UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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VIZIO, INC.,
Petitioner,

v.

MULTIMEDIA TECHNOLOGIES PTD. LTD.,
Patent Owner.

_____

Case IPR2024-00723
Patent 9,578,384

_____

DECLARATION OF HENRY HOUH
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION
FOR INTER PARTES REVIEW

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I, HENRY HOUH, DO HEREBY DECLARE AS FOLLOWS:

I. INTRODUCTION

1. I am making this declaration at the request of VIZIO, Inc. ("Petitioner" or "VIZIO") in the matter of the *Inter Partes* Review of U.S. Patent No. 9,578,384 ("the '384 Patent") to Selim.

2. I have been asked to provide my opinions regarding whether claims 1-12 ("the Challenged Claims") of the '384 Patent are unpatentable as they would have been obvious to a person having ordinary skill in the art ("POSITA") at the time of the alleged invention, in light of the prior art. It is my opinion that all of the limitations of the challenged claims would have been obvious to a POSITA.

3. In the preparation of this declaration, I have reviewed:

   a. the '384 Patent, EX-1001;

   b. the prosecution history of the '384 Patent ("'384 File History"), EX-1002;

   c. YouTube Video File entitled, "Connected TV: Vizio LED HDTV with VIA Apps Part 1 of 2," available at https://www.youtube.com/watch?v=MnjqA2IQHG8, posted on January 20, 2011 ("TechBuffalo1"), EX-1005 through EX-1010;

   d. YouTube Video File entitled, "Connected TV: Vizio LED HDTV with VIA Apps Part 2 of 2," available at

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https://www.youtube.com/watch?v=S9oVDVDHVBM, posted on January 19, 2011 ("TechnoBuffalo2"), EX-1011 through EX-1017;

e. YouTube Video File entitled, "Apple TV Netflix Walkthrough," available at https://www.youtube.com/watch?v=rglW9JQVMjQ, posted on April 16, 2012 ("MissingRemote"), EX-1018;

f. U.S. Patent Publication No. US 2012/0054794 to Kim et al. ("Kim"), EX-1019;

g. U.S. Patent No. 8,365,235 to Hunt et al. ("Hunt"), EX-1020;

h. U.S. Patent No. 7,634,793 to Hunleth et al. ("Hunleth"), EX-1021;

i. U.S. Patent Publication No. US 2012/0054679 to Ma et al. ("Ma"), EX-1022;

j. MMT's Infringement Contentions, Appendix E, served on July 20, 2023 by Patent Owner in the District Court matter, *Multimedia Technologies PTE Ltd., v. VIZIO Inc.*, No. 2:23-cv-00124-JRG-RSP (E.D. Tex.), EX-1023;

k. *MerchSource, LLC v. DODOcase VR, Inc*., PGR2018-00019, Exhibit 1029 (in original proceeding), EX-1024;

l. Declaration of Noah Kravitz, EX-1025;

m. Declaration of Andrew Van Til, EX-1026;

n. Executed Summons from *Multimedia Technologies PTE, LTD v. VIZIO, Inc*., Case Number 2:23-CV-124, EX-1027;

o. "The Rise of Video On Demand (VOD) Streaming" by Aura Lyu, dated April 7, 2023, available at https://www.yololiv.com/blog/the-rise-of-video-on-demand-vod-streaming/, EX-1028;

p. "RealAudio" topic in Britannica online, available at https://www.britannica.com/topic/RealAudio, EX-1029;

q. "The Story of WebTV, the Smart TV of the 90s," by Ernie Smith, published by Vice.com, dated September 16, 2016, available at https://www.vice.com/en/article/4xaqe9/why-webtvs-remote-controlled-internet-failed-to-take-off, EX-1030;

r. "The Consumer Electronics Hall of Fame: TIVO," by Brian Santo, published by IEEE Spectrum, dated 2019, available at https://spectrum.ieee.org/the-consumer-electronics-hall-of-fame-tivo, EX-1031;

s. "MythTV Invades Realm of Cable and TiVo," by Chris Barylick, published by the Washington Post, dated March 25, 2006, available at

https://www.washingtonpost.com/archive/business/2006/03/26/mythtv-invades-realm-of-cable-and-tivo/0d8393bb-6ae5-4f90-8657-e111f5fb9257/, EX-1032;

t. "The Wait Is Over! Windows XP Media Center Edition Ushers in New Era of Entertainment on the PC," dated October 28, 2002, available at https://news.microsoft.com/2002/10/28/the-wait-is-over-windows-xp-media-center-edition-ushers-in-new-era-of-entertainment-on-the-pc/, EX-1033;

u. "A History of the GUI, by Jeremy Reimer, dated May 4, 2005, published by Ars Technica, available at https://arstechnica.com/features/2005/05/gui/, EX-1034;

v. Webpage printout from Toastytech.com, available at http://toastytech.com/guis/win952.html, EX-1035;

w. "IOS: A Visual History," by Verge Staff, dated September 16, 2013, avialable at https://www.theverge.com/2011/12/13/2612736/ios-history-iphone-ipad, EX-1036;

x. "Apple TV (1st generation)," published by Apple Wiki, available at

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https://apple.fandom.com/wiki/Apple_TV_(1st_generation) , EX-1037;

y. U.S. Patent No. 5,905,521 to Gatto et al., EX-1038;

z. "WebTV May Not Be for Everyone, but It's a Step in the Right Direction," by Lawrence J. Magid, dated September 30, 1996, published by the LA Times, available at https://www.latimes.com/archives/la-xpm-1996-09-30-fi-49004-story.html, EX-1039;

aa. "Holiday Buyer's Guide 2007, Part 2; HP MediaSmart TV" by Sina Mohammadi, dated November 12, 2007, published by tom's Hardware, available at https://www.tomshardware.com/reviews/holiday-buyers-guide-2007,1723-9.html, EX-1040;

bb. "Netflix and Vizio to stream films to high-def TVs, dated January 7, 2009, published by Reuters, available at https://www.reuters.com/article/us-netflix-vizio/netflix-and-vizio-to-stream-films-to-high-def-tvs-idUSTRE5066WV20090108, EX-1041;

cc. "Vizio's Wireless TV Connects to the Web Through New 'Widget Stream,'" by Jose Fermoso, dated January 8, 2009, published

by Wired, available at https://www.wired.com/2009/01/vizios-connects/, EX-1042;

dd. "LG to release first HDTVs that instantly stream movies from Netflix," by Darren Murph, dated January 4, 2009, published by engadget, available at https://www.yahoo.com/video/2009-01-05-lg-to-release-first-hdtvs-that-instantly-stream-movies-from-netf.html#:~:text=It%20was%20really%20only%20a,Netflix%2Denabled%20HDTVs%20this%20Spring, EX-1043;

ee. "How to use Netflix on your Apple TV, available at https://help.netflix.com/en/node/23887, EX-1044;

ff. "Google TV: Everything You Need To Know," by Jay Yarow, dated May 21, 2010, published by Business Insider, available at https://www.businessinsider.com/what-is-google-tv-2010-5, EX-1045;

gg. "Sony Outs The First HDTV Powered By Google TV," by Matt Burns, dated October 12, 2010, published by TechCrunch, available at https://techcrunch.com/2010/10/12/sony-google-tv/, EX-1046;

hh. "MythTV on Design," by David Shanske, published by Gadget Wisdom, dated November 3, 2009, EX-1047;

ii. "Java and XSLT," by Eric M. Burke, dated 2001 (relevant excerpt from book), EX-1048;

jj. "The Developer's Guide to Social Programming," by Mark D. Hawker, dated 2011 (relevant excerpt from book), EX-1049; and

kk. all other documents referenced herein.

4. In forming the opinions expressed below, I have considered:

a. the documents listed herein;

b. the relevant legal standards, including the standard for obviousness, and any additional authoritative documents as cited in the body of this declaration; and

c. my own knowledge and experience based upon my work in the field of wireless charging as described below.

5. Unless otherwise noted, all emphasis in any quoted material has been added.

II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

6. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a copy of which can be found in Exhibit 1004. The following is a brief summary of my relevant qualifications and professional experience.

7. I received a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology ("MIT") in 1998. I also 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.

8. I am currently self-employed as an independent technical consultant. I am also president of a company that provides supplemental science, technology, engineering, and mathematics ("STEM") education to children of all ages.

9. 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 I was 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, including memory caching, different types of cache, and cache replacement strategies. As a TA, I helped write homework assignments, lab assignments, and exams. I also taught in the recitation sections.

10. 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.

11. The TNS group I researched and installed web servers and web caches. I also helped to build the web pages that initiated these 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; the video was encoded by TNS-designed hardware, streamed over the TNS-designed network and displayed using TNS-designed software.

12. I co-authored and presented a paper with a colleague about our video demonstrations on the web at the first World Wide Web conference held in Geneva, Switzerland at CERN. CERN is the birthplace of the Web, and the conference was hosted by Tim Berners-Lee, the inventor of the Web. In addition, we also presented a paper that provided dynamic web pages based on data extracted from a database, which we called an "Active Page." We allowed users to edit and correct data in the database to demonstrate full integration of a web page with a database.

13. Our video system featured a software toolkit that would be used to

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

14. 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.

15. From 1999-2004, I was employed by Empirix or its predecessor company, Teradyne. Empirix was a leader in test tools for telecommunications protocols and systems, providing functional testing tools as well as load testing tools. At Empirix I worked with the web test division to re-architect the division's primary product for functional and load testing of web sites. The tool could pull data from a database to provide variation of data submitted to the web applications, and then to extract data from a web page to populate a database with key results computed by the web site after customized data is submitted.

16. I have designed numerous web-based applications that utilized databases, including designing the schemas. I debugged and reconstructed live databases when data was corrupted, have deployed open source web applications that integrate with databases, and have written custom SQL scripts to extract data from databases.

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17. I have been awarded numerous United States patents, and I have several patent applications pending. The patents and patent application are listed in my *Curriculum Vitae.*

18. I am being compensated at a rate of $720 per hour for my time in this matter plus reimbursement of reasonable expenses. My compensation is not contingent on my opinions or the outcome of the case, and I have no other interest in this case or the parties thereto.

III. LEVEL OF ORDINARY SKILL IN THE ART

19. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art.

20. I understand that those factors include (1) the level of education and experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

21. A person of ordinary skill in the art ("POSITA") in August of 2012 would have been someone knowledgeable and familiar with the interactive media guide arts that are pertinent to the '384 Patent. A POSITA would have had a bachelor's degree in Electrical, Software, or Computer Engineering, or equivalent training, and approximately two years of experience working in the field of television and/or video systems, human-computer interaction, or related

technologies. Lack of professional experience can be remedied by additional education, and vice versa.

22. For purposes of this Declaration, in general, and unless otherwise noted, my statements and opinions, such as those regarding my experience and the understanding of a POSITA generally (and specifically related to the references I consulted herein), reflect the knowledge that existed in the field as of the earliest possible priority date of the Patent (i.e., August 17, 2012). Unless otherwise stated, when I provide my understanding and analysis below, it is consistent with the level of a POSITA prior to the alleged priority date of the '384 Patent.

23. In addition, I was a person of more than ordinary skill in the art in the 2012 timeframe. However, I worked with many people who fit the characteristics of a POSITA, and I am familiar with their level of skill. When developing the opinions set forth in this declaration, I assumed the perspective of a person having ordinary skill in the art, as set forth above.

IV. RELEVANT LEGAL STANDARDS

24. I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the '384 Patent, I am relying on certain basic legal principles that counsel have explained to me. These principles are discussed below.

25. I understand that prior art to the '384 Patent includes patents and

printed publications (which includes videos) in the relevant art that predate the priority date of the alleged invention recited in the ’384 Patent. For purposes of this Declaration, I am applying August 17, 2012 as the earliest possible priority date of the ’384 Patent.

26. I have been informed that a claimed invention is unpatentable under 35 U.S.C. § 103 if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. I have also been informed by counsel that the obviousness analysis takes into account factual inquiries including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

27. I have been informed by counsel that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter. Some of these rationales include the following: (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve a similar device (method, or product) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e)

choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and (f) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

28. I further understand that certain factors may support or rebut the obviousness of a claim. I understand that such 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, and copying of the alleged invention by others in the field. I understand that there must be a nexus—a connection—between any such secondary considerations and the alleged invention. I also understand that contemporaneous and independent invention by others is a secondary consideration tending to show obviousness.

29. I am not aware of any allegations by the named inventor of the ’384 Patent or any assignee of the ’384 Patent that any secondary considerations are relevant to the obviousness analysis of any Challenged Claim of the ’384 Patent.

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V. BACKGROUND

30. The foundation for "intelligent TVs" using user interfaces (UIs) was laid in the decades prior to the priority date of the '384 Patent.

Video On Demand

31. Video on Demand services were offered by content providers ("CPs") starting in the early 1990's. *See* EX-1028 ("The Rise of Video On Demand (VOD) Streaming" by Aura Lyu, dated April 7, 2023, available at https://www.yololiv.com/blog/the-rise-of-video-on-demand-vod-streaming/) ("The origins of VOD streaming can be traced back to the early 1990s").

32. These services were initially designed to be accessed through a user's set-top box (STB) and generally required the cable infrastructure to allow for upstream communications. However, alternative methods of ordering were also provided, such as calling into the cable provider on a telephone to order a program on demand.

Early Digital Video

33. One of the earliest examples of digital video available online was via the Telemedia Networks and Systems video demonstrations on which I worked.

34. We designed and built much of the system from scratch, including gigabit switches, links, computer interface cards, digital video capture cards, and the video processing and display software. Our video was available at close to full

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rate standard definition television on computers with our custom hardware and software. We made our video demonstrations available to the public on our web site around late 1993 to early 1994.

35. I set up our initial website, which was one of the first 100 or so websites. Our demonstrations were able to show the possibility of applying software processing as part of the video flow, such as rudimentary chroma-key/motion extraction filtering.

Internet Streaming

36. One of the first examples of Internet content streaming at a commercial level was through the Real Audio system developed by RealNetworks, Inc. in 1995. *See* EX-1029 ("RealAudio" topic in Britannica online, available at https://www.britannica.com/topic/RealAudio).

37. Initially, this system was designed for audio streaming, but later added video. Other media players, such as Windows Media Player also included the capability to stream audio and video.

WebTV (1996)

38. One of the earliest examples of the convergence of TV and the web was the launch of the WebTV in 1996. *See* EX-1030 ("The Story of WebTV, the Smart TV of the 90s," by Ernie Smith, published by Vice.com, dated September 16, 2016, available at https://www.vice.com/en/article/4xaqe9/why-webtvs-

remote-controlled-internet-failed-to-take-off).

39. WebTV allowed users to browse the web and access email on their television sets, and was primarily targeted to customers without a computer. The system was designed to be used at the same distance from the TV that consumers would watch television, such as on a couch in front of the television, unlike when a user at a desktop computer, where the user is sitting much closer to the monitor. Such an interface is also sometimes known as a "10-foot user interface" or a "3-meter user interface."

TiVo (1999)

40. TiVo was a system designed to record television for later playback. *See* EX-1031 ("The Consumer Electronics Hall of Fame: TIVO," by Brian Santo, published by IEEE Spectrum, dated 2019, available at https://spectrum.ieee.org/the-consumer-electronics-hall-of-fame-tivo). It was designed to be used from a couch, and was designed to be easy to use.

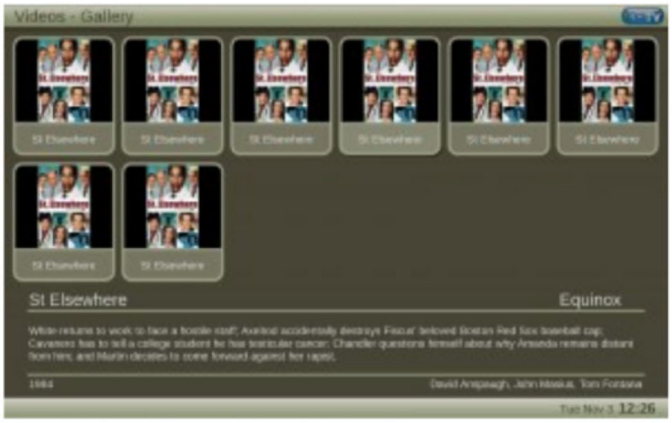
Myth TV (2002)

41. MythTV was an open source television home entertainment application, first released in 2002, that provides the ability to record television shows, and access the recorded video from a local application or over the network using an interface designed to be accessed from the couch. *See* EX-1032 ("MythTV Invades Realm of Cable and TiVo," by Chris Barylick, published by the

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Washington Post, dated March 25, 2006, available at https://www.washingtonpost.com/archive/business/2006/03/26/mythtv-invades-realm-of-cable-and-tivo/0d8393bb-6ae5-4f90-8657-e111f5fb9257/).

42. As shown below, MythTV was able to distinguish between recordings that were episodes of a television show versus recordings that were movies, and presented the listings of each in a different manner. *See* EX-1047 ("MythTV on Design," by David Shanske, published by Gadget Wisdom, dated November 3, 2009).



A directory of TV show episodes with metadata

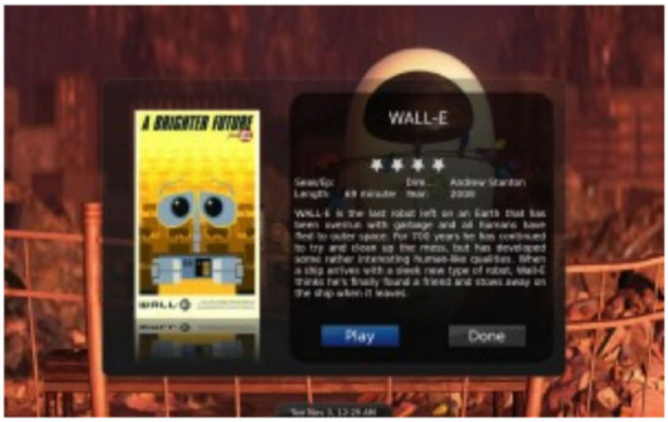
Id., at 2.



MythVideo Gallery of Movies

Id., at 5.

43. Selections of movies also resulted in detail views of the selected movie.



Single Video/Movie View in MythVideo

Id., at 4.

Windows XP Media Center Edition (2002)

44. Microsoft released a version of Windows XP in 2002 that integrated television recording and streaming feature, called the Windows XP Media Center Edition. *See* EX-1033 ("The Wait Is Over! Windows XP Media Center Edition

Ushers in New Era of Entertainment on the PC," dated October 28, 2002, available at https://news.microsoft.com/2002/10/28/the-wait-is-over-windows-xp-media-center-edition-ushers-in-new-era-of-entertainment-on-the-pc/).

45. In conjunction with a television tuner peripheral for the computer, MCE allowed users to record television shows for later viewing. The interface was also designed to be used at a couch distance from the monitor.

46. A later release of MCE allowed for streaming the television programs recorded on the computer to Media Center Extenders located on the network. The Xbox 360 had a software program that provided the MCE interface, and allowed users to stream the recorded programs on demand from the home server.

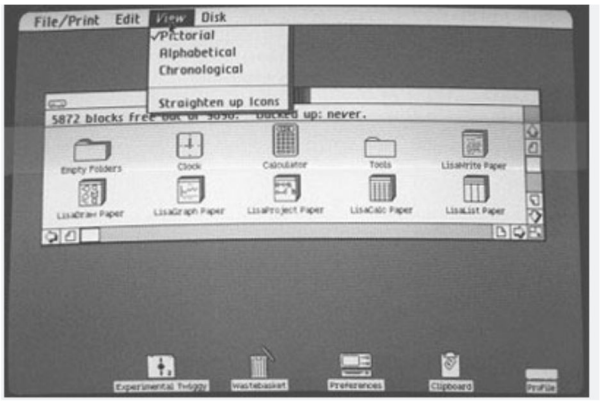
47. I personally purchased MCE computer in 2005, and later added several Xbox 360s and the MCE remotes to televisions in my home, from which I was able to stream all my recorded programming stored on my MCE computer.

Graphical User Interfaces

48. A graphical user interface ("GUI") is generally an interface that enables a user to interact with a computing device through the use of symbols, visual metaphors, pointing devices, etc.

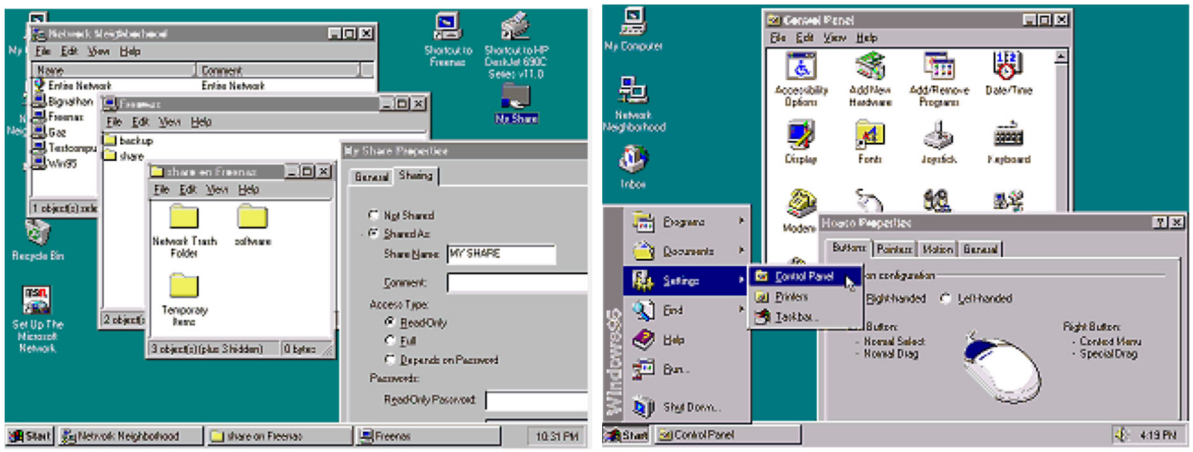
49. GUIs have evolved over decades and were conventional by 2012.

50. For example, an early, well-known example of a GUI on a computing device was found on Apple's Lisa computer (shown below), which was released in the early 1980s.



See EX-1034 ("A History of the GUI," by Jeremy Reimer, dated May 4, 2005, published by Ars Technica, available at https://arstechnica.com/features/2005/05/gui/).

51. By the 1990s, the use of GUIs in computing devices was mainstream and widespread. For example, the Windows 95 operating system included a GUI as shown below.



See EX-1035 (images from http://toastytech.com/guis/win952.html).

52. By at least 2007, the use of GUIs in small computing devices (*e.g.*, iPhone) was mainstream and widespread. For example, the iPhone using IOS 1 included a GUI as shown below.



See EX-1036 ("IOS: A Visual History," by Verge Staff, dated September 16, 2013, avialable at https://www.theverge.com/2011/12/13/2612736/ios-history-iphone-ipad).



See id.

53. By 2007, the use of GUIs for streaming movies and TV shows was mainstream and widespread. For example, the Apple TV 1st Generation device included a GUI as shown below.



See EX-1037 ("Apple TV (1st generation)," published by Apple Wiki, available at https://apple.fandom.com/wiki/Apple_TV_(1st_generation)).

Smart TVs

54. Smart TVs (*i.e.*, intelligent televisions) are a type of television that can connect to the internet and offer a variety of online services, including streaming video, music, and social media. Like other computing devices, Smart TVs continued the evolution of GUIs in various computing devices.

55. Smart TVs can be traced back to at least the mid-1990s (if not earlier). For example, U.S. Patent No. 5,905,521 entitled "Television System in a Digital or Analog Network" was filed on November 6, 1995, claiming priority to a French patent application filed on November 9, 1994. EX-1038. The Smart TV disclosed

in that patent was equipped with processors and character generators to display menus, text, graphics, and images.

56. In 1996, Sony and Philips began selling WebTV set-top boxes, which allowed users to access the internet and email on their TVs. *See* EX-1039 ("WebTV May Not Be for Everyone, but It's a Step in the Right Direction," by Lawrence J. Magid, dated September 30, 1996, published by the LA Times, available at https://www.latimes.com/archives/la-xpm-1996-09-30-fi-49004-story.html).

57. In 2007, HP started mass-producing Smart TVs, including the MediaSmart SL760. *See* EX-1040 ("Holiday Buyer's Guide 2007, Part 2; HP MediaSmart TV" by Sina Mohammadi, dated November 12, 2007, published by tom's Hardware, available at https://www.tomshardware.com/reviews/holiday-buyers-guide-2007,1723-9.html). The MediaSmart TV included a set of customized media controls to access videos, music, photos, and internet services.

58. MMT accuses VIZIO of infringing the '384 patent via, among other things, the pre-installed Netflix application found on VIZIO Televisions. EX-1023. However, television companies such as VIZIO and LG were both selling Smart TVs including the pre-installed Netflix application at least by 2009. *See* EX-1041 ("Netflix and Vizio to stream films to high-def TVs, dated January 7, 2009, published by Reuters, available at https://www.reuters.com/article/us-netflix-

vizio/netflix-and-vizio-to-stream-films-to-high-def-tvs-idUSTRE5066WV20090108); EX-1042 ("Vizio's Wireless TV Connects to the Web Through New 'Widget Stream,'" by Jose Fermoso, dated January 8, 2009, published by Wired, available at https://www.wired.com/2009/01/vizios-connects/); EX-1043 ("LG to release first HDTVs that instantly stream movies from Netflix," by Darren Murph, dated January 4, 2009, published by engadget, available at https://www.yahoo.com/video/2009-01-05-lg-to-release-first-hdtvs-that-instantly-stream-movies-from-netf.html#:~:text=It%20was%20really%20only%20a,Netflix%2Denabled%20HDTVs%20this%20Spring).

59. In addition, Apple's second generation of Apple TV also included Netflix. *See* EX-1044 ("How to use Netflix on your Apple TV", available at https://help.netflix.com/en/node/23887).

60. As will be discussed in greater detail below, applications such as Netflix used a GUI that rendered obvious the '384 Patent claims.

61. Google TV was launched in 2010. *See* EX-1045 ("Google TV: Everything You Need To Know," by Jay Yarow, dated May 21, 2010, published by Business Insider, available at https://www.businessinsider.com/what-is-google-tv-2010-5). It was designed to further bring the internet to the TV screen and allowed user to access online content, apps, and games.

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62. Sony started selling Smart TVs, which used Google TV as the operating system, in 2010. *See* EX-1046 ("Sony Outs The First HDTV Powered By Google TV," by Matt Burns, dated October 12, 2010, published by TechCrunch, available at https://techcrunch.com/2010/10/12/sony-google-tv/).

63. As reflected above, many TV manufacturers in the United States were selling Smart TVs—which included Netflix on the TVs—before 2012. Indeed, even according to the '384 Patent itself, there was a "trend to consolidate functionality into the television" before the '384 Patent. According to the specification, a "Smart TV represents the trend of technologic convergence between computer and television sets." EX-1001, 1:60-62. Preexisting smart TVs included "online interactive media, Internet TV, and on-demand streaming media." *Id*., 1:62-64.

64. Accordingly, as will be described in more detail below, the '384 Patent describes and claims no more than what was already known in the art at the relevant time period.

VI. OVERVIEW OF THE '384 PATENT

A. Summary

1. The '384 Patent is directed to televisions that "provide various interfaces for providing video-on-demand (VOD)." EX-1001, Abstract. The '384 Patent discloses a hierarchy of user interfaces (UIs) for navigating VOD content

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consisting of a "top tier interface" called a "master view." The master view "allows the user to select a type of collection shown" and, below that, a "collection view" that displays VOD content. *Id*., 44:9-13, 45:40-42. Once VOD content is selected from the collection view, it is determined if the received selection is standalone content (*e.g*., movie) or a series to determine whether a digest view or a detail view should be provided next. *Id*., 44:58-62.

65. If standalone content is selected, a "detail view" is provided. *Id*., 44:63-66. If the selection is associated with a series, a "digest view" is provided. *Id.*, 44:62-63. A digest view differs from a detail view in that a digest view provides the ability to select an episode in a series. *Id*., 45:5-8.

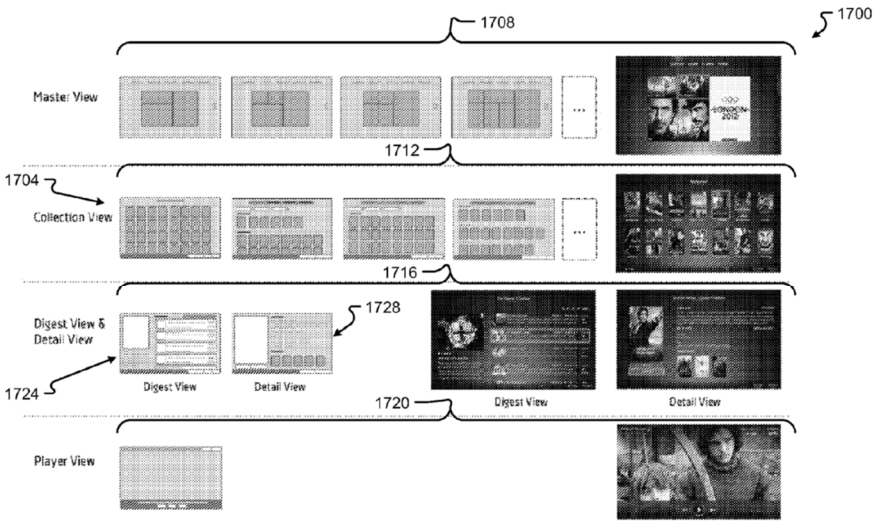


Fig. 17

EX-1001, Fig. 17.

66. As explained above, using hierarchical UIs to navigate VOD content was not new at the Critical Date. In fact, VOD services such as Netflix utilized

such interfaces long before the ’384 Patent.

B. File History of the ’384 Patent

67. The ’384 Patent was filed on September 8, 2015 and is, through a series of abandoned applications, a continuation of the applications leading to U.S. Patent Nos. 9,185,325 and 9,167,187. It claims priority to a series of provisional applications, the earliest dated August 17, 2012.

68. It is my understanding that in the only office action, the Examiner rejected claims 17-22, 28-29, and 32-34 under 35 U.S.C. §103(a), but stated claims 23-27, 30-31, and 35-36 would be allowable if written in independent form. Applicants made the suggested amendment and a Notice of Allowability issued. EX-1002, 229-230, 268, 558.

VII. OVERVIEW OF THE PRIOR ART

A. The TechnoBuffalo Videos (Netflix on VIZIO HDTV)

69. I understand that TechnoBuffalo is a consumer technology website that published a two-part review of a VIZIO HDTV on January 19-20, 2011. The reviews were published to the company’s YouTube channel under the name Jon Rettinger at https://www.youtube.com/watch?v=MnjqA2IQHG8 (“TechnoBuffalo1”) and https://www.youtube.com/watch?v=S9oVDVDHVBM (“TechnoBuffalo2”) (collectively, “TechnoBuffalo” or “TechnoBuffalo Videos”). *See* EX-1025, ¶3.

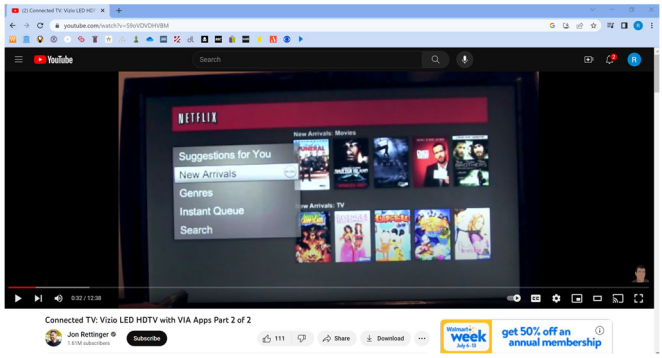
70. It is my understanding that the TechnoBuffalo Videos were posted

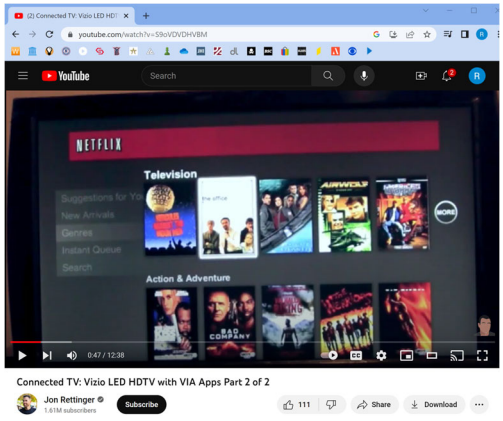
over two years before the '384 Patent's earliest priority date and over one year before the earliest provisional application cited. *Id*., ¶¶2-6.

71. It is my understanding that the TechnoBuffalo Videos are prior art under pre-AIA 35 U.S.C. §§ 102(a), 102(b), and/or AIA 35 U.S.C. § 102(a).

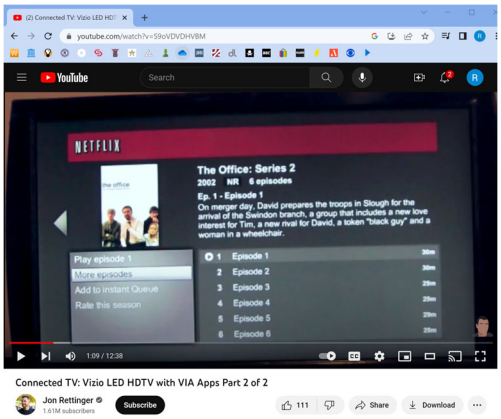
72. Based on my review of the TechnoBuffalo Videos, those videos review a VIZIO HDTV and provide a partial demonstration of Netflix's UIs. The demonstration shows, among other things, the hierarchical UIs used by Netflix to navigate VOD content.

73. Some relevant screenshots from the TechnoBuffalo Videos are provided below.





EX-1011, 0:32; *id*., 0:47.





EX-1011, 1:09; *id*., 1:51.

B. MissingRemote Video (Netflix on Apple TV device)

74. It is my understanding that the video entitled "Apple TV Netflix Walkthrough," which is available at https://www.youtube.com/watch?v=rglW9JQVMjQ ("MissingRemote"), was posted on YouTube on April 16, 2012.

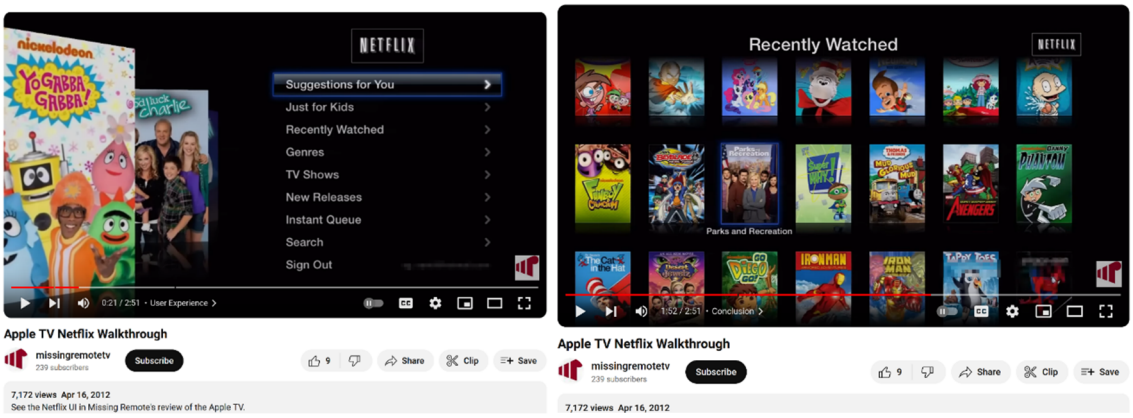
75. It is my understanding that MissingRemote was posted over one year before the '384 Patent's earliest priority date and four months before the earliest provisional application cited. *Id*., ¶¶3-5.

76. It is my understanding that MissingRemote is prior art under pre-AIA 35 U.S.C. §§ 102(a), 102(b), and/or AIA 35 U.S.C. § 102(a).

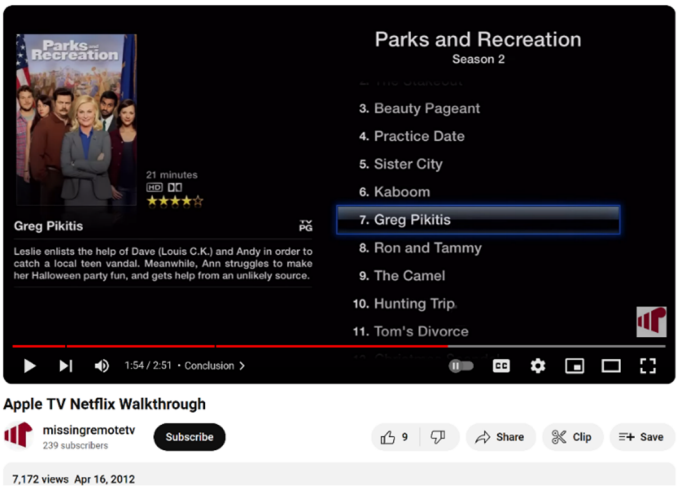
77. Based on my review of the YouTube video, MissingRemote provides another demonstration of Netflix's hierarchical UIs used to navigate VOD content on an Apple TV device. The visual design of the UIs on an Apple TV device were slightly different from a VIZIO TV (*see* TechnoBuffalo Videos), but the major

elements relevant to this IPR were materially similar.

78. Some relevant screenshots from MissingRemote are provided below.



EX-1018, 0:21; *id*., 1:51.



EX-1018, 1:54.

C. Hunt (Netflix Patent)

79. U.S. Patent 8,365,235 to Hunt *et al*. ("Hunt") was filed on September 5, 2008 and published on June 18, 2009. EX-1020.

80. It is my understanding that Hunt is prior art under pre-AIA 35 U.S.C. §§ 102(a), 102(b), and/or AIA 35 U.S.C. § 102(a).

81. Hunt is a Netflix patent. EX-1020 (Assignee: Netflix, Inc.); *id*., 7:35-37 ("In an embodiment, the media selection service 108 is the Netflix® service commercially available from Netflix, Inc., Los Gatos, Calif."). Hunt provides additional details about Netflix's VOD delivery platform and related UIs that complement the live demonstrations shown in TechnoBuffalo and MissingRemote.

82. Some relevant figures from Hunt are provided below.

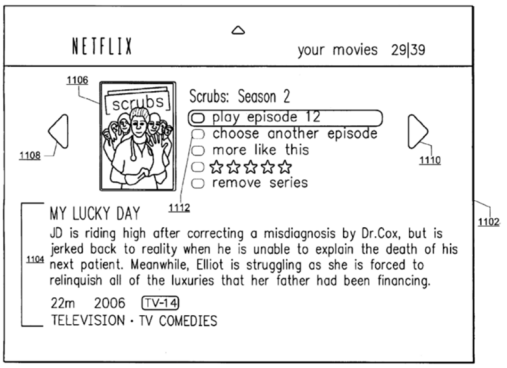


FIG. 11

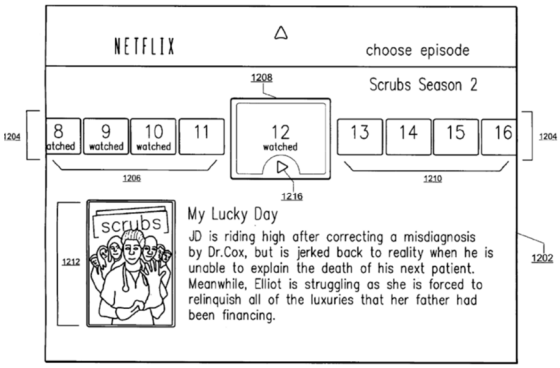


FIG. 12

EX-1020, Figs. 11, 12.

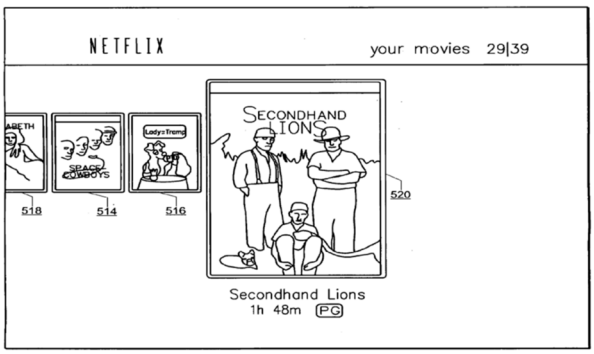


FIG. 7

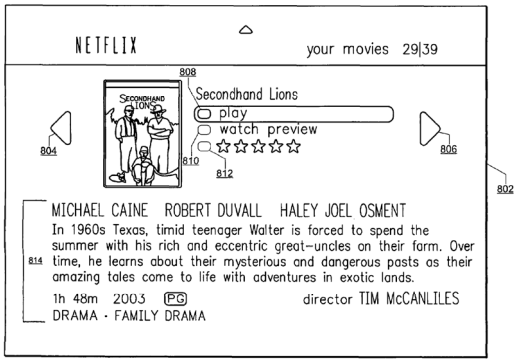


FIG. 8

EX-1020, Figs. 7 and 8.

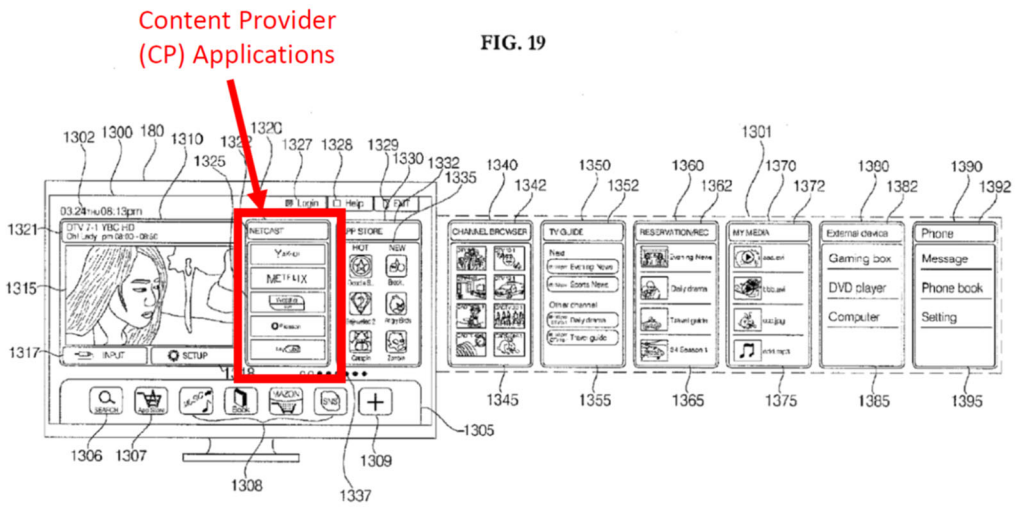
D. Kim

83. U.S. Patent Publication No. 2012/0054794 to Kim *et al*. ("Kim"), was

filed on March 9, 2011, claims priority to Provisional Application No. 61/379,369, filed on September 1, 2010, and published on March 1, 2012. EX-1019.

84. It is my understanding that Kim is prior art under pre-AIA 35 U.S.C. §§ 102(a), 102(e), and/or AIA 35 U.S.C. § 102(a).

85. Kim discloses methods for controlling an "image display apparatus 100," such as "a smart TV," to display content to a user. EX-1019, [0037]-[0038], Abstract. Kim's TV home screen displays card objects arranged according to content sources. *Id*., [0060], [0137], [0192]-[0217].



EX-1019, Fig. 19.

86. The selectable content sources include various content providers (CPs) such as "Metflix," which a POSITA would have understood is a reference to Netflix. EX-1019, [0195], [0201]; Figs. 38-41 (identifying Netflix). Kim further teaches that "many other CPs may be listed in the CP list 1325." EX-1019, [0201].

87. Kim teaches an intelligent television including multiple features,

wherein the Netflix application can be implemented by the TV as shown and/or described in TechnoBuffalo, MissingRemote, and Hunt.

E. Hunleth

88. U.S. Patent 7,634,793 to Hunleth *et al*. ("Hunleth") was filed June 3, 2005 and issued December 15, 2009. EX-1010.

89. It is my understanding that Hunleth is prior art under pre-AIA 35 U.S.C. §§ 102(a), 102(b), and/or AIA 35 U.S.C. § 102(a).

90. Hunleth is directed to "systems and methods for processing and transferring multimedia data between nodes in a communication system, *e.g.,* an interactive television system, usable to create, for example, sophisticated entertainment user interfaces in the home." EX-1021, 1:15-19. An exemplar UI taught by Hunleth is below.



FIG. 1A

EX-1021, Fig. 1A.

91. Once a selection is made from the GUI (*e.g.*, "Apollo 13"), the following view is generated.

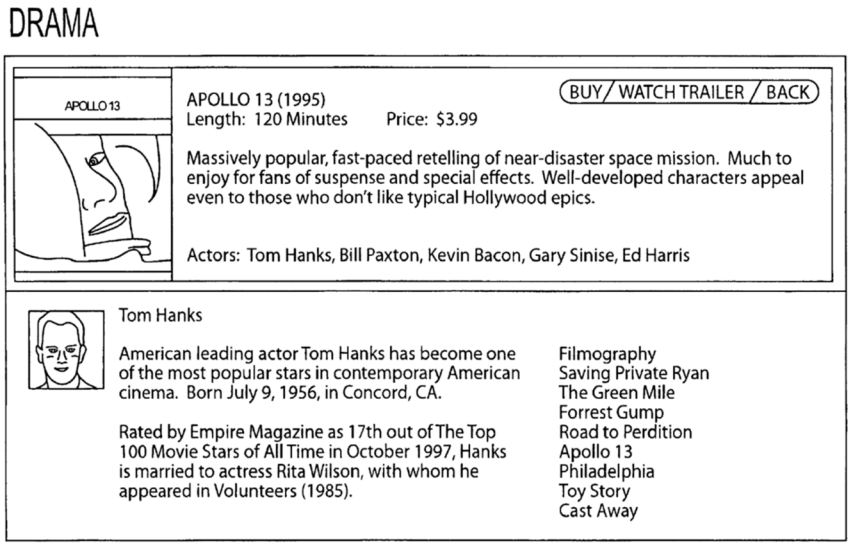


FIG. 2

EX-1021, Fig. 2.

92. Hunleth teaches methods using metadata to generate UI screens. *Id.*, 4:45-48; 5:2-17.

F. Ma

93. U.S. Patent Publication No. 2012/0054679 to Ma *et al.* ("Ma"), filed on May 16, 2011, claims priority to Provisional No. 61/378,883, filed on August 31, 2010, and published on March 1, 2012. EX-1022.

94. It is my understanding that Ma is prior art under pre-AIA 35 U.S.C. §§ 102(a), 102(e), and/or AIA 35 U.S.C. § 102(a).

95. Ma is directed to a "menuing structure" for presenting items of media content on a media device. EX-1022, [0002]. Ma teaches that devices (e.g., an

Apple TV device) are configurable to present VOD content via a "menuing structure that facilities the navigation and selection of media item choices." *Id*., [0021]. Ma teaches using different regions for displaying items of media categories and sub-category regions and menu options. *Id.*, [0021].

96. Ma's homescreen is shown below.

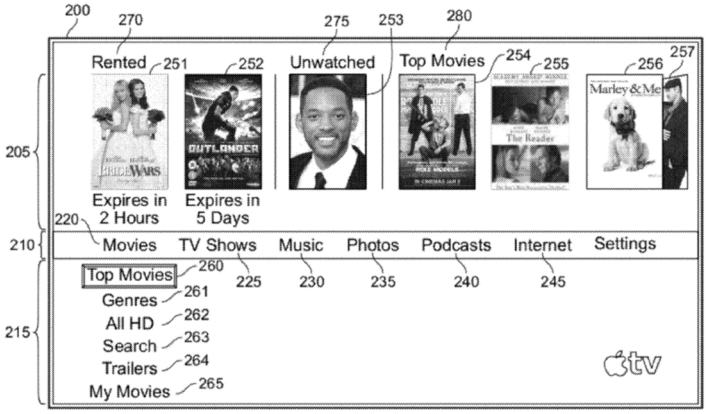


FIG. 2

EX-1022, Fig. 2.

VIII. CLAIM CONSTRUCTION

97. It is my understanding that to properly evaluate the '384 Patent, the terms of the claims must first be interpreted. It is my understanding that for the purposes of this proceeding, the claims are to be construed under the so-called *Phillips* standard, under which claim terms are given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in light of the specification and prosecution history, unless the inventor has set forth a special meaning for a term.

98. For the purposes of this declaration, I do not believe that any claim terms require specific constructions.

99. I note that "intelligent TV" is defined by the '384 Patent as "a television configured to provide one or more intuitive user interfaces and interactions based on a unique application platform and architecture." EX-1001, 17:65-18:1. I also note that in the '384 Patent, "computer-readable medium" "refers to any tangible storage and/or transmission medium that participate in providing instructions to a processor for execution." *Id*., 15:42-45.

IX. IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE

100. I have been asked to provide my opinion as to whether the Challenged Claims of the '384 Patent would have been obvious in view of the prior art. The discussion below provides a detailed analysis of how the prior art reference identified below teaches the limitations of the Challenged Claims of the '384 Patent.

101. As part of my analysis, I have considered the scope and content of the prior art and any differences between the alleged invention and the prior art. I describe in detail below the scope and content of the prior art, as well as any differences between the alleged invention and the prior art, on an element-by-element basis for each Challenged Claims of the '384 Patent.

102. As described in detail below, the alleged invention of the Challenged

Claims would have been obvious in view of the teachings of the identified prior art references as well as the knowledge of a POSITA.

A. Ground 1: Claims 1-12 Are Obvious Under 35 U.S.C. § 103(a) Over Kim in View of TechBuffalo, MissingRemote, Hunt, and Hunleth

i. Reasons to Combine Kim, TechBuffalo, MissingRemote, Hunt, and Hunleth

103. A POSITA would have found it obvious to combine TechnoBuffalo, MissingRemote, and Hunt ("the Netflix references"). Significantly, these references relate to Netflix.

104. The TechnoBuffalo and MissingRemote Videos demonstrate the operation and UIs of Netflix. Thus, in my opinion, they would have provided a POSITA with an express motivation to combine the teachings as a single, comprehensive documentation describing the various functions and features of Netflix. For example, TechnoBuffalo shows the launch and execution of Netflix installed on a smart TV. EX-1010; EX-1011. TechnoBuffalo2 shows movies such as "Bad Company" in a collection view and shows a digest view of "The Office." EX-1011, 0:43, 1:11. MissingRemote shows a similar digest view of a TV series and movies like "War Horse" in a collection view using Netflix. EX-1018, 0:09, 2:10. While slight differences exist between the UIs in TechnoBuffalo2 and MissingRemote, a POSITA would have understood that menu designs from the Apple TV device could have been used on the VIZIO TV for the same platform

(Netflix) as a known design alternative. A POSITA would have been able to successfully implement those design changes, just as Netflix did before the Critical Date.

105. Hunt is a Netflix patent that provides details on the operation of Netflix's platform.

106. Together, these references detail various aspects of Netflix, including Netflix's prior art UIs, and in my opinion provide an explicit motivation to combine.

107. Netflix UIs were well-known, in public use, and within a POSITA's background knowledge. Thus, combining the teachings from the Netflix references would involve (1) combining prior art elements according to known methods to yield predictable results, (2) a simple substitution of known elements to obtain predictable results, (3) use of known techniques to improve similar products (Netflix) in the same way; and (4) substitutions that would have been obvious "obvious to try" for Netflix involving a finite number of identified, predictable solutions, with a reasonable expectation of success based on prior implementations described above.

108. A POSITA would have also found it obvious to combine the teachings of the TechnoBuffalo Videos, MissingRemote, Hunt, and Hunleth with Kim to obtain beneficial and predictable results.

109. Kim discloses a home screen for intelligent TVs including CP applications. EX-1019, [0201], Fig. 19. CPs provide VOD for real-time streaming. *Id*., [0063], [0159]. An exemplar CP is "Metflix" (i.e., Netflix). EX-1019, [0201], Fig. 19, Figs. 38-41 (identifying Netflix). Thus, Kim provides a POSITA with an express motivation to combine the teachings relating to Netflix—in TechnoBuffalo, MissingRemote, and Hunt—with Kim's teachings.

110. Furthermore, similar to Hunt, Hunleth discloses user selections of movies in a collection view resulting in a detail view display. EX-1021, 4:45-51; Fig. 1B (collection view), Fig. 2 (detail view). Hunleth provides further details about how the client device uses the selected content's metadata to generate UIs. *Id*., 5:2-17.

111. In my opinion, a POSITA would have been motivated to combine Hunleth's teachings regarding metadata use and management to generate and display UIs with the other teachings from TechnoBuffalo, MissingRemote, Hunt, and Kim to: (1) ensure that UIs are accurately generated, (2) enable sufficient data to be supplied to render rich UIs, (3) provide UIs in a manner that is sensitive to time delays; and (4) provide UIs that resolve conflicting parameters and enable advanced UIs to be generated. EX-1021, 2:63-3:3.

112. TechnoBuffalo, MissingRemote, Hunt, and Hunleth are natural extensions of Kim and complement Kim by disclosing additional details about UI

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design and generation, including using metadata to generate UIs. It would have been obvious to a POSITA to implement the UIs and other teachings from TechnoBuffalo, MissingRemote, Hunt, and Hunleth on Kim's apparatus once Netflix is selected.

113. A POSITA would have been motivated to combine the teachings of Kim with TechnoBuffalo, MissingRemote, Hunt, and Hunleth because those references consider analogous methods (*e.g.*, providing UIs including selectable menu items), are in the same field (*e.g.*, use of display apparatuses for providing content from CPs), and the underlying technologies are directed toward solving the same problem (*e.g.*, increasing user convenience and overall UI effectiveness by providing more intuitive UIs). EX-1019, [0282]; EX-1021, 2:64-66.

114. The combination of TechnoBuffalo, MissingRemote, Hunt, and Hunleth with Kim merely combines prior art elements (*e.g.*, smart TVs, processors, non-transitory computer readable medium having stored thereon processor executable instructions, GUIs, metadata) according to known methods (*e.g.*, generating and presenting GUIs using metadata for VOD content from CPs such as Netflix) to yield predictable results (*e.g.*, providing users with an ordered UI to select and watch movies and TV shows, just as Netflix was doing on televisions before the Critical Date).

115. The combination is a simple substitution of one known element (*e.g.*,

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methods for using metadata and presenting GUIs) for another (*e.g.*, adding a CP to Kim's list of CPs) to obtain predictable results (*e.g.*, using metadata and presenting GUIs for VOD from content providers such as Netflix).

116. The combination is nothing more than applying a known technique (*e.g.*, use of metadata and hierarchical GUIs) to improve the similar system of Kim, wherein Kim specifically envisions Netflix being used on its TV. EX-1019, [0201], Figs. 19, 42.

117. Kim includes teachings and suggestions (*e.g.*, references to Netflix, metadata manager 712) that would have led a POSITA to modify Kim's TV to include teachings from TechnoBuffalo, MissingRemote, Hunt, and Hunleth to arrive at the claimed invention. EX-1019, [0201], [0053], Figs. 19, 42.

118. The results would have been predictable and there would have been a reasonable expectation of success in the combination because Kim teaches and/or suggests the use of Netflix, TechnoBuffalo and MissingRemote videos provide live demonstrations of Netflix on intelligent televisions (so the combination was shown to be successful), Hunt provides further details relating to Netflix (exemplar menu views, processor details), and Hunleth teaches well-known methods of using metadata to generate UIs.

119. A POSITA would have been able to successfully implement the combination as demonstrated by the prior art and background knowledge of a

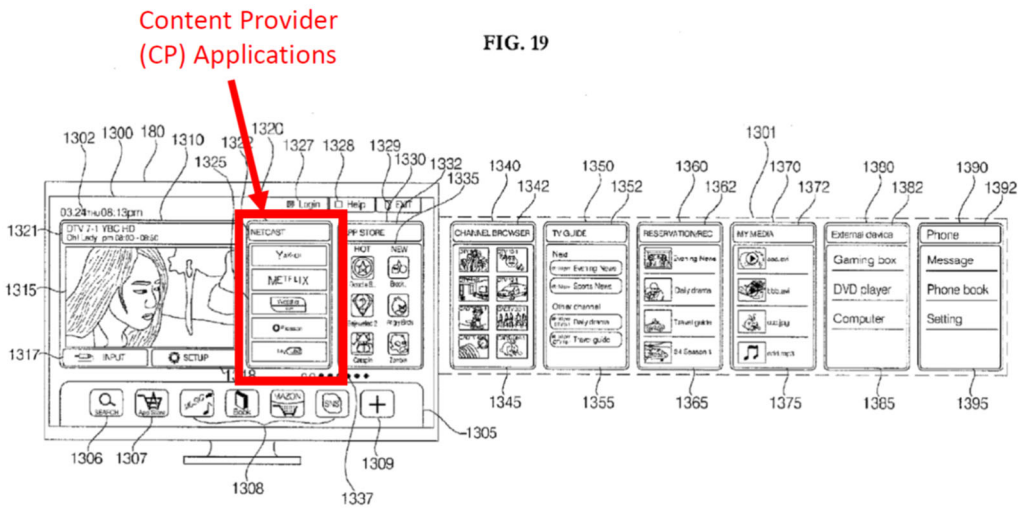
POSITA, including knowledge of the state of GUIs (including those of streaming platforms such as Netflix) and smart TVs at the Critical Date.

ii. Claim 1

a. Limitation [1.0]

120. Kim discloses "*an intelligent television*" by teaching an "image display apparatus [that] may be configured as … a ***smart TV [intelligent television]***" and a "method of controlling the same" to "display various types of content including still or video images as well as multimedia content." EX-1019, [0282]-[0289], Fig. 9.

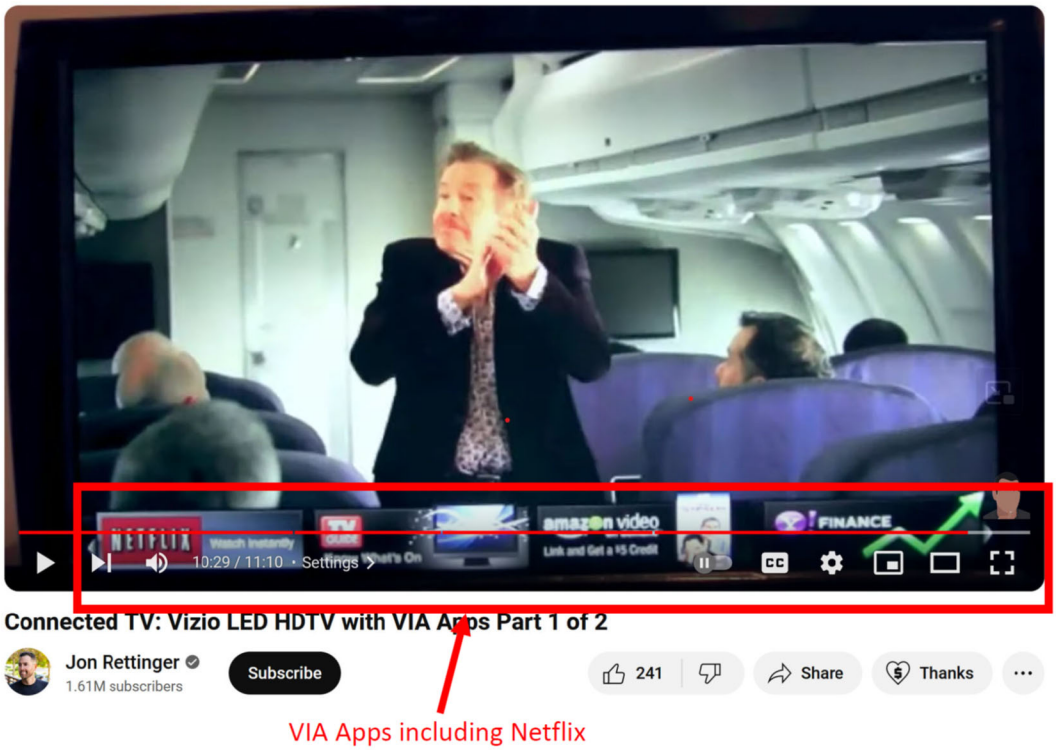
121. The TV disclosed in Kim is an "*intelligent television*" as it provides multiple UIs and interactions based on its unique application platform and architecture. The Kim TV provides UIs for an App Store, multimedia (My Media), TV Guide, and CP applications. EX-1019, [0040], [0063], [0201], [0202]-[0209], Fig. 19. A POSITA would have understood that the CP applications employ their own UIs and that Kim's TV would have integrated Internet connectivity with parallel application functionality.



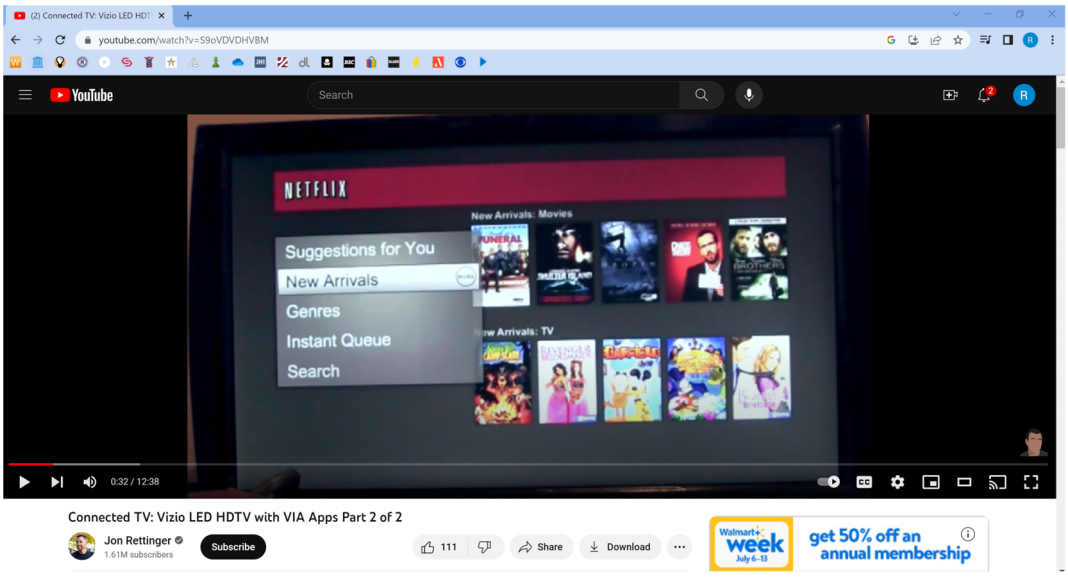
EX-1019, Fig. 19 (annotated).

122. ***Second***, Kim discloses a "*method for providing video-on-demand (VOD) in an intelligent television*." Kim teaches that "the image display apparatus 100 may receive non-linear A/V content [that] … may be, for example, a Content on Demand (CoD) application." EX-1019, [0040]. Kim teaches the use of Real-Time Streaming Protocol (RTSP) for users selecting VOD. *Id*., [0063]. Kim further identifies "Metflix" (i.e., Netflix) as a CP that provides VOD. *Id*., [0201], Figs. 19, 38-42.

123. ***Third***, TechnoBuffalo1 discloses this limitation, depicting a smart VIZIO HDTV with VIA Apps (*i.e*., an "intelligent television") including Netflix.



EX-1010.



EX-1011, 0:32.

b. Limitation [1.1]

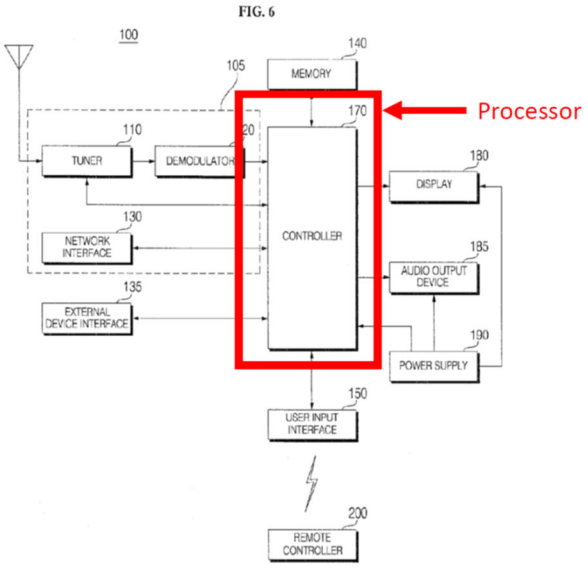
124. ***First***, Kim teaches the intelligent television's processor receiving

selections for VOD content. Kim discloses a "controller 170" to "provide ***overall control*** to the image display apparatus 100." EX-1019, [0089]. The controller 170 includes "a video processor … an audio processor and a data processor" and may also include an "additional application processor." *Id*., [0085], [0133], [0166]. Controller 170 utilizes a software platform with an operating system ("OS") to perform display apparatus operations. *Id*., [0145], [0166], Figs. 11-12.

125. A POSITA would have understood that controller 170 corresponds to multiple processors (*e.g*., video processor, audio processor, data processor, application processor) that execute OS-based software, among other software, to implement the operations of the image display apparatus 100 ("*intelligent TV*"). Kim's controller (including one or more of the processors described above) corresponds to "*a processor*," which is consistent with the '384 Patent's teaching that a processor "may include multiple processor cores, and/or implement multiple virtual processors." EX-1001, 28:55-67.

126. Kim's controller ("processor") is shown below:

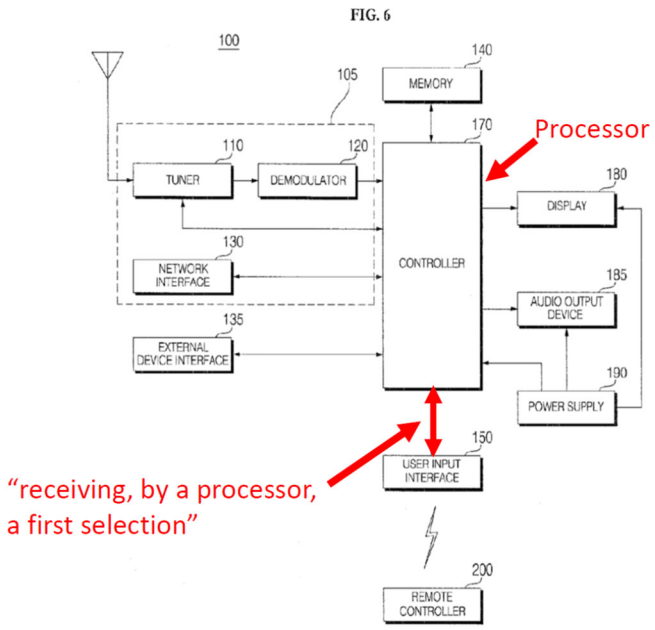
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EX-1019, Fig. 6 (annotated).

127. Like the Petition, I will primarily refer to controller 170 as the "processor." However, a POSITA would have understood Kim's teaching—that "***the controller 170, or any other processor***" (EX-1019, [0166]) may perform functions for controlling the image display apparatus—contemplates a single processor being used instead. There, the controller would be replaced by the "other processor" (e.g., a single processor) that performs the controlling functions, and that processor would correspond to the claimed "*processor*."

128. User interface 150 may receive various user input signals or control signals from a remote controller 200 and local keys, which are provided to controller 170. EX-1019, [0086]-[0087], Fig. 14; *see also id.*, [0060], [0109]-[0110], [0112]-[0113], [0173]. Controller 170 receives a signal associated with a user selection via the remote controller 200.



EX-1019, Fig. 6 (annotated).

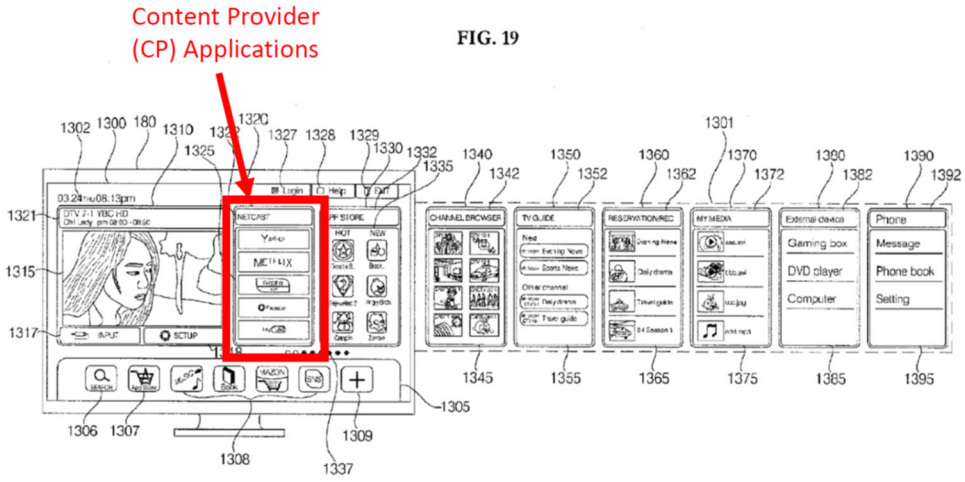
129. Thus, Kim discloses an intelligent television processor that receives VOD content selections from, for example, remote controller 200. Because Kim's processor provides ***overall*** control to apparatus 100 (EX-1019, [0089]), it would receive all selections recited in claim 1, including "*a first selection for a VOD content*."

130. ***Second***, it would have been obvious to a POSITA that the VIZIO TV in TechnoBuffalo includes a processor that provides overall control as taught by Kim. Indeed, using processors in smart TVs to receive input signals from remote control devices was well known before the Critical Date.

131. It was also well known that smart TV processors provide GUIs to users.

132. At a minimum, Kim teaches and/or suggests that the VIZIO TV included a processor to implement the claimed steps. EX-1019, 5:42-6:40. A POSITA would have further recognized that the TV's UIs in TechnoBuffalo would have been efficiently implemented as different software applications running on a processor, which would allow the use of standard programming languages and developer kits. Thus, a POSITA would have understood that the VIZIO TV's processor received user selections, including "*a first selection for a VOD content*."

133. ***Third***, Kim and TechnoBuffalo1 teach "*a first selection for a VOD content.*" Kim discloses UIs including selectable items for CP applications. EX-1019, [0201].

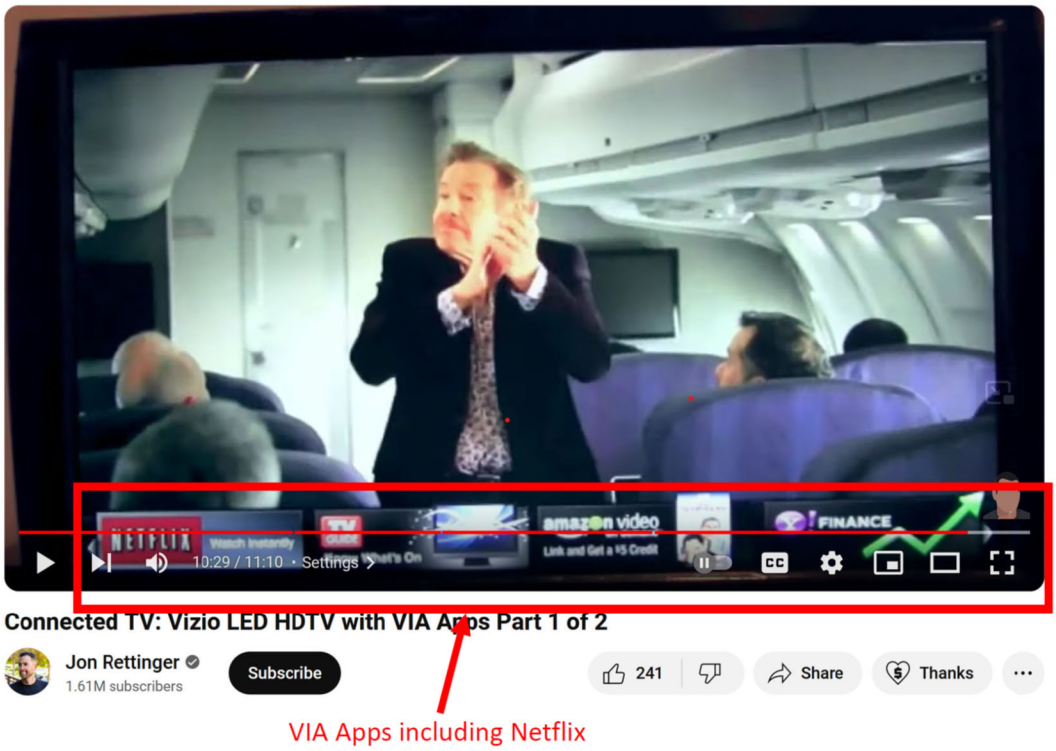


EX-1019, Fig. 19.

134. "[I]f a specific CP is selected from the CP list 1325, a list of content available from the selected CP may be displayed on the display 180." EX-1019, [0201]. For example, a user selecting "Metflix" would be provided with access to

Metflix's VOD content, satisfying the "first selection for a VOD content" limitation. This is consistent with the '384 Patent's teachings and Patent Owner's second example of alleged infringement. EX-1001, 44:26-35, Fig. 17 (showing CP home screen); EX-1023, 2.

135. Similarly, TechnoBuffalo1 includes VIA Apps, including a selectable menu item for Netflix. Selecting Netflix would be "*a first selection*."



EX-1010.

c. Limitation [1.2]

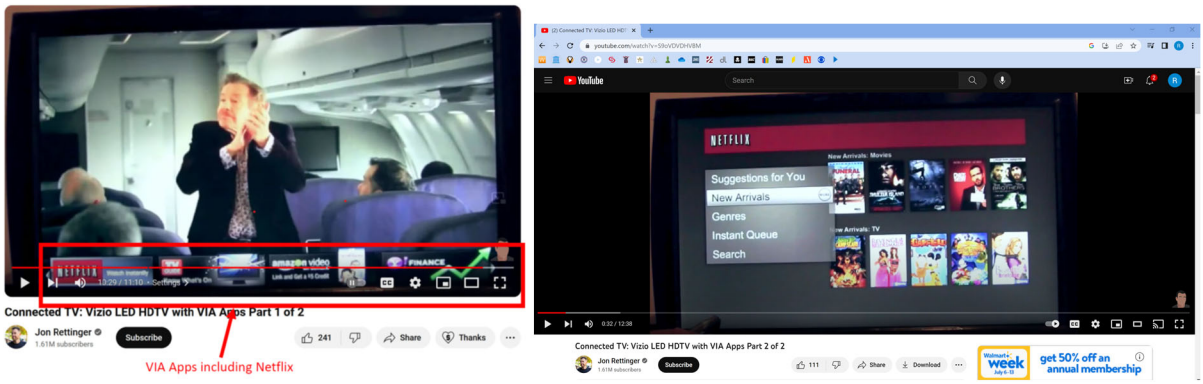
136. ***First***, as discussed at [1.1], Kim and TechnoBuffalo disclose "*a first selection for a VOD content.*"

137. ***Second***, Kim and TechnoBuffalo disclose "*providing … a master view*

of the VOD content" "*in response to the first selection*." Kim provides a UI for selecting CPs of VOD content like Netflix. Kim teaches "if a specific CP is selected from the CP list 1325, a list of content available from the selected CP may be displayed on the display 180." EX-1019, [0201]; *see also id.*, [0040], [0063]. A POSITA would have understood that selecting "Metflix" would have caused Kim's television to provide a separate UI (master view of VOD content) associated with Metflix. *Id.*

138. Similarly, in TechnoBuffalo, clicking on "Netflix" from the global menu (below left) would have resulted in Netflix's master view being displayed (below right). At a minimum, it would have been obvious to a POSITA to present Netflix's master view in response to selecting Netflix in the global menu, which would involve the use of a known technique (*e.g.*, use of hierarchical menus) to achieve a predictable result, wherein a POSITA would have a reasonable expectation of success of implementing the design.

139. A POSITA would have been motivated to design the VIZIO TV in this manner to allow the Netflix home screen to be accessed. This is consistent with Patent Owner's second example of alleged infringement. EX-1023, 4.



EX-1010 (left); EX-1011, 0:32 (right).

140. ***Third***, Kim teaches that the master view is provided "*by the processor*." As discussed at [1.1], Kim's processor provides "overall control to the image display apparatus 100," and utilizes a software platform with the OS to perform display apparatus operations. EX-1019, [0089], [0145], [0166], Figs. 11, 12.

141. Kim's "UI manager 714 and the service manager 713 may ***manage the overall state*** of the image display apparatus 700, ***provide UIs***, and manage other managers." *Id*., [0060]. "The UI manager 714 may provide a Graphical User Interface (GUI) in the form of an OSD and may perform a reception operation corresponding to a key input received from the user." *Id*. Further, the "controller 170 may control the image display apparatus 100 according to a user command received through the user input interface 150 or according to an internal program. *Id*., [0090]. Thus, a POSITA would have understood that Kim's processor provides various views in response to user selections, including providing "*a master view of*

VOD content" "*in response to the first selection*."

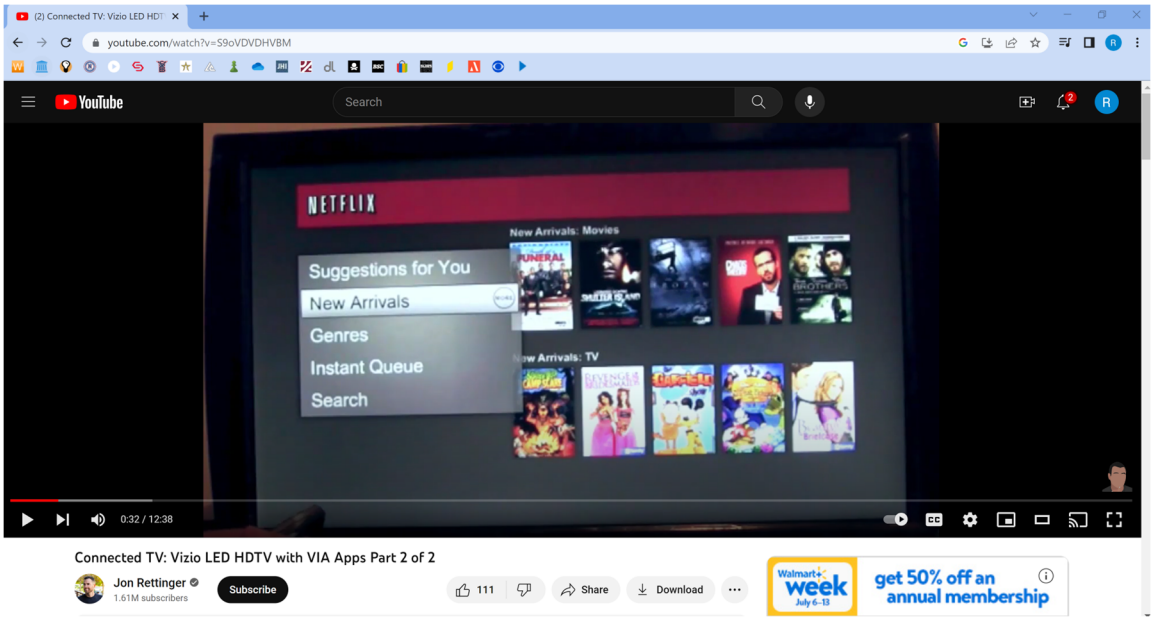
142. ***Fifth***, TechnoBuffalo2 and MissingRemote disclose "*a master view*" that "*presents two or more collections of the VOD content organized by a characteristic of the VOD content.*"

143. Kim teaches that a display associated with an application like "Netflix" can be provided in response to a user selection ("*the first selection*"). EX-1019, [0040], [0063], [0201], Fig. 39.

144. While Kim does not depict Netflix's master view, TechnoBuffalo2 and MissingRemote do.

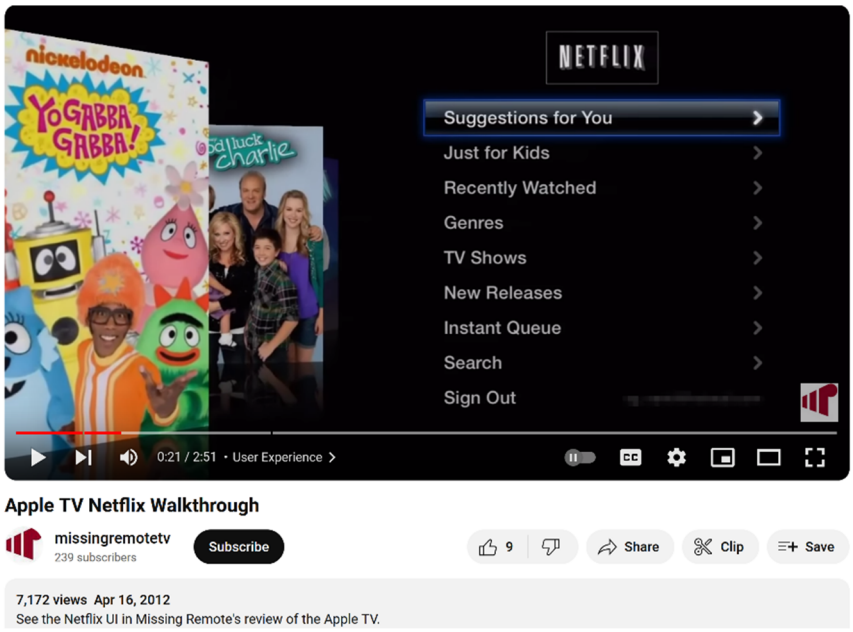
145. Netflix's home screen ("*master view*") demonstrated in TechnoBuffalo2 presents multiple collections of the VOD content organized by a characteristic (*e.g.*, "Suggestions for You," "New Arrivals," etc.) of the VOD content.

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EX-1011, 0:32.

146. Similarly, Netflix's "*master view*" demonstrated in MissingRemote presents two or more collections of the VOD content organized by a characteristic (*e.g.*, "Suggestions for You," "Recently Watched," "New Releases") of the VOD content (below).



EX-1018, 0:21.

147. As discussed herein, it would have been obvious to a POSITA to combine the teachings of Kim, TechnoBuffalo2, and MissingRemote because, among other things, Kim teaches the use of Netflix as a content provider for VOD content, and TechnoBuffalo2 and MissingRemote depict embodiments of Netflix's preexisting UIs.

d. Limitation [1.3]

148. ***First***, user selections, including "*a second selection for a VOD content*," would be received by the processor as taught by Kim. *See* [1.1].

149. ***Second***, "*a second selection*" disclosed by TechnoBuffalo2 include selections for "Suggestions for You," "New Arrivals," "Genres," "Instant Queue," or "Search" in Netflix's master view. EX-1011, 0:32. This is consistent with Patent Owner's second example of alleged infringement. EX-1023, 4.

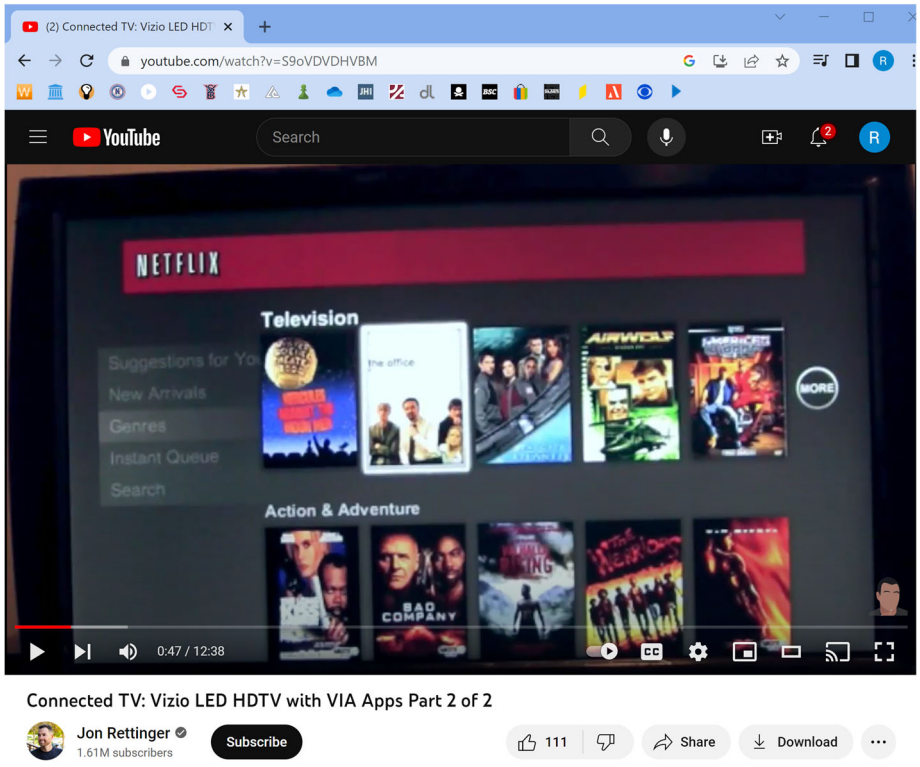
150. ***Third,*** "*a second selection*" disclosed by MissingRemote include "Just for Kids," "Recently Watched," "Genres," "New Releases," etc. EX-1018, 0:21.

e. Limitation [1.4]

151. ***First***, TechnoBuffalo2 discloses providing "*a collection view*" in response to a user selection ("*second selection*") of a selectable item in Netflix's master view. For example, selecting "Genres" results in the television providing a

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menu ("*collection view*") having content organized by "Television" and "Action & Adventure."

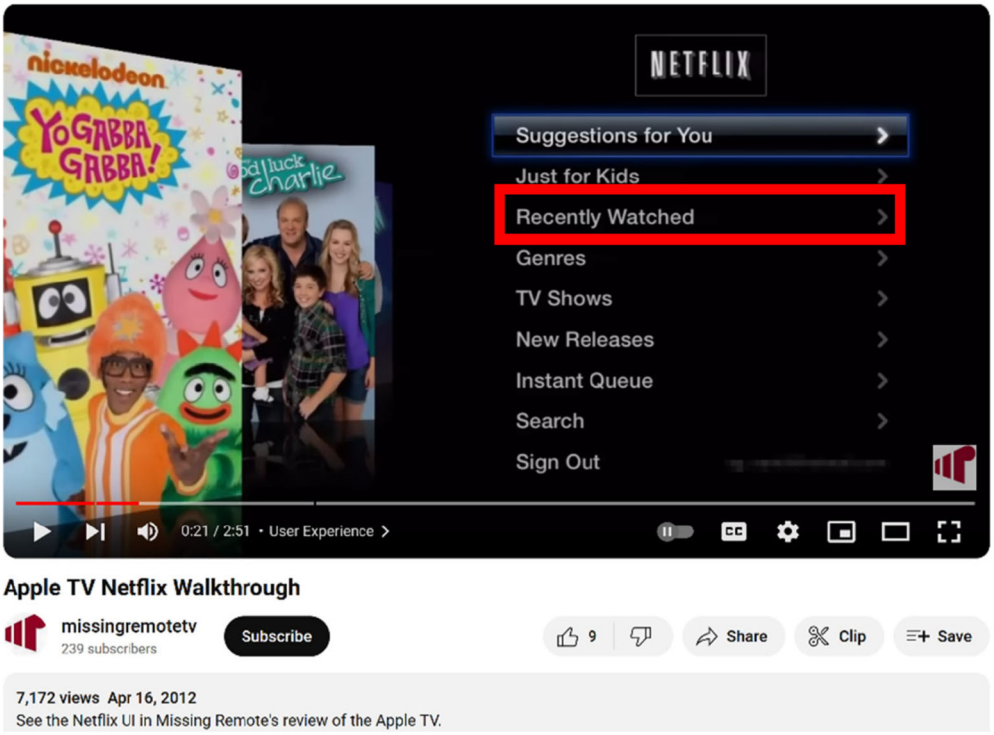


EX-1011, 0:47.

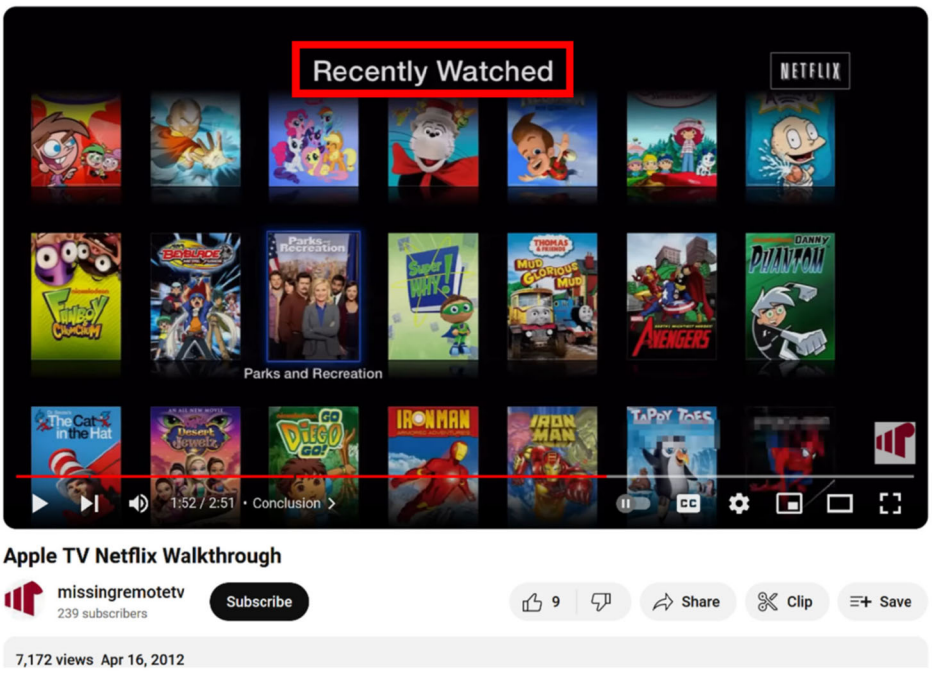
152. The "*collection view*" above presents collections of multiple items of the VOD content (*e.g.*, "The Office," "Bad Company"), and is organized by a characteristic of the VOD content (*e.g.*, genres). A POSITA would have understood that selecting other "characteristics" would result in corresponding collection views being presented in TechnoBuffalo2. *See, e.g.*, TechnoBuffalo2, 0:37 (New Arrivals).

153. ***Second***, MissingRemote discloses a collection view in response to a second selection (*e.g.*, selection for "Recently Watched") having the corresponding

characteristic (below).



EX-1018, 0:21 (annotated).



EX-1018, 1:51 (annotated).

154. ***Third***, a POSITA would have understood that a processor provides different views, including "*a collection view of VOD content*" (above), as taught by Kim. *See* [1.2].

155. It would also have been obvious to a POSITA that a processor provides views relating to Netflix, including "*the collection view*," as taught by Hunt. EX-1003, ¶155. It would have been obvious for Netflix—demonstrated in TechnoBuffalo and MissingRemote—to implement details disclosed in Hunt (a Netflix patent) relating to the same VOD streaming platform.

156. Hunt's "***processor 140 displays a menu*** of available programs on display 142." EX-1020, 9:32-33. Hunt further discloses that "***streaming media processor 140 generates screen display*** 502 for video output in response to a user powering on the processor, or in response to a user making a selection from a UI in which the user requests to view movies or other audiovisual programs that are available for instant viewing." *Id*., 16:16-22.

157. A POSITA would have understood that a processor provides different views relating to Netflix, including "a collection view of VOD content" as taught by Hunt. Even without Hunt, it would have been obvious to use a processor to provide Netflix's UIs, which would involve the use of a known technique (*e.g.*, using a processor to provide GUI elements in a smart TV) to achieve a predictable

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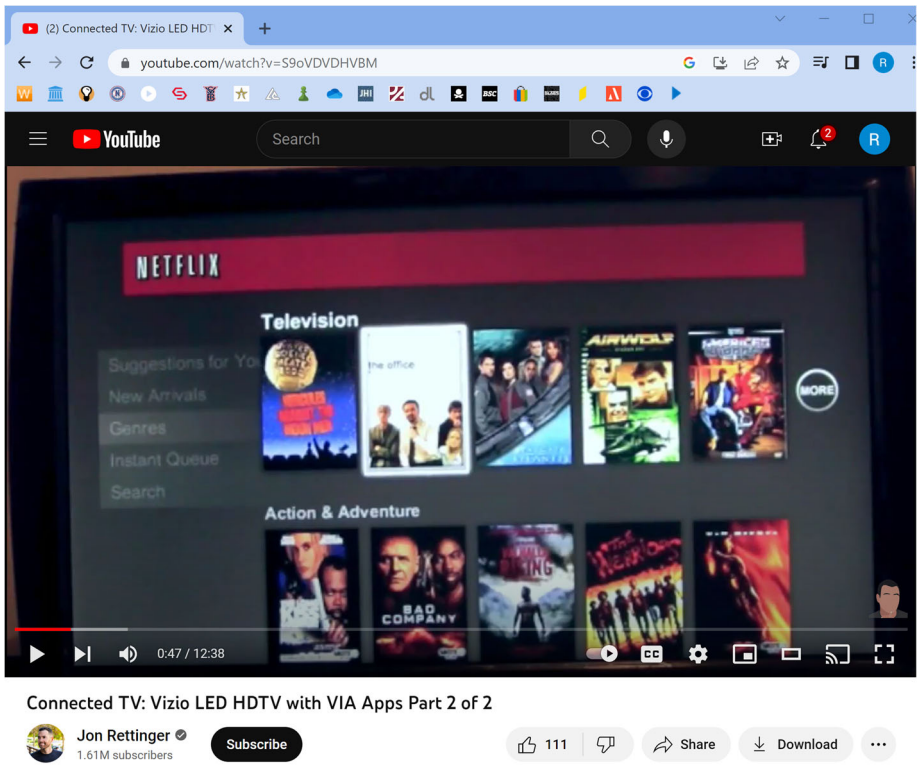
result, wherein a POSITA would have a reasonable expectation of success of making the device.

158. Hunleth's views are also provided by a processor. EX-1021, 29:12-22 ("Systems and methods for processing metadata according to exemplary embodiments of the present invention can be performed by processors …"), 11:23-34, claim 8.

f. Limitation [1.5]

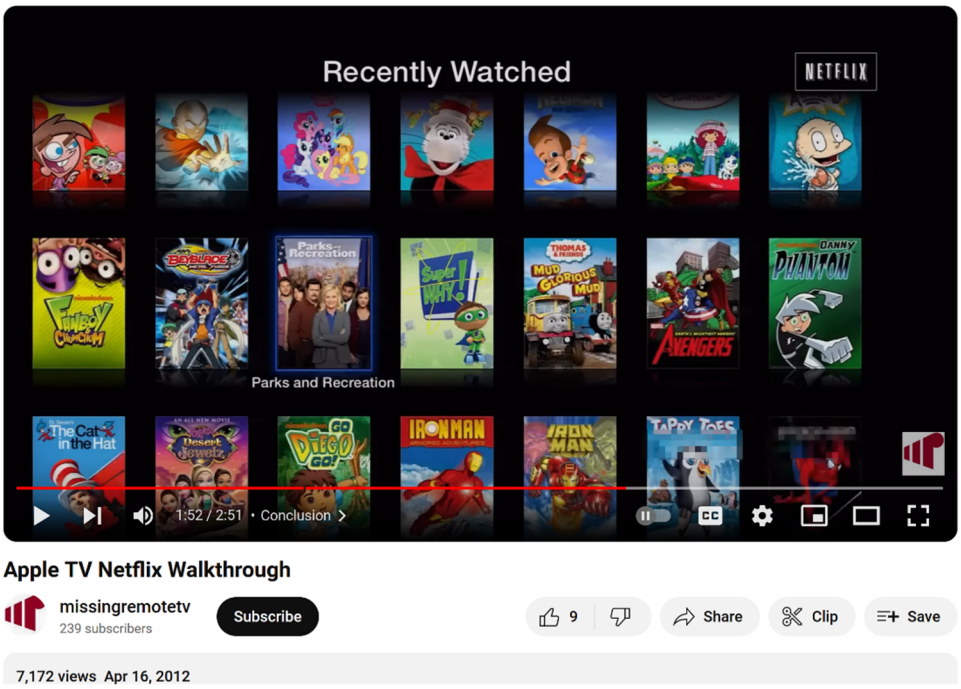
159. ***First***, user selections, including "*a third selection for a VOD content*," would be "*receiv[ed], by the processor*" as taught by Kim. *See* [1.1].

160. ***Second***, selecting "The Office" or "Bad Company" in TechnoBuffalo2's collection view below would satisfy the "*third selection for a VOD content*" limitation.



EX-1011, 0:47.

161. ***Third***, selecting "Parks and Recreation" in MissingRemote's collection view satisfies the "*third selection for a VOD content*" limitation.

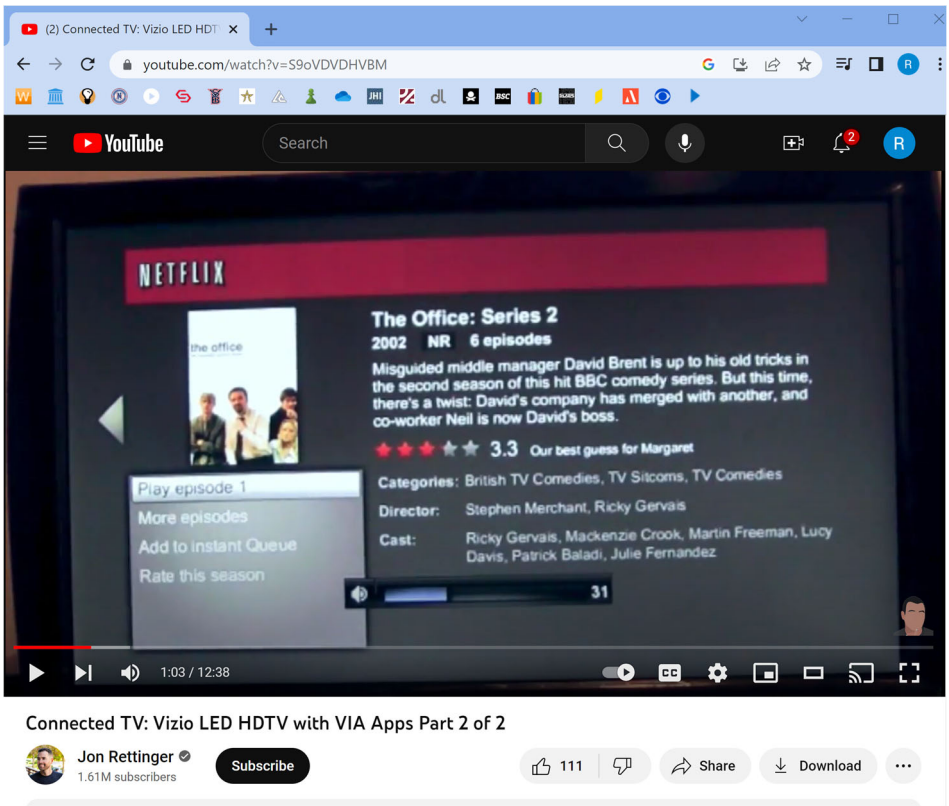


EX-1018, 1:51.

g. Limitation [1.6]

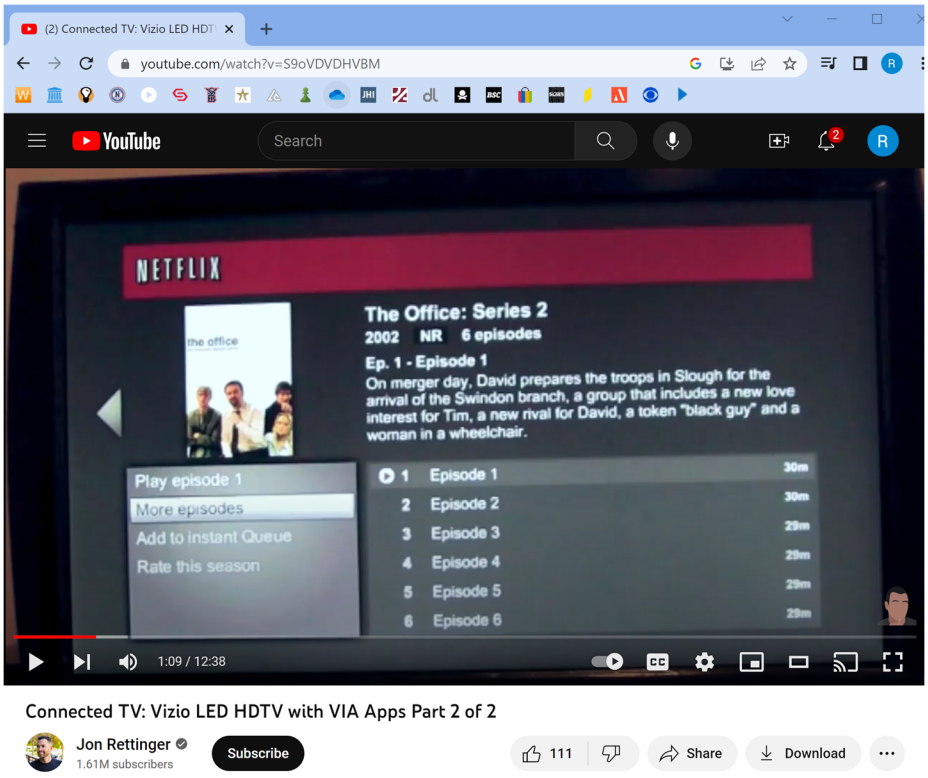
162. ***First***, a POSITA would have understood that a processor provides Netflix's views (e.g., detail and digest) as taught by Kim, Hunt, and Hunleth. *See* [1.2], [1.4].

163. ***Second***, if "the third selection" in TechnoBuffalo2 is for a TV series (*e.g.*, "The Office"), then a digest view is provided.



EX-1011, 1:03.

164. This is a "digest view" as it presents information (*e.g.*, number of episodes, synopsis of entire season, ratings for season, menu items for "More episodes") about a set of VOD content (*e.g.*, television episodes in Season 2) that is associated with a series (*e.g.*, "The Office"). Alternatively, it would have been obvious to a POSITA to present the following digest view in response to the "third selection."



EX-1011, 1:09.

165. This is a digest view because it presents information (*e.g.*, year, rating, number of episodes (6), episode lengths) about a set of VOD content (*e.g.*, episodes in Season 2) that are associated with a series (*e.g.*, "The Office"). Presenting either of the digest views shown above in response to the "third selection" would have been obvious as mere design choices of known UI presentations.

166. Presenting the menu at EX-1011, 1:09, in direct response to the "third selection" would also have been obvious to a POSITA because that is the sequencing used by Netflix for Apple TV devices. *See* EX-1018, 1:54. Moreover, providing the menu above in direct response to "*the third selection*" would have

been a simple substitution of one known element (EX-1011, 1:09) for another (EX-1011, 1:03) to obtain a predictable result. The substitution would also have been "obvious to try" for a POSITA because a finite number of digest views were used by Netflix, the solution would have been predictable, and there would have been a reasonable expectation of success since Netflix was already using the menu design.

167. ***Third***, Hunt, like TechnoBuffalo, discloses digest views for TV episodes associated with a series.

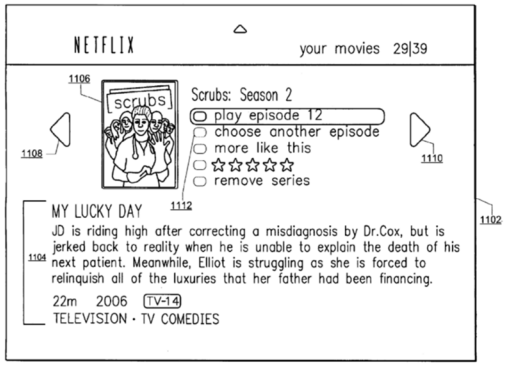


FIG. 11

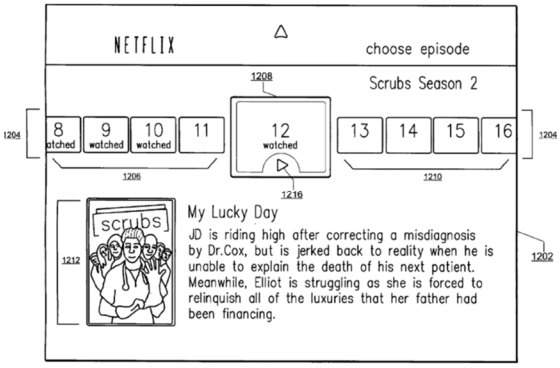


FIG. 12

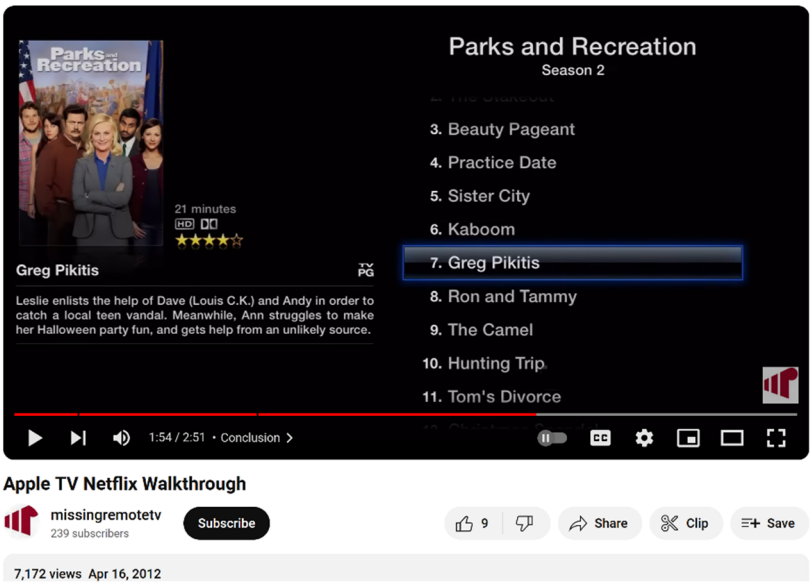
EX-1020, Figs. 11, 12.

168. Hunt teaches that the digest views are provided in response to a selection ("*third selection*") in the collection view. EX-1020, 18:33-51.

169. It would have been obvious to a POSITA to present Hunt's Fig. 12 view in response to the "third selection" for the same reasons set forth above for TechnoBuffalo. A POSITA would have been motivated to combine the teachings from TechnoBuffalo, MissingRemote, and Hunt, including arrangement of Netflix's prior art UIs, to provide a user-friendly hierarchical menu design, and

those references provide an explicit motivation to combine.

170. ***Fourth***, if "the third selection" in MissingRemote is for the TV series "Parks and Recreation," then "*a digest view*" is provided.



EX-1018, 1:54.

171. This is a digest view because it presents information (*e.g.*, episode titles) about a set of VOD content (*e.g.*, episodes in Season 2) that are associated with a series (*e.g.*, "Parks and Recreation").

172. ***Fifth,*** movies (*e.g.*, "Bad Company") can be selected as the "third selection" in the collection view. EX-1011, 0:47. TechnoBuffalo2 and MissingRemote do not show Netflix's menu associated with a selection for a movie in the collection view. Nonetheless, it would have been obvious to a POSITA to provide a detail view in response to a selection for a movie as taught by Hunt.

173. As discussed herein, it would have been obvious to a POSITA for Netflix—demonstrated in TechnoBuffalo and MissingRemote—to include features included in Netflix's own patents covering the same platform.

174. Hunt discloses a "poster screen," which is called a collection view in the '384 Patent. EX-1020, 17:17-18. Hunt teaches that if "Secondhand Lions" is selected in the collection view (bottom left), then "streaming media processor 140 displays a springboard screen 802 [detail view] in response to a user pressing a selection button" (bottom right). EX-1020, 17:33-38.

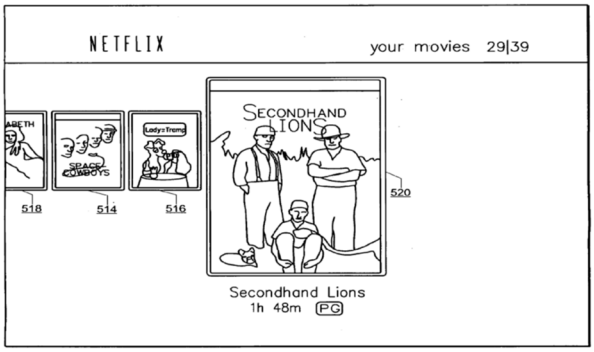


FIG. 7

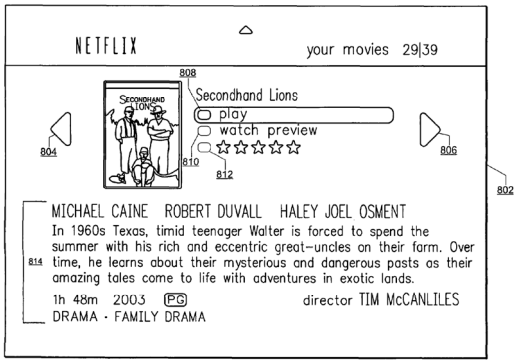


FIG. 8

EX-1020, Figs. 7 and 8.

175. Fig. 8 is "*a detail view*" as it presents information (e.g., title, rating, etc.) about a selected VOD content item (*e.g.*, "Secondhand Lions").

176. ***Sixth***, Hunleth also teaches providing a detail view in response to a selection of a movie from a collection view. EX-1021, 5:46-51.

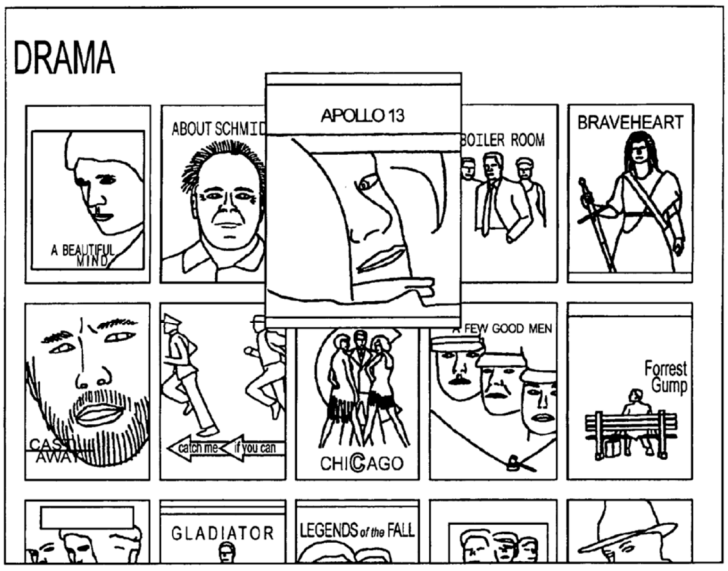


FIG. 1B

EX-1010, Fig. 1B (collection view).

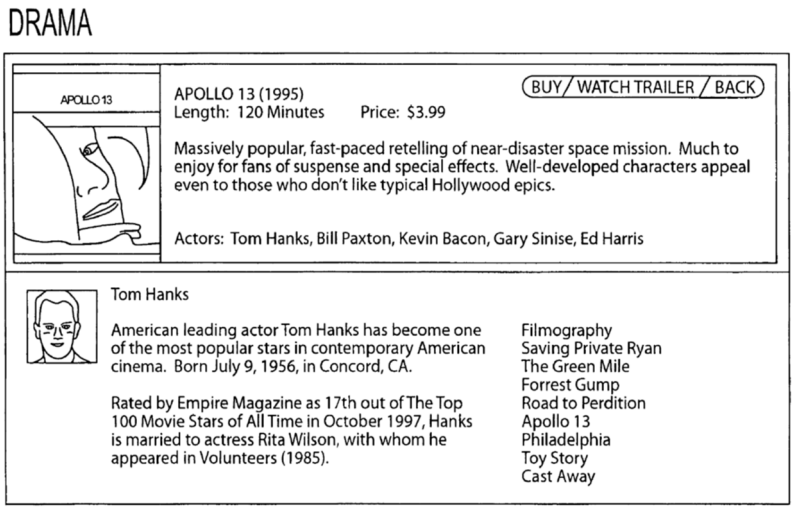


FIG. 2

EX-1010, Fig. 2 (detail view).

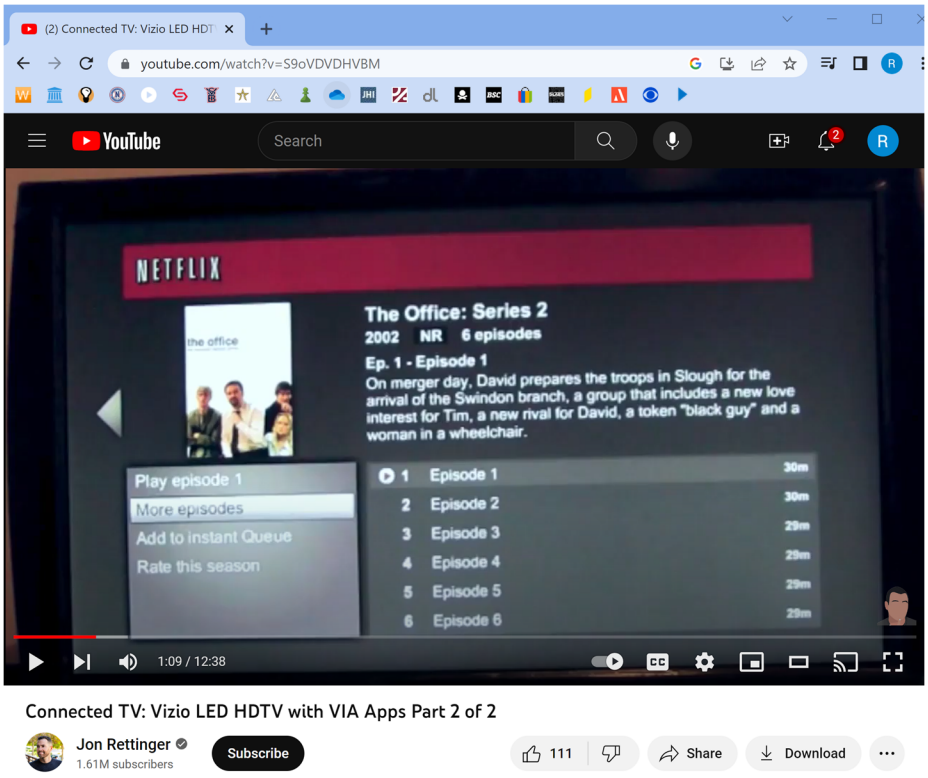
h. Limitation [1.7]

177. ***First***, as discussed at [1.6], TechnoBuffalo2, MissingRemote, Hunt, and Hunleth teach that digest and detail views are provided in response to

selections from collection views. If a selection in the collection view is for a TV series, the processor provides a related digest view. *See* [1.6]; EX-1011, 1:03, 1:09; EX-1018, 1:51, 1:54. If the selection is for a movie or single show, the processor provides a detail view. *See* [1.6]; EX-1020, 17:33-38, Fig. 8; EX-1021, 5:46-51, Figs. 1B, 2.

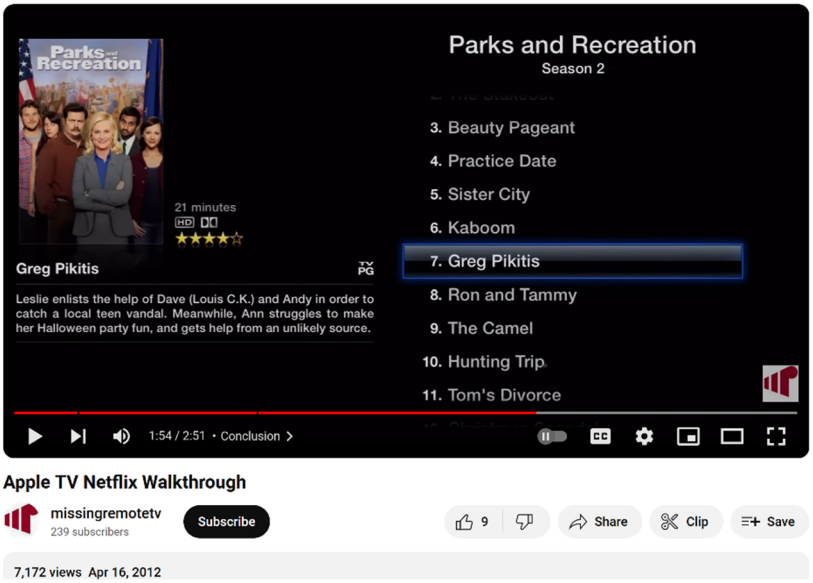
178. ***Second***, as discussed at [1.2], [1.4], and [1.6], Kim, Hunt, and Hunleth teach that views—master, collection, detail, and digest views—are generated and provided by a processor.

179. ***Third***, it would have been obvious to a POSITA to determine if the selection in the collection view is for a series or one of a movie or single show. For example, Netflix's digest view shown in TechnoBuffalo2 displays episodes in a series and includes a selectable menu item for "More episodes" and multiple selectable items arranged in a column to display episodes in the series.



EX-1011, 1:09.

180. MissingRemote also discloses a digest view for Netflix displaying episodes in a series.



EX-1018, 1:54.

181. Hunt discloses two digest view embodiments that are displayed in response to a selection for a series. EX-1020, 18:33-51.



FIG. 11

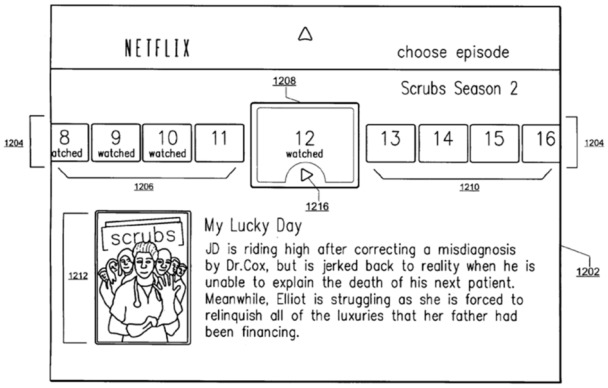


FIG. 12

EX-1020, Figs. 11, 12.

182. Hunt teaches that a different detail view is displayed in response to a selection for a movie. EX-1020, 17:33-38.

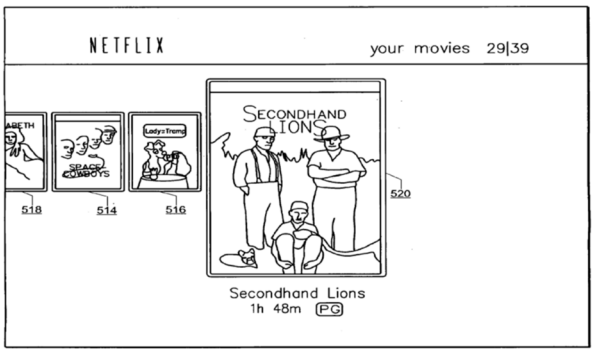


FIG. 7

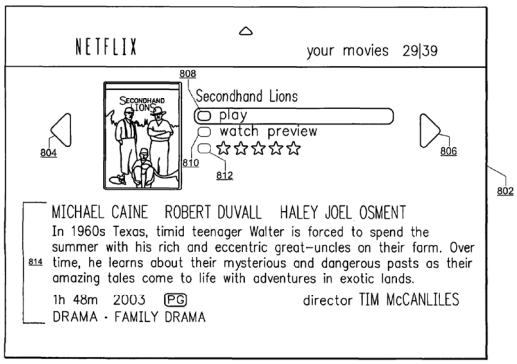


FIG. 8

EX-1020, Figs. 7, 8.

183. As demonstrated by the Netflix references, a POSITA would have avoided using UI designs for a TV series to display a single movie, and vice versa (as Netflix taught/did). For example, for a TV series, many users would want to

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know the number of seasons, and episodes per season, for the series before committing to watching a new series. Allowing users to select a specific episode in a series would also have been a desirable feature. For a movie, displaying episode information would have been nonsensical (movies lack episodes), and users would have been interested in seeing information like runtime, genre, and actors.

184. To present an appropriate UI (digest view v. detail view) for selected content, it would have been obvious to a POSITA to determine, before generating the digest or detail view, whether the user selection in the collection view was for a series or stand-alone content. It would have been "obvious to try" and would have involved common sense to "*determine[e] … if the selection in the collection view is for a series or one of a movie or single show*" to allow the television to generate an appropriate UI to match the user selection (digest view for a series and detail view for a movie).

185. Moreover, a POSITA would have recognized that different views can be implemented as different portions of software, such as using a standard Model/View/Controller ("MVC") architecture, which was well known and used in many software platforms before the Critical Date. *See, e.g.*, EX-1048, 122-125 ("Java and XSLT," by Eric M. Burke, dated 2001 (relevant excerpt from book)); EX-1049, 236-237 ("The Developer's Guide to Social Programming," by Mark D. Hawker, dated 2011 (relevant excerpt from book)) ("The MVC pattern is one of

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the most commonly used architectures used in web applications today.").

186. MVC architecture allows different views to be implemented as separate templates that permit different formatting and a controller on the back end can access the data model specific to a particular view. EX-1048, 122-125; EX-1049, 236-237. This allows developers to work on different portions of the UI without conflict. It also allows new views (or UI pages) to be added in a modular manner. For example, the data in the model retrieved by a controller (such as the types of objects being shown in the current view) can be used to generate a link to a new view depending on the object's characteristics, such as whether the object shown represents a TV series, a TV episode, or a movie.

187. Thus, determining whether a selection in a collection view was for a series or movie (or single show) would have merely involved combining prior art elements (smart TVs, processors, non-transitory computer readable medium having stored thereon processor executable instructions, GUIs, metadata) according to known methods (use of metadata to identify and distinguish types of content) to yield a predictable result (provide appropriate GUIs —already used by others such as Netflix—for TV series and movies).

188. The combination is nothing more than applying a known technique (*e.g.*, use metadata to generate content appropriate UIs as demonstrated by Netflix) to improve the similar system of Kim, wherein Kim envisions Netflix being used

on the TV. EX-1019, [0201], Figs. 19, 42.

189. Further, TechnoBuffalo2, Hunt, and Hunleth teach and/or suggest to a POSITA that the television should make a determination about whether a selection in a collection view is for a series or movie in order to ensure that the right type of UI is used for different types of content.

190. A POSITA would have been motivated to have the TV determine whether a selection in a collection view was for a series or movie to ensure that the right type of UI is used for different types of content. IN fact, TechnoBuffalo, MissingRemote, and Hunt provide an explicit motivation to make this claimed determination in order to present the views already used by Netflix.

191. ***Fourth***, "*determining, by a processor, if the selection in the collection view is for a series or one of a movie or single show*" would have been obvious to a POSITA in view of Hunleth.

192. Hunleth discloses a method of using metadata delivered from CPs to generate UIs by devices such as televisions. EX-1021, 4:23-27, 4:45-48, 6:2-4.

193. In Hunleth, a user is presented with a collection view of content (*e.g.*, "Apollo 13") from a CP.

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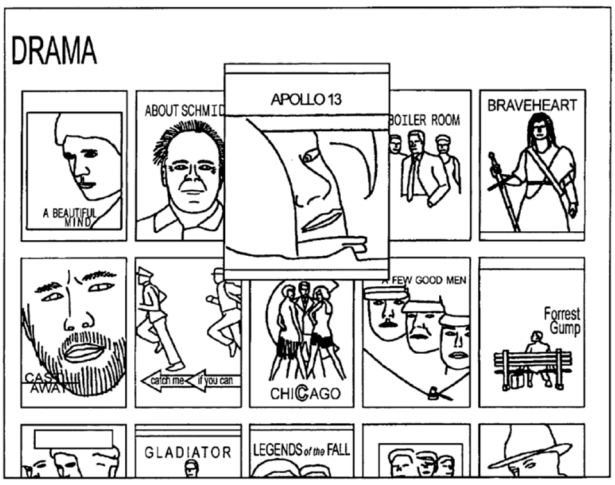


FIG. 1B

EX-1021, Fig. 1B.

194. When "Apollo 13" is selected, "metadata delivered from content providers, can be used to generate the [next] user interface screen." EX-1021, 4:45-51. Hunleth's Figure 3 provides an exemplar metadata table used to create a UI (*i.e.*, "detail view") for the selected content. *Id*., 5:14-17.

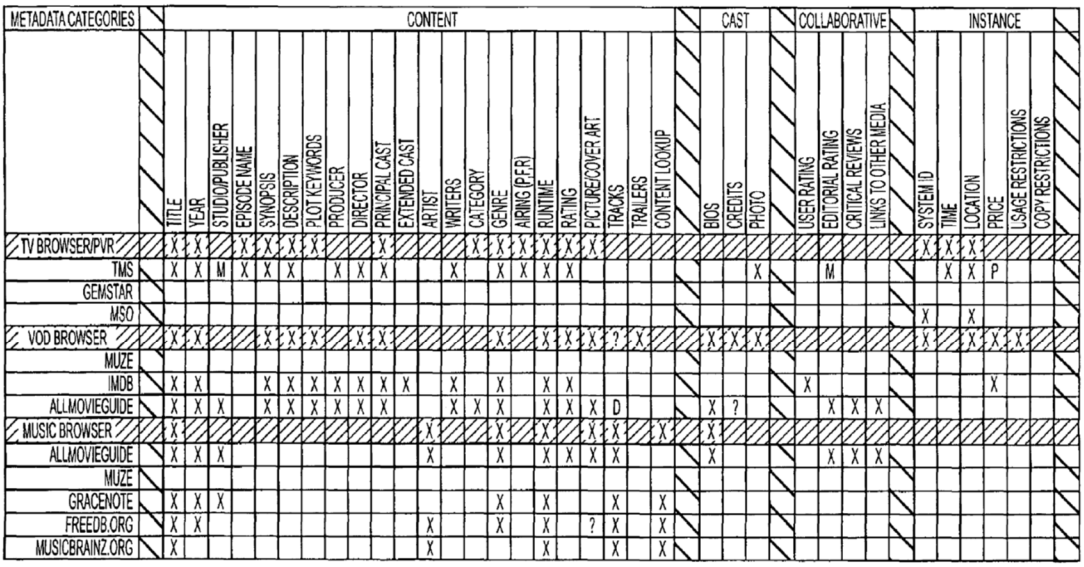


FIG. 3

EX-1021, Fig. 3.

195. Hunleth discloses metadata categories that could be used to determine whether a selection was for a single TV show/movie or a series. For example, if no "X" is included under the column for "EPISODE NAME," then the intelligent TV would be able to determine that the content is for a single show or movie. Likewise, an "X" in the "ALLMOVIEGUIDE" row could indicate that the selected content is a movie as opposed to a TV show. Moreover, the metadata shown in Fig. 3 is not exhaustive, and Hunleth teaches that "[t]hose skilled in the art will appreciate that other types of information could be provided []." EX-1021, 4:45-55, 5:8-14 ("[M]any different types of information can be received and processed in accordance with the invention.").

196. Hunleth further teaches that once the metadata is received, the client device uses some or all the metadata to generate a UI screen corresponding to the selected content (below). EX-1021, 5:2-7.

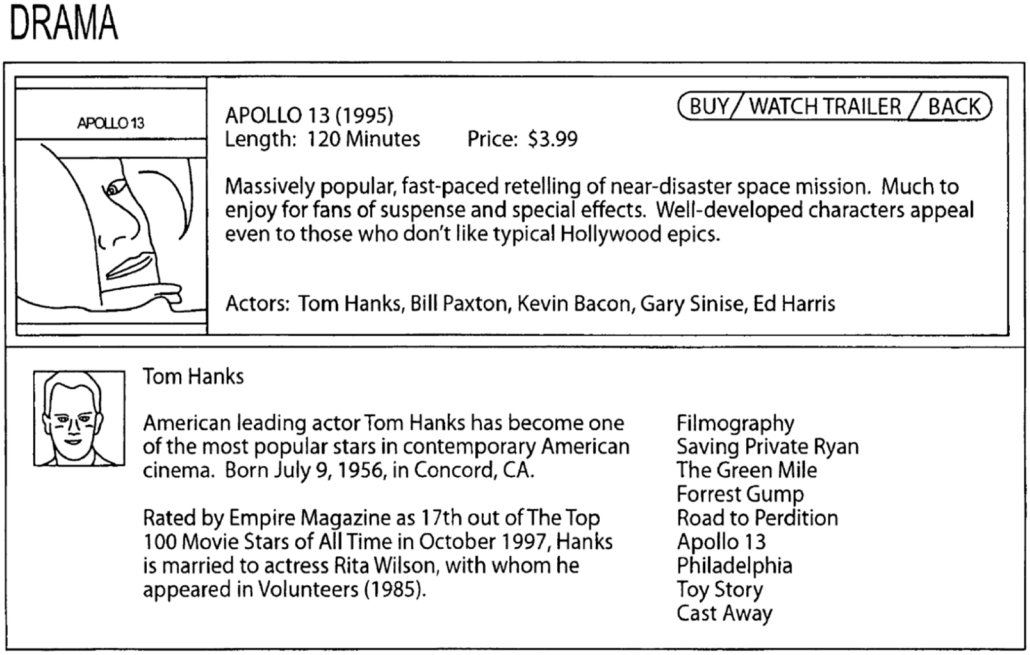


FIG. 2

EX-1021, Fig. 2.

197. TechnoBuffalo2, MissingRemote, and Hunt show that Netflix was presenting a detail view in response to a selection for a movie, and a digest view in response to a selection for a TV series well before the '384 Patent. It would have been obvious to a POSITA to use metadata—as taught by Hunleth—to generate appropriate UIs for movies and TV shows in a series. A POSITA could have used the metadata already disclosed by Hunleth to make the determination, or could have added new categories of metadata (*e.g.*, adding columns for "movie" and "TV

series" in Fig. 3 of Hunleth) to make the determination, which was contemplated by Hunleth. EX-1021, 4:51-55; 5:8-17. Hunleth's teachings are consistent with Hunt's teachings regarding Hunt's springboard screens (*i.e.*, digest and detail views) including metadata about the content. EX-1020, 17:44-47, 18:36-40.

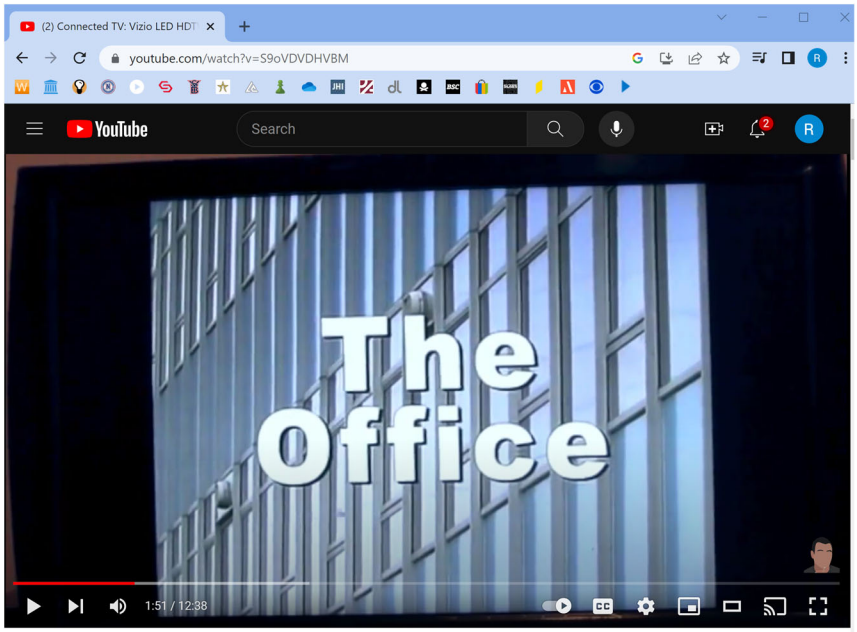
198. A POSITA would have recognized that separating the data in this manner was a common method of programming in MVC architectures.

199. A POSITA would have been motivated to determine if a user selection in a collection view was for a series or one of a movie or single show to ensure that an appropriate UI was generated and displayed to the user. As discussed herein, a POSITA would have been motivated to use metadata to make that determination because metadata provides a quick, accurate, and flexible way to make the desired determination in a way with which developers were already familiar.

200. A POSITA would have had a reasonable expectation of success in designing an intelligent television to determine whether content was a part of a series or a single show or movie using metadata because that would have involved simple methods known to a POSITA (as demonstrated by several prior art devices described herein including my background technology discussion). Moreover, Hunleth discloses using metadata to generate a detail view for a selection of "Apollo 13," which demonstrates the aforementioned success.

i. Limitation [1.8]

201. TechnoBuffalo2 teaches "*a player view.*"



EX-1011, 1:51.

202. TechnoBuffalo, MissingRemote, and Hunt teach—and it would have been obvious for a POSITA to implement—an ordered set of interfaces including a master view at a top level (EX-1011, 1:32), a collection view at a second level (EX-1011, 0:47), either a digest view (EX-1011, 1:03, 1:09) or detail view (EX-1020, Fig. 8) at a third level, and a player view (EX-1011, 1:51) at a fourth and bottom level for an intelligent TV as described herein. Significantly, Netflix used the claimed ordered set of interfaces well before the Critical Date as shown and described herein.

iii. Claim 2

a. Limitation [2.0]

203. This limitation is obvious over Kim in view of TechnoBuffalo. *See* [1.0].

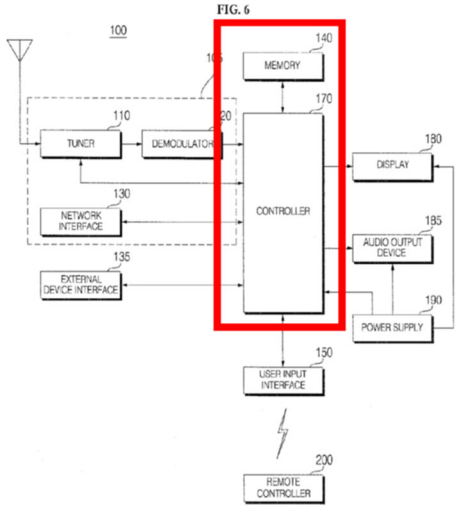
b. Limitation [2.1]

204. ***First,*** Kim discloses memory 140, which "may store various programs necessary for the controller 170 to process and control signals, and may also store processed video, audio and data signals." EX-1019, [0084]. "The memory 140 may temporarily store a video, audio and/or data signal received from the external device interface 135 or the network interface 130." *Id*. "The memory 140 may include, for example, at least one of a flash memory-type storage medium, a hard disk-type storage medium, a multimedia card micro-type storage medium, a card-type memory (*e.g.*, a Secure Digital (SD) or eXtreme Digital (XD) memory), a Random Access Memory (RAM), a Read-Only Memory (ROM) such as an Electrically Erasable and Programmable Read Only Memory, or another appropriate type of storage device." *Id*., [0085]. "The image display apparatus 100 may reproduce content stored in the memory 140 (*e.g.*, video files, still image files, music files, text files, or application files)." *Id*.

205. Hunt further teaches that "the volatile memory of media processor 140 is capable of storing about one to five minutes of buffered video data." *Id*., 7:62-44, 8:1-14 (discussing buffered video data); 15:47-51. Thus, Kim and Hunt teach

"a memory operable to store video-on-demand (VOD) content."

206. ***Second***, Kim discloses a processor in communication with memory. EX-1019, [0085], [0092], Fig. 6 (below).



207. ***Third***, the processor would be operable to execute a UI application. *See* [1.1].

c. Limitation [2.2]

208. This limitation is obvious over Kim in view of TechnoBuffalo and MissingRemote. *See* [1.1], [1.2].

d. Limitation [2.3]

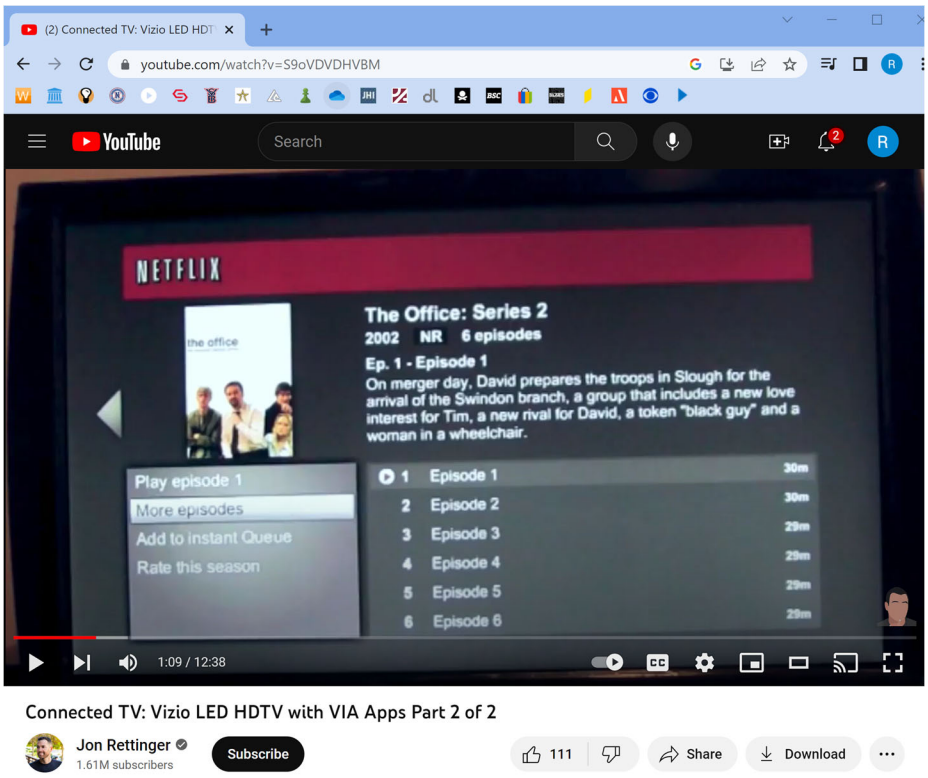
209. This limitation is obvious over Kim in view of TechnoBuffalo and MissingRemote. *See* [1.3], [1.4].

e. Limitation [2.4 and 2.6]

210. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, Hunt, and Hunleth. *See* [1.5], [1.6], [1.7].

f. Limitation [2.5]

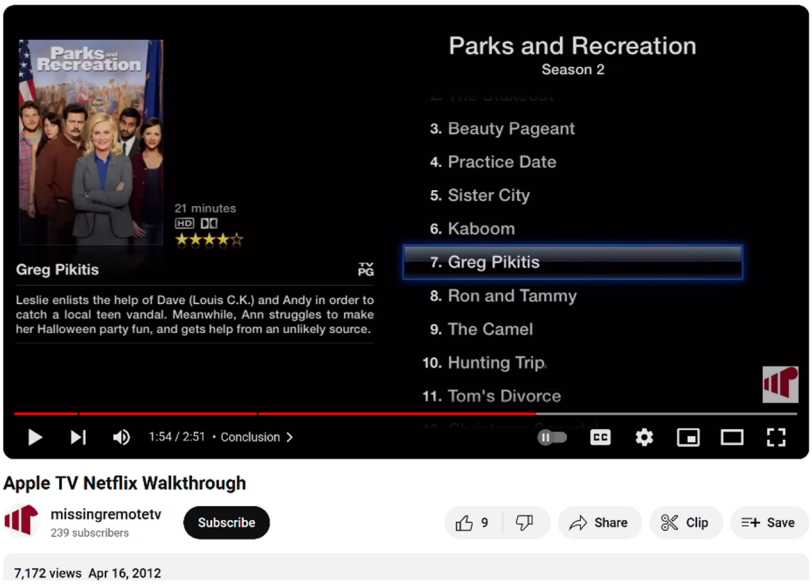
211. ***First***, as discussed at [1.6], TechnoBuffalo2 teaches a digest view for a television series (*e.g.*, "The Office"). The digest view provides a listing of multiple episodes associated with the series.



EX-1011, 1:09.

212. As discussed at [1.6], it would have been obvious for a selection of a TV show in the collection view to bring the user to this embodiment of a digest view.

213. ***Second***, as discussed at [1.6], MissingRemote teaches a digest view for a television series (*e.g.*, "Parks and Recreation"). The digest view provides a listing of multiple episodes associated with the series.



EX-1018, 1:54.

214. ***Third***, as discussed at [1.6], Hunt teaches a digest view for a television series, which provides a listing of multiple episodes associated with the series.

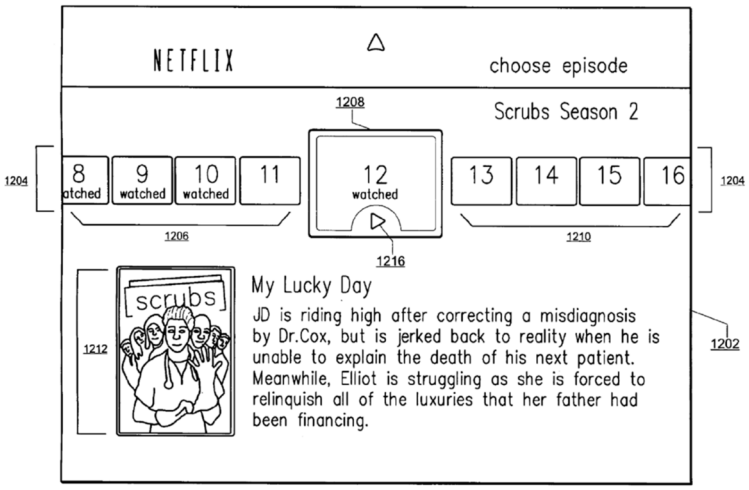


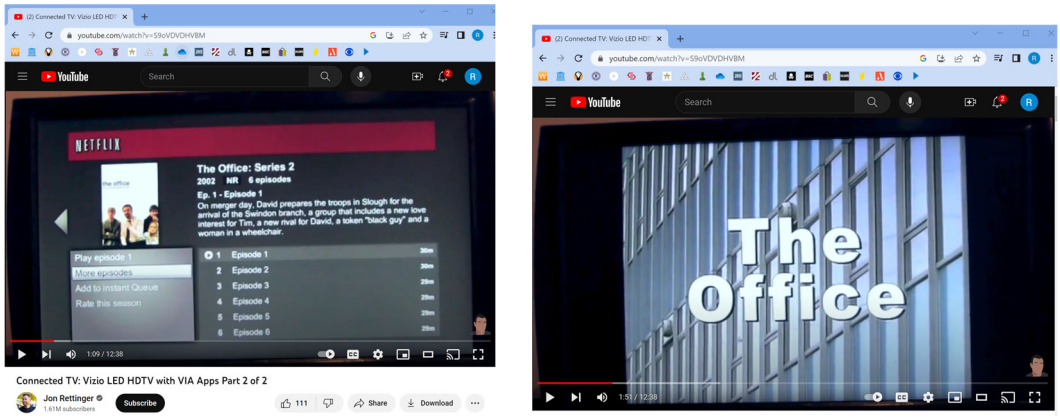
FIG. 12

EX-1020, Fig. 12.

g. Limitation [2.7]

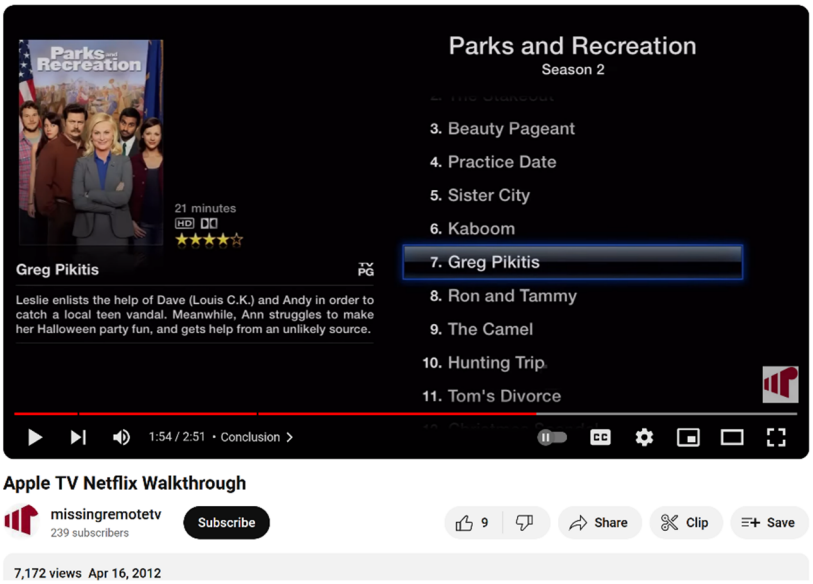
215. ***First***, as discussed at [1.6] and [1.7], TechnoBuffalo, MissingRemote, and Hunt disclose a digest view in response to the third selection. It would have been obvious to a POSITA to receive "*a fourth selection of an episode in the digest view.*"

216. For example, TechnoBuffalo2 discloses that selecting "Episode 5" (fourth selection) from the digest view (below left) results in the player being presented (below right). The same applies for Hunt's digest view, which is similar to TechnoBuffalo's digest view.



EX-1011, 1:09 (left), 1:51 (right).

217. As to MissingRemote, a POSITA would have understood that selecting "Greg Pikitis" (fourth selection) from the digest view below would have resulted in that episode being played by the TV.



EX-1018, 1:54.

218. ***Second***, as discussed at [1.6] and [1.7], it would have been obvious to present a detail view in response to a third selection as taught by Hunt.

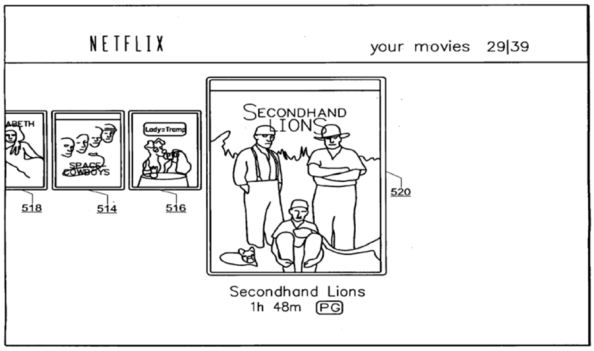


FIG. 7

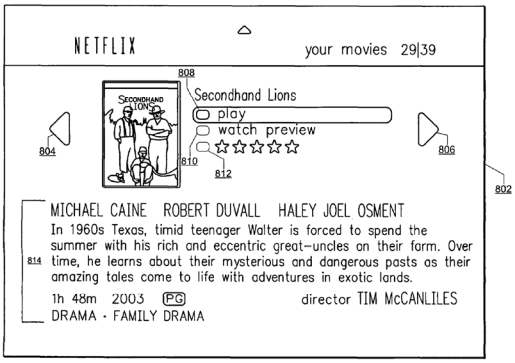


FIG. 8

EX-1020, Fig. 7 (left) (collection view), Fig. 8 (right) (detail view).

219. From there, a POSITA would have understood that receiving a fifth selection of a UI device (*e.g.*, receiving a selection of the "play" button in Fig. 8 above) would have caused the movie to play because the ultimate desire of a user is to watch VOD content. In response to the fifth selection, it would have been

obvious to provide a player (*e.g.*, EX-1011, 1:09) to present the movie to the user as taught by TechnoBuffalo.

h. Limitation [2.8]

220. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, Hunt, and Hunleth. *See* [1.8].

iv. Claim 3 (Limitation [3.0])

221. Claim 3 is obvious over Kim in view of TechnoBuffalo and MissingRemote. *See* [2.5].

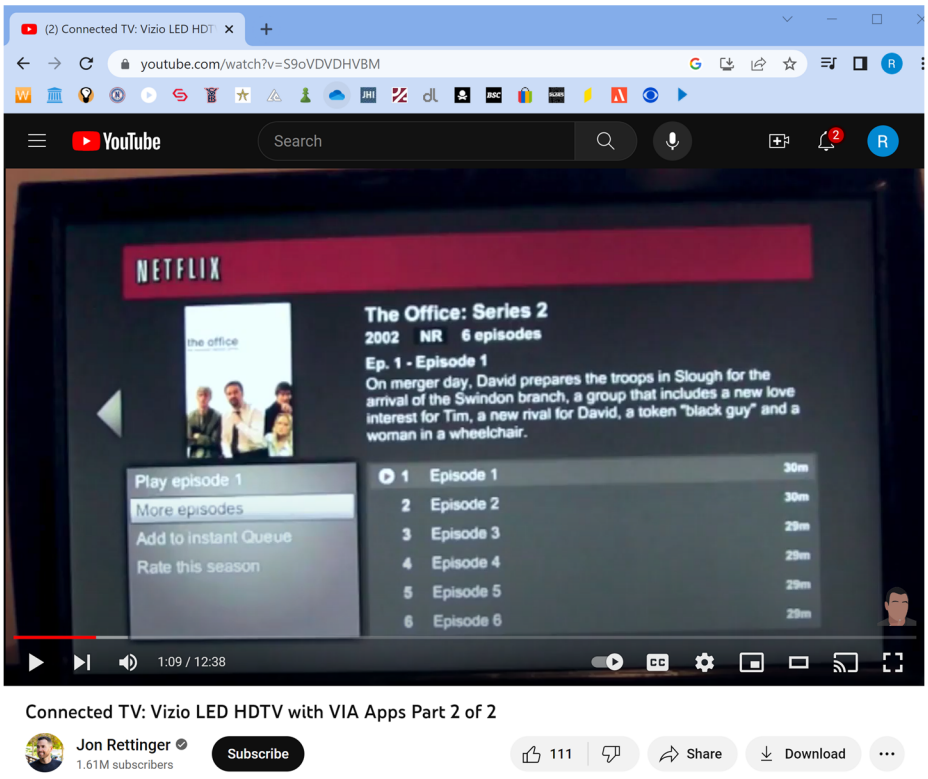
v. Claim 4 (Limitation [4.0])

222. As discussed at [1.6], TechnoBuffalo2 discloses two digest views associated with a TV series. Both digest views include a selectable menu item to play an episode of the series.

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EX-1011, 1:03 (including “Play episode 1” menu item).



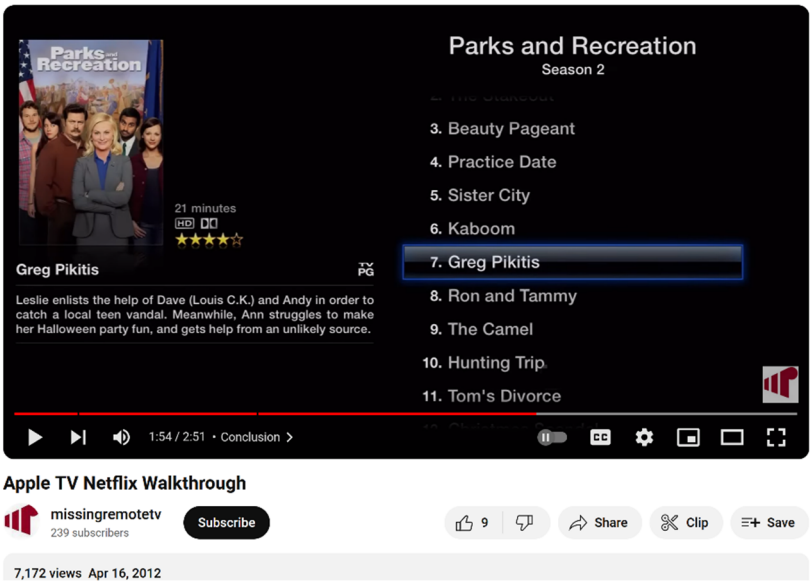
EX-1011, 1:09 (including play button beside Episode 1 to play the show).

223. A POSITA would have understood that in response to selecting play ("*the fourth selection*"), a player to present the episode to the user would be provided as in TechnoBuffalo2.



EX-1011, 1:51.

224. MissingRemote also discloses a digest view.



EX-1018, 1:54.

225. A POSITA would have understood that a user selection of "Greg Pikitis" ("fourth selection") would cause the TV to provide a player to present the episode to the user.

vi. Claim 5 (Limitation [5.0])

226. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* [2.7].

vii. Claim 6 (Limitation [6.0])

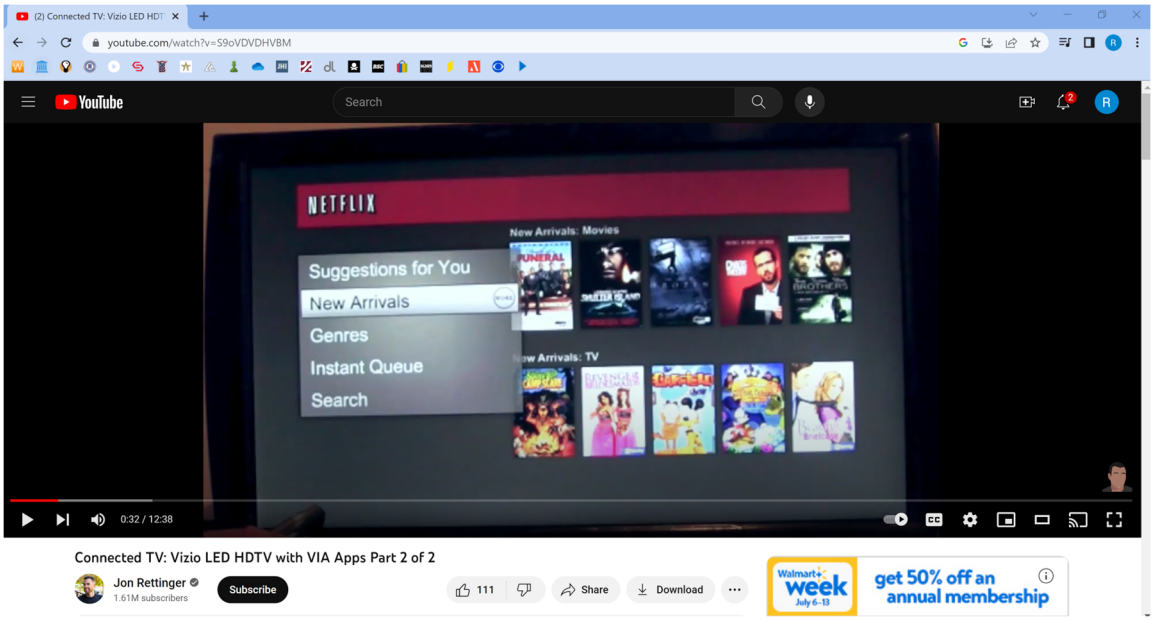
227. As discussed at [1.2], TechnoBuffalo2 discloses a master view of VOD content. Claim 6 requires the master view to include at least two "*user-selectable devices*." The '384 Patent teaches that "user interface 2100 provides a navigation bar 2120 having selectable devices 2104 through 2116." EX-1001, 46:6-8.



Fig. 21

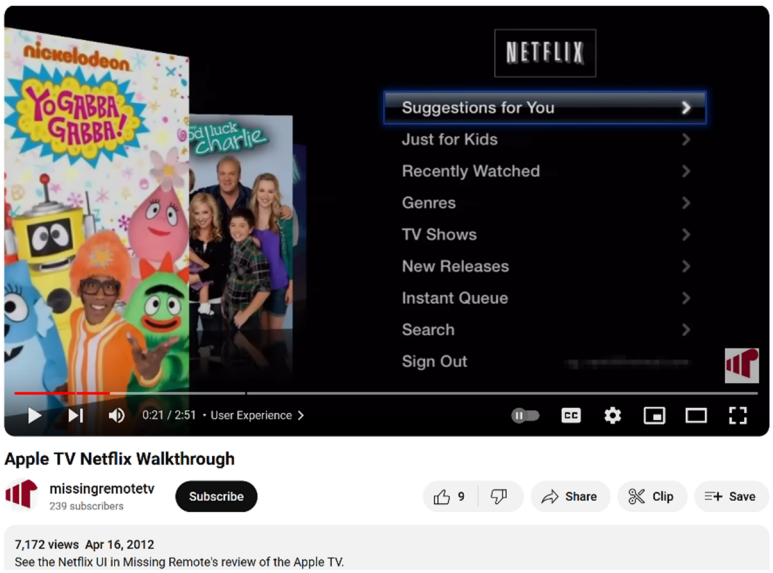
EX-1001, Fig. 21.

228. TechnoBuffalo2's master view includes multiple user-selectable devices (*e.g.*, "Suggestions for You," "New Arrivals") to view a collection view based on one of two or more criteria (*e.g.*, suggested content, new content, content organized by genre).



EX-1011, 0:32.

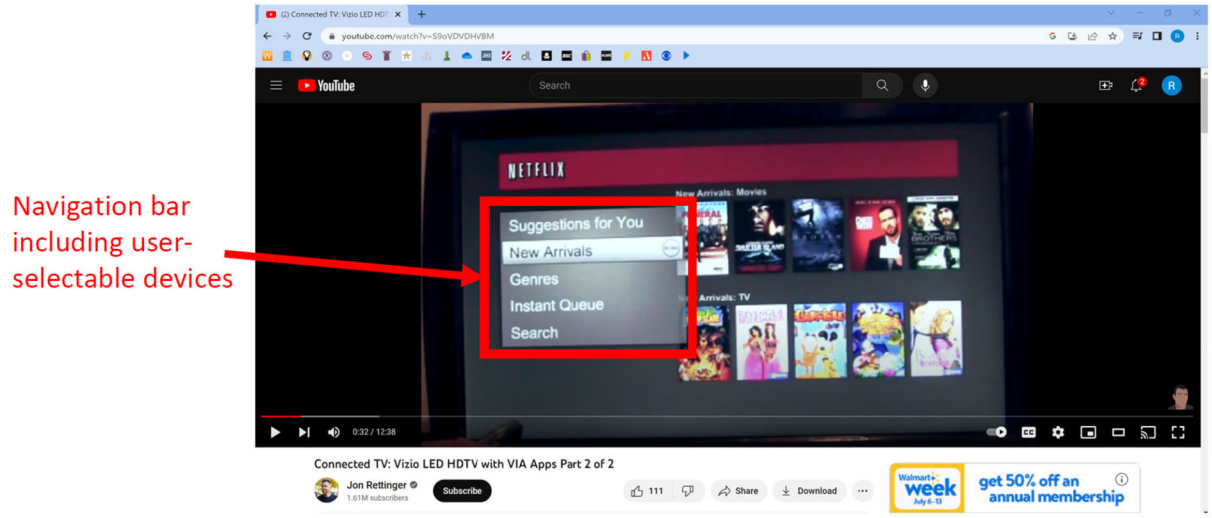
229. MissingRemote's master view includes multiple user-selectable devices (*e.g.*, "Suggestions for You," "Recently Watched") to view a collection view based on one of two or more criteria (*e.g.*, suggested, recently watched, and new content).



EX-1018, 0:21.

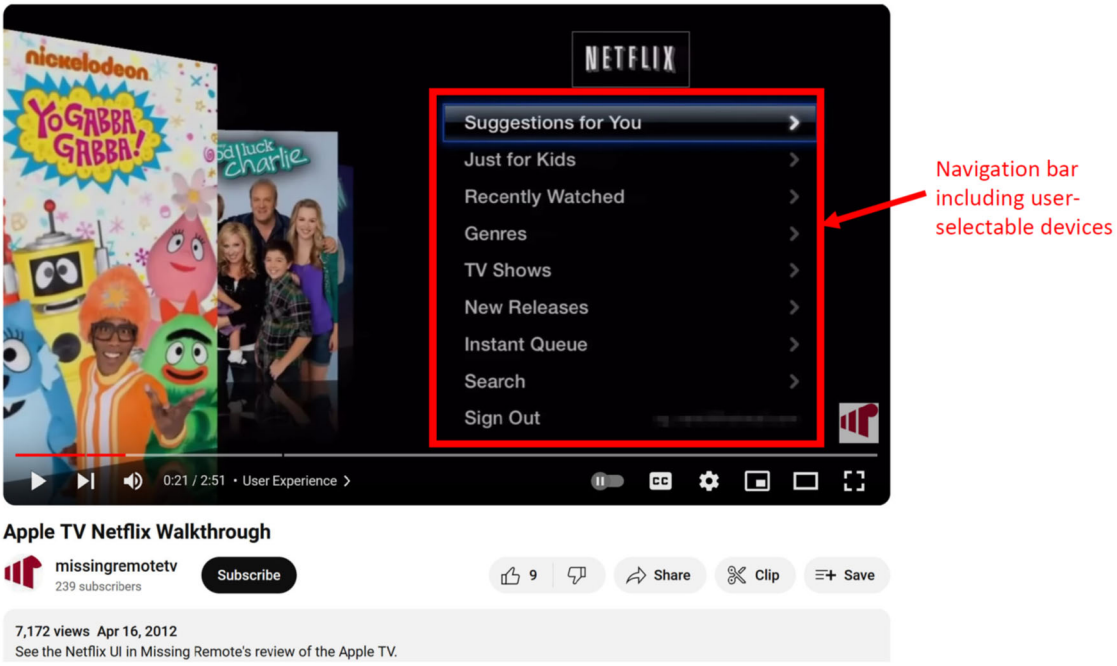
viii. Claim 7 (Limitation [7.0])

230. As discussed at [1.2] and [6.0], TechnoBuffalo2 discloses a master view of VOD content. The master view includes a vertical navigation bar to select between types of content.



EX-1011, 0:32 (annotated).

231. MissingRemote discloses a similar navigation bar for its master view.



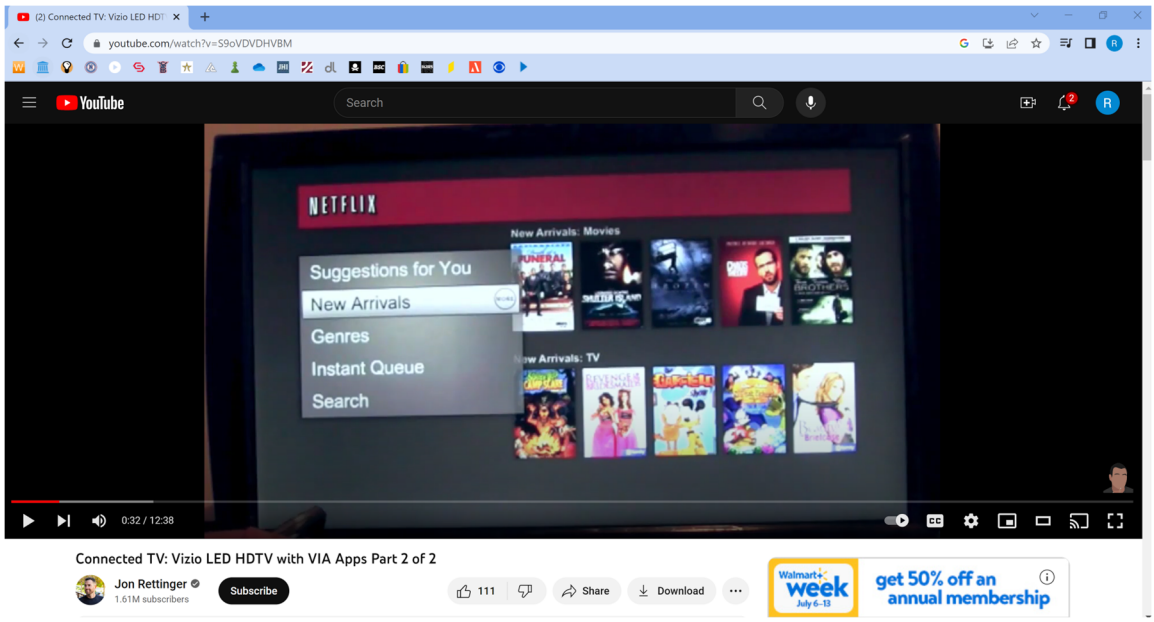
EX-1018, 0:21.

232. As discussed at [7.0], TechnoBuffalo2 discloses a master view of VOD content, which includes movie and television series content.

233. In addition, while not required by claim 7, it would have been obvious to a POSITA to implement the navigation bar horizontally. Horizontal navigation bars were known design elements for UIs. *See, e.g.*, EX-1022, Fig. 2. In addition to the motivations previously discussed herein, a POSITA would have been motivated to use a horizontal navigation bar to present information in an ordered and efficient manner, allowing users to quickly, easily and intuitively access content, as done on many other computing devices before the '384 Patent. A POSITA would have been able to successfully implement this design change.

ix. Claim 8 (Limitation [8.0])

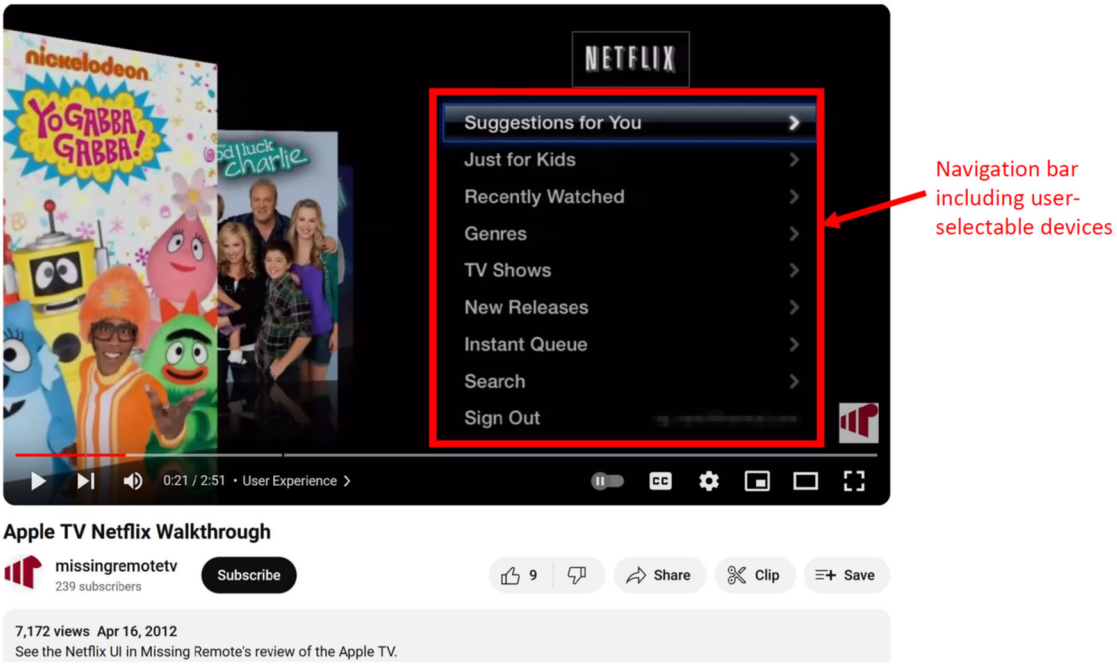
234. As discussed at [7.0], TechnoBuffalo2 discloses a master view of VOD content, which includes movie and television series content.



EX-1011, 0:32.

235. Although only one type of content is required for claim 8, a POSITA would have understood the television and movie content to further include showcase or variety content.

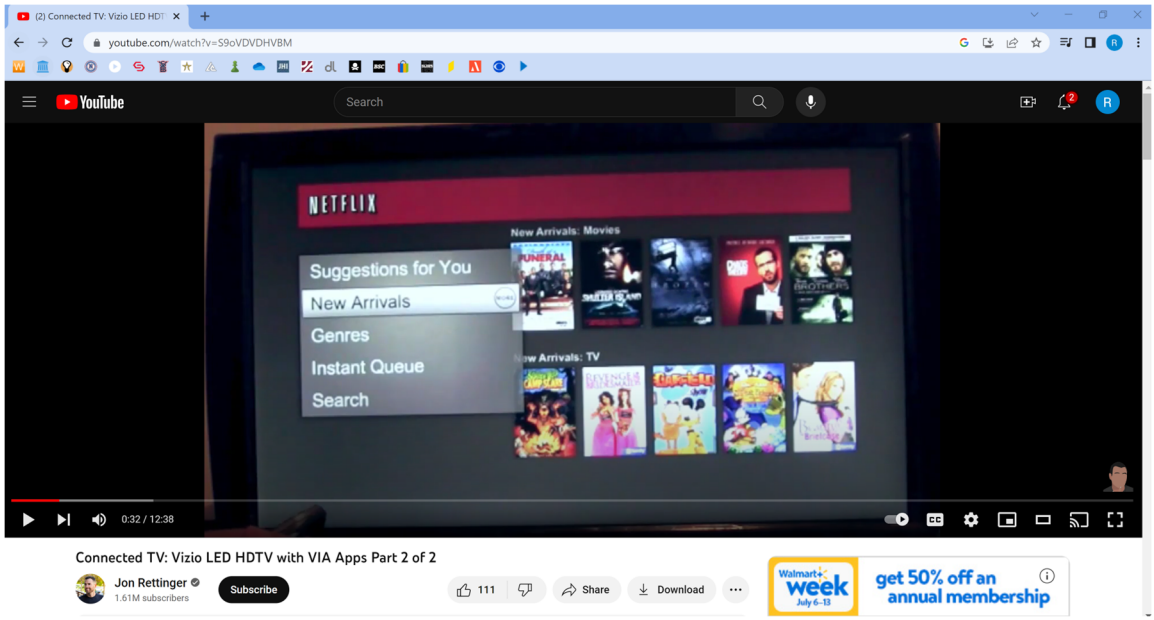
236. The same is true for MissingRemote's master view.



EX-1018, 0:21.

x. Claim 9 (Limitation [9.0])

237. As discussed at [1.2] and [6.0], TechnoBuffalo discloses a master view ("*master layout*") of VOD content including user-selectable devices. The master layout includes user selectable devices for viewing a collection of content based on newest content (New Arrivals) and recommended content (Suggestions for You).



EX-1011, 0:32.

xi. Claim 10 (Limitation [10.0])

238. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* claims 6-9.

xii. Claim 11

a. Limitation [11.0]

239. This limitation is obvious over Kim in view of TechnoBuffalo and MissingRemote. *See* [2.1], [2.2], [2.3].

240. ***First***, Kim discloses non-transitory medium such as "a ROM, a CD-ROM, a magnetic tape, a floppy disc, an optical data storage" having "code that is written on a computer-readable recording medium and, can thus, be read by a processor" and "executed" to perform the noted method. EX-1019, [0085] (disclosing additional examples of non-transitory computer readable medium),

[0299].

241. ***Second***, an intelligent TV is a "*computing system*." EX-1001, 18:13-19 (describing the convergence between computers and TVs).

242. ***Third***, Kim teaches the use of a non-transitory computer readable medium having stored thereon processor executable instructions that cause the TV to execute a method. EX-1019, [0085], [0120], [0147], [0156]-[0159], [0166]. The use of a non-transitory computer readable medium having stored thereon processor executable instructions that cause the TV to execute a method would also have been obvious to a POSITA. Further, a POSITA would have understood that all method steps in claim 11 would have been the result of executing instructions by a processor.

b. Limitation [11.1]

243. This limitation is obvious over Kim in view of TechnoBuffalo. *See* [1.1], [1.2], [11.1].

c. Limitation [11.2]

244. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* [1.3], [1.4], [11.1].

d. Limitation [11.3]

245. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* [1.5], [1.6], [11.1].

e. Limitation [11.4]

246. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* [1.7], [11.1].

f. Limitation [11.5]

247. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* [1.7], [11.1].

g. Limitation [11.6]

248. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* [1.8], [11.1].

xiii. Claim 12 (Limitation [12.0])

249. This limitation is obvious over Kim in view of TechnoBuffalo, MissingRemote, and Hunt. *See* claims 6-9, 11.

B. Ground 2: Claims 1-12 Are Obvious Under 35 U.S.C. § 103(a) Over Kim in View of Ma, Hunt, and Hunleth

i. Reasons to Combine Kim, Ma, Hunt, and Hunleth

250. A POSITA would have found it obvious to combine the teachings of Kim with Ma, Hunt, and Hunleth.

251. Kim discloses a home screen for intelligent TVs including applications for CPs. EX-1019, [0201], Fig. 19. CPs provide VOD for real-time streaming. *Id*., [0063], [0159]. Ma provides an exemplar CP capable of providing VOD, which could have been added to Kim's list of CPs.

252. Hunt includes additional teachings relating to presenting menu items in response to VOD selections. Further, since Hunt is a Netflix patent, and Kim discloses its TVs as including Netflix, Kim provides a POSITA with an express reason and motivation to combine the teachings of Kim and Hunt.

253. Similar to Hunt, Hunleth discloses user selections of movies (*e.g.*, "Apollo 13") in a collection view resulting in the display of the detail view. EX-1021, 4:45-51; Figs. 1B (collection view), 2 (detail view). Hunleth also provides details about how the selected content's metadata can be used by the client device to generate UIs, including the collection and detail views shown in Figs. 1B and 2. EX-1021, 5:2-17.

254. A POSITA would have been motivated to combine Hunleth's teachings regarding metadata use and management to generate and display UIs with the other teachings from Ma, Kim, and Hunt to: (1) ensure that UIs are accurately generated, (2) enable sufficient data to be supplied to render rich UIs, (3) provide UIs in a manner that is sensitive to time delays; and (4) provide UIs that resolve conflicting parameters and enable advanced UIs to be generated. EX-1021, 2:63-3:3.

255. Ma, Hunt, and Hunleth are natural extensions of Kim and complement Kim's disclosure by disclosing details about UI design and generation, including using metadata to generate UIs. It would have been obvious to a POSITA to

implement the UIs and other teachings from Ma, Hunt, and Hunleth on Kim's TV once Ma is selected as a CP. A POSITA would have combined the teachings of Ma, Hunt, and Hunleth with Kim to obtain beneficial and predictable results.

256. A POSITA would have been motivated to combine the teachings of Ma with Kim because Kim teaches that its television includes applications from VOD CPs, and a POSITA would have been motivated to present the VOD content using an intuitive GUI.

257. A POSITA would have been motivated to combine the teachings of Kim with Ma, Hunt, and Hunleth because those references consider analogous methods (*e.g.*, providing UIs including selectable menu items), are in the same field (*e.g.*, use of display apparatuses for providing content from CPs), and are directed toward solving the same problem (*e.g.*, increasing user convenience and overall effectiveness of UIs by providing more intuitive UIs). EX-1019, [0282]; EX-1021, 2:64-66.

258. The combination of Ma, Hunt, and Hunleth with Kim is merely combining prior art elements (*e.g.*, smart TVs, processors, non-transitory computer readable medium having stored thereon processor executable instructions, GUIs, metadata) according to known methods (*e.g.*, generating and presenting of GUIs using metadata for VOD content from CPs) to yield predictable results (*e.g.*, providing users with an ordered UI to select and watch movies and TV shows).

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The combination is a simple substitution of one known element (*e.g.*, methods for using metadata and presenting GUIs) for another (*e.g.*, adding a CP (Ma) to Kim's list of CPs) to obtain predictable results (*e.g.*, using metadata and presenting GUIs for VOD from CPs).

259. The combination is nothing more than applying a known technique (*e.g.*, use of metadata and hierarchical GUIs) to improve the similar system of Kim, wherein Kim specifically envisions applications for different CPs being used on the Kim intelligent TV. EX-1019, [0201], Fig. 19. Kim includes teachings and suggestions (*e.g.,* references to various CPs, metadata manager 712) that would have led a POSITA to modify the Kim TV to include teachings from Ma, Hunt, and Hunleth to arrive at the claimed invention. EX-1019, [0053], [0201], Fig. 19.

260. The results would have been predictable and there would have been a reasonable expectation of success in the combination given that Kim discloses the use of CP applications on the intelligent television, Ma provides implementation details for displaying VOD on an intelligent television, Hunt provides further details relating to VOD delivery (*e.g.*, exemplar menu views, processor details), and Hunleth teaches well-known methods of using metadata to generate UIs.

ii. Claim 1

a. Limitation [1.0]

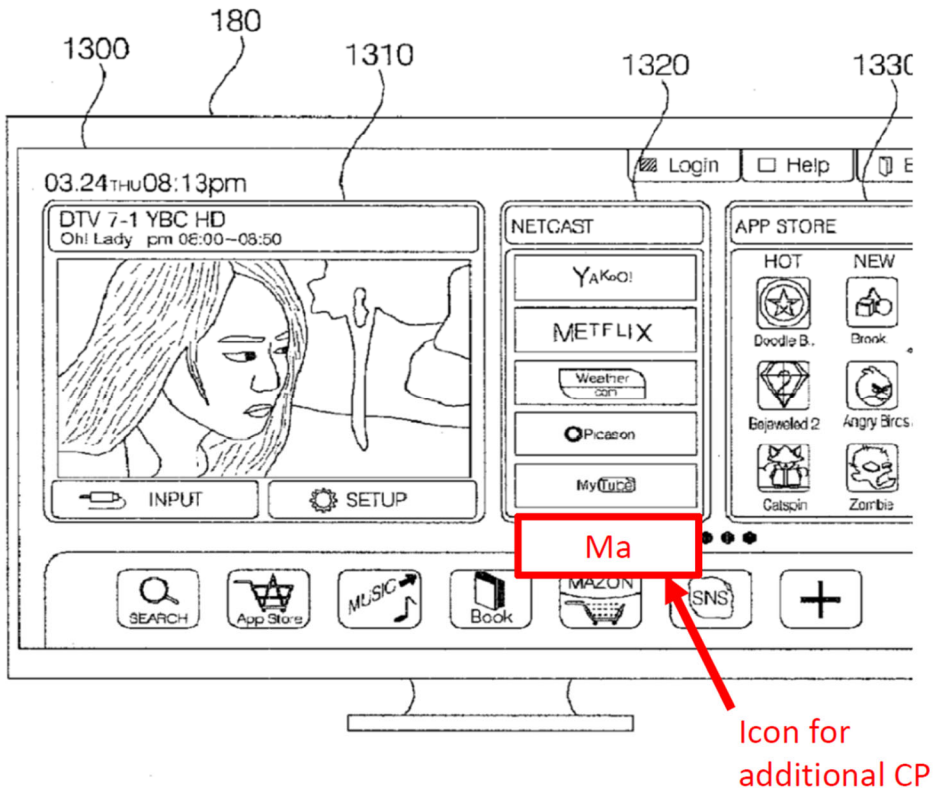
261. Kim discloses this limitation. *See* [1.0], Ground 1.

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b. Limitation [1.1]

262. Kim discloses this limitation. *See* [1.1], Ground 1.

263. Kim also teaches that other CPs may be listed in CP list 1325. EX-1019, [0201]. A POSITA would have found it obvious to, and Kim provides express motivation for, adding Ma's CP to Kim's CP list as shown below.



EX-1019, Fig. 19 (modified and annotated).

264. Once added to Kim's CP list, a user selecting "Ma" (first selection) would have directed the user to Ma's menu structure for presenting VOD content.

c. Limitation [1.2]

265. ***First***, examples of a "*first selection*" include selecting "Netflix" or

"Ma" from Kim's home screen. *See* [1.1], Grounds 1 and 2.

266. ***Second***, Ma discloses "*a master view of the VOD content.*" Specifically, once a user makes "*the first selection*" of the Ma icon as described above, it would have been obvious to a POSITA for the TV to provide "a top-level media menu 200 with which a user of media device 100 can interact to browse and select items of media content for playback." EX-1022, [0023]. Ma's top-level media menu ("*master view*") "includes 3 different regions including a shelf region 205 for displaying individual items of media content, a media type category region 210, which includes names of different media type categories (*e.g.*, Movies 220, TV Shows 225, Music 230, Photos 235, Podcasts 240, Internet 245), and a sub-category region 215, in which sub-category menu options are displayed for each media type category." *Id*.

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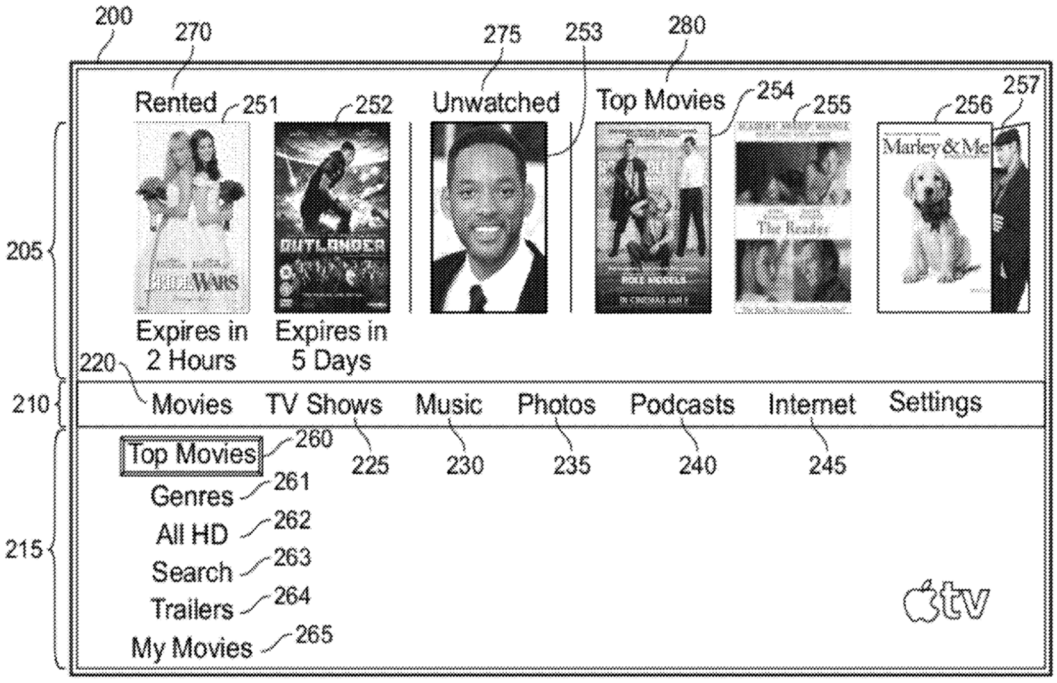


FIG. 2

EX-1022, Fig. 2 (master view embodiment).

267. Ma's master view presents two or more collections of VOD content organized by a characteristic of the VOD content (*e.g.*, movie collections organized by characteristics such as "Rented," "Unwatched"). EX-1022, Fig. 2.

268. Ma's master view features movies. However, a POSITA would have understood that the master view could have featured television shows as taught by Ma (below).

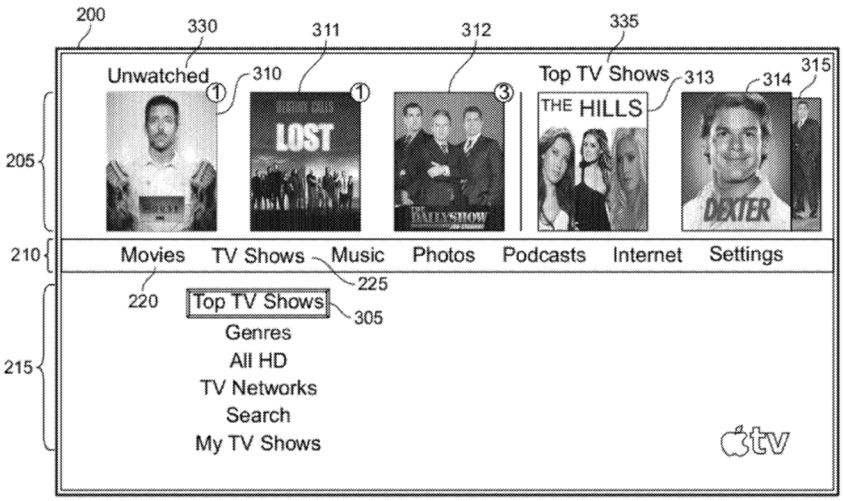


FIG. 3

EX-1022, Fig. 3.

269. This view presents two or more collections of VOD content organized by a characteristic of the VOD content (*e.g.*, collections of TV shows organized by characteristics such as "Unwatched," "Top TV Shows," "Genres"). EX-1022, Fig. 3.

270. Additionally, it would have been obvious to a POSITA to implement Ma's master view to display both movies and TV shows. This would have involved a known technique (for example displaying VOD content by some category, e.g., favorites, including a mixture of TV shows and movies) to achieve a predictable result, wherein a POSITA would have a reasonable expectation of success of implementing the design.

271. Using different UI designs including varying content is taught by Ma. EX-1022, [0030], [0053]. A POSITA would have been motivated to display TV

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shows and movies together to provide a flexible UI allowing users to quickly, easily, and intuitively access both content types from the same view, which is expressly taught by Ma. EX-1022, [0030], [0053].

272. ***Third***, as discussed at [1.1], Ground 1, the master view is provided "*by the processor*" consistent with Kim's teachings. Additionally, Ma teaches that its "***processor 705 [] can be configured to generate output signals for presentation***, such as one or more streams representing media content or ***an interface for interacting with a user***." EX-1022, [0079]. Thus, a POSITA would have understood that a processor provides the master view of VOD content (*i.e.*, generate output signals for presentation) in view of Kim and Ma.

d. Limitation [1.3]

273. ***First***, as discussed at [1.1] and [1.2], Kim's UI receives user input and control signals, and Kim's processor receives signals associated with user selections, including "*a second selection for a VOD content*." Ma similarly teaches that the processor receives signals and commands associated with user selections, including a second selection. EX-1022, [0084].

274. ***Second***, Ma discloses multiple "second selection[s]" for VOD content by a user, which is received by the processor. If "the user were to select the Top Movies sub-category 260, e.g., by clicking a button on the remote control, the media device would respond by displaying an entirely different menu screen

related to Top Movies." EX-1022, [0024]. Further, "selection of any of these sub-category menu choices would results in the media device 100 changing the screen to display a different menu associated with the selected sub-category choice." *Id*. Thus, the limitation for a "*second selection for a VOD content*" is satisfied by selections for "Rented," "Unwatched," "Top Movies," "Top TV Shows," "Genres," "All HD," "TV Networks," "My Movies," and "My TV Shows." EX-1022, Figs. 2 and 3.

e. Limitation [1.4]

275. ***First***, as described at [1.3], "second selections" disclosed in Ma include selections for "Rented," "Unwatched," "Top Movies," etc. EX-1022, Figs. 2, 3.

276. Ma teaches that "additional or different shelf groupings of media items can be used as desired." EX-1022, [0030], [0053] (teaching that different display rules can be used). Accordingly, it would have been obvious to a POSITA to add another selectable button relating "Favorites," including a grouping of VOD identified as a "Favorite," to Ma's master view. Selecting "Favorites" would have satisfied the "second selection" limitation consistent with the analysis above. Adding this menu choice would have been an obvious way to allow the user to navigate to the "Favorites" menu disclosed in Fig. 5B of Ma. A POSITA would have understood the need to access the Favorites menu and would therefore have

been motivated to add this menu choice to provide users with that access.

277. ***Second***, it would have been obvious to a POSITA for a second selection in Ma's Fig. 2 menu to result in a collection view of VOD content, the collection view presenting two or more items of the VOD content having the characteristic. For example, Ma teaches that if "the user were to select the Top Movies sub-category 260, *e.g.*, by clicking a button on the remote control, the media device would respond by displaying an entirely different menu screen related to Top Movies." EX-1022, [0024].

278. Ma does not show the "entirely different menu screen," but it would have been obvious to a POSITA for that screen to be a collection view as disclosed in Ma's Fig. 5B. For example, it would have been obvious for a "second selection" for "Top Movies" to result in a collection view as shown below.

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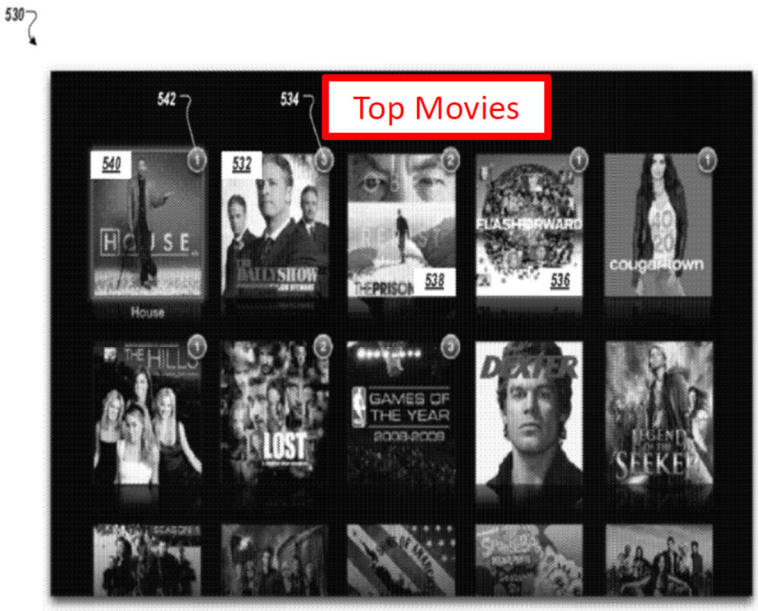


FIG. 5B

EX-1022, Fig. 5B (modified).

279. As another example, as discussed above, it would have been obvious to add a selectable button for "Favorites" to Ma's top-level media menu. From there, it would have been obvious, in response to a "*second selection*" of the new "Favorites" button, to display an entirely new menu screen relating to "Favorites" disclosed in Fig. 5B of Ma (below).

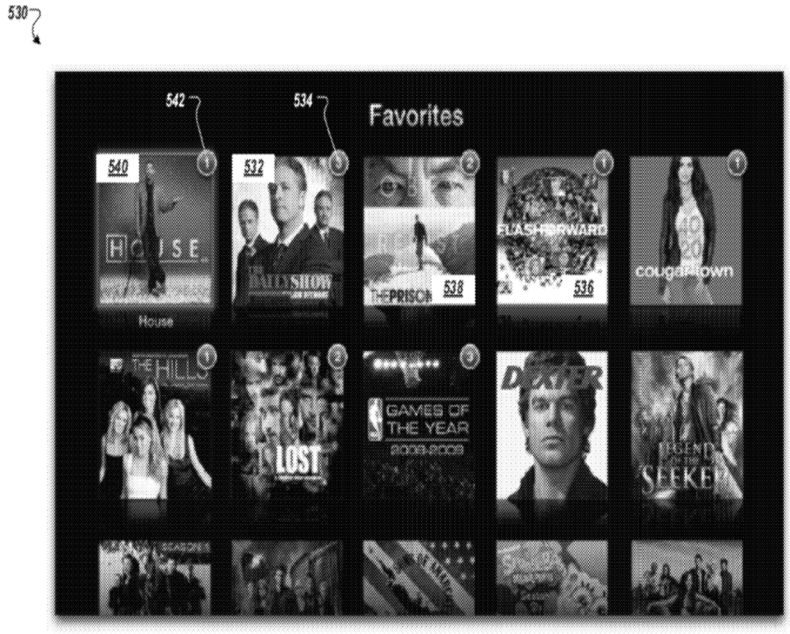


FIG. 5B

EX-1022, Fig. 5B (unmodified).

280. Fig. 5B's menu screen is a collection view of VOD content (*e.g.*, TV shows), wherein the collection view presents two or more items of the VOD content having the characteristic "Favorites".

281. As another example, in response to a "second selection" of the "My Movies" selectable text in Ma's master view (EX-1022, Fig. 2, item 265), it would have been obvious to a POSITA to present a collection view of movies as disclosed in Hunt for "your movies."

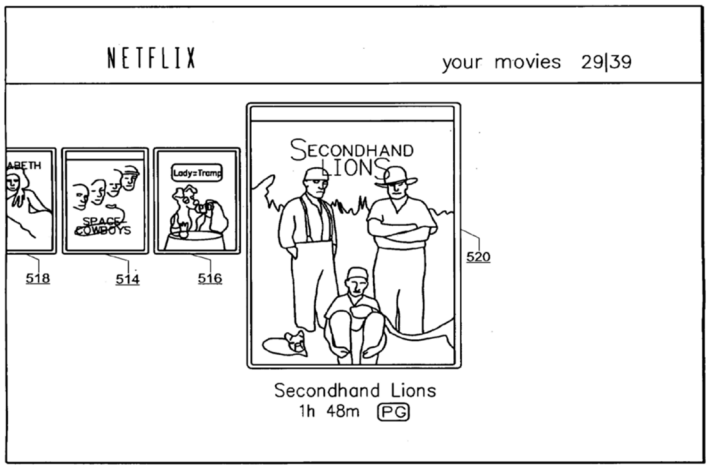


FIG. 7

EX-1020, Fig. 7.

282. A POSITA would have recognized the overlap between "My Movies" in Ma, and "your movies" in Hunt. Thus, providing a collection view as disclosed in Hunt's Fig. 7 would have been an obvious result of a user selecting "My Movies" in Ma's master view. A POSITA would have been motivated to display a collection view based on Ma's use of collection views for similar selections (*e.g.*, presenting a collection view for Favorites TV shows).

283. ***Third***, the collection view is "provided by the processor." Consistent with [1.1] and [1.2], Kim's processor provides "overall control to the image display apparatus 100." EX-1019, [0089]. Kim's processor utilizes a software platform with the OS to perform display apparatus operations. *Id*., [0145], [0166], Figs. 11, 12. Ma's "processor 705 [] can be configured to generate output signals for presentation, such as one or more streams representing media content or an interface for interacting with a user." *Id*., [0079]. Thus, it would have been obvious

to a POSITA for the processor to provide the collection view of VOD content based on the teachings of Kim and/or Ma.

f. Limitation [1.5]

284. ***First***, consistent with [1.1] and [1.2], Kim's UI receives user input signals or control signals, and Kim's processor receives user selection signals, including "*a third selection for a VOD content*." Ma's processor receives signals and commands associated with user selections, including the third selections discussed below. EX-1022, [0084].

285. ***Second***, multiple selections satisfy the "*third selection for a VOD content*" limitation as taught by Ma and Hunt. For example, selecting House in Ma's Fig. 5B collection view would be "*a third selection for a VOD content*." Similarly, if the content in Fig. 5B included movies (as taught by Ma, EX-1022, [0054]), then selecting a movie would be "*a third selection for a VOD content*."

286. Further, as explained in [1.4], it would have been obvious to a POSITA to include a collection view for other collections of VOD content (*e.g.*, "Rented," "Unwatched," "Top Movies"). Selections made within those collection views would also satisfy the "third selection for a VOD content" limitation.

287. Further, selecting "Secondhand Lions" in Hunt's Fig. 7, which uses a collection view to present VOD content, would also satisfy the limitation for "*a third selection for a VOD content*."

g. Limitation [1.6]

288. ***First***, as discussed at [1.5], "*a third selection*" comprises a user selection of the television series "House" in Fig. 5B of Ma. Consistent with Ma's teachings, it would have been obvious to a POSITA that selecting "House" would cause "a series screen 550 [to be] displayed for the TV series 540 [House]." EX-1022, [0063]. In Ma's Fig. 5C, "[t]he series screen 550 displays shortcuts 554, 556 pointing to episodes for the most recently accessed season of the TV series 540."

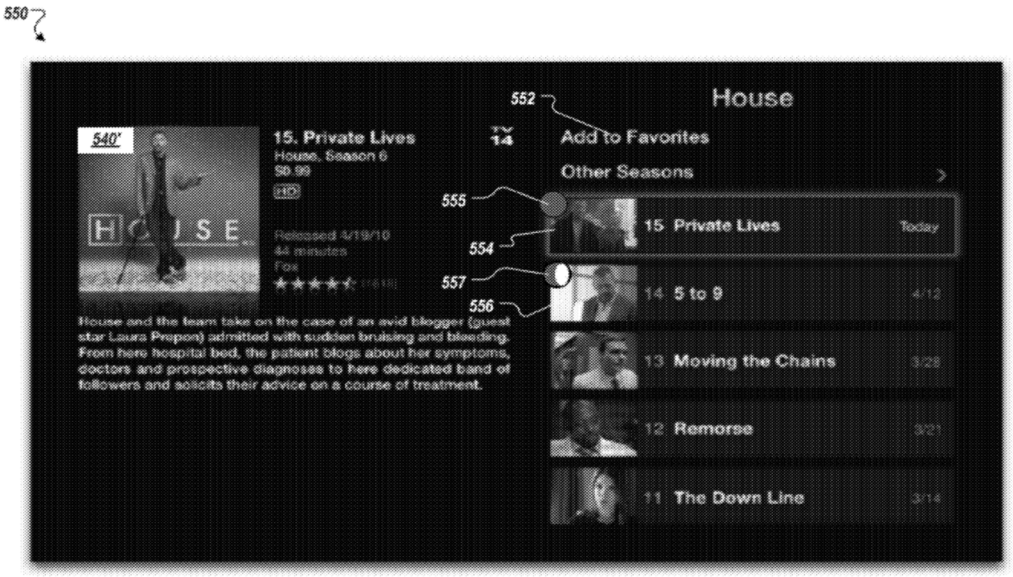


FIG. 5C

EX-1022, Fig. 5C.

289. Ma's "series screen" (above) represents a "*digest view*" as it presents information about a set of VOD content (*e.g.*, TV episodes) that are associated with a series (*e.g.*, "House").

290. Additionally, it would have been obvious to a POSITA that selecting a

TV show in Fig. 5B of Ma results in the presentation of a "*digest view*" as shown in either Fig. 11 or Fig. 12 of Hunt (below).



FIG. 11

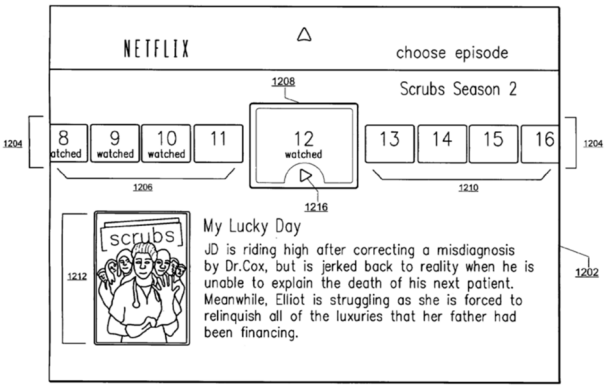


FIG. 12

EX-1020, Figs. 11, 12.

291. Both figures represent "*digest view*" embodiments for TV show episodes from a content provider.

292. ***Second***, as discussed at [1.5], a "*third selection*" comprises a user selecting a movie (*e.g.*, "Secondhand Lions") within Hunt's Fig. 7 collection view.

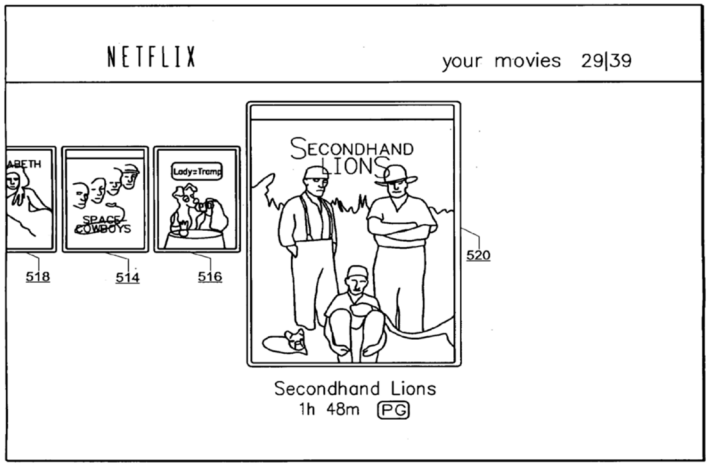


FIG. 7

EX-1020, Fig. 7.

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293. Hunt teaches that selecting "Secondhand Lions" in Fig. 7's collection view results in the device providing a springboard screen relating to "Secondhand Lions" as shown in Hunt's Fig. 8. EX-1009, 17:33-38 ("FIG. 8 illustrates a springboard screen relating to ["Secondhand Lions"]. In an embodiment, streaming media processor 140 displays a springboard screen 802 in response to a user pressing a selection button while a movie poster image is displayed in the center large poster image position of FIG. 5, FIG. 6, FIG. 7.").

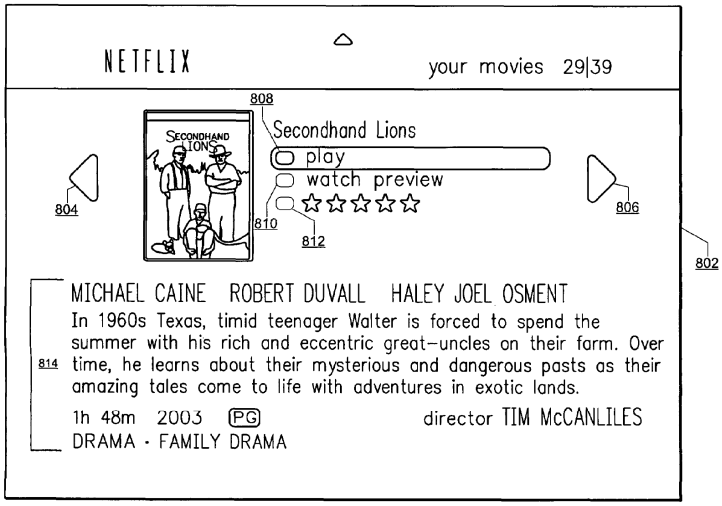


FIG. 8

EX-1020, Fig. 8.

294. Hunt's "springboard screen" represents a "*detail view*," as it presents information (*e.g.*, actors, synopsis, rating, etc.) about a selected item of the VOD content (*e.g.*, "Secondhand Lions").

295. ***Third***, Hunleth teaches providing a detail view in response to a selection of a movie from a collection view. EX-1021, 5:46-51.

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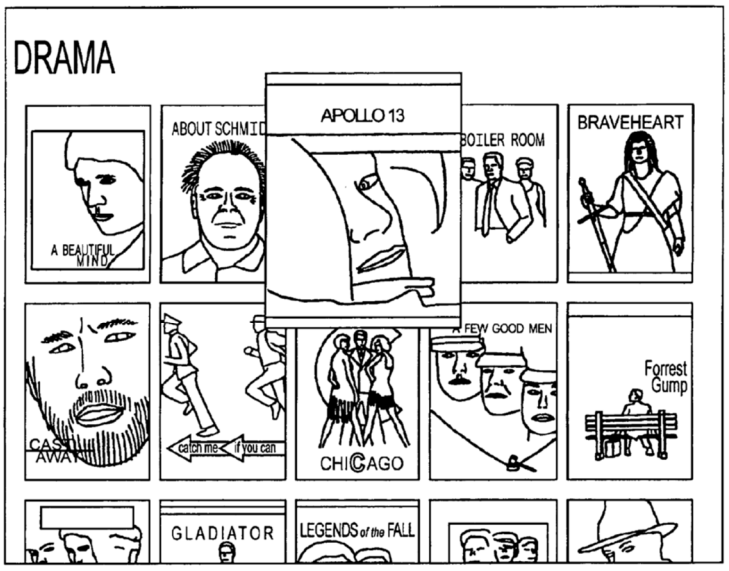


FIG. 1B

EX-1021, Fig. 1B (collection view).

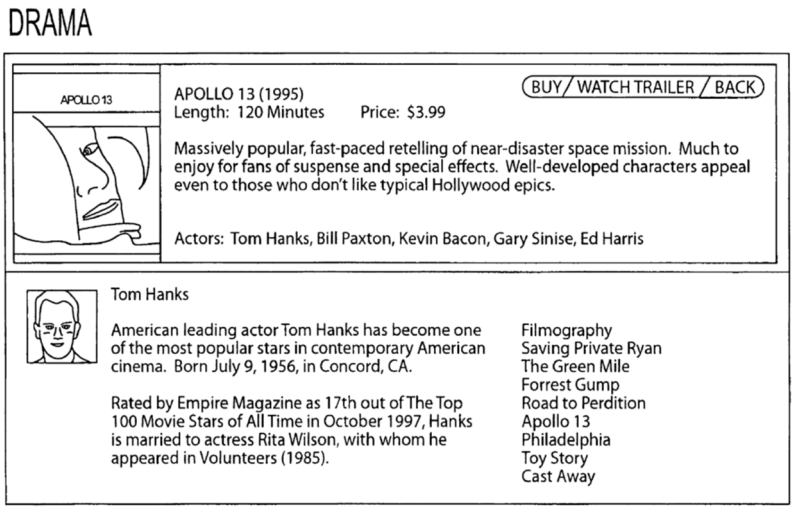


FIG. 2

EX-1021, Fig. 2 (detail view).

296. ***Fourth***, as discussed at [1.1], [1.2], and [1.4], Kim's processor provides "overall control to the image display apparatus 100." EX-1019, [0089]. Kim's processor utilizes a software platform with the OS to perform display

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apparatus operations. *Id*., [0145], [0166], Figs. 11, 12. Ma's "processor 705 [] can be configured to generate output signals for presentation, such as one or more streams representing media content or an interface for interacting with a user." *Id*., [0079]. Thus, a POSITA would have understood that a processor provides detail and digest views of VOD content.

h. Limitation [1.7]

297. ***First***, as discussed at [1.6], if the third selection in the collection view (EX-1022, Fig. 5B) is for a series (*e.g*., "House"), the processor receives the selection and provides a digest view (EX-1022, Fig. 5C; EX-1007, Fig. 12) in response. If the third selection in the collection view (EX-1022, Fig. 5B (modified to include movies); EX-1020, Fig. 7) is for a movie (*e.g*., "Secondhand Lions"), the processor receives the selection and provides a detail view (EX-1020, Fig. 8).

298. ***Second***, as discussed at [1.2], [1.4], and [1.6], Kim, Ma, Hunt, and Hunleth teach that views (*e.g*., master, collection, detail, digest views) are generated and provided by a processor.

299. ***Third***, as discussed herein, it would have been obvious to a POSITA to determine, by a processor, if the selection in a collection view is for a series or one of a movie or single show using metadata as taught by Kim, Hunt, and Hunleth. Ma does not alter the analysis. Similar to the Netflix references in Ground 1, Ma teaches delivering VOD content for movies and TV shows and discloses an

exemplar digest view in response to a selection of a series from collection view. EX-1022, Figs. 5, 5B, 5C. A POSITA would have understood that Ma's digest view (Fig. 5C) would not be used for a single show or movie.

300. Thus, a POSITA would have been motivated to determine, by a processor, if the selection in a collection view is for a series or one of a movie or single show using metadata for the same reasons set forth above for Ground 1.

i. Limitation [1.8]

301. ***First***, as discussed at [1.2], [1.4], [1.6], and [1.7], Kim, Ma, Hunt, and Hunleth teach UIs comprising a master view, a collection view, a digest view, and a detail view.

302. ***Second***, Hunt teaches a player view for VOD content. *See, e.g.*, EX-1020, 17:49-55, 19:29-35, Fig. 9. It also would have been obvious to a POSITA for the television to have a player view at a bottom level to display the selected content.

303. ***Third***, it would have been obvious to a POSITA to have a navigation view of VOD content to be an ordered set of UIs, which is consistent with the above descriptions. It would have been obvious to a POSITA that ordered set would include a master view at a top level (EX-1022, Fig. 2), a collection view at a second level (EX-1022, Fig. 2; EX-1020, Figs. 5-7; EX-1021, Fig. 1B), either a digest view (EX-1022, Fig. 5C; EX-1020, Figs. 11, 12) or detail view (EX-1020,

Fig. 8; EX-1021, Fig. 2) at a third level, and a player view (EX-1022, Fig. 9) at a fourth and bottom level. This is the hierarchy disclosed and/or taught by the references including Ma.

iii. Claim 2

a. Limitation [2.0]

304. This limitation is obvious over Kim. *See* [1.0].

b. Limitation [2.1]

305. This limitation is obvious over Kim in view of Hunt. *See* [2.1], Ground 1.

c. Limitation [2.2]

306. This limitation is obvious over Kim in view of Ma. *See* [1.1], [1.2].

d. Limitation [2.3]

307. This limitation is obvious over Kim in view of Ma. *See* [1.3], [1.4].

e. Limitations [2.4] and [2.6]

308. This limitation is obvious over Kim in view of Ma and Hunt. *See* [1.5], [1.6], [1.7].

f. Limitation [2.5]

309. ***First***, as discussed at [1.6], Ma teaches a digest view for a television series. The digest view provides a listing of multiple episodes associated with the series.

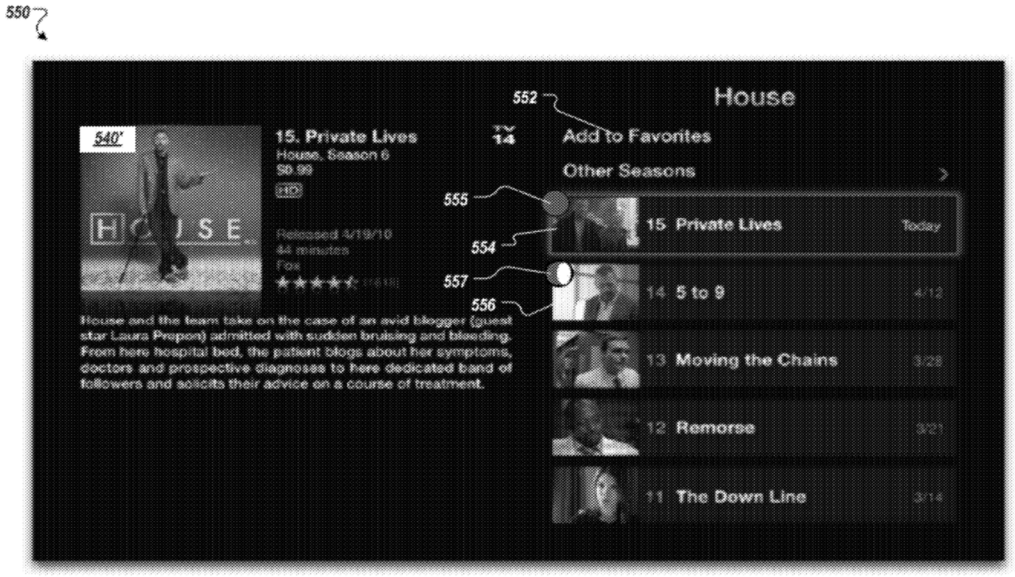


FIG. 5C

EX-1022, Fig. 5C.

310. ***Second***, as discussed at [1.6], Hunt teaches a digest view for a television series. The digest view lists multiple episodes associated with the series.

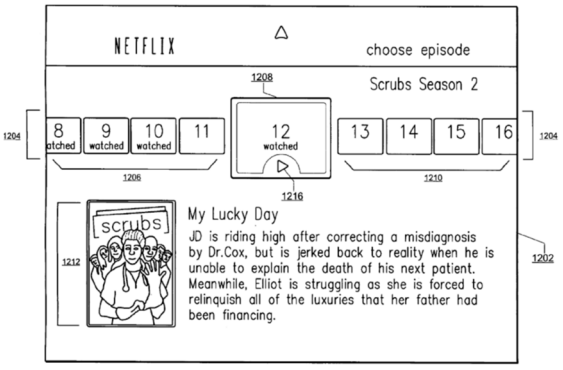


FIG. 12

EX-1020, Fig. 12.

g. Limitation [2.7]

311. ***First***, as discussed at [1.6] and [1.7], Ma and Hunt disclose a digest view in response to the third selection. It would have been obvious to receive "*a*

fourth selection of an episode in the digest view."

312. In Ma, a POSITA would have understood that selecting an episode from Fig. 5C would result in a player being presented to allow users to watch the episode.

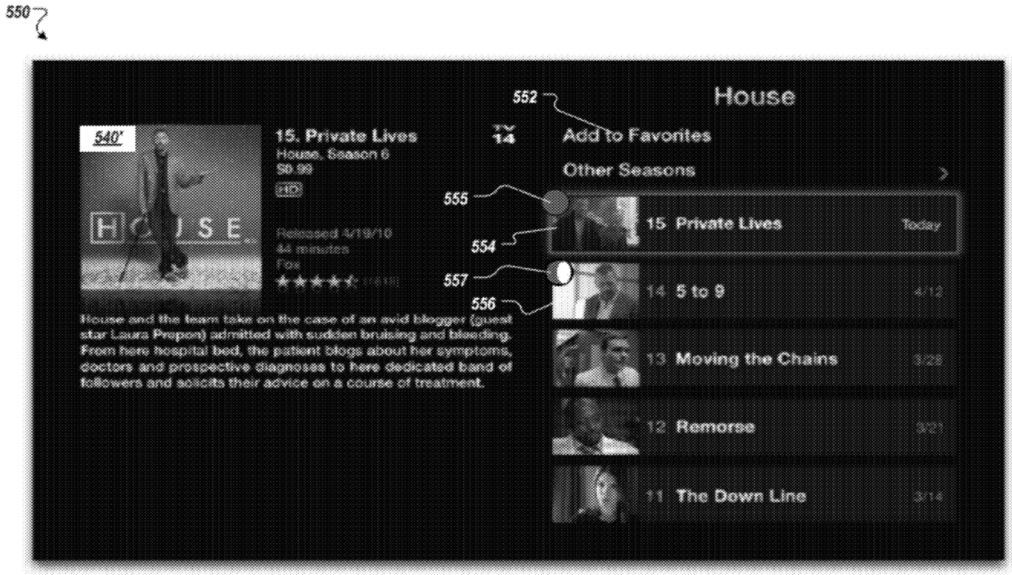


FIG. 5C

EX-1022, Fig. 5C.

313. Hunt also teaches displaying a player for VOD content in response to a user selection of an episode. *See, e.g.*, EX-1020, 17:49-55, 19:29-35, Fig. 9.

314. ***Second***, as discussed at [1.6] and [1.7], it would have been obvious to present a detail view in response to a third selection as taught by Hunt.

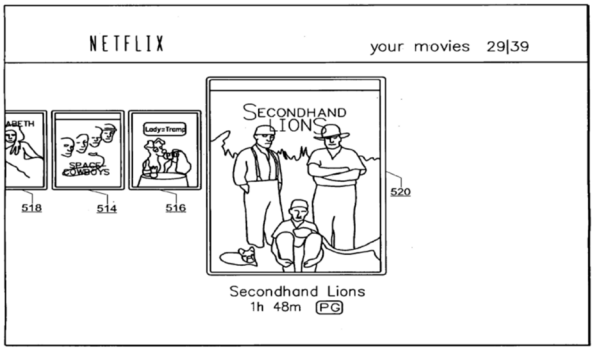


FIG. 7

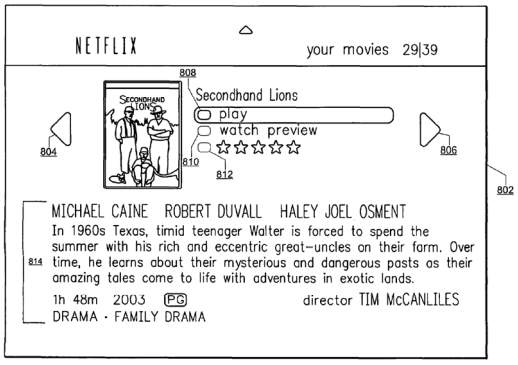


FIG. 8

EX-1020, Fig. 7 (left) (collection view), Fig. 8 (right) (detail view).

315. From there, it would have been obvious for the TV to receive a fifth selection of a UI device (*e.g.*, receiving a selection of the "play" button in Fig. 8 above) to play the movie. In response to the fifth selection, a POSITA would have understood that a player would be provided to present the movie to the user as taught by Hunt.

h. Limitation [2.8]

316. This limitation is obvious over Kim in view of Ma, Hunt, and Hunleth. *See* [1.8].

iv. Claim 3 (Limitation [3.0])

317. As discussed at [1.6], Ma discloses a digest view for a television series (*e.g.*, "House"). The digest view lists multiple episodes associated with the series.

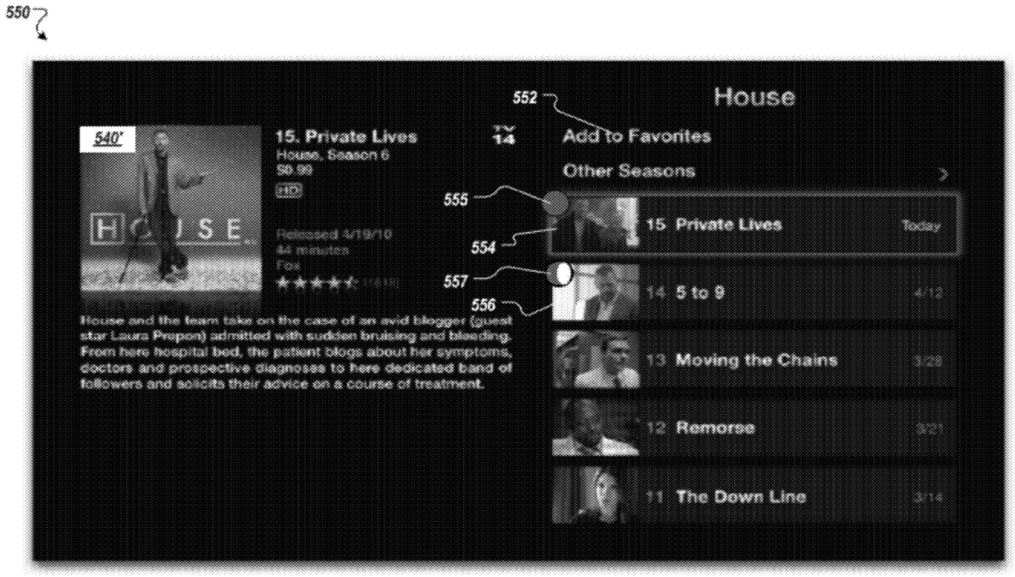


FIG. 5C

EX-1022, Fig. 5C.

v. Claim 4 (Limitation [4.0])

318. As discussed at [1.6], [1.8], and [3.0], Ma and Hunt disclose digest views for a television series. Selecting a TV show episode results in a player being presented. For example, as shown in Hunt's Fig. 11, selecting "play episode 12" ("*the fourth selection*") would result in a player being provided to present the episode to the user. EX-1020, 17:49-55, 19:29-35, Fig. 9. A POSITA would have understood that a player view would be provided in response to the fourth selection to allow the user to watch the selected content.

vi. Claim 5 (Limitation [5.0])

319. This limitation is obvious over Kim in view of Ma, Hunt, and Hunleth. *See* [2.7].

vii. Claim 6 (Limitation [6.0])

320. As discussed at [1.2], Ma discloses a master view of VOD content. Ma's master view includes multiple user-selectable devices (*e.g.*, selectable interfaces for "Movies," "TV Shows," "Unwatched," "Top Movies," "Favorites") to view a collection view based on one of two or more criteria (*e.g.*, movies, TV, rented, unwatched, favorite).

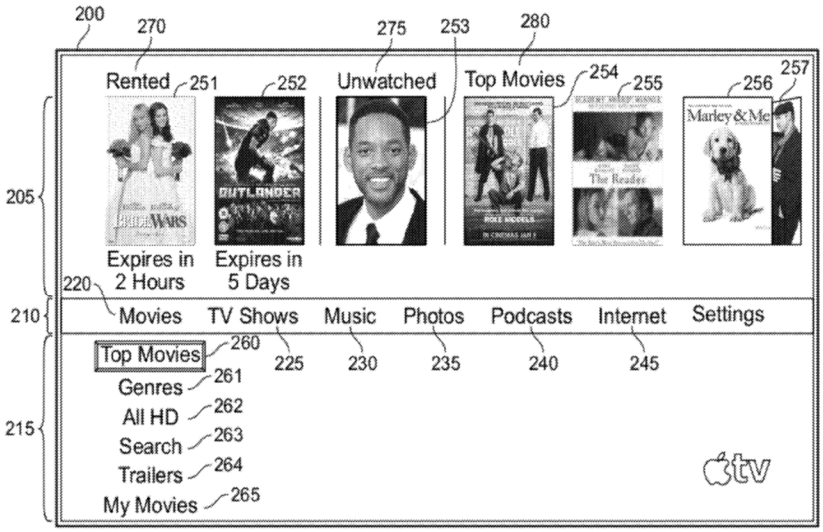


FIG. 2

EX-1022, Fig. 2.

viii. Claim 7 (Limitation [7.0]

321. As discussed at [1.2], Ma discloses a master view of VOD content. The master view includes a navigation bar to select between types of content (*e.g.*, Movies, TV Shows).

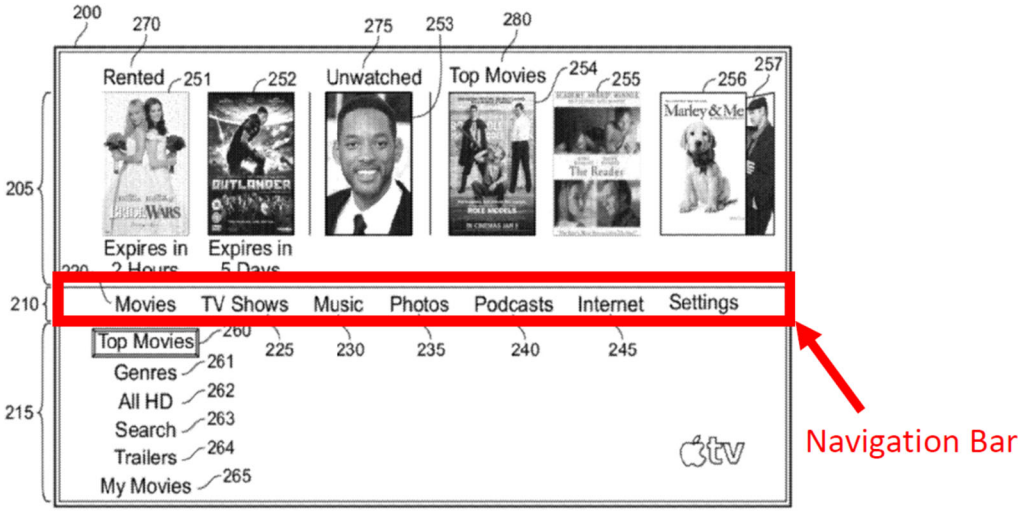


FIG. 2

EX-1022, Fig. 2.

ix. Claim 8 (Limitation [8.0])

322. Ma discloses movie and television series content. EX-1022, Figs. 2 and 3. Additionally, although claim 8 only requires one type of content, it would have been obvious for the television and moving content to further include showcase and variety content.

x. Claim 9 (Limitation [9.0])

323. As discussed at [1.2], Ma discloses a master view of VOD content. Ma's master layout includes user selectable devices for at least a collection of content based on top watched content (*e.g.*, "Rented") and recommended content (*e.g.*, "Top Movies"). EX-1022, Fig. 2. Further, as discussed at [1.4], it would have been obvious to add a user selectable device for favorites content, which would provide the user with access to the "Favorites" menu shown in Ma's Fig. 5B.

xi. Claim 10 (Limitation [10.0]

324. This limitation is obvious over Kim in view of Ma, Hunt, and Hunleth. *See* [2.1], [2.2], [2.3].

xii. Claim 11

a. Limitation [11.0]

325. This limitation is obvious over Kim in view of Ma and Hunt. *See* [2.1], [2.2], [2.3]; *see also* [11.0], Ground 1.

b. Limitation [11.1]

326. This limitation is obvious over Kim in view of Ma. *See* [1.1], [1.2], [11.1].

c. Limitation [11.2]

327. This limitation is obvious over Kim in view of Ma and Hunt. *See* [1.3], [1.4], [11.1].

d. Limitation [11.3]

328. This limitation is obvious over Kim in view of Ma, Hunt, and Hunleth. *See* [1.5], [1.6], [11.1].

e. Limitation [11.4]

329. This limitation is obvious over Kim in view of Ma, Hunt, and Hunleth. *See* [1.7], [11.1].

f. Limitation [11.5]

330. This limitation is obvious over Kim in view of Ma, Hunt, and

Hunleth. *See* [1.7], [11.1].

g. Limitation [11.6]

331. This limitation is obvious over Kim in view of Ma, Hunt, and Hunleth. *See* [1.8], [11.1].

xiii. Claim 12 (Limitation [12.0])

332. This limitation is obvious over Kim in view of Ma, Hunt, and Hunleth. *See* claims 6-9, 11.

X. AUTHENTICATION OF REFERENCES

333. Exhibits 1005 through 1010 include true and correct copies of a YouTube video entitled "Connected TV: Vizio LED HDTV with VIA Apps Part 1 of 2," available at https://www.youtube.com/watch?v=MnjqA2IQHG8, posted on January 20, 2011. No alterations have been made to the video.

334. Exhibits 1011 through 1017 include true and correct copies of a YouTube video entitled "Connected TV: Vizio LED HDTV with VIA Apps Part 2 of 2," available at https://www.youtube.com/watch?v=S9oVDVDHVBM, posted on January 19, 2011. No alterations have been made to the video.

335. Exhibit 1018 includes a true and correct copy of a YouTube video entitled "Apple TV Netflix Walkthrough," available at https://www.youtube.com/watch?v=rglW9JQVMjQ, posted on April 16, 2012. No alterations have been made to the video.

336. Exhibit 1028 is a true and correct copy of a publication entitled "The

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Rise of Video On Demand (VOD) Streaming" by Aura Lyu, dated April 7, 2023, available at https://www.yololiv.com/blog/the-rise-of-video-on-demand-vod-streaming/. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

337. Exhibit 1029 is a true and correct copy of a publication entitled "RealAudio" topic in Britannica online, available at https://www.britannica.com/topic/RealAudio. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

338. Exhibit 1030 is a true and correct copy of a publication entitled "The Story of WebTV, the Smart TV of the 90s," by Ernie Smith, published by Vice.com, dated September 16, 2016, available at https://www.vice.com/en/article/4xaqe9/why-webtvs-remote-controlled-internet-failed-to-take-off. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

339. Exhibit 1031 is a true and correct copy of a publication entitled "The Consumer Electronics Hall of Fame: TIVO," by Brian Santo, published by IEEE

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Spectrum, dated 2019, available at https://spectrum.ieee.org/the-consumer-electronics-hall-of-fame-tivo. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

340. Exhibit 1032 is a true and correct copy of a publication entitled "MythTV Invades Realm of Cable and TiVo," by Chris Barylick, published by the Washington Post, dated March 25, 2006, available at https://www.washingtonpost.com/archive/business/2006/03/26/mythtv-invades-realm-of-cable-and-tivo/0d8393bb-6ae5-4f90-8657-e111f5fb9257/. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

341. Exhibit 1033 is a true and correct copy of a publication entitled "The Wait Is Over! Windows XP Media Center Edition Ushers in New Era of Entertainment on the PC," dated October 28, 2002, available at https://news.microsoft.com/2002/10/28/the-wait-is-over-windows-xp-media-center-edition-ushers-in-new-era-of-entertainment-on-the-pc/. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted

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markings, have been made to this document.

342. Exhibit 1034 is a true and correct copy of a publication entitled "A History of the GUI, by Jeremy Reimer, dated May 4, 2005, published by Ars Technica, available at https://arstechnica.com/features/2005/05/gui/. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

343. Exhibit 1035 is a true and correct copy of a Webpage printout from Toastytech.com, available at http://toastytech.com/guis/win952.html. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

344. Exhibit 1036 is a true and correct copy of a publication entitled "IOS: A Visual History," by Verge Staff, dated September 16, 2013, avialable at https://www.theverge.com/2011/12/13/2612736/ios-history-iphone-ipad. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

345. Exhibit 1037 is a true and correct copy of a publication entitled "Apple TV (1st generation)," published by Apple Wiki, available at

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https://apple.fandom.com/wiki/Apple_TV_(1st_generation). I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

346. Exhibit 1039 is a true and correct copy of a publication entitled "WebTV May Not Be for Everyone, but It's a Step in the Right Direction," by Lawrence J. Magid, dated September 30, 1996, published by the LA Times, available at https://www.latimes.com/archives/la-xpm-1996-09-30-fi-49004-story.html. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

347. Exhibit 1040 is a true and correct copy of a publication entitled "Holiday Buyer's Guide 2007, Part 2; HP MediaSmart TV" by Sina Mohammadi, dated November 12, 2007, published by tom's Hardware, available at https://www.tomshardware.com/reviews/holiday-buyers-guide-2007,1723-9.html. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

348. Exhibit 1041 is a true and correct copy of a publication entitled "Netflix and Vizio to stream films to high-def TVs, dated January 7, 2009,

published by Reuters, available at https://www.reuters.com/article/us-netflix-vizio/netflix-and-vizio-to-stream-films-to-high-def-tvs-idUSTRE5066WV20090108. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

349. Exhibit 1042 is a true and correct copy of a publication entitled "Vizio's Wireless TV Connects to the Web Through New 'Widget Stream,'" by Jose Fermoso, dated January 8, 2009, published by Wired, available at https://www.wired.com/2009/01/vizios-connects/. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

350. Exhibit 1043 is a true and correct copy of a publication entitled "LG to release first HDTVs that instantly stream movies from Netflix," by Darren Murph, dated January 4, 2009, published by engadget, available at https://www.engadget.com/2009-01-05-lg-to-release-first-hdtvs-that-instantly-stream-movies-from-netf.html. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this

document.

351. Exhibit 1044 is a true and correct copy of a website entitled "How to use Netflix on your Apple TV," available at https://help.netflix.com/en/node/23887. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

352. Exhibit 1045 is a true and correct copy of a publication entitled "Google TV: Everything You Need To Know," by Jay Yarow, dated May 21, 2010, published by Business Insider, available at https://www.businessinsider.com/what-is-google-tv-2010-5. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

353. Exhibit 1046 is a true and correct copy of a publication entitled "Sony Outs The First HDTV Powered By Google TV," by Matt Burns, dated October 12, 2010, published by TechCrunch, available at https://techcrunch.com/2010/10/12/sony-google-tv/. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been

made to this document.

354. Exhibit 1047 is a true and correct copy of a publication entitled "MythTV on Design," by David Shanske, published by Gadget Wisdom, dated November 3, 2009, available at https://www.gadgetwisdom.com/2009/11/03/mythtv-on-design/. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

355. Exhibit 1048 is a true and correct copy of an excerpt from a book called "Java and XSLT," by Eric M. Burke, dated 2001. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

356. Exhibit 1049 is a true and correct copy of an excerpt from a book called "The Developer's Guide to Social Programming," by Mark D. Hawker, dated 2011. I have been informed that this exhibit has been marked with an exhibit label and page numbers on each page at the bottom. However, no alterations, other than these noted markings, have been made to this document.

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XI. CONCLUSION

357. This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare that all statements made herein on 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 or Title 18 of the United States Code.

March 21, 2024

Henry Houh.

Henry Houh, Ph.D.

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