagues”). Hughes also discloses that the fantasy sports contest application “allows the user to enter multiple award leagues (in the same sports category), while managing only one team.” *Id.* at 16:18-20. Hughes states that, in exemplary embodiments, users may participate in the multiple award leagues simultaneously:

As another example, the fantasy sports contest application may allow the McDonald's Corporation to create *numerous local award leagues, multiple regional award leagues, multiple national award leagues, and an*

*international award league* to allow McDonald's customers all over the world to participate in one or more McDonald's award leagues (e.g., a World Cup Soccer League).... The fantasy sports contest application may *allow the user to simultaneously participate in McDonald's local, regional, national, and international award leagues at the same time* and may award prizes to the user based on, for example, weekly scores, leaderboard standings, or any other suitable criteria.

*Id.* at 3:4-22; *accord id.* at 12:7-29. Also, as I state above in Section X.A.1.e)(2), Hughes teaches that the event selections enable real-time participation in the selected multiple contests of skill or chance. Thus, Hughes teaches that the fantasy sports contest application allows a user to simultaneously participate in the selected multiple real-time contests.

***d) 14[c]: “wherein the application is configured for receiving user input including in which of the multiple real time contests of skill or chance to join and receiving additional user input including a single set of event selections related to the one or more events,”***

130. Hughes teaches element 14[c]. As I will describe below, in the fantasy sports contests described in Hughes, users select which award leagues to enter and

provide a roster that is applied to each award league. *See* Sections X.A.5.d)(1)-X.A.5.d)(4)below.

***(1) “user input including in which of the multiple real time contests of skill or chance to join”***

131. As I described above in Section X.A.1.d)(2), Hughes discloses that the fantasy sports contest application receives user input, including information regarding which award leagues to join. As I described above in Section X.A.1.e)(2), Hughes discloses that the event selections enable a user to participate in real-time in the selected multiple contests of skill or chance.

***(2) “additional user input including a... set of event selections related to the one or more events”***

132. As I described above in Section X.A.1.d)(1), Hughes discloses that the fantasy sports contest application receives input from a user including event selections, such as rosters and real-time predictions, that correspond to real-life sporting events.

***(3) “receiving user input”***

133. As I described above in Section X.A.1.d)(3), which is incorporated herein, Hughes discloses that its fantasy sports contest application receives user input at a user device.

(4) “*a single set of event selections*”

134. As I have discussed, Hughes describes a fantasy sports contest in which a user may participate in multiple award leagues simultaneously. In these fantasy sports contests, the user may apply a single roster of event selections such as the composition of a sports team to each award league that the user enters.

135. Hughes explains that “the fantasy sports contest application may allow the user to enter *the same team* (e.g., football team, basketball team, volleyball team, baseball team, etc.) *or roster* to compete in more than one award leagues.” Exhibit 1003 (Hughes) at 15:57-61. Hughes states that its fantasy sports contest application “allows the user to enter multiple award leagues (in the same sports category), *while maintaining only one team*” as an express advantage of its fantasy sports contest application. *Id.* at 16:18-20. Hughes explains that a user may enter a roster previously made for one award league in other award leagues. Exhibit 1003 (Hughes) at 17:32-18:10. For example, a user may have a roster from a non-award league, and the fantasy sports contests application may allow the user to select one or more award leagues in which to enter that roster. *Id.* at 17:32-36 (“the fantasy sports contest application may allow a user who have not previously drafted a team for an award league to select a team from the teams that the user had drafted previously for a non-award league of the same sport”). Once the user enters their

single roster into these multiple award leagues, the user receives separate scores and standings based on the roster. *Id.* at 18:53-19:21, 20:66- 21:5. Figure 12; *see also* Section X.A.1.f)(3) below. Thus, Hughes teaches that the user may make a single set of event selections and submit them to the fantasy sports contest application.

***e) 14[d]: “wherein the single set of event selections enable simultaneously and in real time participating separately with the selected multiple real time contests of skill or chance,”***

136. Hughes teaches element 14[d]. In the fantasy sports contests described in Hughes, a user’s roster (i.e., the single set of event selections) may be entered into multiple award leagues such that the user simultaneously participates in these award leagues. Exhibit 1003 (Hughes) at 15:57-61, 16:18-20.; *see* Section X.A.1.d) above. Therefore, Hughes teaches in real time participation in fantasy sports contest. *See X.A.5.e)(1)-X.A.5.e)(3)* below.

***(1) “wherein the single set of event selections enable simultaneously... participating... with the selected multiple real time contests of skill or chance”***

137. As I described above in Section X.A.1.e)(1), Hughes teaches that the user’s single roster enables simultaneously participating in the selected multiple contests.

**(2) “enable... in real time participating... with the selected multiple real time contests of skill or chance”**

138. As I described above in Section X.A.1.e)(2), Hughes teaches a contest in which the user’s roster enables participating in real time in the selected multiple contests. By allowing users to participate in real time, the fantasy sports contests of Hughes are “real time contests.”

**(3) “participating separately”**

139. As I explained above, Hughes discusses applying the user’s single roster to each selected award league. *See* Section X.A.5.d)(4) above. Hughes’ discussion of the award leagues makes clear that the user participates in each of the award leagues separately.

140. For example, Hughes discloses that scores and standings are determined for each award league a user participates in. Hughes explains that the standings for each award league may be separately displayed to the user. Exhibit 1003 (Hughes) at 18:53-19:21, 20:66-21:5 (“[T]he fantasy sports contest application may display user performance information such as scores, *rankings*, prizes, or any other suitable information in connection *with all the award leagues* that the user currently participates in as shown in FIG. 12.”). For example, a user’s standings may be reported on a scoreboard screen, which “may include...the user’s performance information in all the award leagues for a particular sports category that

the user competes in.” *Id.* at 18:65-19:1. In particular, “[t]he fantasy sports contest application may show the user's ranking and prize related information in various award leagues based on this score in scoreboard grid 1206.” *Id.* at 19:11-13. An exemplary scoreboard screen is shown in Figure 12 of Hughes:

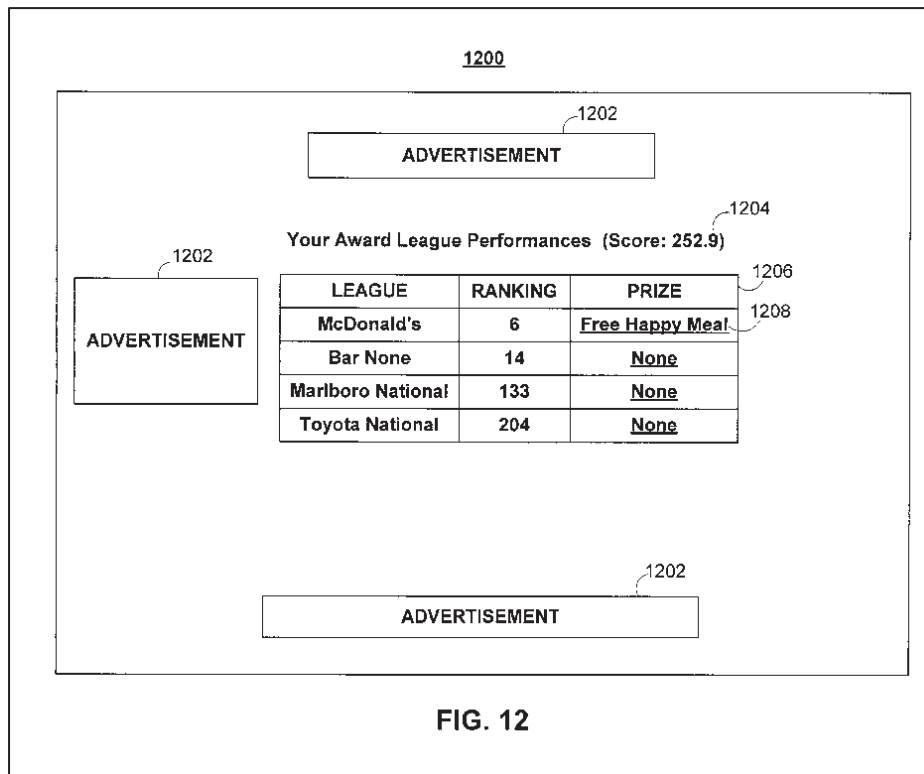


Exhibit 1003 (Hughes), Figure 12.

141. As shown, the scoreboard screen in Figure 12 includes a “ranking” column that separately displays a user’s rankings across each of four award leagues in which the user participated, and does not aggregate or combine the rankings.

142. A POSITA would have understood that the user participated in each award league contest separately because the unique standings are displayed

separately (e.g., as shown in Figure 12). Thus, Hughes teaches that the user separately participates in each selected contest.

*f) 14[e]: “wherein the multiple contests of skill or chance are selected from single entry contests and multiple entry contests.”*

143. Hughes teaches element 14[e]. As I described above in Section X.A.1.c), Hughes describes award leagues that may be either single entry or multiple entry contests.

\* \* \*

144. Because Hughes teaches the preamble and limitations [a]-[e] of claim 14, Hughes anticipates claim 14.

## **6. Dependent Claim 15**

*[15] The device as claimed in claim 14 wherein the one or more events are selected from the group consisting of a television-based event, a scheduled competition, a scheduled series of competitions, a sporting event, an event based on a video game, computer game or electronic game, an entertainment show, a game show, a reality show, a news show and a commercial contained in a broadcast.*

145. As I discussed above in Section X.A.5, Hughes anticipates the device as claimed in claim 14. As I will explain next, Hughes also discloses the additional limitation of dependent claim 15. Thus, Hughes anticipates dependent claim 15.

146. As I described above for the preamble of claim 14, Hughes describes a device for participating in a fantasy sports contest involving multiple award leagues. *See* Section X.A.5.a) above. The fantasy sports contests correspond to one or sporting events, such as team sports, individual sports, or even contests involving animals. Exhibit 1003 (Hughes) at 1:33-43 (“The real-life athletic events upon which a fantasy sports contest may be based are varied, and typically involve selecting players from real-life team sports ( e.g., football, baseball, basketball, hockey, soccer, rugby, etc.), selecting players from real-life individual sports ( e.g., golf, tennis, automotive racing, etc.), or selecting participants from contests involving animals (e.g., horse and dog racing).”). This is like the ’189 patent, which describes contests relating to one or more football games. Exhibit 1001 (’189 patent) at 1:52-58, 6:1-4, 6:27-29, 8:52-55. Thus, Hughes teaches that the one or more events are a sporting event.

#### **7. Dependent Claim 17**

*“The device as claimed in claim 14 wherein the application allows a user to join one or more competitive groups which comprise user generated competitive groups including existing groups on a social networking site or a physical site hosting a social group.”*

147. As I discussed above in Section X.A.5, Hughes anticipates the device as claimed in claim 14. As I will explain next, Hughes also discloses the additional limitation of dependent claim 17. Thus, Hughes anticipates dependent claim 17.

148. As I described above for the preamble of claim 14, Hughes describes a device for participating in a fantasy sports contest involving multiple award leagues. *See* Section X.A.5.a) above. In particular, the award leagues of Hughes are operated by a fantasy sports contest application. *See* Section X.A.5.c)-d) above. Hughes further explains that the award leagues may take various forms. In some cases, award leagues involve user-generated private leagues. Exhibit 1003 (Hughes) at 1:44-54 (“To participate in a private league, ***the user may either start the league himself or join a private league created by another user.***”). In some cases, award leagues involve public leagues. *Id.* at 1:61-67 (public leagues “consist[] of other users who have expressed similar preferences in fantasy sports contests. Public leagues are also often season long, which gives the user very infrequent windows of opportunity to join.”). For example, a sponsor may manage an award league and allow users to access the award league at the sponsor’s location site. *Id.* at 4:48-55 (“[T]he fantasy sports contest application may allow the user to access a specific award league using ***a terminal located at the sponsor’s physical location.***”); *see also* 2:59-63 (describing operating award leagues for customers who regularly

watching sports at establishment); 14:59-62; 20:7-11, Figure 14. Thus, Hughes teaches that application allows users to join both user-generated groups as well as groups associated with a physical site hosting a social group.

## **8. Dependent Claim 22**

*“The device of claim 14 wherein the multiple contests of skill or chance include different types of competitions selected from single day competitions, multiple day competitions and season long competitions.”*

149. As I discussed above in Section X.A.5, Hughes anticipates the device of claim 14. Hughes also discloses the additional limitation of dependent claim 22. As I explained above in Section X.A.4, Hughes teaches multiple contests of skill or chance that include different types of competitions. Thus, Hughes anticipates dependent claim 22.

## **B. Ground 2: Claims 19, 20, 34, and 35 are Obvious over Hughes in View of Berner**

### **1. Dependent Claim 19**

*“The device as claimed in claim 14 further configured for implementing a lockout to prevent input after beginning of the one or more events.”*

150. As I discussed above in Section X.A.5, Hughes anticipates the device as claimed in claim 14. As I will explain next, the combination of Hughes and Berner renders obvious the additional limitation of dependent claim 19. Thus, the combination of Hughes and Berner renders dependent claim 19 obvious.

151. As I described above for the preamble of claim 14, Hughes describes a device for participating in a fantasy sports contest involving multiple award leagues. *See* Section X.A.5.a) above. In Hughes, users participate in the award leagues by providing user input, including both input regarding which of the multiple award leagues to join and additional input including a single set of event selections related to corresponding sporting events. *See* Section X.A.5.d) above.

152. Hughes explains that, at some point, the fantasy sports contest application may prevent users from providing input. Exhibit 1003 (Hughes) at 7:32-47 (“deadlines to make trades or to perform any other suitable task associated with one or more fantasy sports contests”). In particular, the award leagues may include “*deadlines* to make trades or to perform any other suitable task associated with one or more fantasy sports contests.” *Id.* Despite describing these deadlines, Hughes does not explain *how* such deadlines are implemented.

153. As I explained above in Section IX.B, Berner discloses a lockout signal for preventing user input. Similar to Hughes, Berner describes systems and methods for operating games of skill that correspond to a live event and that are simultaneously played by multiple players. Exhibit 1005 (Berner) at Abstract (“A game of skill played simultaneously by several players (for example, a live television quiz game) whereby each participant player effectively competes only against

players having a similar skill level in order to provide a strong motivation.”), 1:36-44 (“a game of skill played simultaneously by several participants remote from each other in conjunction with at least one common game event where each participant player of a game receives one or more scores”), claim 1. As part of these games, lockout signals are implemented to prevent user input after the live event has begun. *Id.* at 2:28-29, claim 3, claim 5. In particular, Berner explains that lockout signals “prevent improper game inputs by [the] participants.” *Id.* at claim 5. These lockout signals are transmitted by “mass communication means,” such as radio or television signals. *Id.* at claim 3. U.S. Patent No. 4,592,546 to Fascenda et al., which Berner incorporates, further explains that the lockout prevents users from entering enter a wager (i.e., input) after the relevant play in the corresponding sporting event has occurred. *See* Exhibit 1008 (Fascenda) at Abstract, 2:44-48 (“[W]hen the ball is snapped... there would be a lock-out of this prediction and any attempted prediction **after** the ball snap time would be ineffectual.”), 3:53-65; *see* Exhibit 1005 (Berner) at 1:13-20, 2:27-28 (“Game data include lockout signal involving player predictions as described in the ’546 patent”). Berner provides as much detail regarding lockout signals entering contests as the ’189 patent, which incorporates Berner. Exhibit 1001 (’189 patent) at 1:65-2:22. Indeed, the Applicant of ’189 patent cited Berner as support when amending claims in related applications to recite a lockout signal. *See*

Exhibit 1017 (FH880) at 89-90; Exhibit 1018 (FH402) at 68. Therefore, Berner discloses implementing a lockout to prevent input after beginning of the one or more events.

*a) Motivation to Combine Hughes and Berner*

154. A POSITA would have been motivated to implement Hughes's fantasy sports contest application to include a lockout to prevent input after beginning of the one or more events, as described in Berner. Hughes describes deadlines to prevent user input, but does not describe the mechanism for imposing such deadlines. Exhibit 1003 (Hughes) at 7:32-47 ("deadlines to make trades or to perform any other suitable task associated with one or more fantasy sports contests"). A POSITA would have looked to other references for techniques to prevent user inputs after the start of an event. A POSITA would have found Berner given that both Hughes and Berner describe games of skill that correspond to a live event and that are played simultaneously by multiple players. Exhibit 1003 (Hughes) at 1:9-21 ("this invention relates to systems and methods for providing multi-level fantasy sports contests in fantasy sports contest applications"), 1:33-43, 2:44-47, 12:20-25, 13:4-13; Exhibit 1005 (Berner) at Abstract ("A game of skill played simultaneously by several players (for example, a live television quiz game) whereby each participant player effectively competes only against players having a similar skill level in order

to provide a strong motivation.”), 1:36-44 (“a game of skill played simultaneously by several participants remote from each other in conjunction with at least one common game event where each participant player of a game receives one or more scores”), claim 1. Moreover, the lockout signals detailed in Berner are a known technique that had been used to improve similar contests by eliminating user’s ability to cheat. *See* Exhibit 1005 (Berner) at 1:13, 2:27-28 (“Game data includes lockout signals involving player predictions as described in [Fascenda.]”); *see also* Exhibit 1008 (Fascenda), 2:44-48 (“[W]hen the ball is snapped... there would be a lock-out of this prediction and any attempted prediction after the ball snap time would be ineffectual.”). A POSITA would have applied that known technique (i.e., lockout signals) to improve Hughes’s award leagues.

155. Furthermore, there would have been only a finite number of ways to implement lockout signals in Hughes’s fantasy sports contest. For example, Hughes discloses that, in some embodiments, the application “may allow the user to enter the same team...or roster to compete in more than one award leagues.” Exhibit 1003 (Hughes) at 3:27-31. A lockout signal may be employed before the start of a season such that every participant must enter their team into the one or more award leagues before games commence in that league. Hughes also discloses that “fantasy sports contest-related information may include...information regarding deadlines to make

trades or to perform any other suitable task associated with one or more fantasy sports contests....” Exhibit 1003 (Hughes) at 7:37-47. A lockout signal could therefore be employed during a season to allow, for example, players to be traded before the start of each game throughout the season, but not during active game play. Berner elaborates that “[g]ame data includes lockout signals involving player predictions as described in [Fascenda].” Exhibit 1005 (Berner) at 2:27-28. Fascenda describes using a lockout signal to prevent a game prediction after a ball has been snapped. Exhibit 1008 (Fascenda) at 3:46-65. Thus, the lockout signal described in Fascenda and Berner could be incorporated into the fantasy sports contest of Hughes by preventing trades and predictions either before a season begins or during the season before games begin.

***b) Reasonable Expectation of Success in Combining Hughes and Berner***

156. A POSITA would have had a reasonable expectation of success in combining Hughes’s device for participating in a fantasy sports contest involving multiple award leagues described with Berner’s lockout signal. Implementation of lockout signals were well-known prior to the ’189 patent. *See* Exhibit 1005 (Berner) at 1:13, 2:27-28 (“Game data includes lockout signals involving player predictions as described in [Fascenda].”); *see also* Exhibit 1008 (Fascenda), 2:44-48 (“[W]hen

the ball is snapped... there would be a lock-out of this prediction and any attempted prediction after the ball snap time would be ineffectual.”).

157. As I discussed above, there would have been only a finite number of ways to implement lockout signals in Hughes’s fantasy sports contest. A POSITA would have reasonably expected to successfully combine these known elements in one of these few finite methods. The lockout described in Fascenda compares the times at which a microprocessor received signals indicating that (1) a player made a prediction and (2) the relevant live event (e.g., a snap in a football game) occurred. Exhibit 1008 (Fascenda) at 3:53-61, Figure 3. If the game input was made after the relevant event occurred, the system ignores the player’s prediction. *Id.* at 3:61-65, Figure 3. A POSITA would have expected to be successful in combining this lockout signal with Hughes’s fantasy sports contest, because the time of a particular trade or other input in Hugues’s contest could be compared with the start time of a game or another relevant event, allowing the system to accept timely trades but reject untimely ones.

158. Thus, the combination of Hughes and Berner renders obvious dependent claim 19.

## **2. Dependent Claim 20**

***“The device as claimed in claim 19 wherein the lockout occurs immediately before competitors in the contests of***

***skill or chance are able to see relevant live game action unfold.”***

159. As I discussed above in Section X.B.1, the combination of Hughes and Berner renders obvious the device as claimed in claim 19. As I will explain next, the combination of Hughes and Berner also renders obvious the additional limitation of dependent claim 20. Thus, the combination of Hughes and Berner renders dependent claim 20 obvious.

160. As I described above for the preamble of claim 14, Hughes describes a device for participating in a fantasy sports contest involving multiple award leagues. *See* Section X.A.5.a) above. In Hughes, users participate in the award leagues by providing user input, including both input regarding which of the multiple award leagues to join and additional input including a single set of event selections related to corresponding sporting events. *See* Section X.A.5.d) above.

161. As I described above in Section X.B.1, Berner discloses the lockout signals claimed in the '189 patent. In particular, Berner explains that the lockout signal is designed to prevent user input upon the occurrence of the relevant live game action. *See* Exhibit 1005 (Berner) at claim 5, 1:13-20, 2:27-28; Exhibit 1008 (Fascenda) at Abstract, 2:44-48 (“[W]hen the ball is snapped... there would be a lock-out of this prediction and any attempted prediction after the ball snap time would be ineffectual.”), 3:53-65. I also explained, in Sections X.B.1.a) and X.B.1.b)

above, that a POSITA would have been motivated to implement Berner's lockout signal in Hughes's fantasy sports contest application and would have had a reasonable expectation of success in doing so.

162. Therefore, the combination of Hughes and Berner renders obvious dependent claim 20.

### **3. Dependent Claim 34**

*“The method as claimed in claim 24 further comprising implementing a lockout to prevent input after beginning of the one or more events.”*

163. As I discussed above in Section X.A.1, Hughes anticipates the method as claimed in claim 24. As I will explain next, the combination of Hughes and Berner renders obvious the additional limitation of dependent claim 34. Thus, the combination of Hughes and Berner renders dependent claim 34 obvious.

164. As I described above for elements [a]-[b] and [d] of claim 24, Hughes describes a fantasy sports contest involving multiple award leagues that users may participate in. *See* Sections X.A.1.b) and X.A.1.d) above. In Hughes, users participate in the award leagues by providing user input, including both input regarding which of the multiple award leagues to join and additional input including a single set of event selections related to corresponding sporting events. *See* Section X.A.1.d) above.

165. I described in Section X.B.1 above that the combination of Hughes and Berner renders obvious a fantasy sports contests that implements a lockout signal and that the lockout signal prevents user input after beginning of the one or more events. I also explained, in Sections X.B.1.a) and X.B.1.b) above, that a POSITA would have been motivated to implement Berner's lockout signal in Hughes's fantasy sports contest application and would have had a reasonable expectation of success in doing so.

166. Therefore, the combination of Hughes and Berner renders obvious dependent claim 34.

#### **4. Dependent Claim 35**

*“The method as claimed in claim 34 wherein the lockout occurs immediately before competitors in the contests of skill or chance are able to see relevant live game action unfold.”*

167. As I discussed above in Section X.B.3, the combination of Hughes and Berner renders obvious the method as claimed in claim 34. As I will explain next, the combination of Hughes and Berner also renders obvious the additional limitation of dependent claim 35. Thus, the combination of Hughes and Berner renders dependent claim 35 obvious.

168. As I described above for elements [a]-[b] and [d] of claim 24, Hughes describes a fantasy sports contest involving multiple award leagues that users may

participate in. *See* Sections X.A.1.b) and X.A.1.d) above. In Hughes, users participate in the award leagues by providing user input, including both input regarding which of the multiple award leagues to join and additional input including a single set of event selections related to corresponding sporting events. *See* Section X.A.1.d) above.

169. I described in Sections X.B.1 and X.B.2 above that the combination of Hughes and Berner renders obvious a fantasy sports contests that implements a lockout signal and that the lockout signal prevents user input after beginning of the one or more events. As such, the lockout occurs immediately before competitors in the contests of skill or chance are able to see relevant live game action unfold. I also explained, in Sections X.B.1.a) and X.B.1.b) above, that a POSITA would have been motivated to implement Berner's lockout signal in Hughes's fantasy sports contest application and would have had a reasonable expectation of success in doing so.

170. Therefore, the combination of Hughes and Berner renders obvious dependent claim 35.

**C. Ground 3: Claims 23, 25, 26, 33, and 38 are Obvious over Hughes in View of Barber**

**1. Dependent Claim 23**

*“The device of claim 14 wherein users wager cash to participate in the multiple real time contests of skill or chance.”*

171. As I discussed above in Section X.A.5, Hughes anticipates the device as claimed in claim 14. As I will explain next, the combination of Hughes and Barber renders obvious the additional limitation of dependent claim 23. Thus, the combination of Hughes and Barber renders dependent claim 23 obvious.

172. As I described above for the preamble of claim 14, Hughes describes a device for participating in a fantasy sports contest involving multiple award leagues. *See* Section X.A.5.a) above. In Hughes, users participate in the award leagues by providing user input, including both input regarding which of the multiple award leagues to join and additional input including a single set of event selections related to corresponding sporting events. *See* Section X.A.5.d) above.

173. Hughes explains that these award leagues may be created by a fantasy sports contest application. Exhibit 1003 (Hughes) at 2:44-50 (“In some embodiments of the present invention, the fantasy sports contest application may create award leagues that are associated with one or more sponsors to provide multi-level fantasy sports contests. Award leagues may be any suitable fantasy sports league having one or more sponsors that offer rewards or some other form of recognition to users who compete within the league.”). Hughes further explains that “[t]he fantasy sports contest application may . . . award prizes to the user based on, for example, weekly scores, leaderboard standings, or any other suitable criteria. *Id.* at

3:17-22. In particular, the “fantasy sports contest application may produce winners and award prizes in these award leagues on semi-cumulative or non-cumulative basis.” *Id.* at 4:26-30. Hughes also acknowledges in its background that “[a]thletic endeavors have long supported a broad range of secondary contests, which include wagering on the outcome...” *Id.* at 1:12-15. However, Hughes does not explain *how* such awards are implemented or how wagering is conducted.

174. As I explained above in Section IX.C, Barber relates to “systems and methods for providing wagering opportunities in conjunction with fantasy sports contests.” Exhibit 1006 (Barber) at 2:11-13. In particular, Barber discloses “a fantasy sports contest application that provides to a user the ability [to access] fantasy sports contests and wagering opportunities.” *Id.* at 2:14-17. Similar to Hughes, Barber describes systems and methods for operating games of skill that correspond to a live event and that are simultaneously played by multiple players. *Id.* at 2:18-31, 3:35-47. As part of these games, users can wager cash (e.g., “money”). Exhibit 1006 (Barber) at 3:8-13, 3:23-24 (“Wagering opportunities...may be opportunities to wager for...**money**.”). Barber also explains that users can participate in multiple real time contests of skill or chance. *Id.* at 2:39-51 (“the fantasy sports contest application may provide to the user the ability to place a wager based on a portion of a sporting event, a sporting event, or *more than one*

sporting event that is related to a fantasy sports contest”); *see also id.* at 21:31-39 (“[T]he fantasy sports contest application may provide to fantasy sports contestants the ability to wager based on more than one event.”). Thus, Barber discloses implementing fantasy sports contests wherein users wager cash to participate in the multiple real time contests of skill or chance.

***a) Motivation to Combine Hughes and Barber***

175. A POSITA would have been motivated to implement Hughes’s fantasy sports contest application to allow users to wager cash to participate in multiple contests as described in Barber. Hughes describes the ability of the fantasy sports contest application to award prizes, but does not describe the mechanism for placing wagers. Exhibit 1003 (Hughes) at 4:26-30 (“The fantasy sports contest application may produce winners and award prizes in these award leagues on semi-cumulative or non-cumulative basis (e.g., based on weekly scores) to keep the contest challenging to all users throughout the season.”). A POSITA would have looked to other references that describe the ability to access wagering opportunities through a fantasy sports contest application. A POSITA would have found Barber given that both Hughes and Barber describe games of skill that correspond to a live event and that are played simultaneously by multiple players. Exhibit 1003 (Hughes) at 1:9-21 (“this invention relates to systems and methods for providing multi-level fantasy

sports contests in fantasy sports contest applications”), 1:33-43, 2:44-47, 12:20-25, 13:4-13; Exhibit 1006 (Barber) at 2:39-51 (“the fantasy sports contest application may provide to the user the ability to place a wager based on a portion of a sporting event, a sporting event, or *more than one* sporting event that is related to a fantasy sports contest”); *see also id.* at 21:31-39 (“[T]he fantasy sports contest application may provide to fantasy sports contestants the ability to wager based on more than one event.”). Barber’s systems and methods for providing wagering opportunities are a known technique that had been used to improve similar contests by allowing contestants to wager based on real-life athletic events as a hobby and for entertainment purposes. A POSITA would have applied that known technique (i.e., placing a wager) to improve Hughes’ fantasy sports contest application.

***b) Reasonable Expectation of Success in Combining Hughes and Barber***

176. A POSITA would have had a reasonable expectation of success in combining Hughes’s device for participating in a fantasy sports contest involving multiple award leagues with Barber’s cash wagering system. Barber and Hughes describe similar fantasy sports contest applications. Exhibit 1006 (Barber) at 2:14-17; Exhibit 1003 (Hughes) at 2:23-26. Moreover, cash wagers in fantasy sports were known prior to the ’189 patent. *See* Exhibit 1006 (Barber) at 1:38-53. Barber describes how a cash wagering system is implemented in its fantasy sports contest

application. *See, e.g., id.* at 8:1-9, 13:24-55, 17:10-20, 20:43-56. Implementing Barber’s cash wagering system in Hughes would amount to no more than the use of this known technique to improve Hughes’s similar fantasy sports contest application. A POSITA would have reasonably expected to successfully combine Barber’s cash wagering system with Hughes’s fantasy sports contest application because the cash wagering system could have been implemented the same way in Hughes’s fantasy sports application as in Barber’s similar application.

177. Thus, the combination of Hughes and Barber renders obvious dependent claim 23.

## **2. Dependent Claim 25**

*“The method as claimed in claim 24 wherein users are provided a currency for watching the one or more events or participating in the multiple contests of skill or chance.”*

178. As I described above in Section X.A.2, Hughes anticipates dependent claim 25. If Patent Owner were to argue that Hughes does not anticipate claim 25, the combination of Hughes and Barber renders it obvious.

179. As I explained in Section X.C.1 above, Barber teaches that users can participate in multiple real time contests of skill or chance. Exhibit 1006 (Barber) at 2:39-51 (“the fantasy sports contest application may provide to the user the ability to place a wager based on a portion of a sporting event, a sporting event, or more

than one sporting event that is related to a fantasy sports contest...”), 21:31-39 (“[T]he fantasy sports contest application may provide to fantasy sports contestants the ability to wager based on more than one event.”).

180. Barber further discloses “opportunities to wager for, for example, fantasy sports contest points (i.e., points that accumulate to increase the user’s standing in the fantasy sports contest), points redeemable for prizes (i.e., cash or non-cash prizes), non-cash prizes, or money.” Exhibit 1006 (Barber) at 3:8-13. The points disclosed by Barber constitute a “currency” because participants have “wagering opportunities for fantasy sports contest points between a contestant of a fantasy sports contest league and the fantasy sports contest application system.” Exhibit 1006 (Barber) at 3:44-47.

181. I also explained, in Sections X.C.1.a) and X.C.1.b) above, that a POSITA would have been motivated to implement Hughes’s fantasy sports contest application to include a wager system as described in Barber and would have had a reasonable expectation of success in doing so.

182. Therefore, the combination of Hughes and Barber renders obvious dependent claim 25.

### **3. Dependent Claim 26**

*“The method as claimed in claim 25 where the currency is redeemable for prizes or services.”*

183. As I discussed above in Section X.C.2, the combination of Hughes and Barber renders obvious the method as claimed in claim 25. As I will explain next, the combination of Hughes and Barber also renders obvious the additional limitation of dependent claim 26. Thus, the combination of Hughes and Barber renders dependent claim 26 obvious.

184. As I described above for elements [a]-[b] and [d] of claim 24, Hughes describes a fantasy sports contest involving multiple award leagues that users may participate in. *See* Section X.A.1.b) and X.A.1.d) above. As I described above for claim 25, Hughes explains that users may receive fictional dollars to create rosters that are entered in the award leagues. *See* Section X.A.2 above. Hughes explains that, by utilizing the fictional dollars and participating in the award league, users may receive prizes. Exhibit 1003 (Hughes) at 4:26-35 (“The fantasy sports contest application *may produce winners and award prizes* in these award leagues on semi-cumulative or non-cumulative basis (e.g., based on weekly scores) to keep the contest challenging to all users throughout the season.”). Prizes awarded may be a cash prize or a service, such as a free meal from the restaurant sponsoring the award leagues. *Id.* at 2:59-3:3, 8:46-55; 11:31-12:6, 2:20-25. Users may receive these prizes by redeeming a receipt received from the fantasy sports contest application.

*Id.* at 5:47-58; 19:22-32. Thus, Hughes teaches that the currency is redeemable for prizes or services.

185. Barber discloses “opportunities to wager for, for example, fantasy sports contest points (i.e., points that accumulate to increase the user’s standing in the fantasy sports contest), points redeemable for prizes (i.e., cash or non-cash prizes), non-cash prizes, or money.” Exhibit 1006 (Barber) at 3:8-13. Barber further elaborates that “the fantasy sports contest application may provide to fantasy sports contestants the ability to wager for points redeemable for prizes.” *Id.* at 21:1-3. Such prizes for which points might be redeemed include, for example, “sports apparel redeemable through a catalog or cash prizes.” *Id.* at 33:19-20. The points disclosed by Barber are thus “redeemable for prizes or services” as required by claim 26.

186. A POSITA would be motivated to combine Barber’s system of points that are directly redeemable for prizes or services with Hughes’s fantasy sports contests, particularly in order to implement a specific system of currency for users as they create rosters and win prizes. As I explain above Hughes discloses that users may earn a currency that can be redeemed for prizes or services. A POSITA would have realized the efficiency of allowing users to effectively cash out their in-game currency by redeeming currency for prizes. A POSITA would therefore have

recognized that the method of Hughes would be improved by allowing points or other currency to be directly redeemed for prizes, as Barber discloses.

187. Moreover, a POSITA would have reasonably expected the points system of Hughes to be successfully implemented in Hughes's fantasy sports contests because the two references address problems in the same field: both Hughes and Barber describe games of skill that correspond to a live event and that are played simultaneously by multiple players. The systems and methods for allowing contestants to redeem currency for prizes or services detailed in Barber use a known technique that had been used to improve similar contests by allowing contestants to directly exchange an in-game currency such as points or money for real-world cash or non-cash prizes. The POSITA would have applied that known technique (i.e., redeeming currency for prizes) to improve the fantasy sports contest application of Hughes.

188. I also explained, in Sections X.C.1.a) and X.C.1.b) above, that a POSITA would have been motivated to implement Hughes's fantasy sports contest application to include a wager system as described in Barber and would have had a reasonable expectation of success in doing so.

189. Therefore, the combination of Hughes and Barber renders obvious dependent claim 26.

#### 4. Dependent Claim 33

*“The method as claimed in claim 24 wherein a user pays a separate consideration to play in a contest of the multiple contests of skill or chance through a micro-payments system, where a prize is supplemented or funded by an entry fee or consideration paid by all who participate in a group.”*

190. As I discussed above in Section X.A.1, Hughes anticipates the method as claimed in claim 24. As I will explain next, the combination of Hughes and Barber renders obvious the additional limitation of dependent claim 33. Thus, the combination of Hughes and Barber renders dependent claim 33 obvious.

191. As I described above for elements [a]-[b] and [d] of claim 24, Hughes describes a fantasy sports contest involving multiple award leagues that users may participate in. *See* Section X.A.1.b) and X.A.1.d) above. Users participate in the award leagues by providing user input, including both input regarding which of the multiple award leagues to join and additional input including a single set of event selections related to corresponding sporting events. *See* Section X.A.1.d) above.

192. As I described above in Section X.C.1, Barber discloses “wherein users wager cash to participate in the multiple real time contests of skill or chance.” Barber further teaches that users can pay a separate consideration to play in a contest of the multiple contests of skill or chance. Exhibit 1006 (Barber) at 3:25-34 (“[M]ultiple fantasy sports contest *leagues can be grouped together* into a fantasy

sports contest. A fantasy sports contest league for a particular sport may be a subdivision of a larger fantasy sports contest for that sport....”). Barber also teaches that a prize can be supplemented or funded by an entry fee or consideration paid by all who participate in a group. *Id.* at 3:13-19 (“Wagering opportunities of the present invention may have, for example, a predetermined payout schedule (e.g., the winner receiving 25 points redeemable for prizes, the winner receiving a specified percentage of the *sum of all the entry fees to a wagering pool*, etc.) or may be organized in a pari-mutuel approach...”).

193. Barber also discloses a micropayments system by which users can pay fees or consideration. *See id.* at 13:43-47, 37:22-41. The ’189 patent defines a micropayments system as a system “where a prize is supplemented or funded by an entry fee or consideration paid by all who participate in a group.” EX1001-USP189, 3:33-34. Similarly, Barber’s system is a micropayments system because it allows for, for example, “the winner receiving a specified percentage of the sum of all the entry fees to a wagering pool.” EX1006-Barber, 3:13-19.

194. Furthermore, as I explained, in Sections X.C.1.a) and X.C.1.b) above, a POSITA would have been motivated to implement Hughes’s fantasy sports contest application to include a wager system as described in Barber..

195. Therefore, the combination of Hughes and Barber renders obvious dependent claim 33.

**5. Dependent Claim 38**

*“The method of claim 24 wherein users wager cash to participate in the multiple contests of skill or chance.”*

196. As I discussed above in Section X.A.1, Hughes anticipates the method of claim 24. As I will explain next, the combination of Hughes and Barber renders obvious the additional limitation of dependent claim 38. Thus, the combination of Hughes and Barber renders dependent claim 38 obvious.

197. As I described above for elements [a]-[b] and [d] of claim 24, Hughes describes a fantasy sports contest involving multiple award leagues that users may participate in. See Sections X.A.1.b) and X.A.1.d) above. Users participate in the award leagues by providing user input, including both input regarding which of the multiple award leagues to join and additional input including a single set of event selections related to corresponding sporting events. See Section X.A.1.d) above.

198. As I explained above in Section X.C.1, the combination of Hughes and Barber renders obvious a fantasy sports contest wherein users wager cash to participate in the multiple contests of skill or chance. I also explained, in Sections X.C.1.a) and X.C.1.b) above, that a POSITA would have been motivated to implement Hughes’s fantasy sports contest application to include a wager system as

described in Barber and would have had a reasonable expectation of success in doing so.

199. Therefore, the combination of Hughes and Berner renders obvious dependent claim 38.

## **XI. SECONDARY CONSIDERATIONS**

200. As I explained in Section III (Legal Principles), I understand that secondary considerations may support or rebut the obviousness of a claim. I am not aware of any secondary considerations that support that the claims of the '189 patent are nonobvious. If Patent Owner were to argue that secondary considerations are relevant here, I reserve the right to respond.

## **XII. AVAILABILITY FOR CROSS-EXAMINATION**

201. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

**XIII. RIGHT TO SUPPLEMENT**

202. I reserve the right to supplement my opinions in the future to respond to any arguments that Patent Owner raises and to take into account new information as it becomes available to me.

**XIV. JURAT**

203. I 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 Section 1001 of Title 18 of the United States Code.

Dated: January 15, 2026



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Henry Houh, Ph.D

**APPENDIX A**

# Henry H. Houh

15 Ballard Ter.  
Lexington, MA 02420  
henry.houh@gmail.com  
cell: 781-325-8273

## 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

- 2020 – 2021: Completed four courses in the Statistics and Data Science MicroMasters program, a sequence of MIT-offered graduate-level courses in statistics and machine learning.

## 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 Tetrault 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 – 2025: 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. BlocksCAD was acquired by zSpace in 2025.

### **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 cascadable 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 60<sup>th</sup> 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. Meter, "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.

U.S. Patent No. 11,338,189  
Declaration of Henry Houh, Ph.D.  
Case No. IPR2026-00175

- 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 Easter 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.

U.S. Patent No. 11,338,189  
Declaration of Henry Houh, Ph.D.  
Case No. IPR2026-00175

- 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

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- 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

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- 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
- Correct Transmission, LLC v. Nokia of America Corporation, Case No. 2:22-CV-00343-JRG-RSP, U.S. District Court for the Eastern District of Texas, Marshall Division, submitted expert reports, was deposed, and testified at trial

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- 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 and was deposed
- Arm Inc. et al. v. Icpillar LLC; IPR2024-00476, IPR2024-00566; Retained by Arm; submitted declarations
- Microsoft Corp et al. v. Litl LLC, IPR2024-00454, IPR2024-00455, IPR2024-00456, IPR2024-00457, IPR2024-00458; submitted declarations
- Cisco Systems Inc et al. v. InfoExpress Inc, IPR2024-00539, IPR2024-00540, IPR2024-00677, IPR2024-00678; submitted declarations and was deposed
- Vizio Inc v. Multimedia Technologies Pte Ltd; IPR2024-00722, IPR2024-00723; Retained by Vizio; submitted declarations and was deposed
- Sap America Inc v. Isix IP LLC; IPR2024-00615; Retained by SAP; submitted declarations
- Cisco Systems Inc et al. v. Portsmouth Network Corp; IPR2024-00505, IPR2024-00506; submitted declarations and was deposed
- Aylo Freesites Ltd v. Dish Technologies LLC; IPR2024-00512, IPR2024-00513, IPR2024-00514, IPR2024-00515, IPR2024-00516, IPR2024-00517, IPR2024-00518, IPR2024-00519, IPR2024-00940, IPR2024-00941; submitted declarations and was deposed
- Aylo Freesites Ltd v. WellcomeMat LLC; IPR2024-00710, IPR2024-01101; submitted declarations and was deposed
- Verizon Corporate Service Group et al. v. Headwater Partners I LLC; IPR2024-00809, IPR2024-00945; Retained by Verizon; Technology: Mobile device management; Submitted declarations
- Microchip Technology Inc v. Aptiv Technologies Ltd et al.; IPR2024-00228; Retained by Aptiv; Technology: Universal Serial Bus; submitted declaration and was deposed
- Vusion Group SA v. Hanshow Technology Co Ltd; IPR2024-00963; Retained by VusionGroup; Technology: Video analysis; submitted declaration
- Maxell, Ltd. v. TCL Electronic Holdings Ltd. et al.; Case No. 5:23-cv-00108-RWS-JBB; U.S. District Court for the Eastern District of Texas, Texarkana Division; Retained by TCL; submitted declaration and was deposed
- Cerence Operating Company v. Samsung Electronics Co., LTD. et al., Case No. 2:23-cv-00482-JRG-RSP, U.S. District Court for the Eastern District of Texas, Marshall Division, submitted expert report on claim construction and was deposed
- MasterClass and FuboTV v. Dish Technologies LLC; IPR2024-00917, IPR2024-00918, IPR2024-00919; submitted declarations and was deposed
- Microsoft Corp v. Dialect LLC; IPR2025-00655, IPR2025-00656, IPR2025-00657, IPR2025-00658, IPR2025-00659; submitted declarations
- Topia Technology, Inc. v. Box, Inc., Case No. 3:23-cv-00063-JSC, U.S. District Court for the Northern District of California, submitted expert report and was deposed
- Google LLC v. Cellular South Inc.; IPR2025-00875, IPR2025-00876, IPR2025-00877; submitted declarations

- Carvana LLC v. International Business Machines Corp.; IPR2025-00564; submitted declaration

## 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 Museum (Acton, MA)
    - Board of Directors, 2023 – present
    - Board of Directors, Development Committee, 2023 – present
    - Science and Technology Advisory Council, 2012 – present
    - The Discover Museum received the 2024 National Medal for Museum and Library Service, the nation’s highest honor given to museums and libraries that make significant and exceptional contributions to their communities.
  - Tau Beta Pi National Engineering Honor Society
    - Executive Councilor and Secretary, 2024 – 2025, Treasurer 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
  - MIT Annual Giving Board, 3 year term, 2024 – 2027
  - 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
  - 4<sup>th</sup> Grade after-school science program co-organizer, 2010-2012
  - 4<sup>th</sup> and 5<sup>th</sup> Grade before-school Math Olympiad co-organizer, 2009-2013
  - 5<sup>th</sup> Grade BBQ and Yearbook Committee, 2011, 2013
  - Family Math Night volunteer, 2008-2012
- MIT Class of 1989
  - Class Agent, 2024 – present
  - 35-year Reunion Gift Committee, Co-chair, 2024
  - 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”
  - Producer for 10,000 Maniacs’ 2016 DVD “10,000 Maniacs Live”
  - Executive Producer for OK Go’s 2025 album “And The Adjacent Possible”
  - 2024-25 production of “Romeo & Juliet” at the Circle in the Square Theater, nominated for 2025 Tony for Best Revival of a Play, Investor
  - “The Interestings,” a new musical in progress by Sara Bareilles and Sarah Ruhl, Investor
  - Violist, violinist, cellist, harpist, guitarist, singer, actor: played in many amateur/semi-professional groups including Firebird Pops Orchestra, Boston Civic Symphony Orchestra, Reading Symphony Orchestra, MIT Summer Philharmonic Orchestra, Carlisle Chamber Orchestra, Horizon Ensemble, Rivers Symphony Orchestra, Opera51 Orchestra, American Music Abroad Summer 2025 Tour, Horizon Ensemble, New England Film 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: 2224, h-index: 22, i10-index: 27 (since 2019: 539/12/12)
  - Erdos-Bacon number of 7
  - Erdos-Bacon-Sabbath number of 11
-

**APPENDIX B**

**Appendix B: Materials Considered**

<b>Exhibit</b>	<b>Description</b>
1001	U.S. Patent No. 11,338,189
1003	U.S. Patent No. 7,614,944 to Hughes et al. (“Hughes”)
1005	U.S. Patent No. 5,813,913 to Berner et al. (“Berner”)
1006	U.S. Patent No. 8,538,563 to David Barber (“Barber”)
1007	File History of U.S. Patent 11,338,189 (“FH189”)
1008	U.S. Pat. No. 4,592,546 to Fascenda and Lockton (“Fascenda”)
1009	Brody James Ruihley, <i>The Fantasy Sport Experience: Motivations, Satisfaction and Future Intentions</i> (2010) (“Ruihley”)
1010	Michael Trippiedi, <i>Daily Fantasy Sports Leagues: Do You Have the Skill to Win at These Games of Chance?</i> , 5 UNLV Gaming L.J. 201 (Fall 2014) (“Trippiedi”)
1011	Ray Vichot, <i>History of Fantasy Sports and its Adoption by Sports Journalists</i> , Newsgames (Jan. 2, 2009, at 7:47 AM), <a href="https://web.archive.org/web/20111003143620/http://newsgames.gatech.edu/blog/2009/01/history-of-fantasy-sports-and-its-adoption-by-sports-journalists.html">https://web.archive.org/web/20111003143620/http://newsgames.gatech.edu/blog/2009/01/history-of-fantasy-sports-and-its-adoption-by-sports-journalists.html</a> (“Vichot”)
1012	Jim Hu, <i>Sites See Big Season for Fantasy Sports</i> , CNET (Aug. 8, 2003, at 4:00 AM PT), <a href="https://www.cnet.com/culture/sites-see-big-season-for-fantasy-sports/">https://www.cnet.com/culture/sites-see-big-season-for-fantasy-sports/</a> (“Hu”)
1013	Lee K. Farquhar, Robert Meeds, <i>Types of Fantasy Sports Users and Their Motivations</i> , J. Computer-Mediated Comm., July 2007, <a href="https://academic.oup.com/jcmc/article/12/4/1208/4582982">https://academic.oup.com/jcmc/article/12/4/1208/4582982</a> (“Farquhar”)

<b>Exhibit</b>	<b>Description</b>
1014	Michael Harmon, <i>The SAVVY Guide to Fantasy Sports</i> (2005) (“Harmon”).
1015	Microsoft, Computer Dictionary (5 <sup>th</sup> ed., 2002) (“Microsoft”), <a href="https://burmatarrecords.wordpress.com/wp-content/uploads/2009/12/microsoft_computer_dictionary__fifth_edition1.pdf">https://burmatarrecords.wordpress.com/wp-content/uploads/2009/12/microsoft_computer_dictionary__fifth_edition1.pdf</a>
1016	Paul Coulton et al., <i>Creating Entertainment Applications for Cellular Phones</i> , ACM Computers in Entertainment, July 2005 (“Coulton”)
1017	File History of U.S. Patent No. 11,918,880 (“FH880”)
1018	File History of U.S. Patent No. 11,951,402 (“FH402”)