

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner

v.

TOUCHSTREAM TECHNOLOGIES, INC.
Patent Owner

Patent No. 8,356,251

Filing Date: September 26, 2011

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Title: PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

Inter Partes Review No.: IPR2024-00321

DECLARATION OF DAVID B. LETT

**IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *et seq.***

Declaration in Support of Petition 1 of 2

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I, David B. Lett, declare that I have personal knowledge of the facts set forth in this declaration and, if called to testify as a witness, could and would do so competently.

1. INTRODUCTION

1. I have been retained as an expert witness on behalf of the Petitioner, Comcast Cable Communications, LLC, for the above-referenced *inter partes* review proceeding.

2. I have been asked to provide a declaration regarding certain matters pertaining to U.S. Patent No. 8,356,251 (“the ’251 Patent”) and the unpatentability grounds set forth in the Petition for this proceeding. My experience with television distribution systems, Set Top Boxes (STBs), Electronic Program Guides (EPGs), Video on Demand (VOD), and content delivery systems provides me with an understanding of the subject matter described and claimed in the ’251 Patent.

3. I am being compensated for my work on this matter at my usual consulting rate or testimony rate of \$350 or \$400 per hour respectively. My compensation is in no way dependent upon my opinions or testimony or the outcome of this proceeding. I have no financial interest in the party or in the outcome of this proceeding.

2. PROFESSIONAL BACKGROUND AND QUALIFICATIONS

4. I am a technical consultant and product development industry veteran with expertise in electronics, software, hardware, video, audio, and data

communications, having led product development organizations in cable, satellite, consumer electronics, home automation, asset tracking, remote tank logistics, and alarm industries. My current curriculum vitae is attached as Appendix A and some highlights follow.

5. I earned my B.S. in Electrical Engineering (1982) with high honors from the University of Tennessee in Knoxville, Tennessee. I also attended the Georgia Institute of Technology from 1986 to 1987, completing 40% of the required degree hours for the M.S. Electrical Engineering program.

6. From 1982 to 1985, I worked at Scientific Atlanta as an Electrical Engineer designing video, audio, and data communications equipment for the cable television industry. I designed software and hardware including addressable data transmitters, video sync suppression scramblers, transaction format converters, and data channel monitors for addressable Cable Television systems and Set Top Boxes.

7. From 1983 to 1985, while working at Scientific Atlanta, I also worked as an Assistant Professor at Devry Institute of Technology, teaching courses in electronics and microprocessor hardware/software.

8. From 1985 to 1990, I worked at Wegener Communications as a Senior Electrical engineer, designing satellite communications equipment including forward error correction (FEC) coding systems, PSK modems, and analog control systems for RF modulators and PSK demodulators. I was promoted to the Hardware

Engineering Manager, where I managed product development of video, audio, and data satellite receivers, modulators, graphics display systems, DSP-based companders, FSK and PSK satellite modems, multiplexers, forward error correction (FEC) codecs, RF upconverters and downconverters, and baseband analog and digital processing components.

9. In 1990, I returned to Scientific Atlanta, which was acquired by Cisco in 2006. I worked as Engineering Manager running the set top box engineering group where I was promoted to Director and Vice President during my tenure until 2011. I led the design of many cable set top boxes and systems through the evolution of analog video, addressability, downloadable software, electronic program guides, digital video, VOD, software applications, high-definition TV, DVR, DOCSIS, full spectrum tuners, and multiroom DVR. These systems implemented various technologies including DOCSIS 1/2/3 and hybrid gateways, 802.11, IPTV, DVR, cable modems, ADSL, VDSL, DVB-T/C/S, bootloaders, factory diagnostics, application frameworks, Nagra, DRMs, conditional access, secure microprocessors, device management, Android, Adobe Flash, Linux, DVD play/record, MPEG-4, MPEG-2, H.264, NTSC, PAL, DAVIC, MoCA, high-performance CPUs, cablecards, network processors, HDMI, multiple video/audio display interfaces, 2D/3D graphics, multiple RF tuners, and full spectrum tuners.

10. From 2011 to 2016, I worked for EchoStar Technologies, which served as the product development organization for sister company DISH Network. I served as Vice President of Engineering and was the Head of the Atlanta research and development center. I led the development of satellite set top boxes, consumer electronic equipment, and a home automation and security system. Technologies used included video/audio, IoT, H.265, HEVC, 3D, Satellite, wireless, MoCA, transcoding, embedded C Linux applications, mobile applications (IOS and Android), SaaS, web applications (Javascript, HTML), BSS/OSS, AWS cloud storage, 2-way video/audio streaming, authentication, and VoIP.

11. In 2016, I started an independent consulting business in technology and intellectual property projects. I have consulted in various technology areas and industries including consumer electronics, Internet of Things (IoT), cable, satellite, television, media, and cryptocurrency.

12. From 2019 to 2022, I worked as Chief Technology Officer for Telular, an Ametek company. I was responsible for the development of Industrial Internet of Things (IIoT) recurring revenue solutions, combining wireless technologies, purpose-built hardware, and SaaS in the commercial telematics, security and home automation markets and sold under the SkyBitz and Telguard brands.

13. My record of professional service includes awards on products I designed and developed from several organizations in my field of expertise, including Best of Show, Technology Emmy, and Best of Innovations.

14. I am a named inventor on 86 patents and published patent applications corresponding to the areas of my professional work. The patents and published applications involving video and audio technologies include:

- U.S. Patent No. 9,882,736 titled “Remote Sound Generation for a Home Automation System”
- U.S. Patent No. 9,615,139 titled “Determining Device That Performs Processing of Output Pictures”
- U.S. Patent No. 8,549,567 titled “Media Content Sharing Over a Home Network”
- U.S. Patent No. 8,161,388 titled “Interactive discovery of display device characteristics”
- U.S. Patent Nos. 8,120,924, 7,240,217, 6,785,817, 6,564,324, 6,212,278, and 5,440,632 titled “Reprogrammable Subscriber Terminal”
- U.S. Patent No. 7,908,625 titled “Networked Multimedia System”
- U.S. Patent Nos. 7,861,272 and 7,849,486 titled “Networked Subscriber Television Distribution”
- U.S. Patent Nos. 7,774,820 and 7,069,578 titled “Settop Cable Television Control Device and Method Including Bootloader Software and Code Version Table for Maintaining and Updating Settop Receiver Operating System Software”
- U.S. Patent No. 5,771,064 titled “Home Communications Terminal having an Applications Module”

- U.S. Patent No. 5,715,515 titled “Method and Apparatus for Downloading On-Screen Graphics and Captions to a Television Terminal”
- U.S. Patent No. 5,657,414 titled “Auxiliary Device Control for a Subscriber Terminal”
- U.S. Patent No. 5,592,551 titled “Method and Apparatus for Providing Interactive Electronic Programming Guide”
- U.S. Patent No. 5,539,822 titled “System and Method for Subscriber Interactivity in a Television System”
- U.S. Patent No. 5,357,276 titled “Method of Providing Video On Demand with VCR Like Functions”
- U.S. Patent Application Publication Nos. 2004/0068753 and 2008/0072272 titled “Video Transmission Systems and Methods for a Home Network”
- U.S. Patent Application Publication No. 2004/0133911 titled “Subscriber Network in a Satellite System”

15. I have a general understanding of the U.S. patent prosecution process and of the novelty and non-obviousness requirements for patentability.

16. I believe that my extensive industry experience and educational background qualify me as an expert in the relevant field of multimedia content management retrieval and distribution systems. I am knowledgeable of the relevant skill set that would have been possessed by a hypothetical person of ordinary skill in the art at the time of the invention of the '251 Patent, which I (as I discuss below) understand is 2011.

3. MATERIALS CONSIDERED

17. In formulating my opinion, I reviewed and considered U.S. Pat. No. 8,356,251 to Strober (Ex. 1001), as to which I am offering my opinion regarding the validity of certain claims, as discussed herein.

18. In preparing this declaration, I also reviewed and considered the Petition and the file history of the '251 Patent (Ex. 1004) as well as the following references:

- Ex. 1004: Certified Prosecution History for U.S. Patent No. 8,356,251
- Ex. 1005: U.S. Pat. No. 8,660,545 (“Redford”)
- Ex. 1006: U.S. Pub. No. 2008/0235588 (“Gonze”)
- Ex. 1007: U.S. Pat. No. 8,327,403 (“Chilvers”)
- Ex. 1008: U.S. Pub. No. 2007/0155506 (“Malik”)
- Ex. 1009-17: Omitted
- Ex. 1018: U.S. Pub. No. 2006/0107299 (“Bartfeld”)
- Ex. 1019: Reserved
- Ex. 1020: Joint Claim Construction Statement, *Touchstream Technologies, Inc. v. Google LLC*, 6:21-cv-00569-ADA (WDTX) (Feb. 8, 2022)
- Ex. 1021: Exhibit 1 to Joint Disputed Claim Terms Charts, *Touchstream Technologies, Inc. v. Vizbee, Inc.*, 1:17-cv-06247-PGG-KNF (SDNY) (Aug. 6, 2018)
- Ex. 1022: Jury Instructions, *Touchstream Technologies, Inc. v. Google LLC*, 6:21-cv-00569-ADA (WDTX) (July 21, 2023)
- Ex. 1023-29: Omitted

- Ex. 1030: U.S. Pub. No. 2002/0104096 (“Cramer”)
- Ex. 1031: U.S. Pat. No. 7,356,575 (“Shapiro”)
- Ex. 1032: U.S. Pat. No. 7,269,842 (“Estipona”)
- Ex. 1033: U.S. Pub. No. 2004/0267899 (“Rahman”)
- Ex. 1034: U.S. Pub. No. 2004/0098533 (“Henshaw”)
- Ex. 1035: U.S. Pub. No. 2004/0172656 (“Kim”)
- Ex. 1036: Omitted
- Ex. 1037: U.S. Pat. No. 7,343,419 (“Robinson”)
- Ex. 1038-40: Omitted
- Ex. 1041: CODING OF MOVING PICTURES AND AUDIO, *MPEG-4 Overview* (Int’l Org. Standardisation 2002)
- Ex. 1042: Robert Godwin-Jones, *Digital Video Update: YouTube, Flash, High-Definition*, 11 LANGUAGE LEARNING & TECH. 16, 17 (2007)
- Ex. 1043: John C. Paolillo et al., *A Network View of Social Media Platform History: Social Structure, Dynamics and Content on YouTube*, PROC. 52ND HAWAII INT’L CONF. ON SYS. SCIS., 1, (2019)
- Ex. 1044: *YouTube Opens Internet Video to Masses; Serving 3 Million Videos Daily and Growing, YouTube Unveils a Fast, Fun, and Easy Service for Consumers to Broadcast Original Video*, MARKET WIRE, Dec. 15, 2005
- Ex. 1045: *Hulu Debuts via Private Beta and on Distribution Partners AOL, Comcast, MSN, MySpace and Yahoo!; Company Announces Major Licensing Deals with Metro-Goldwyn-Mayer Studios Inc. and Sony Pictures Television; Providence Equity Partners Makes Strategic Investment in News Corporation/NBC Universal Online Video Joint Venture*, BUS. WIRE, Oct. 29, 2007
- Ex. 1046: *Blockbuster Offers Cheaper Online Rental*, ASSOCIATED PRESS, Jun. 13, 2007

- Ex. 1047: *Adobe Delivers Flash Player 9 With H.264 Video Support; HD Quality Web Video and Audio Now Available With Adobe Flash Player Update*, BUS. WIRE, Dec. 4, 2007
- Ex. 1048: *Microsoft Unveils Silverlight to Power the Next Generation of Media Experiences on the Web; Leading Media Companies and Solution Providers Announce Support for New Solution for Video and Interactivity on Mac- and Windows-Based Web Browsers*, PR NEWswire US, Apr. 16, 2007
- Ex. 1049: *Former Apple Multimedia Pioneers Unveil WebTV; New Company Brings Internet to Television Viewers*, PR NEWswire, Jun. 12, 1996
- Ex. 1050: *Netflix, TiVo Team Up After 4-Year Courtship*, ASSOCIATED PRESS, Oct. 30, 2008
- Ex. 1051: *TiVo and Amazon.com Announce New Service Enabling Amazon Unbox Video Download to TiVo; TiVo Subscribers Will Soon Be Able to Watch Amazon Unbox Movies and TV Shows on Their TVs*, BUS. WIRE, Feb. 7, 2007
- Ex. 1052: *Wall Crumbling Between Televisions and Computers*, AGENCE FRANCE PRESSE – ENGLISH, Jan. 8, 2009
- Ex. 1053: *ENHANCED TV BINARY INTERCHANGE FORMAT 1.0, ETV (OpenCable Specifications)*, Nov. 25, 2009
- Ex. 1054: *Award-Winning Sonos™ Digital Music System Begins Shipping to Customers*, PR NEWswire US, Jan. 27, 2005
- Ex. 1055: *Sonos Introduces the Sonos™ ZonePlayer ZP80*, PR NEWswire, Jan. 4, 2006
- Ex. 1056: *Sonos Introduces the Sonos Controller for iPhone; Free Application Lets Music Lovers Control Leading Multi-Room Music System from Their iPhone*, PR NEWswire, Oct. 28, 2008
- Ex. 1057: *AT&T Opens R&D Lab in Cambridge, England*, BUS. WIRE, Feb. 10, 1999

- Ex. 1058: *Microsoft Releases Windows NT 4.0 Terminal Server Edition*, M2 PRESSWIRE, Jun 16, 1998
- Ex. 1059: *TeamViewer: TeamViewer 3.0 Beta Published; Next Generation of the Popular Remote Support Software*, M2 PRESSWIRE, Aug. 27, 2007
- Ex. 1060: *3am Labs Announces \$10 Million Series A Financing; McNamee Lawrence & Co. Acts as Exclusive Financial Advisor to 3am Labs*, BUS. WIRE, Nov. 16, 2004
- Ex. 1061: *Expertcity's GoToMyPC Product Wins A People's Choice Award At Upside Events' Showcase 2001*, INTERNET WIRE, Feb. 1, 2001
- Ex. 1062: *TV2Me(R) Goes Global By Partnering With Leading Asian Online Entertainment Company; Manila-Based ESL Adds Sales and Marketing Muscle to Bring Pioneering Place Shifting Technology to Wider Market*, PR NEWSWIRE US, May 16, 2006
- Ex. 1063: *CES Innovations 2005 Award and Red Herring Finalist for 100 Most Innovative Companies are Latest Commendations for Sling Media*, BUS. WIRE, Nov. 11, 2004
- Ex. 1064: Final Written Decision, IPR2022-00795 (Sep. 27, 2023)
- Ex. 1065: Patent Owner Response, IPR2022-00795 (Jan. 13, 2023)
- Ex. 1066: Omitted
- Ex. 1067: *Progressive Networks Launches the First Commercial Audio-On-Demand System Over the Internet*, BUS. WIRE, Apr. 10, 1995
- Ex. 1068: *Progressive Networks' RealVideo Launched With Wide Industry Support*, PR NEWSWIRE EUROPE, February 10, 1997
- Ex. 1069: Omitted
- Ex. 1070: U.S. Pat. Application No. 61/477,998
- Ex. 1071: U.S. Pat. No. 8,904,289 to Strober (“the ’289 Patent”)

- Ex. 1072: Certified Copy of Prosecution History of U.S. Pat No. 8,904,289
- Ex. 1073-74: Omitted

4. UNDERSTANDING OF APPLICABLE LEGAL STANDARDS

19. Although I am not an attorney, I have a general understanding of the applicable legal standards pertaining to the patentability issues presented in this proceeding. I understand that the Petitioner is challenging the patentability of the claims of the '251 Patent based on the following grounds:

- Claims 1-2, 5, 7-11, 16, and 18-21 as obvious under pre-AIA 35 § 103(a) based on Redford.
- Claims 1-2, 5, 7-11, 16, and 18-21 as obvious under pre-AIA 35 § 103(a) based on Redford in view of Gonze.
- Claims 1-2, 5, 7-11, 16, and 18-26 as obvious under pre-AIA 35 § 103(a) based on Redford in view of Bartfeld.
- Claims 1-2, 5, 7-11, 16, and 18-26 as obvious under pre-AIA 35 § 103(a) based on Redford in view of Gonze and Bartfeld.
- Claims 2-4 and 12-15 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Chilvers.
- Claims 2-4 and 12-15 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Gonze and Chilvers.

- Claims 2-4 and 12-15 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Bartfeld and Chilvers.
- Claims 2-4 and 12-15 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Gonze, Bartfeld, and Chilvers.
- Claims 6 and 17 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Malik.
- Claims 6 and 17 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Gonze and Malik.
- Claims 6 and 17 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Bartfeld and Malik.
- Claims 6 and 17 as obvious under pre-AIA 35 U.S.C. § 103(a) based on Redford in view of Gonze, Bartfeld, and Malik.

20. I understand that, in this *inter partes* review, Petitioner has the burden of proving that each challenged claim is unpatentable by a preponderance of the evidence.

21. I understand that to be valid, a patent claim must be “novel,” and is invalid if “anticipated” by a single prior art reference. I further understand a reference anticipates if it discloses each and every element as arranged in the claim so as to enable a person of ordinary skill in the art to make and use the claimed invention without undue experimentation.

22. I understand that a patent claim is unpatentable if, at the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the teachings of the prior art to yield the patent claim. It is my understanding that this determination is made after weighing the following factors: (1) the level of ordinary skill in the pertinent art; (2) the scope and content of the prior art; (3) the differences between the prior art as a whole and the claim at issue; and (4) as appropriate, other objective considerations identified below.

23. It is my understanding that the prior art and claimed invention should be viewed through the knowledge and understanding of a person of ordinary skill in the art – one should not use his or her own insight or hindsight in deciding whether a claim is obvious. I further understand that a claim may be rendered obvious if a person of ordinary skill in the art can implement the claimed invention as a predictable variation of a known product. I further understand that a person of ordinary skill in the art is presumed to have knowledge of the relevant prior art at the time of the claimed invention, which comprises any prior art that was reasonably pertinent to the particular problems the inventor faced.

24. I understand that a showing of obviousness requires some articulated reasoning with a rational underpinning to support the combination of the references. I understand that in consideration of the issue of obviousness it is important to identify whether a reason existed at the time of the invention that would have led a

person of ordinary skill in the pertinent art to combine elements of the references in a way that yields the claimed invention.

25. I understand that a claim may be considered unpatentable for obviousness for various reasons. I have been informed that the following exemplary rationales may support a finding of obviousness:

- (A) combining prior art elements according to known methods to yield predictable results;
- (B) substituting one known element for another to obtain predictable results;
- (C) use of a known technique to improve similar devices in the same way;
- (D) applying a known technique to a known device ready for improvement to yield predictable results;
- (E) choosing from a finite number of identified, predictable solutions with a reasonable expectation of success;
- (F) known work in a field that prompts variations in the work in the same or a different field that leads to predictable results; and
- (G) some teaching, suggestion, or motivation in the prior art that would have led a person of ordinary skill in the art to modify a prior art reference or combine multiple prior art references or teachings to arrive at the claimed invention.

26. I understand that various objective or “real world” factors may be indicative of non-obviousness. I understand that such factors include:

- (A) the commercial success of the claimed invention;
- (B) the existence of a long-felt, unresolved need for a solution to the problem solved by the claimed invention;
- (C) failed attempts to solve the problem solved by the claimed invention;
- (D) copying of the claimed invention;
- (E) unexpected results of the claimed invention;
- (F) praise for the claimed invention by others in the relevant field; and
- (G) willingness of others to accept a license under the patent because of the merits of the claimed invention.

27. It is my understanding that the prior art references themselves may provide a suggestion, motivation, or reason to combine, but other times the link may be based on the common sense of the person of ordinary skill in the pertinent art. I further understand that obviousness analysis recognizes that market demand, rather than scientific literature, often drives innovation, and market demand is sufficient motivation to combine references.

28. It is my understanding that a particular combination may be proven obvious merely by showing that it was obvious to try the combination. For example, common sense is a good reason for a person of ordinary skill to pursue

known options when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions.

29. I further understand that a proper obviousness analysis focuses on what was known or obvious to a person of ordinary skill in the art, not just the patentee. Accordingly, it is my understanding that any need or problem known in the field at the time of invention and addressed by the patent can provide a reason for combining the limitations in the manner claimed.

5. THE RELEVANT ART AND LEVEL OF ORDINARY SKILL IN THE RELEVANT ART

30. I understand that obviousness is determined from the vantage point of a person of ordinary skill in the relevant art at the time of the alleged invention (“POSITA”). The ’251 Patent is directed to controlling the presentation of content on a display device, and I agree that this represents the relevant field of art. *See* Ex. 1001, Abstract. I understand that a person of ordinary skill in the art is one who is presumed to be aware of all pertinent art, thinks along conventional wisdom in the art, and is a person of ordinary creativity.

31. I believe that a person of ordinary skill in the art of the ’251 Patent at the time of the alleged invention of the ’251 Patent would have a degree in computer or electrical engineering, computer science, information systems, or a similar discipline, along with three-to-four years of experience with the design and/or implementation of network-based content delivery systems, such as video-on-

demand (VOD), cable systems, and Internet video streaming. I worked in the relevant field with such persons at, and leading up to, the time of the alleged invention of the '251 Patent, and thus, I am familiar with the knowledge that such persons had at the time (*i.e.*, late 2010).

32. All of my statements in this declaration regarding what a person of ordinary skill in the art would have known, understood, appreciated, been motivated to do, etc., refer to a person of ordinary skill in the art in late 2010, before the earliest claimed priority date of the '251 Patent (which, as I discuss below, is April 21, 2011).

6. CLAIM CONSTRUCTION

33. I understand that my analysis requires an understanding of the scope of the claims of the '251 Patent. I understand that claim terms subject to *inter partes* review, absent some other definition provided in the patent, are given their ordinary meaning to a person of ordinary skill in the art in light of the patent specification. Therefore, in my analyses given below, I have assumed that all claim terms are given their ordinary interpretation as would have been understood by a POSITA reading the patent specification as of the priority date.

34. I understand that Application No. 13/245,001 ("the '001 Application"), which eventually became the '251 Patent, was filed on September 26, 2011. It is further my understanding that the '001 Application was the third in a chain of applications claiming priority to an application filed on April 21, 2011. It is my

understanding that the '251 Patent is entitled to a priority date of the filing date of the earliest application from which the '251 Patent claims priority, *i.e.*, April 21, 2011.

35. It is my understanding that in an IPR of claims 1, 2, and 5-9 of the '251 Patent, the panel of Administrative Patent Judges found that the term “media player” refers to software and not to a hardware device.” Ex. 1064, 13. The panel did not expressly construe any other terms of claims 1, 2, and 5-9 of the '251 Patent. Ex. 1064, 13.

36. It is my understanding that in an IPR of the '251 Patent, involving similar claim terms to the present, Patent Owner characterized certain claim terms. Regarding the claim term “media player,” Patent Owner asserts “[c]onsidering the intrinsic record, including the file history, an ordinary artisan would have understood the ordinary and customary meaning of ‘media player’ in the '251 patent refers to application software and does not encompass hardware devices.” Ex. 1065, 13. Additionally, Patent Owner asserts, “[t]he term ‘programming code,’ which appears in claim 1 of the '251 patent, should be construed as ‘computer program instruction(s) encoded for execution by a data processing apparatus (such as a computer processor).’” Ex. 1065, 16.

37. It is my understanding that in a Civil Action in the District Court for the Southern District of New York, Patent Owner proposed the following constructions for claim terms of the '251 Patent:

Term/Phrase	Patent Owner's Proposed Construction
"synchronization code"	"No construction necessary. This term should be given its plain and ordinary meaning, which is 'an identifier that can be used to facilitate a connection between two or more devices.'" Ex. 1021, at 1.
"storing"/"store"	"No construction necessary. This term should be given its plain and ordinary meaning, which is 'placing in a location for subsequent use.'" Ex. 1021, at 2.
"programming code"	"No construction necessary. This term should be given its plain and ordinary meaning, which is 'instructions for a computer.'" Ex. 1021, at 4.
"universal playback control command"	"No construction necessary. This term should be given its plain and ordinary meaning, which is 'command for controlling playing of content.'" Ex. 1021, at 6.
"playback control command"	"No construction necessary. This term should be given its plain and ordinary meaning, which is 'command for controlling playing of content.'" Ex. 1021, at 6.
"media player"	"No construction necessary. This term should be given its plain and ordinary meaning, which is 'a computer application operable to present content and control presentation of content.'" Ex. 1021, at 7.

“assigning, by a server system, a synchronization code to the display device; receiving, in the server system, a message from a personal computing device that is separate from the server system and separate from the display device, wherein the message includes the synchronization code”	“Associating identification information of a display device based on information that is received by the server from a personal computing device that allows communication among the server system and the different devices.” Ex. 1021, at 11.
“a synchronization code assigned by the server system to the display device and received by the server system in a message from the personal computing device”	“The server system associates identification information of a content presentation device based on information provided to the server system from a personal computing device.” Ex. 1021, at 12.
“a synchronization code that was assigned to the display device by a server system, the server system subsequently storing, based on a message from a personal computing device that is separate from the server system and the display device, an association between the display device and the personal computing device, the message from the personal computing device including the synchronization code”	“The server system associates identification information of a content presentation device based on information provided to the server system from a personal computing device that allows communication among the server system and the different devices.” Ex. 1021, at 12-13.

38. It is my understanding that in a Civil Action in the District Court for the Western District of Texas, Patent Owner proposed the following claim constructions:

Term/Phrase	Patent Owner’s Proposed Construction
“universal command”	“plain and ordinary meaning - no construction needed

	alternatively, plain and ordinary meaning, which is ‘a standard command used for controlling playback of media content such as play or pause’” (Ex. 1020, 2)
“unique identification code assigned to the content presentation device” and “synchronization code assigned to the content presentation device”	“plain and ordinary meaning - no construction needed alternatively, plain and ordinary meaning which is ‘[unique identification code] / [synchronization code] associated with a content presentation device’” (Ex. 1020, 2)
“[identify/identifying/include information indicating] a location of the particular media player”	“plain and ordinary meaning, which is, provide information that locates or may be used to locate the particular media player” (Ex. 1020, 2)
“identifying, [by the server system,] programming code corresponding to the action control command, wherein the programming code is for controlling presentation of the content presentation device using the particular media player”	“plain and ordinary meaning - no construction needed alternatively, plain and ordinary meaning for ‘programming code’ which is ‘instructions that the media player can recognize and execute’” (Ex. 1020, 3)

39. It is my understanding that in a Civil Action in the District Court for the Western District of Texas, the U.S. District Judge gave all terms of claim 1 of the '251 Patent (in the same family tree as and involving similar claim terms to the present) their plain and ordinary meaning. Ex. 1022, at 19.

7. OVERVIEW OF THE '251 PATENT

40. The '251 Patent states that it relates to “creation, storage, manipulation and access of media playlists used in conjunction with display devices and control of the display devices.” Ex. 1001, 1:19-21.

41. The alleged invention of the '251 Patent relates to controlling playing of content on a display device. Ex. 1001, 2:66-3:37, 5:54-6:6, 6:51-62, 7:1-7, 7:12-9:33. The system of the '251 Patent includes a personal computing device 20 (**red**), a display 23 (**green**), and a server system 24 (**blue**).

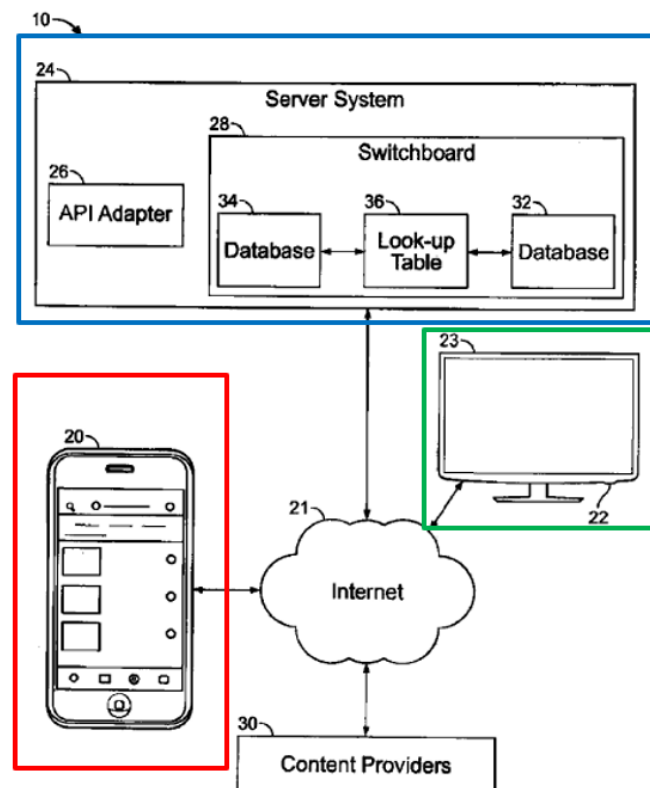


FIG. 1

Ex. 1001, FIG. 1 (annotated)

42. A user may use the personal computing device 20 (*e.g.*, a smartphone) to control content on the display device 23. Ex. 1001, 3:1-3, 3:56-60, 4:23-35, 5:42-53, 6:51-62, 7:35-52, 7:58-8:7, 8:33-44. The personal computing device 20 and the display device 23 may be connected to and communicate via a network, for example the Internet 21. Ex. 1001, 2:66-3:1, 3:12-18. The server system 24 connected to the network may facilitate control of the content on the display device 23. Ex. 1001, 3:10-15, 3:39-41, 4:7-15, 4:27-29, 4:40-47, 4:65-5:7, 5:26-41, 6:3-6, 6:23-32, 6:46-50, 6:56-60, 7:17-41, 7:65-8:5, 8:29-32; 8:62-9:2, 9:11-28.

7.1. Prosecution History

43. The '251 Patent was filed as Application No. 13/245,001 on September 26, 2011. Ex. 1001 at 1. The '251 Patent is a continuation of Application No. 13/157,821 (U.S. Pat. No. 8,904,289 (“the '289 Patent”)), which claims priority to U.S. Provisional Application No. 61/477,998 (“the '998 Application”) filed on April 21, 2011. *Id.* The prosecution histories of these applications are discussed below.

1. Prosecution History of the '998 Application

44. The '998 Application was filed on April 21, 2011, as a provisional patent application. Ex. 1070.

2. Prosecution History of the '289 Patent

45. The '289 Patent was filed as Application No. 13/157,821 (“the '821 Application”). Ex. 1071.

46. A Non-Final Office Action rejected all of the claims. Ex. 1072 at 179. Claims 1-12 were rejected as being directed to non-statutory subject matter. *Id.* at 180. Claims 1-43 were rejected over prior art. *Id.* at 181-224. In response, the originally filed claims were canceled for new claims. *Id.* at 303-308.

47. Subsequently, claim 53 was amended and a terminal disclaimer was filed over U.S. Pat. No. 8,356,251. *See id.* at 322-323, 327-328.

48. A Final Office Action allowed claims 44-58 and rejected claims 59-61 as directed to non-statutory subject matter. *Id.* at 335-339.

49. After amending claim 59 to include “at least one processor,” *id.* at 363, a Notice of Allowance issued on July 8, 2014. *Id.* at 369-376. The ’289 Patent issued on December 2, 2014. Ex. 1071, cover.

3. Prosecution History of the ’251 Patent

50. The ’251 Patent was filed as Application No. 13/245,001 (“the ’001 Application”) on September 26, 2011, as a continuation of the ’289 Patent. Ex. 1001 at 1.

51. A Non-Final Office Action rejected claims 12-21 as being directed to non-statutory subject matter. Ex. 1004 at 63. Claims 1-10, and 12-26 were rejected as anticipated by prior art, and claims 11, and 22 were rejected as obvious over prior art. *Id.* at 63-81.

52. In response to the Non-Final Office Action, amongst other amendments, Applicant amended claim 1 as follows:

A machine implemented method of controlling presentation of video content on a display device by a media player, the method comprising:

receiving, in a server system, one or more signals from a remote personal computing device, the one or more signals specifying a video file to be acted upon and identifying a media player for playing the video content, the one or more signals further including a universal playback control command for controlling ~~the presentation~~ playing of the video content of the display device by the media player,

converting, by the server system, the universal playback control command into corresponding programming code ~~used by the display device~~ to control playing of the video content on the display device by the media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player, and

storing, in a database associated with the server system, a message for transmission to or retrieval by the display device, wherein the message specifies the video file to be acted upon, identifies the media player for playing the video content, and includes corresponding programming code ~~used by the display device~~ to control playing of the video content on the display device by the media player in accordance with the universal playback control command.

Id. at 209. Independent claims 12 and 23 were amended to recite similar subject matter. *Id.* at 211, 214.

53. In the Remarks section of Applicant's response, Applicant states that claim 1 "is amended to clarify that the command is a playback control command."

Id. at 190. Further, Applicant states that:

In the context of the present application, it is clear that a "media player" refers to application software for playing back the video content. Thus, the claims and specification refer in some cases, for example, to "loading" or "unloading" a media player (*see, e.g.*, Specification at page 4, line 22, page 9, lines 18-27). A particular display device, therefore, may, in some cases, be able to load or store any one of different media players.

Id., footnote 2

54. Further, in its Remarks, Applicant qualifies claim 1 in that:

[t]he method may be used to facilitate, for example, a user's creating a playlist based on videos from multiple sources and playing back any of the videos, where the server system acts as a single interface that can be used to control the different media players (*i.e.*, the computer software applications) that may be needed to play the various video files.

Id. at 191.

55. Applicant further states that "the server system," of claim 1, "acts as an interface for facilitating the transfer of information contained in the one or more signals (received from the personal computing device) to the display device." *Id.* at 193.

56. In its Remarks, Applicant states that claim 23 recites a method that includes "the display device retrieving from a server system first information." *Id.*

at 196. To support this language, Applicant states that “in some implementations, the display device can retrieve the information by periodically checking entries in a database or polling the database to determine where [sic] there are any new messages directed to it.” *Id.*, footnote 4.

57. Further, in its Remarks, in an attempt to distinguish the claims over prior art reference 2011/0060998 (“Schwartz”), Applicant makes a distinction between “receiving” and “retrieving.” *Id.* at 197. In particular Applicant states that “although the target rendering device can receive the playback control instructions from the DDC component 110, the target rendering device does not ‘retrieve’ such information.” *Id.*

58. A Final Office Action finally rejected all of claims 1-4 and 6-27 over the same prior art. *Id.* at 216-249.

59. An Examiner interview was conducted on July 17, 2012, during which the attendees discussed prior art reference, Schwartz. *Id.* at 270.

60. A Notice of Allowance issued on August 16, 2012, including an examiner’s amendment, and indicating that authorization for the amendment was given in telephonic interviews on July 26, 2012, and July 30, 2012. *Id.* at 271-287.

Claim 1 was amended as follows:

Claim 1. A machine-implemented method of controlling presentation of video content on a display device [[by a]] that loads any one of a plurality of different media player players, the method comprising:

assigning, by a server system, a synchronization code to the display device;

receiving, in the server system, a message from a personal computing device that is separate from the server system and separate from the display device, wherein the message includes the synchronization code;

storing, by the server system, a record establishing an association between the personal computing device and the display device based on the synchronization code;

receiving, in [[a]] the server system, one or more signals from ~~a remote~~ the personal computing device, the one or more signals specifying a video file to be acted upon and identifying a particular media player for playing the video content, the one or

more signals further including a universal playback control command for controlling playing of the video content on the display device by the particular media player,

converting, by the server system, the universal playback control command into corresponding programming code to control playing of the video content on the display device by the particular media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player; and

storing, in a database associated with the server system, ~~a message~~ information for transmission to or retrieval by the display device, wherein the ~~message~~ information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command.

Id., 276-277.

61. Applicant filed a Petition to Withdraw an Application from Issue After Payment of the Issue Fee on September 13, 2012, (*id.* at 453) along with an

Information Disclosure Statement containing additional prior art. *Id.* at 456. The Petition was granted on September 13, 2012. *Id.* at 449.

62. A second Notice of Allowance issued on October 10, 2012. *Id.* at 592-596. The '251 Patent issued on January 15, 2013. *Id.* at 621.

63. A Certificate of Correction issued on April 9, 2013. *Id.* at 627.

8. OVERVIEW OF THE PRIOR ART

8.1. Streaming Formats and VOD

64. Media access via the internet was ubiquitous by 2010. As early as the late 1990s and early 2000s, Internet streaming media was widely accessible. Progressive Networks (now RealNetworks) introduced the RealAudio Player and format in 1995, enabling audio streaming over the internet. *See, e.g.*, Ex. 1067. In 1997, Progressive Networks introduced the RealVideo format, expanding its services into video streaming. *See, e.g.*, Ex. 1168. The rapidly increasing commercially available Internet speeds during this time precipitated a boom in video-on-demand (VOD) and streaming media offerings and correspondingly the creation of many different media formats, platforms, and players.

65. By the early to mid-2000s, many multimedia formats were available for downloading and streaming on-demand content via the Internet. *See, e.g.*, Ex. 1030, [0007], [0014], [0015], [0018], [0069], [0273]. The different formats varied by, for example, compression methods and player compatibility. *See, e.g., id.*, [0015], [0018], [0273]; *see also, e.g.*, Ex. 1031, 1:33-50, 7:5-12, 28:36-55. Some of the

prominent multimedia formats of that time include MPEG Audio Layer III (MP3) (*see, e.g.*, Ex. 1031, 28:36-51, 30:3-27, 31:1-9), RealNetwork's RealAudio (*see, e.g.*, Ex. 1031, 11:65; *see also, e.g.*, Ex. 1032, 4:62-67) and RealVideo (*see, e.g.*, Ex. 1032, 4:62-67), Microsoft's Windows Media formats including Windows Media Video (WMV) (*see, e.g.*, Ex. 1031, 7:5-12, 13:17-24; *see also, e.g.*, Ex. 1033, [0033]) and Windows Media Audio (WMA) (*see, e.g.*, Ex. 1034, [0002], [0033]; *see also, e.g.*, Ex. 1030, [0183]; *see also, e.g.*, Ex. 1033, [0033]), Apple's QuickTime (MOV) (*see, e.g.*, Ex. 1031, 1:33-50, 7:5-12, 11:35-67, 28:36-51; *see also, e.g.*, Ex. 1030, [0007], [0014], [0022]), Flash (*see, e.g.*, Ex. 1033, [0004]), MPEG-2 and MPEG-4 (*See, e.g.*, Ex. 1041).

8.2. Media Players

66. Some media formats were supported by multiple media players. *See, e.g.*, Ex. 1035, [0013]. Other media formats, however, were proprietary and required proprietary media players for playback. *See, e.g.*, Ex. 1035, [0004], [0005], [0013]; *see also, e.g.*, Ex. 1030, [0018]. For example, RealPlayer and QuickTime were proprietary players. *See, e.g.*, Ex. 1035, [0005], [0013]. Therefore, it was well known by this time that different media players may be needed for accessing media in different formats. *See e.g., id.*

67. Media players were available as standalone software. *See e.g.*, Ex. 1030, [0018]. By the early to mid-2000s, it was well known to have multiple media players on a single device for accessing and playing different media formats. *See*

e.g., id. In addition to standalone media players, by the early 2000s, it was well known that web browsers could execute media players, often referred to as browser plug-ins, to access web-embedded media. *See e.g., id.*, [0015]. Additionally, it was well known by this time that web browsers (*e.g.*, Netscape and Internet Explorer) would load different media player plug-ins to access different media in different formats. *See e.g., id.*, [0011], [0014]. For example, Adobe Flash Player was a widely used browser plug-in during this time. *See, e.g.*, Ex. 1042. It enabled interactive multimedia content, animations, games, and video playback embedded within web pages. *Id.* Flash was used on YouTube's video streaming platform upon its launch in 2005. *Id.*; Ex.1043. Apple's QuickTime browser plug-in enabled access to QuickTime MOV videos directly from web browsers. *See e.g.*, Ex. 1030, [0014], [0015], [0019]. Similarly, the RealPlayer and Windows Media Player plug-ins enabled access to Real media and Windows Media content directly from web browsers. *See e.g., id.*

68. Popular services began offering browser-accessible streaming content in the mid-2000s. YouTube (2005) (*see, e.g.*, Ex. 1043; *see also, e.g.*, Ex. 1044), Hulu (2007) (*see, e.g.*, Ex. 1045), and Netflix (2007) (*see, e.g.*, Ex. 1046) all began offering on-demand streaming services in the early to mid-2000s. Many of these platforms used different media players. For example, YouTube (*see, e.g.*, Ex. 1042) and Hulu leveraged Adobe's Flash Player (*see, e.g.*, Ex. 1047; *see also, e.g.*,

Ex. 1042). Netflix used a media player based on Microsoft Silverlight (*see, e.g.*, Ex. 1048). It was well known that a web browser would load any of these various different players depending on the content provider accessed.

8.3. Applications on TVs and STBs

69. By 2010 it was well known that televisions (TVs), set-top boxes (STBs), and digital video recorders (DVRs) could execute software for various purposes, including web browsing and media streaming. For example, WebTV was introduced in 1996. *See, e.g.*, Ex. 1049. WebTV was an STB that allowed users to browse the internet and access email using their TV. *See, e.g., id.* In 2008, TiVo, a popular DVR brand, introduced streaming Netflix and YouTube access to their devices in addition to the already offered Amazon Unbox (a VOD service). *See, e.g.*, Ex. 1050; *see also, e.g.*, Ex. 1051. During this time, TV manufacturers, including, for example, Samsung, LG, Panasonic, Sony, and Toshiba, were producing Internet-enabled TVs. At least by 2010, some of these Internet TVs had access to a plethora of content streaming services and games via downloadable software applications. *See, e.g.*, Ex. 1052.

70. Around this time, a consortium of technology companies began developing Enhanced TV Binary Interchange Format (EBIF) applications. EBIF allowed for the creation and deployment of interactive applications on STBs. EBIF aimed to enhance the viewing experience by enabling interactive applications while watching TV programming. *See, e.g.*, Ex. 1053.

8.4. Device Casting

71. Device casting, the process of wirelessly transmitting or streaming media content from one device to another, was well-known by 2010. Casting typically involves leveraging wireless technology like Wi-Fi to connect a source device and a target device. The user typically “casts” the content from the source device to the target device without a physical connection. For example, in 2005, Sonos released its Digital Music System. *See, e.g., Ex. 1054.* The Sonos system comprised a controller, a player, and a storage device (with a media library), all wirelessly connected. The Sonos system allowed users to access their media library from the controller wirelessly and cast media from the storage device to the player. In addition to casting and control, in 2006, Sonos enabled, from its controller, access to and control of Internet radio and various online audio services like Rhapsody and Audible.com. *See, e.g., Ex. 1055.* The Internet media selected from the wireless controller was streamed to the player via the Internet. In 2008, Sonos released a smartphone application turning any supported smartphone into a wireless controller. *See, e.g., Ex. 1056.*

8.5. Remote Viewing

72. Remote computer access is a technology that allows a user to access and control a computer, its desktop environment, applications, and files from a remote location using another device. By 2010, the concept of remote computing was well known. For example, in the late 1990s, the Olivetti & Oracle Research Lab

(later acquired by AT&T) created the Virtual Network Computing (VNC) system. VNC allows users to remotely access and control a computer's desktop environment over a network. *See, e.g.*, Ex. 1057. Additionally, in the 1990s, Microsoft introduced the Windows Terminal Server Edition. *See, e.g.*, Ex. 1058. Terminal Server provided a solution in which applications are executed on the server and remotely displayed on the client. *See, e.g., id.* In addition to the above, by the mid-2000s, at least the following remote computing solutions were commercially available: TeamViewer (*see, e.g.*, Ex. 1059), LogMeIn (*see, e.g.*, Ex. 1060), and GoToMyPC (*see, e.g.*, Ex. 1061). In addition to the remote desktop services mentioned above, remote control of standalone media applications was also well-known by 2010. For example, iTunes Remote App and Unified Remote were available and well-known by 2010.

73. In 2003 TV2ME introduced a product to enable one to control and watch TV live from their own cable or satellite Set Top Box subscription sent over the internet, later called space shifting or place shifting. *See, e.g.*, Ex. 1062. This was followed by similar products from a number of companies, for example the first edition of the Slingbox came to market in late 2005. *See, e.g.*, Ex. 1063. These products used computers or mobile apps to control playing of content on a display device. Ex. 1001, 3:14-56, 6:5-25, 7:4-15, 7:21-27, 7:32-9:56. The place shifting systems included a personal computing device, a display (connected to a place shifting product), and a server system similarly to the '251 Patent that allowed a user

to use the personal computing device to control content on the display device just like the '251 Patent. Ex. 1001, 3:1-3, 3:56-60, 4:23-35, 5:42-53, 6:51-62, 7:35-52, 7:59-8:7, 8:33-44.

8.6. File Extensions and MIME Types

74. By 2010, it was well known that file extensions (typically the three characters after the last period in a filename, *e.g.*, “.mp3”) could be used to identify the format of a file and the software necessary to access it. The concept of file extensions can be traced back to the 1970s and 1980s with the development of operating systems such as CP/M and later MS-DOS. These systems used file extensions to indicate the type of content stored in a file and the associated software needed to open it. This system transitioned to the web as it developed during the 1990s.

75. Additionally, in the early days of the Internet, Multipurpose Internet Mail Extensions (MIME) types were introduced as a standard way to classify files on the Internet based on their nature and format. MIME was initially developed to extend the capabilities of email messages beyond plain text, allowing for the inclusion of multimedia. MIME provided a way to label different types of content within email messages using MIME types. The MIME standard extended to web content generally, enabling web servers to identify the type of files they were sending to browsers.

76. MIME is a two-part identifier that consists of a primary type and a subtype, separated by a forward slash (/). An extension is a suffix of characters appended to the end of a file name, usually after a period. Examples of some of the MIME types and extensions of the file formats described above and used before 2010 are included in the following table:

Media Format	MIME Type	Extensions
MP3	audio/mpeg	.mp3
RealAudio (RA)	audio/x-pn-realaudio	.ra, .rm, .ram
RealVideo (RV)	video/vnd.rn-realvideo	.rv, .rmvb
Windows Media Audio	audio/x-ms-wma	.wma
Windows Media Video	video/x-ms-wmv	.wmv
QuickTime MOV	video/quicktime	.mov
Flash Video	video/x-flv	.flv
MPEG-2 Audio and Video	audio/mpeg, video/mpeg	.mpeg, .mpg

77. Since their inception, extensions and MIME types have been used to identify the correct program to open or access a specific file. For example, it was well known that a browser would look at the MIME type and/or extension of an embedded media file to identify which program or plug-in to load for file access. *See e.g.*, Ex. 1037, 1:47-52, 4:54-7:9. If a browser identifies a MIME type or extension for which it does not have a supporting plug-in, it may indicate an error and prompt the user to download and install a supporting plug-in.

8.7. **Application Programming Interfaces (APIs)**

78. By 2010, it was well known that software could be split into different applications. An Application Programming Interface (API) is a set of rules, protocols, and tools that allows different software applications to communicate with each other. APIs allow for the integration of functionalities from one application into another. The concept of APIs can be traced to the 1960s and 1970s when programmers created reusable code libraries to perform specific tasks. These libraries allowed developers to encapsulate complex operations into manageable functions. A well-known and fundamental part of APIs is API procedure calls. An API procedure call requests a specific function provided by an API that developers can use to interact with a software library or service. API procedure calls allow developers to request specific actions or services from the API, enabling them to integrate external functionality into their own applications. By 2010, it was well known that API procedure calls could be used to perform a wide range of tasks, including, for example, retrieving data from remote servers and sending data to a service.

79. The term Application Programming Interfaces was used at least as early as the 1970s. In the 1980s, operating systems like UNIX popularized the use of libraries that exposed interfaces for hardware interactions. APIs gained even more prominence in the 1990s with the rise of Graphical User Interfaces (GUIs). The Windows API (WinAPI), provided by Microsoft, provided developers a way to

create applications that could interact with the Windows Operating System and its graphical elements.

80. As the Internet gained prominence in the 1990s and early 2000s, APIs started to be used for web-based interactions. For instance, the Simple Object Access Protocol (SOAP) was developed to define APIs for remote procedure calls over the Internet. Additionally, Representational State Transfer (REST) was popularized as a lightweight way to design APIs for web services. The explosion of the Internet and mobile applications of the early to mid-2000s led to an increased demand for APIs. By 2010 many technology companies, such as Google, Facebook (2007), and Twitter (2006), opened their platforms through APIs, allowing developers to integrate their services into third-party applications.

8.8. Look-Up Tables (LUTs)

81. A look-up table (LUT) is a simple data structure technique for associating pieces of data. LUTs were used before the advent of the modern computer. For example, LUTs were used in ancient civilizations to speed up hand calculations of complex functions. More contemporarily, LUTs were one of the earliest functionalities implemented in computer science. In modern computer science and engineering, LUTs are essentially tables that map input values (keys) to corresponding output values (values). LUTs, therefore, can be understood to comprise key-value pairs. Each key is associated with a specific value, which can be any kind of data. By 2010, it was well known that LUTs could be used as a database

technique to speed up data retrieval, reduce computational load, simplify complex logic, and cache frequently accessed data.

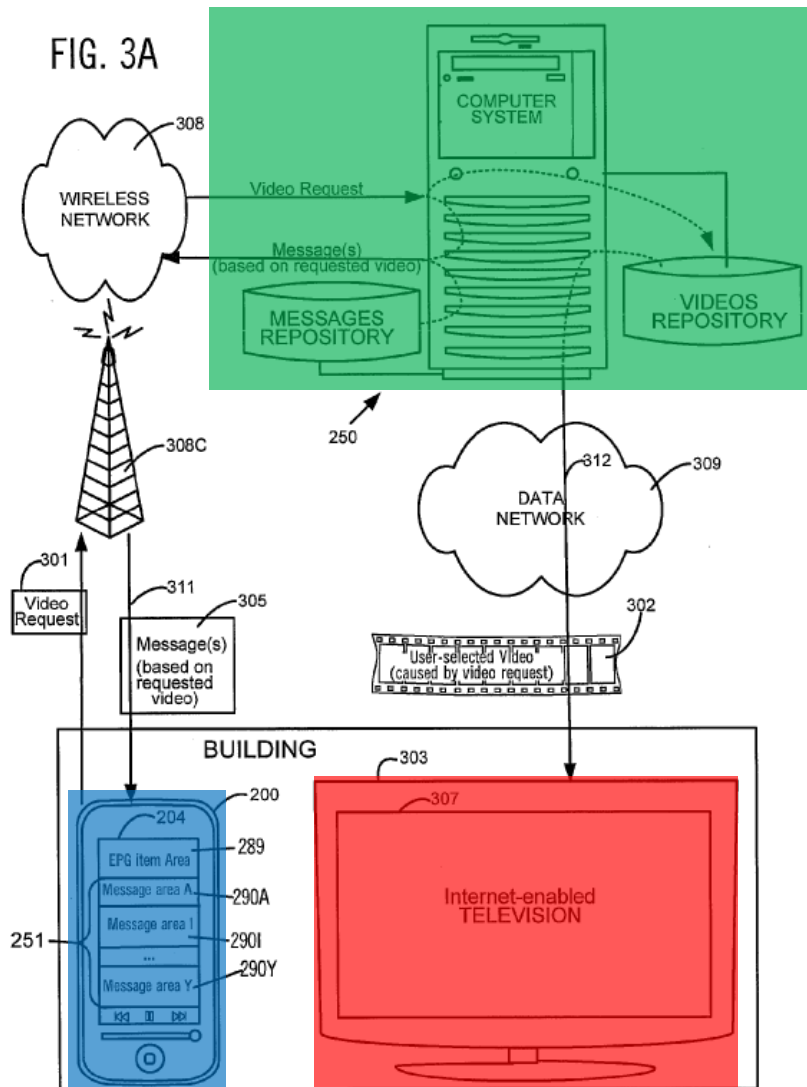
8.9. U.S. Pat. No. 8,660,545 – Redford (Ex. 1005)

82. U.S. Pat. No. 8,660,545 to Redford et al. (“Redford”) indicates on its face that it was filed on January 6, 2010, as Application No. 12/683,405. I understand that Redford qualifies as prior art under pre-AIA 35 U.S.C. § 102(e) because its filing date (January 6, 2010) is before the earliest priority date of the ’251 Patent (April 21, 2011). I also understand that Redford was not considered during prosecution of the ’251 Patent.

83. Much like the ’251 Patent, Redford generally relates to a system for network-server assisted control of content on a network-connected display device via a network-connected controller. Ex. 1005, Abstract, 2:66-3:41. Redford states:

A handheld device displays multiple applications (“apps”), from which a user selects one app. The selected app displays multiple descriptions of videos, from which the user selects one video. The handheld device transmits a video request containing an identification of the user-selected video. The computer system transmits the user-selected video to the television and transmits a signal to the handheld device, based on the video request. The television responds by automatically displaying on a television screen, a series of frames in the video, on receipt therein. The handheld device automatically displays on a handheld Screen, information that is directly or indirectly based on the video request, as the signal is received from the computer system. Two displays based on a single video request, provide a richer viewing experience than a single display.

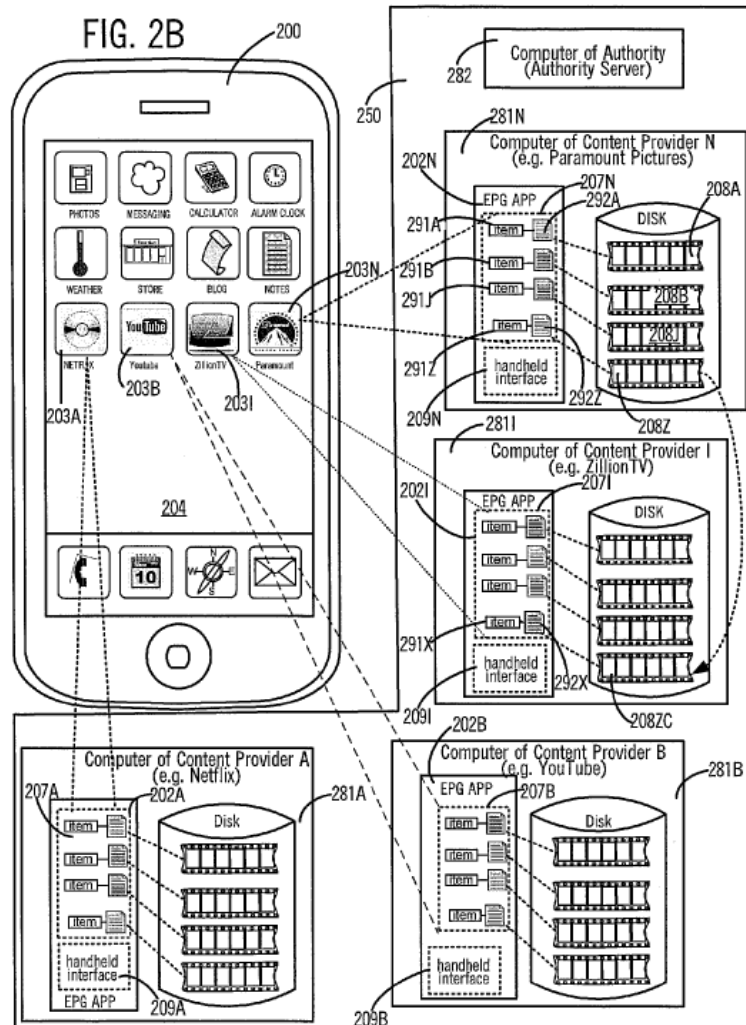
Ex. 1005, Abstract. As seen in Figure 3A, which illustrates a flow of signals among handheld device 200 (**blue**), computer system 250 (**green**), and television 303 (**red**).
See Ex. 1005, 3:30-34.



Ex. 1005, FIG. 3A, (annotated)

84. Redford's content apps 202A-202N displayed by the handheld device 200 can be from different content providers. Ex. 1005, 7:28-30, FIG. 2B. As illustrated in Figure 2B, content providers may include, for example, "Paramount

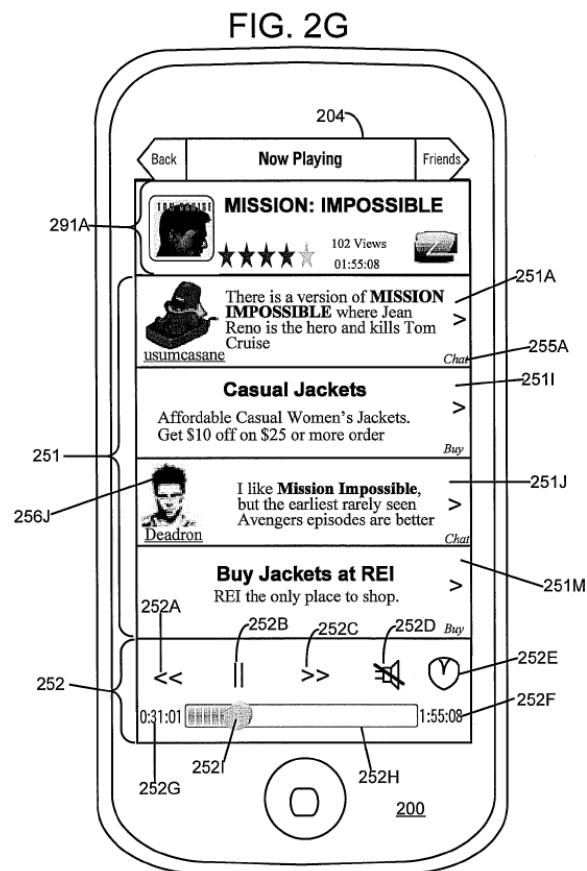
Pictures[,] . . . Zillion[,] . . . Netflix[, and] . . . YouTube.” Ex. 1005, 7:30-41, FIG. 2B. Redford states that “a user may touch an EPG item 291A in an EPG app 206A on screen 204 of handheld device 200 to select . . . video 208A (FIG. 2B) for delivery to the user’s television.” Ex. 1005, 7:44-48.



Ex. 1005, FIG. 2B

85. Redford describes that a user may press a button on the handheld device to select a video to be played on the internet-enabled television associated with the

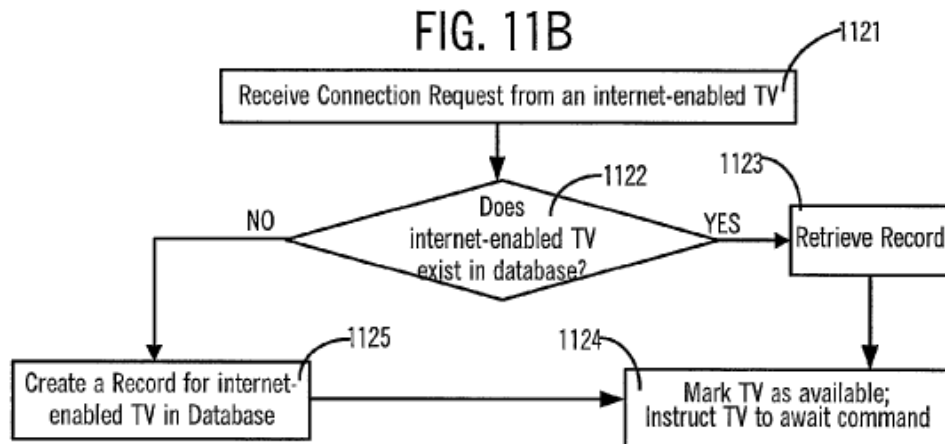
handheld device. *See* Ex. 1005, 8:1-5. Further, as illustrated in Figure 2G, while the video is playing on the television, the handheld device displays the corresponding EPG item and a control panel 252. Ex. 1005, 8:3-8, FIG. 2G. Redford's "control panel 252 . . . includes a rewind button 252A, a pause button 252B and a fast forward button 252C, to enable navigation of the play of video 208A on a television screen. Ex. 1005, 8:9-12, FIG. 2G.



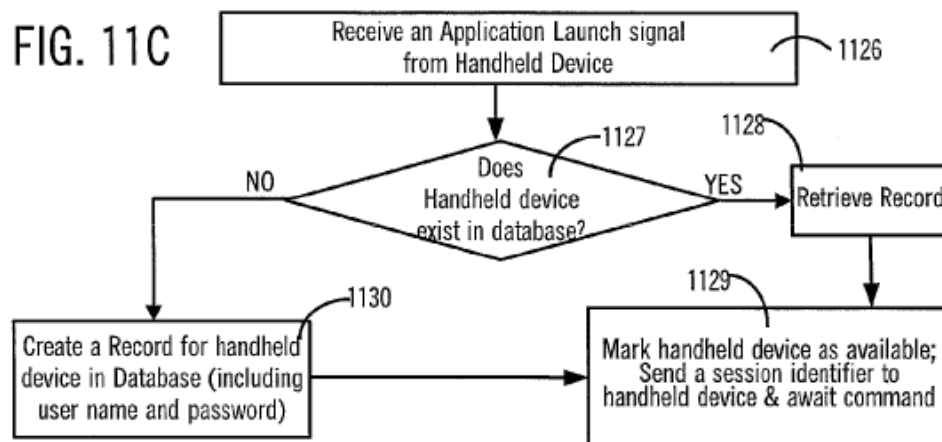
Ex. 1005, FIG. 2G

86. Redford describes the process for the “pairing” or “association” of the handheld device and the TV as facilitated by the server system. *See* Ex. 1005, 31:7-13, 32:19-26, 43:15-20. Redford’s server maintains a database including “association” or “pairing” information for the handheld device and the associated TV. Ex. 1005, 43:15-17. The pairing information may include an identifier of the handheld device, the user’s name, an identifier of the data network interface circuit of the TV, an IP address, a TV-name, and a TV password. Ex. 1005, 43:17-20. Redford describes that the TV “performs initialization operations” and identifies itself with the server system. Ex. 1005, 31:7-13. Additionally, the handheld device communicates with the server system to identify itself and “displays on the . . . handheld screen 204 . . . a prompt for the user to enter an identifier of the TV” and transmits the TV-ID to the server. Ex. 1005, 32:19-26.

87. Referring to Figures 11B-11J, and as shown below in reproduced Figures 11B, 11C, 11D, and 11H, Redford describes that in response to a connection request from an internet-enabled TV and/or an application launch signal from a handheld device, if no record exists for either device, the server “creates a new record” using the information received. Ex. 1005, 35:28-34, 35:42-48. The server then sends, to the handheld device, a “session identifier,” which can be “any number that uniquely identifies a session with a handheld device.” *See* Ex. 1005, 35:52-54.



Ex. 1005, FIG. 11B



Ex. 1005, FIG. 11C

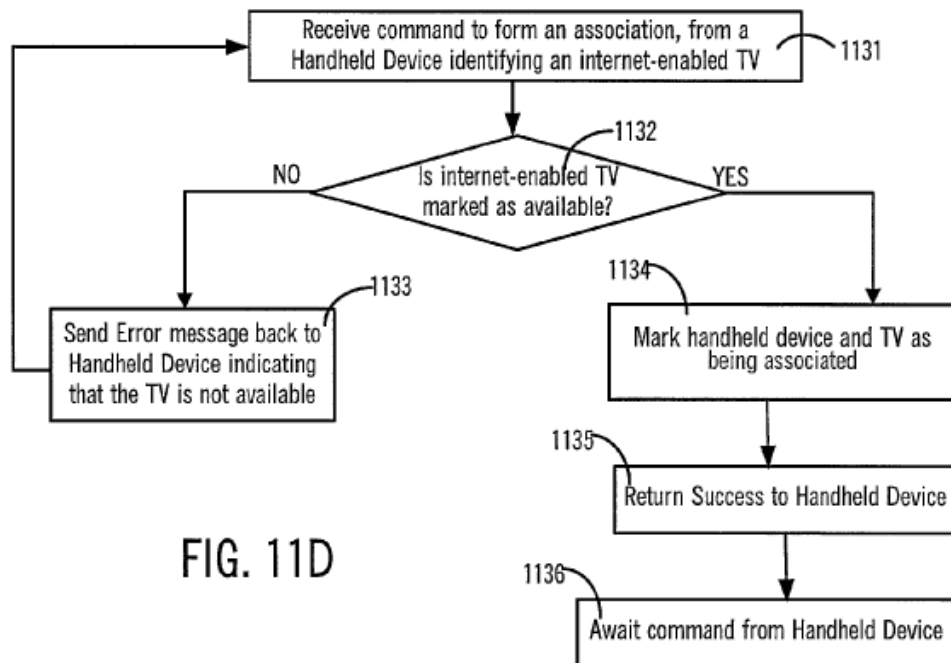
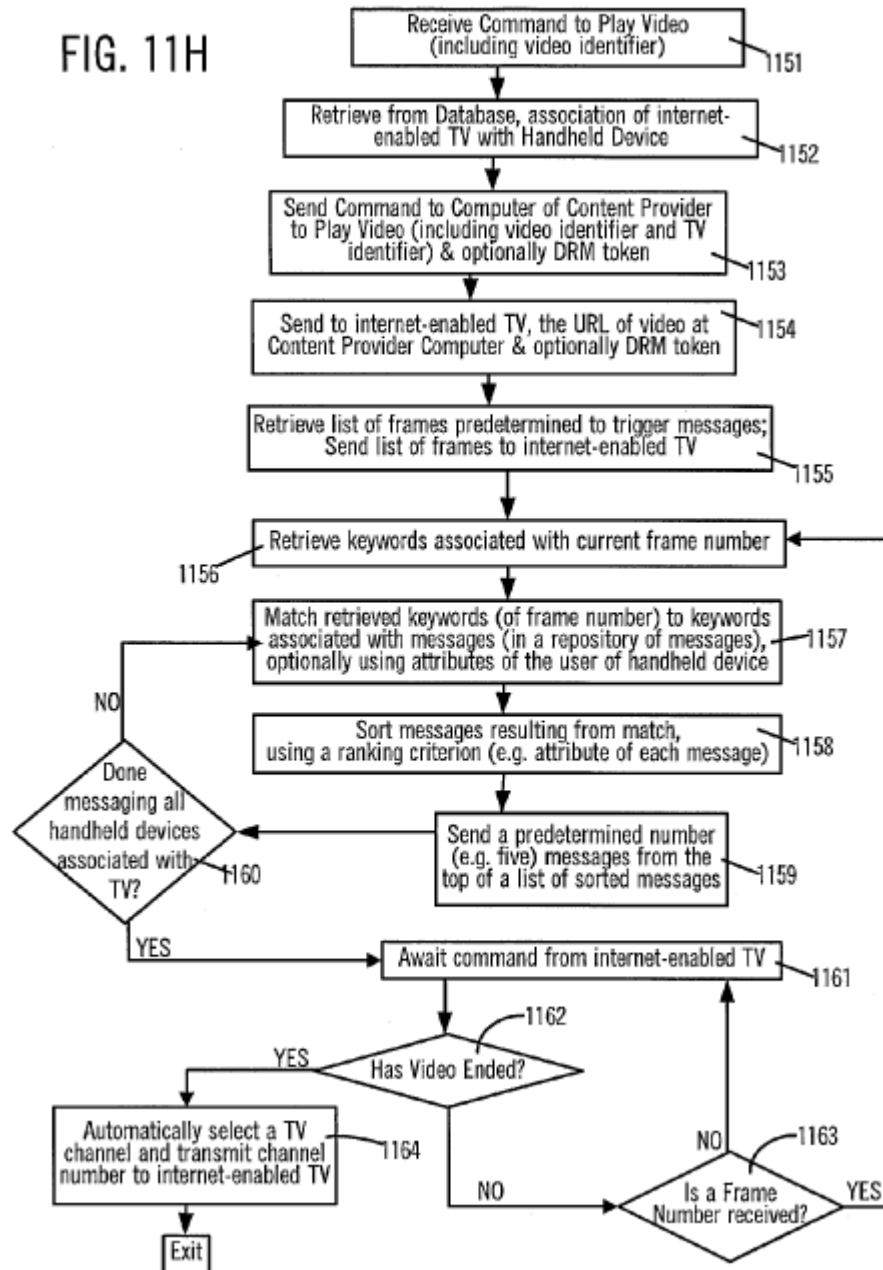


FIG. 11D

Ex. 1005, FIG. 11D

FIG. 11H



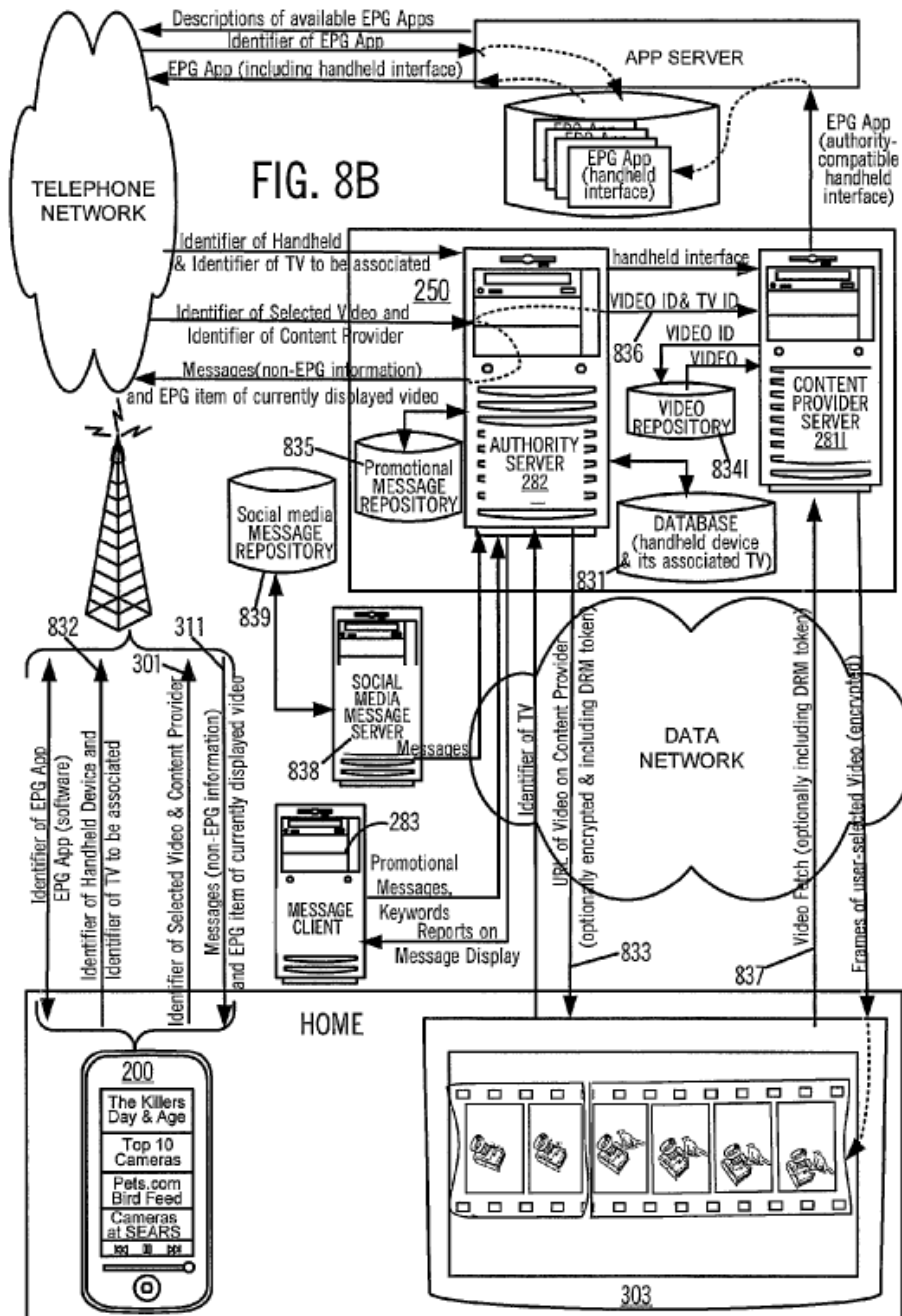
Ex. 1005, FIG. 11H

88. Redford states that, in some examples, “authority server 282 receives a command to form an association, from a handheld device 200 identifying an internet-enabled TV.” Ex. 1005, 35:59-61. “[I]f authority server 282 finds that the

identified TV is marked available, then . . . authority server 282 marks handheld device 200 as being associated with TV 303, e.g. [sic] identified by a session identifier.” Ex. 1005, 35:67-36:4.

89. Once associated, Redford describes a method performed by its server system (*e.g.*, “computer system 250”), a handheld device, and a TV for controlling via the handheld device the playing of a content item on the TV. *See* Ex. 1005, 22:12-23. Redford describes that the handheld device receives a user input identifying a selection of a content item, and the handheld device responds by wirelessly sending a request to the server system. *See* Ex. 1005, 22:12-16. The request sent to the server system can include a UPC code or a URL that uniquely identifies and/or addresses the requested content item. *See* Ex. 1005, 22:16-23.

90. Redford’s Figure 8B provides a “flow of signals” in the Redford system. *See* Ex. 1005, 4:15-17, 26:57-29:61, FIG. 8B.



Ex. 1005, FIG. 8B

91. Redford describes that the server system receives “an identifier of a video,” “an identifier of the content provider,” and/or an “identifier of the handheld device” in a video request. *See* Ex. 1005, 26:63-67, 44:15-17. Additionally, in other

examples, the content provider identifiers and the video identifiers can be combined into single globally unique identifiers (GUIDs). *See* Ex. 1005, 27:4-7. During initialization, the video GUIDs may be sent to the handheld device, which may be returned to the server system in a video request. *See* Ex. 1005.

92. Redford describes that following a request, the server system performs a “table look up . . . to find an identifier of a television 303 that has been previously associated with handheld device 200” and authorizes the television to receive the identified video. *See* Ex. 1005, 27:17-39.

93. Redford describes the server system can convert the video identifier received from the handheld device such that “the identifier of video 302 which is transmitted in authorization 836 can be same [sic] as or different from the above-described GUID of video 302 which is received in act 801.” Ex. 1005, 27:39-42. Further, the server system can use a look up table to assist this conversion such that the server system performs “a look up of a translation table in database 831 to obtain the content provider's video identifier from the above-described GUID.” *See* Ex. 1005, 27:42-49.

94. Redford describes that following the conversion and authentication described above, the server system transmits to the television “an identifier of the video 302 to be downloaded and also an identifier of a source of the video, such as an identifier of the content provider.” Ex. 1005, 27:56-59. In one example, the server

system “transmits a URL of a file located on computer 281I in a signal 833 to television 303 (which is associated with handheld device 200).” Ex. 1005, 27:59-63.

95. Redford describes that “the authority server transmits the following information to the television: a VIDEO STREAM including video and optionally a public encryption key, and COMMANDS including start, play, pause, stop, fast forward, change volume, turn on/off.” Ex. 1005, 44:48-52. Redford states that the server system transmit information related to the television or video and “can send messages and receive data, including program code, through the network(s).” *See* Ex. 1005, 35:14-20.

96. Redford describes some features of the handheld device software, for example, “the iLook iPhone SDK,” which “is implemented as an implementation library.” *See* Ex. 1005, 38:50-57. Redford describes example commands and functions supported by such software. For example, Redford describes that “[t]he typical invocation of commands using the iLook iPhone SDK API, is an invocation of a ‘sendCommand’ function, with the appropriate command and its optional associated data (required for the command).” Ex. 1005, 38:63-66. “The data is a dictionary (with Key and Value pairs) structure.” Ex. 1005, 38:66-67.

97. Redford says, “SetVideoRate is a command to set the video rate of play.” Ex. 1005, 39:16-17. “The input data for this command contains the keyword VideoRate and the value has the video rate.” Ex. 1005, 39:19-21. Further,

“PlayVideo is a command to play video on the TV.” Ex. 1005, 39:22-25. “The input data for this command contains the key VideoID and has value the Video ID.” Ex. 1005, 39:22-23. “RequestAssociation is a command to associate the iPhone with a television.” Ex. 1005, 39:37-38. “The input data for this command contains an identifier of the television (e.g., in the form of a nickname previously registered with the authority server) and optionally a password for the TV.” Ex. 1005, 39:38-41. “SetVideoPosition is a command to set the position of the video.” Ex. 1005, 39:43-44. “A position from 0 to the length of the video can be set.” Ex. 1005, 39:44-45. “PauseStream is a command to pause the video at the current play time.” Ex. 1005, 39:48-49. “ResumeStream is a command to resume the video.” Ex. 1005, 39:50-51.

98. In addition to the software and functions relating to the handheld device, Redford describes software and functions relating to the television. Redford states that “television 303 executes predetermined software . . . to display video 302 that is retrieved from the Internet in response to request 301.” Ex. 1005, 12:5-8. Additionally, Redford describes that its television can receive and support multiple different streaming protocols and formats. *See* Ex. 1005, 26:52-56, 40:57-58. As Redford states, “television 303 receives a sequence of frames of video from a content provider 281I using any one of various protocols such as RTSP (real time streaming protocol), HTTP, UDP and any custom format or public format.” Ex. 1005, 26:52-56. Further, Redford describes that its television can support various media players

and use different implementations of video play commands for its various media players. As Redford states, “a function VideoPlay allows a video content to be played.” Ex. 1005, 40:56-57. “RTSP, even though a standard has varying implementation depending on the content provider and service.” Ex. 1005, 40:59-61. “To support various RTSP players there could be several implementations of VideoPlay.” Ex. 1005, 40:61-63. “The parameters for video play function include the handle of the video (URL in HTTP Streaming), video handle ID and optionally video PIDs, audio PIDs, synch PIDs.” Ex. 1005, 40:63-66.

99. Redford describes “set-top interface software [that] provides a common set-top API . . . for any chip vendor implementation of set top functionality.” Ex. 1005, 40:21-27. Redford describes example functions supported by the set-top SDK API. For example, “a function VideoPause pauses the video handle ID.” Ex. 1005, 41:3-4. “The video stops play and the last frame is frozen on the TV screen.” Ex. 1005, 41:4-5. “The function VideoResume resumes the video handle ID.” Ex. 1005, 41:6-7. “The video resume to play from the last frozen frame on the TV screen.” Ex. 1005, 41:7-8. “The function VideoSeek allows the user to seek anywhere within the length of the video.” Ex. 1005, 41:8-10. “The function VideoFastforward allows for fast forward of the video content.” Ex. 1005, 41:16-17. “The function VideoRewind allows for rewind of the video content.” Ex. 1005, 41:21-22. “[A] function SetAudioLevel sets the audio level.” Ex. 1005, 41:27-28.

100. In Redford, the command sent from the handheld device does not have to be the same function performed by the television/STB. For example, as described above, the handheld device may send a “PlayVideo” command, *see* Ex. 1005, 39:22-24, and the television/STB may execute a corresponding “VideoPlay” function, *see* Ex. 1005, 40:56-57. Further, the handheld device may send a “PauseStream” command, *see* Ex. 1005, 39:48-49, and the television/STB may execute a corresponding “VideoPause” function, *see* Ex. 1005, 41:3-5. Further still, the handheld device may send a “ResumeStream” command, *see* Ex. 1005, 39:50-51, and the television/STB may execute a corresponding “VideoResume” function, *see* Ex. 1005, 41:6-7.

8.10. U.S. Pub. No. 2008/0235588 – Gonze (Ex. 1006)

101. U.S. Pub No. 2008/0235588 to Gonze et al. (“Gonze”) indicates on its face that it was filed on May 8, 2007 as Application No. 11/745,863 as a continuation-in-part of Application No. 11/688,657 filed on March 20, 2007. Gonze published on September 25, 2008. Ex. 1006 at 1. I understand that Gonze qualifies as prior art to the ’251 Patent under pre-AIA § 102(b) because Gonze published more than one year prior to the earliest priority date (April 21, 2011) of the ’251 Patent.

102. Gonze describes a system for making content available from multiple providers such that a playback device can request, receive, and present the content utilizing a playlist and a consistent user interface. Ex. 1006, Abstract, [0009], [0010], [0034], [0035], [0040], [0049], [0051], [0056], [0060]. As an introduction to its

system, Gonze provides a general background to media accessibility via the internet. *See* Ex. 1006, [0004]-[0008], [0035].

103. Discussing media players generally, Gonze describes that some media players can play content of different formats. *See* Ex. 1006, [0005]. For example, Windows Media Player can play content encoded using Windows Media Audio (WMA), Windows Media Video (WMV), Motion Picture Entertainment Group (MPEG), MP3, WAV, and Musical Instrument Digital Interface (MIDI). Ex. 1006, [0005].

104. Gonze explains that although some media players can play content encoded in different formats, other media formats are “proprietary,” and the right to play such content is often tightly controlled. *See* Ex. 1006, [0006]. For example, the encoding employed by Apple’s Quicktime and RealNetworks’ RealVideo and RealAudio are generally proprietary. Ex. 1006, [0006]. Gonze explains that users may be forced to use a proprietary media player if they wish to play content created using such proprietary media types. Ex. 1006, [0006]. Therefore, Gonze describes “a means for providing a standardized interface through which a plurality of media players can be controlled, and through which users can create and edit playlists.” Ex. 1006, [0009], [0060].

105. Gonze explains that traditionally, a user may select a link (*e.g.*, “Example Link”) in a browser to access content

referenced in the link, and the browser may attempt to load the file from the specified link path. *See* Ex. 1006, [0035]. Gonze describes that the browser and/or the operating system (OS) may use information from the file, for example, the file extension, to determine appropriate software to be loaded to play the file. *See* Ex. 1006, [0035]. For example, Gonze describes that the browser may determine whether the selected file can be played by any plug-ins. Ex. 1006, [0035]. If the file can be played by a plug-in, “the plug-in is loaded by the browser and the file is loaded by the plug-in.” Ex. 1006, [0035]. If not, the operating system may determine an appropriate application, “such as a media player, that should be loaded to handle the file based on information from the file.” Ex. 1006, [0035].

106. Gonze describes a system for making available content having different formats and from different providers. *See* Ex. 1006, [0034], [0035], [0040], [0049], [0051]. Gonze utilizes a media playlist that may include a “browser interpretable document” with a plurality of content entries and a set of instructions for controlling a plurality of media players. Ex. 1006, [0034]. Gonze describes that by modifying the links to the content, the browser may be instructed to take specific actions. *See* Ex. 1006, [0036], [0049].

107. For example, Gonze describes that its playlist links can be edited to add attributes, for example a “type” attribute, to help identify an appropriate media player for a particular media type. *See* Ex. 1006, [0040]. Additionally, Gonze, states

that in conjunction with the playlist, a browser interpretable document can also include a series of instructions for determining whether an appropriate media player is available for a given content's media type. Ex. 1006, [0049], [0051]. If it is determined that no media player is installed that can play the selected media, "the device may be provided with a link through which an appropriate media player can be obtained." Ex. 1006, [0058].

108. Gonze describes that the instructions may also facilitate interaction with one or more of the media players "through application programmer interfaces ('API's') for those media players." Ex. 1006, [0051]. Gonze continues to explain that the instructions that facilitate access to such API's may be "implemented as a separate module" permitting support for new media players and new media player versions. Ex. 1006, [0051].

109. Further, Gonze explains that once the browser causes an appropriate media player to be loaded, the loaded media player's native controls may be hidden and the user can utilize controls provided by a graphical user interface. Ex. 1006, [0059]. The user's interactions with the user interface elements (*e.g.*, "<--", "<-", 'Stop', 'Play', '||', '->', "-->."), Ex. 1006, [0053]) may be monitored and commands associated with the interactions may be sent to the loaded media player. Ex. 1006, [0059].

8.11. U.S. Pat. No. 8,327,403 – Chilvers (Ex. 1007)

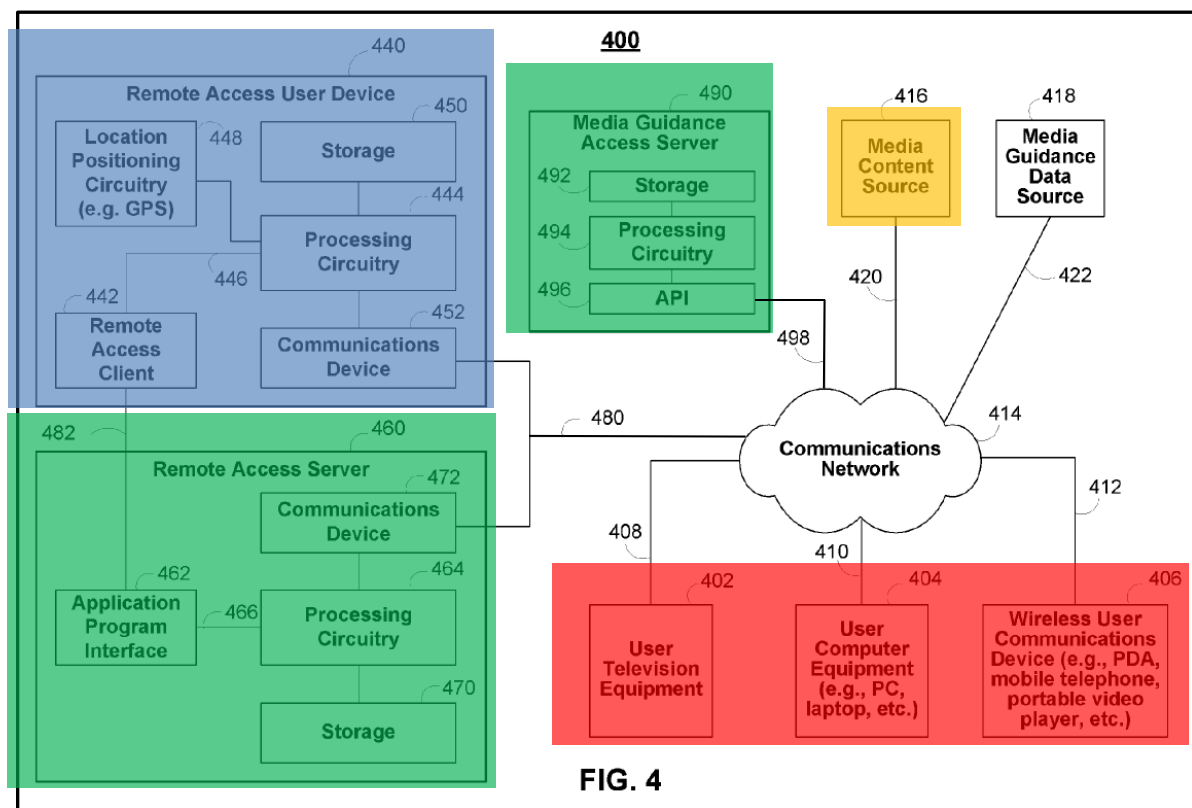
110. U.S. Pat. No. 8,327,403 to Chilvers et al. (“Chilvers”) indicates on its face that it was filed on September 7, 2007, as Application No. 11/851,573. I understand that Chilvers qualifies as prior art under pre-AIA 35 U.S.C. § 102(e) because its priority date (September 7, 2007) is before the earliest priority date of the ’251 Patent (April 21, 2011). I also understand that Chilvers was not considered during prosecution of the ’251 Patent.

111. Chilvers generally relates “to systems and methods for providing remote program ordering on a user device via a web server.” Ex. 1007, 1:8-9. Additionally, Chilvers describes techniques for facilitating remote requests for transmittal to interactive media guidance applications. Ex. 1007, 1:41-45. Chilvers’ remote access system may maintain a lookup table that “cross-references user requests with action requests in a plurality of formats, each compatible with a different user equipment device.” Ex. 1007, 1:66-2:3.

112. Chilvers describes an “[i]nteractive media guidance application” that may allow a user to navigate and locate many types of media content including, for example, “television programming,” “pay-per-view programs,” “video-on-demand,” “Internet content,” and “games.” Ex. 1007, 3:44-59. Chilvers describes that with the advent of the Internet and mobile computing, it is desirable to provide program guides on many different devices and device types, for example, via a

website or standalone application. Ex. 1007, 3:61-4:11. The guidance may be for media available via the listing device or a second device. Ex. 1007, 4:2-6.

113. With reference to Figure 4 reproduced below, Chilvers describes a system including a “remote access user device 440” (**blue**), one or more user equipment (**red**), for example, “user television equipment 402, user computer equipment 404, and wireless user communications device 406,” a server system (**green**), and media content sources (**orange**) connected via a communications network. Ex. 1007, 9:29-41, 9:60-61, FIG. 4.



Ex. 1007, FIG. 4

114. Chilvers describes that media content source 416 may include one or more of, for example, a television distribution facility, a satellite distribution facility, a cable system headend, programming sources (*e.g.*, NBC, ABC, HBO, etc.), Internet providers, and on-demand media servers. Ex. 1007, 11:30-50.

115. Chilvers describes that remote access user device 440 may be used to communicate requests to and receive responses from remote access server 460. Ex. 1007, 15:1-3.

116. Figure 13A shows a process for a remote action request with an interactive media guidance application. Ex. 1007, 27:24-27.

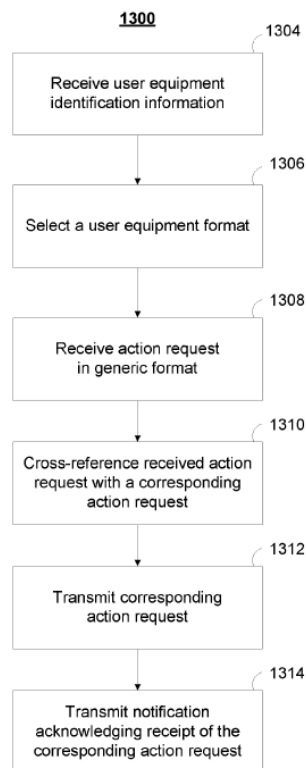


FIG. 13A

Ex. 1007, FIG. 13A

117. Chilvers describes that the “remote access server 460 receives user equipment identification information that may have been transmitted from remote access user device 440.” Ex. 1007, 27:36-39. The user equipment identification information indicates at least one characteristic of the user equipment. Ex. 1007, 27:38-40. For example, “the user equipment identification information may indicate that the user equipment includes a 180-hr TiVo Series2 digital video recorder.” Ex. 1007, 27:40-45. Further, the server 460 may retrieve stored information about the user equipment. Ex. 1007, 27:53-56.

118. Chilvers describes that a user equipment format may be selected from a plurality of formats based on the user equipment identification information. Ex. 1007, 27:57-59. “The user equipment format may be used to represent action requests in a manner compatible with an application program interface associated with the user equipment.” Ex. 1007, 27:59-65.

119. Subsequently, a user request, which may “indicate instructions for the user equipment,” is received from the remote access user device. Ex. 1007, 28:9-13. The user request may be in a “generic format” corresponding to the remote server API, which may facilitate remote access to different user equipment “which do not necessarily have the same application program interface.” Ex. 1007, 28:13-19,

28:29-37. Additionally, Chilvers describes that the remote server may process the user request or supplement the user request with additional information. Ex. 1007, 28:38-47.

120. Chilvers describes that the server may cross-reference, via a lookup table, the generic user request with action requests “in a user equipment format.” Ex. 1007, 28:64-29:6. “[T]he user and action requests may indicate the same instructions... while having different formats that are compatible with different application program interfaces.” Ex. 1007, 28:67-29:4. Further, the server maintains a lookup table “which cross-references user requests with action requests in a plurality of formats” for different user equipment. Ex. 1007, 29:3-6.

121. Chilvers, Figure 13B shows a lookup table for cross-referencing generic command user requests with action requests in a plurality of formats. Ex. 1007, 29:17-46, FIG. 13B.

1350

<u>Generic Command</u>	<u>TiVo Series2 DVR Cmd</u>	<u>Comcast CVC8 DVR</u>	<u>DirectTV XR2 HD-DVR</u>
		<u>Cmd</u>	<u>Cmd</u>
RECORD	REC	RC1	837068X
SET REMINDER	REM	RM4	837078X
...	...	...	...

1354

1352

1358

FIG. 13B

Ex. 1007, FIG. 13B

122. For Example, Chilvers describes that the lookup table may include the specific action request “REC” for the TiVo Series2 DVR and “RC1” for the Comcast CVC8 DVR corresponding to the generic “Record” command. Ex. 1007, 29:17-46, FIG. 13B. Subsequently, Chilvers describes that the action request is transmitted to the user equipment to “enable execution of the instructions” indicated by the generic user request. Ex. 1007, 29:47-55. In addition to the instructions for the user equipment, Chilvers describes that the action request may also include “program-specific identification.” Ex. 1007, 29:60-64.

8.12. U.S. Pub. No. 2007/0155506 - Malik (Ex. 1008)

123. U.S. Pub. No. 2007/0155506 to Malik (“Malik”) was filed as Application No. 11/303,725 on December 15, 2005 and published on July 5, 2007. I understand that Malik is prior art under 35 U.S.C. § 102(b) because its publication date (July 5, 2007) is more than a year before the earliest priority date of the ’251 Patent (April 21, 2011). I also understand that Malik was not considered during prosecution of the ’251 Patent.

124. Malik describes a system and method for network assisted wireless control of an interactive game playing on a set-top box (STB) and hosted on a network server. Ex. 1008, Abstract, [0005], [0015]. Malik’s system included an STB 140 (red) coupled to a monitor 130, a wireless communications device 170 (blue), and a game server 110 (green). Ex. 1008, [0025]-[0029]. The STB, wireless

communications device, and game server are connected to each other via a network layer. Ex. 1008, [0018], [0019], [0024], [0025], [0027], [0029].

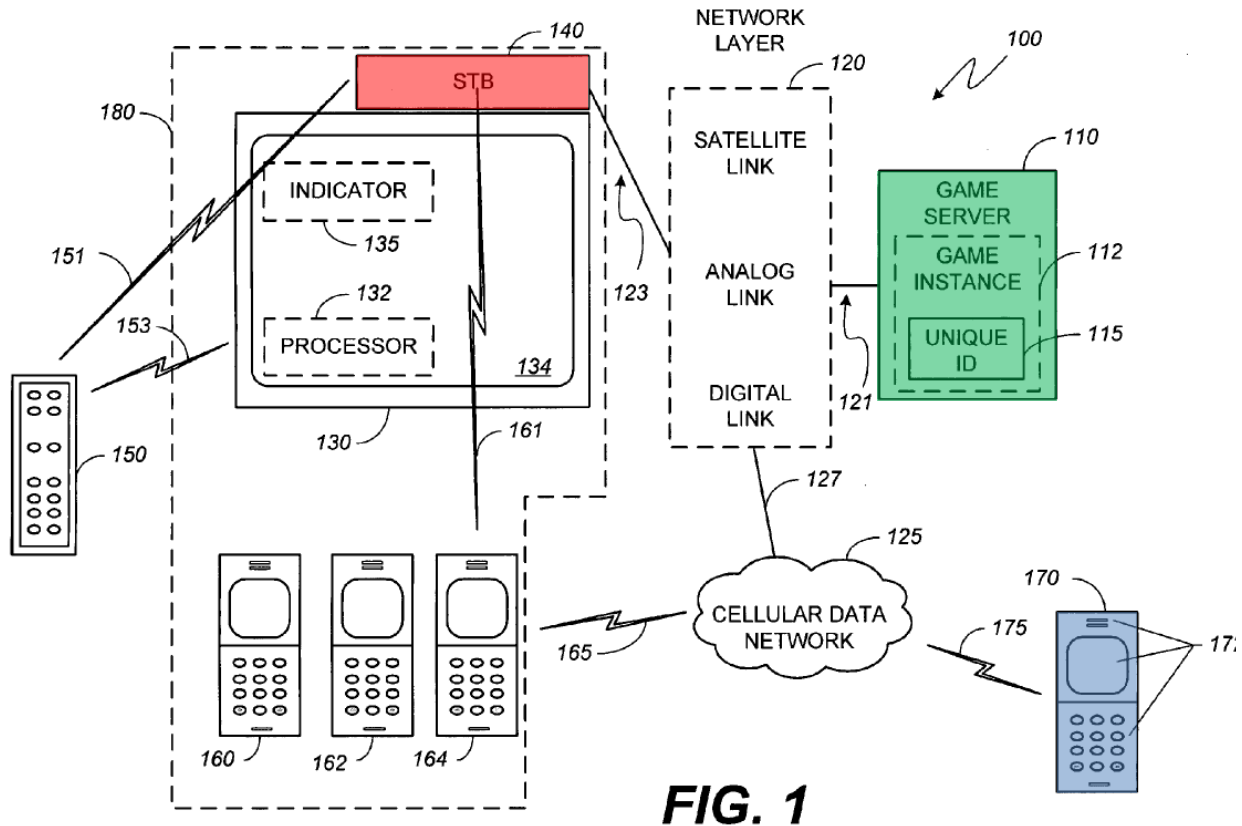


FIG. 1

Ex. 1008, FIG. 1

125. Malik describes that the game server stores and provides instances of interactive games to users. Ex. 1008, [0022], [0027]. The game server generates game instances and communicates the game instances to the STB and monitor. Ex. 1008, [0027]. The wireless communications devices are used to control the game instances on the STB via the network layer. Ex. 1008, [0005], [0006], [0021], [0022], [0031], [0051], [0052], FIGs. 4, 5.

126. Further Malik describes a method to bind the STB and wireless communications devices for game control. Ex. 1008, [0005]-[0007], [0015], [0021], [0022], [0027], [0030], [0035], [0036], [0043], [0051], [0052], FIGs. 4, 5. To bind the devices, the game server provides a unique identifier for the game instances which is communicated by the devices to bind them for control of a game instance. Ex. 1008, [0005]-[0007], [0015], [0021], [0022], [0027], [0030], [0035], [0036], [0043], [0051], [0052], FIGs. 4, 5.

8.13. U.S. Pub. No. 2006/0107299 - Bartfeld (Ex. 1018)

127. U.S. Pub. No. 2006/0107299 to Bartfeld et al. (“Bartfeld”) was filed as Application No. 10/904,552 on November 16, 2004 and published on May 18, 2006. I understand that Bartfeld is prior art under 35 U.S.C. § 102(b) because its publication date (May 18, 2006) is more than a year before the earliest priority date of the ’251 Patent (April 21, 2011). I also understand that Bartfeld was not considered during prosecution of the ’251 Patent.

128. Bartfeld describes a system and method for “user assisted association between a television and a telephony device.” Ex. 1018, Abstract, [0007]. In response to a request from a set-top box 50 connected to a television 70, Bartfeld’s server 20 identifies the set-top box, generates an identification code, and transmits the identification code to the set-top box. Ex. 1018, Abstract, [0019], [0020], [0024]. The set-top box displays the code and a user transmits the code back to the server via a telephony device to the server. Ex. 1018, Abstract, [0013]. Thereafter, the

server identifies the telephony device, and using the code, associates between the set-top box connected to a television and the telephony device. Ex. 1018, Abstract, [0007].

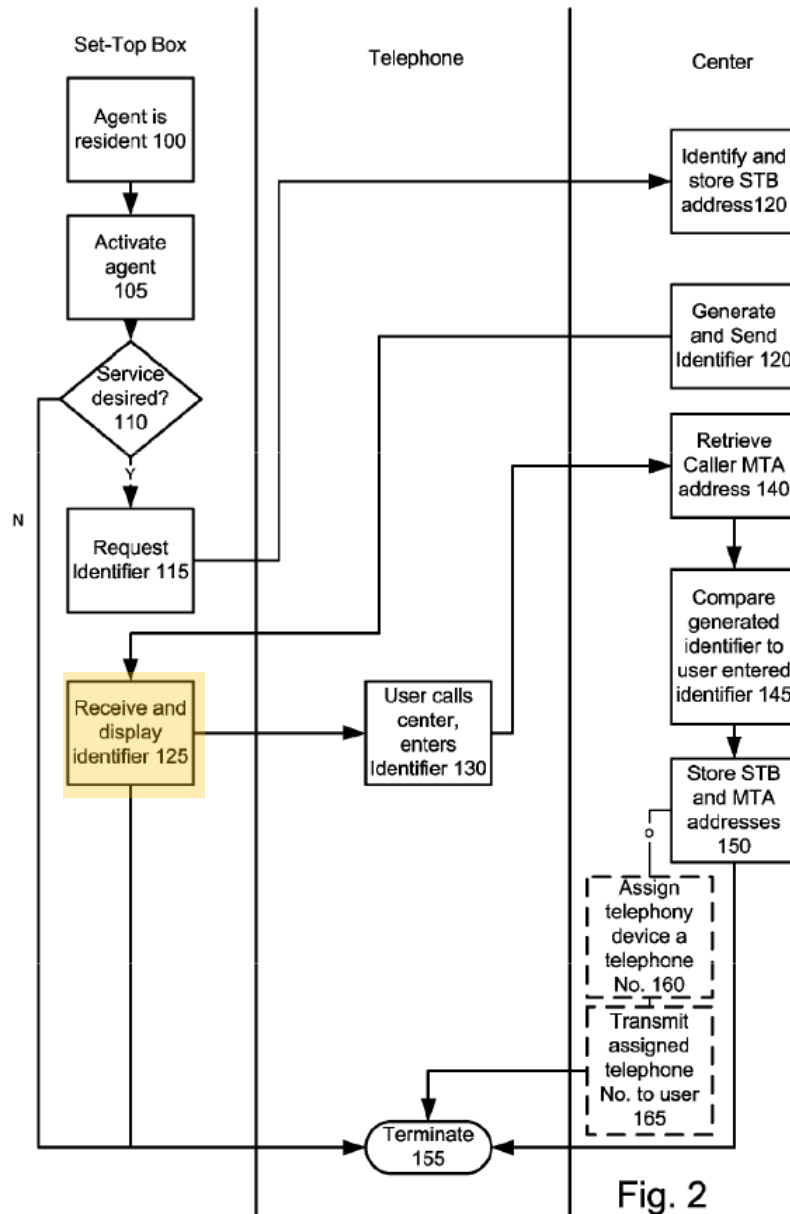
129. Specifically, Bartfeld describes that the system “provides a method of association between a television and telephony device, and/or other communication devices [(e.g., a laptop, a mobile phone)] in a user premises. Ex. 1018, Abstract, [0007]. Accordingly, in my opinion, a POSITA would have understood that the telephony device 90 may be a laptop, mobile phone, and/or some other “communication device” in a home premises. In fact, Bartfeld states that telephone 90 may be a “cellular telephone.” Ex. 1018, [0008], [0030].

130. Bartfeld describes that the “set-top box may be embedded in a wireless device. Ex. 1018, [0010]. In my opinion, a POSITA would have understood that a television is an example of a wireless device and thus Bartfeld teaches that the set-top box may be embedded within television 70. Ex. 1018, [0010].

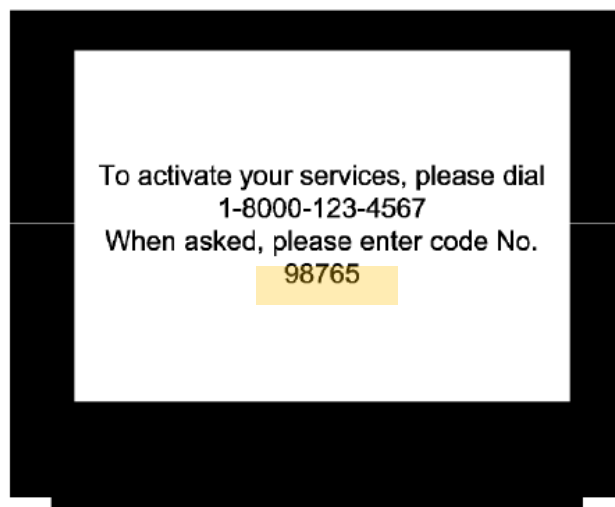
131. Further Bartfeld describes various manners that the identification code may be generated by the server 20. Bartfeld describes that the code may be “selected by any convenient manner such as random number generation, selection from a list, hashing the STB number, using a counter, and the like.” Ex. 1018, [0025]. Bartfeld notes that the code “need not be long or complex as its lifespan is considered short – only until activation of the service is accomplished – but may be complex if so

desired.” Ex. 1018, [0025]. In addition, Bartfeld describes that “the server needs to verify that no two [codes] are identical within a pre-selected timeframe” but that “a never repeating [code] may be used” if desired. Ex. 1018, [0025]. Accordingly, a POSITA would have known that under Bartfeld, any of a number of codes, simple or complex, may be generated and sent to a set-top box for association with a television and telephone. Ex. 1018, [0025].

132. Finally, Bartfeld describes that set-top box 50 displays, on television 70, the code (identifier) that was generated by the server 20 and transmitted by the server 20 to the set-top box 50. Ex. 1018, [0026]. Figure 2 states such and Figure 4 provides an illustrative example.



Ex. 1018, FIG. 2 (annotated)



Ex. 1018, FIG. 4 (annotated)

9. IDENTIFICATION OF HOW CLAIMS ARE UNPATENTABLE

133. I was asked to consider whether claims 1-2, 5, 7-11, 16, and 18-21 of the '251 Patent are rendered obvious by Redford. Having considered Redford and the claims in question, it is my opinion that Redford renders obvious claims 1-2, 5, 7-11, 16, and 18-21.

134. I was asked to consider whether claims 1-2, 5, 7-11, 16, and 18-21 of the '251 Patent are rendered obvious by Redford and Gonze. Having considered Redford and Gonze, and the claims in question, it is my opinion that the combination of Redford and Gonze renders obvious claims 1-2, 5, 7-11, 16, and 18-21.

135. I was asked to consider whether claims 1-2, 5, 7-11, 16, and 18-26 of the '251 Patent are rendered obvious by Redford and Bartfeld. Having considered Redford and Bartfeld, and the claims in question, it is my opinion that Redford and Bartfeld renders obvious claims 1-2, 5, 7-11, 16, and 18-26.

136. I was asked to consider whether claims 1-2, 5, 7-11, 16, and 18-26 of the '251 Patent are rendered obvious by Redford, Gonze, and Bartfeld. Having considered Redford, Gonze, and Bartfeld, and the claims in question, it is my opinion that the combination of Redford, Gonze, and Bartfeld renders obvious claims 1-2, 5, 7-11, 16, and 18-26.

137. I was asked to consider whether claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford and Chilvers. Having considered Redford and Chilvers, and the claims in question, it is my opinion that the combination of Redford and Chilvers renders obvious claims 2-4 and 12-15.

138. I was asked to consider whether claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford, Gonze, and Chilvers. Having considered Redford, Gonze, and Chilvers, and the claims in question, it is my opinion that the combination of Redford, Gonze and Chilvers renders obvious claims 2-4 and 12-15.

139. I was asked to consider whether claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford, Bartfeld, and Chilvers. Having considered Redford, Bartfeld, and Chilvers, and the claims in question, it is my opinion that the combination of Redford, Bartfeld, and Chilvers renders obvious claims 2-4 and 12-15.

140. I was asked to consider whether claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford, Gonze, Bartfeld, and Chilvers. Having considered

Redford, Gonze, Bartfeld, and Chilvers, and the claims in question, it is my opinion that the combination of Redford, Gonze, Bartfeld, and Chilvers renders obvious claims 2-4 and 12-15.

141. I was asked to consider whether claims 6 and 17 of the '251 Patent are rendered obvious by Redford and Malik. Having considered Redford and Malik, and the claims in question, it is my opinion that the combination of Redford and Malik renders obvious claims 6 and 17.

142. I was asked to consider whether claims 6 and 17 of the '251 Patent are rendered obvious by Redford, Gonze, and Malik. Having considered Redford, Gonze, and Malik, and the claims in question, it is my opinion that the combination of Redford, Gonze, and Malik renders obvious claims 6 and 17.

143. I was asked to consider whether claims 6 and 17 of the '251 Patent are rendered obvious by Redford, Bartfeld, and Malik. Having considered Redford and Malik, and the claims in question, it is my opinion that the combination of Redford, Bartfeld, and Malik renders obvious claims 6 and 17.

144. I was asked to consider whether claims 6 and 17 of the '251 Patent are rendered obvious by Redford, Gonze, Bartfeld, and Malik. Having considered Redford, Gonze, Bartfeld, and Malik, and the claims in question, it is my opinion that the combination of Redford, Gonze, Bartfeld, and Malik renders obvious claims 6 and 17.

10. SUMMARY OF OPINIONS WITH RESPECT TO THE '251 PATENT

145. It is my opinion that claims 1-2, 5, 7-11, 16, and 18-21 of the '251 Patent are rendered obvious by Redford.

146. It is my opinion that claims 1-2, 5, 7-11, 16, and 18-21 of the '251 Patent are rendered obvious by Redford in view of Gonze.

147. It is my opinion that claims 1-2, 5, 7-11, 16, and 18-26 of the '251 Patent are rendered obvious by Redford in view of Bartfeld.

148. It is my opinion that claims 1-2, 5, 7-11, 16, and 18-26 of the '251 Patent are rendered obvious by Redford in view of Gonze and Bartfeld.

149. It is my opinion that claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford in view of Chilvers.

150. It is my opinion that claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford in view of Gonze and Chilvers.

151. It is my opinion that claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford in view of Bartfeld and Chilvers.

152. It is my opinion that claims 2-4 and 12-15 of the '251 Patent are rendered obvious by Redford in view of Gonze, Bartfeld, and Chilvers.

153. It is my opinion that claims 6 and 17 of the '251 Patent are rendered obvious by Redford in view of Malik.

154. It is my opinion that claims 6 and 17 of the '251 Patent are rendered obvious by Redford in view of Gonze and Malik.

155. It is my opinion that claims 6 and 17 of the '251 Patent are rendered obvious by Redford in view of Bartfeld and Malik.

156. It is my opinion that claims 6 and 17 of the '251 Patent are rendered obvious by Redford in view of Gonze, Bartfeld, and Malik.

11. REDFORD, REDFORD-GONZE, REDFORD-BARTFELD, AND REDFORD-GONZE-BARTFELD RENDER CLAIMS 1-2, 5, 7-11, 16, AND 18-26 OBVIOUS

157. The following section provides a limitation by limitation analysis showing how Redford, Redford in view of Gonze, Redford in view of Bartfeld, and/or Redford in view of Gonze and Bartfeld renders claims 1-2, 5, 7-11, 16, and 18-21 obvious.

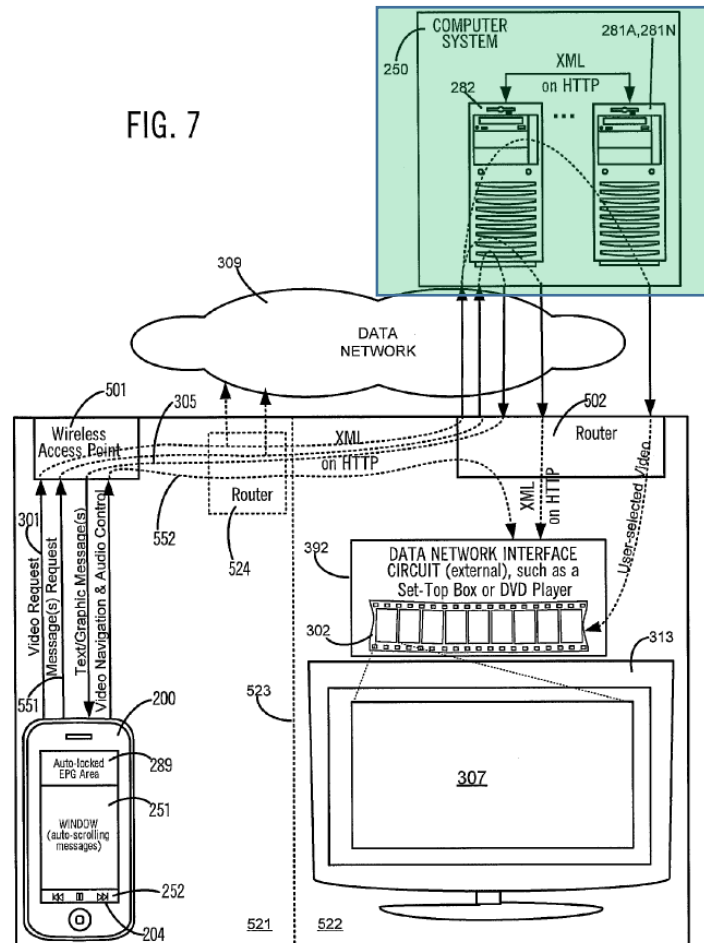
11.1. Independent Claim 1

158. The elements of claim 1 appear in the Claims Listing Appendix, labeled as elements [1A]-[1H].

11.1.1. [1A] “A machine-implemented method of controlling presentation of video content on a display device that loads any one of a plurality of different media players, the method comprising:”

159. It is my opinion that Redford discloses and Redford alone and Redford-Gonze each teaches the preamble.

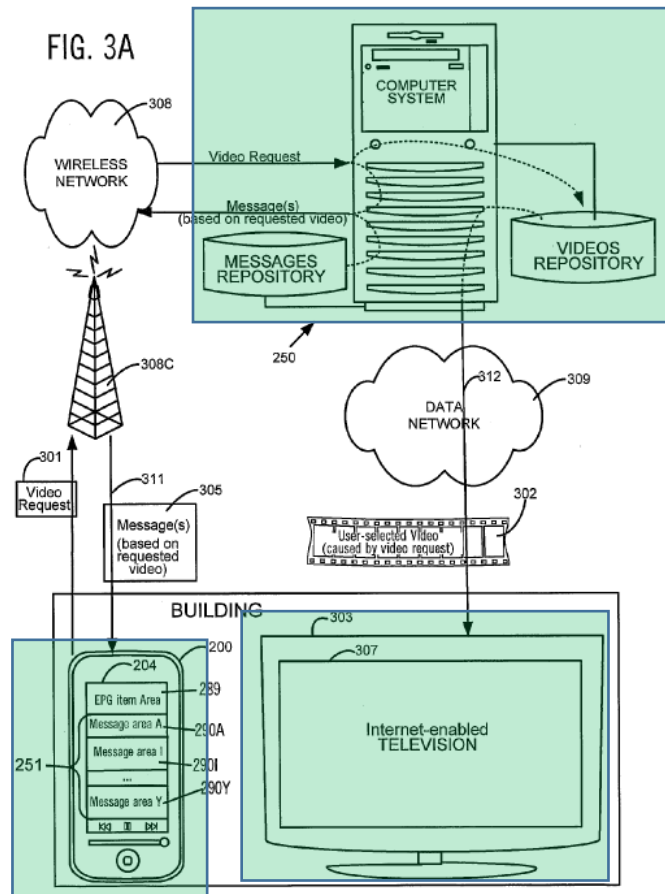
160. Redford discloses a computer system 250 that includes various video content provider computers 281A-281N and “a computer 282 that authorizes transfer of video (‘authority server’).” Ex. 1005, 2:59-67, FIG. 7.



Ex. 1005, FIG. 7 (annotated)

161. Redford’s computer system 250 responds to requests 301 from a handheld device 200 (*e.g.*, “personal computing device”) by sending a signal carrying user-selected video 302 to an internet-enabled television 303 (*e.g.*, “display device”) for presentation of the video content. Ex. 1005, 6:40-52, 11:37-12:12,

21:20-30, 22:5-46, FIGs. 2B, 3A-3C, 6A-6B, 8A-8B, 11A. A POSITA would have understood that Redford's computer system 250 performs a "machine-implemented method of controlling presentation of video content on a display device." Ex. 1001, claim 1.



Ex. 1005, FIG. 3A (annotated)

162. Redford discloses that "television 303 executes predetermined software," referred to as "authority-compatible set-top interface software," to "display video 302" retrieved from a specific service provider, via the Internet, "in response to [user] request 301." Ex. 1005, 12:5-12, FIG. 2B. Furthermore, Figure

9A shows that television 303 includes a microcontroller 901, which includes a processor 911 that runs software stored in memory. Ex. 1005, 30:23-61, FIGs. 9A-9B. “The software executed by processor 911 ... typically includes ... a software development kit (SDK) shared library 914 for media control of audio and video streams, such as RTSP, multi-cast, UDP and DVB.” Ex. 1005, 30:52-54. Other software executed by processor 911 includes “predetermined software 915 that provides an interface between microcontroller 901 and computer system 250” for various services including video and audio streaming. Ex. 1005, 30:56-61.

163. Redford further discloses that the television 303 includes “[a]uthority-compatible set-top interface software [that] provides a common set-top API (called iLook set-top SDK API) for any chip vendor implementation of set top functionality” and that “[t]he iLook set-top SDK API is implemented in some embodiments using the existing chip vendor API functions.” Ex. 1005, 40:24-29. “In the iLook set-top SDK API, a function VideoPlay allows a video content to be played” using video-streaming protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP), and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. The SDK API may also include media player codecs that decode the content to be displayed. Ex. 1005, 41:1-2, 41:53-54. RTSP, one of the video-streaming protocols, has “varying implementation depending on the content provider and service,” so, accordingly, there may be several

implementations of VideoPlay to support the various RTSP players. Ex. 1005, 40:56-41:2. Thus, Redford discloses a display device, television 303, that a POSITA would have understood to have been configured to load any one of the plurality of different media players (various RTSP application software) for presenting the video content for a given VideoPlay implementation.

164. Therefore, Redford discloses limitation [1A].

165. To the extent that Redford does not explicitly disclose that the television 303 display device may load any of a plurality of various media players, Redford does disclose “video play[ing] on TV screen 307” as well as “different types of content providers,” such as Netflix and Youtube, which a POSITA would understand to require different media player formats supported by different media layers. Ex. 1005, 7:27-43, 31:35, FIG. 2A.

166. In my opinion, given Redford’s express teachings and admission that Internet-enabled television was known prior art (Ex. 1005, FIG. 9A), it would have been obvious to modify Redford’s television to include the capability of loading any one of various media players. In particular, given Redford’s disclosure of various RTSP players being supported in television 303 (Ex. 1005, 26:52-55, 30:46-54, 40:59-63, FIG. 9A) as well as various content providers (Ex. 1005, FIG. 2B), a POSITA would have understood that presenting video content from one content provider, such as Netflix, as opposed to another content provider, such as YouTube,

could be accomplished by different RTSP players (“any one of a plurality of different media players”) and it would have been an obvious design choice to do so. Ex. 1005, FIGs. 2B, 9A. In other words, it would have been obvious to play video content from one of various content providers by using one of various RTSP players.

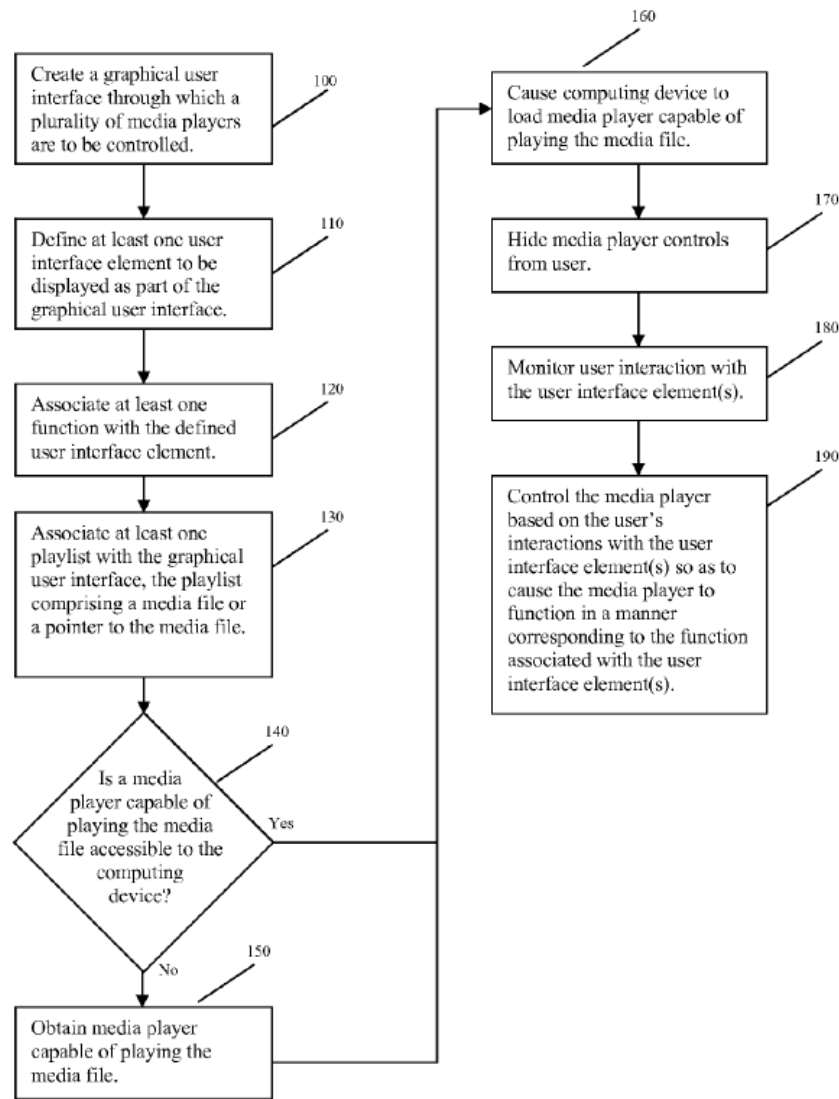
167. Therefore, Redford renders limitation [1A] obvious.

168. To the extent that Redford does not teach that a television display device may load any one of a plurality of different RTSP media players, it was well-known before the priority date of the '251 Patent that display devices were enabled to load any one of a plurality of various media players, as established, for example, by Gonze.

169. Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media players. Ex. 1006, Abstract, [0010], [0034], [0035], [0040], [0049], [0051], [0052]. Specifically, Gonze discloses that “[t]he operating system ... determines an appropriate application, such as a media player, that should be loaded to handle the file based on information from the file” and the “operating system can cause a locally-installed media player to load, and can send instructions to the locally-installed media player to play [the content].” Ex. 1006, [0035]. This content may be in a variety of media types, such as Quicktime, RealVideo, RealAudio, Windows Media Audio, Windows Media Video, Motion Picture

Entertainment Group, MP3, WAVE, or Musical Instrument Digital Interface. And to properly output the content, those various media types often require different media players, such as a QuickTime player, RealPlayer, or Microsoft Media Player to properly output the content. Ex. 1006, [0005], [0006], [0060].

170. Gonze describes selecting from this plurality of media players based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze further describes determining “whether a media player capable of playing a media file in the playlist has been installed on the computing device,” and, “[i]f no such media player has been installed, the device may be provided with a link through which an appropriate media player can be obtained.” Ex. 1006, [0058], FIG. 1. Then, “[o]nce an appropriate media player has been identified and its installation status confirmed, the browser ... can cause the computing device to load the appropriate media player.” Ex. 1006, [0059], FIG. 1. Thus, the playback device disclosed in Gonze “loads any one of a plurality of different media players.”



Ex. 1006, FIG. 1

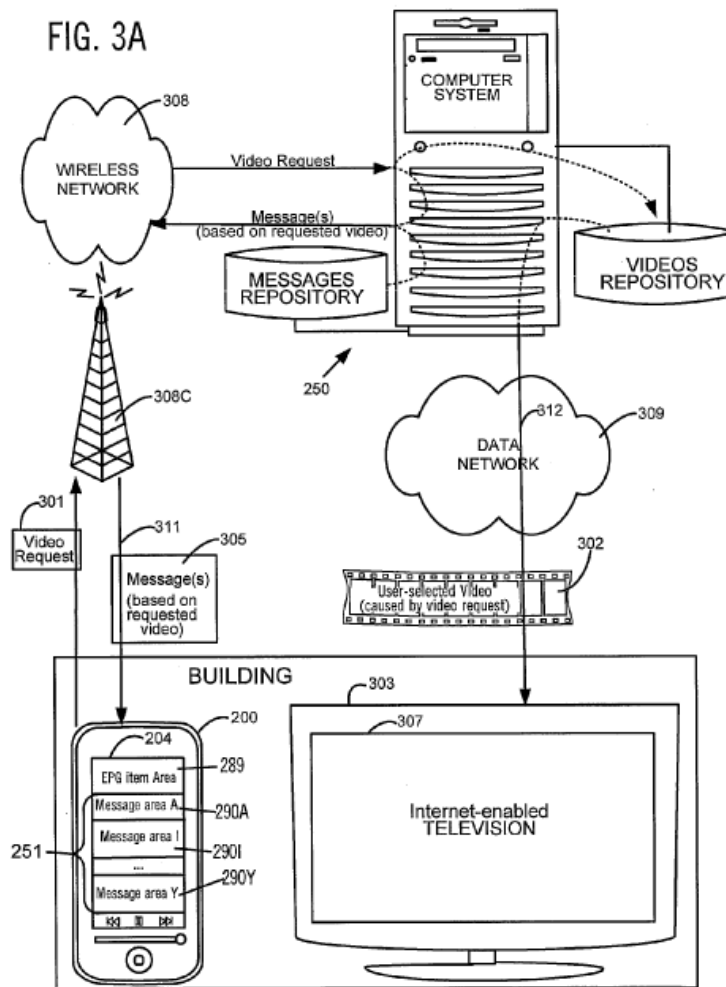
171. The appropriate media player application may be selected to be loaded by, for example, looking to a given content “file’s extension.” Ex. 1006, [0035]. For instance, Gonze further explains that, given a .mp3 file, “the operating system [of the playback device] can cause a locally-installed media player to load, and can send instructions to the locally-installed media player to play [the file].” Ex. 1006, [0035].

172. Thus, per Gonze, a POSITA would have understood that a playback device, like television 303 of Redford, could include various media players. A POSITA also would have understood that choosing a particular media player to play a particular item of content could be determined based on information in a browser interpretable document, such as a content file's extension, as described in Gonze.

173. And further, a POSITA would have understood that information regarding a particular piece of content's corresponding media player could be supplied to handheld device 200 of Redford before a user selects the piece of content. Information regarding the corresponding media player could thereby be included in messages from handheld device 200 to computer system 250 and then from computer system 250 to television 303. Ex. 1005, 2:59-67, 5:42-58, FIGs. 2B, 10A-10C.

174. Redford discloses on demand movie video content where the content is streamed from a server to the user's television. As one example, Redford describes that "display of video 208 on a TV screen 307 (FIG. 3A) is caused by a request 301 for on-demand viewing of a user-selected video 208A (also referred to as video 302) from a predetermined software 209 (also referred to as authority-compatible handheld interface software) that is executed by handheld device 200." In this way, Redford recognizes the desirability of allowing users to obtain content of their

choosing at a time of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16.



Ex. 1005, FIG. 3A

175. Redford also provides the capability of executing additional applications, given that “[h]igher level functions that perform video play are usually supplied by the chip vendor or a 3rd party source” but “the iLook set-top SDK API is agnostic with respect to the underlying chip set and base applications running on the chip” and the contents in chip flash memory can be “periodically re-flash[ed]”

to “update[] the firmware.” Ex. 1005, 41:56-67. Thus, Redford enables the seamless addition of more functionality to the disclosed system.

176. In my opinion, a POSITA would have been motivated to apply Gonze’s teaching of determining if a desired/needed media player is installed and, if not, loading the uninstalled media player to a playback device to supplement Redford’s system. Ex. 1006, [0058], FIG. 1. In my opinion, a POSITA would have sought such to enable the easy loading and selection of various media players to Redford’s system. The routine use of multiple media player applications for presenting media of different formats would have provided a POSITA with the motivation to employ those media players as additional applications in the system disclosed in Redford. Therefore, it is my opinion that a POSITA would have been motivated to modify Redford’s system in view of disclosures from Gonze to support and select among various media players to provide additional options for playing content to users. In my opinion, a POSITA would have known that different providers would require different proprietary media formats (*e.g.*, RealMedia, QuickTime, Windows Media) requiring different proprietary media player applications (*e.g.*, RealPlayer, QuickTime player, Microsoft Media Player) to ensure a proper output of a user’s desired content. Ex. 1006, [0006], [0060]. Accordingly, in my opinion, a POSITA would have sought to combine Redford and Gonze to better support multiple proprietary players to easily play content from different providers

177. To combine Redford and Gonze in this way would be to merely use known techniques (supporting multiple media players for presenting content) to improve similar devices (server-based video streaming systems, described in Redford and Gonze) in the same way (selecting one of the multiple players based on the format of the content). Gonze teaches a system similar to the system in Redford — information is received indicating the available content, a user selects from that available content, and a server provides information to the playback device regarding accessing and outputting the content.

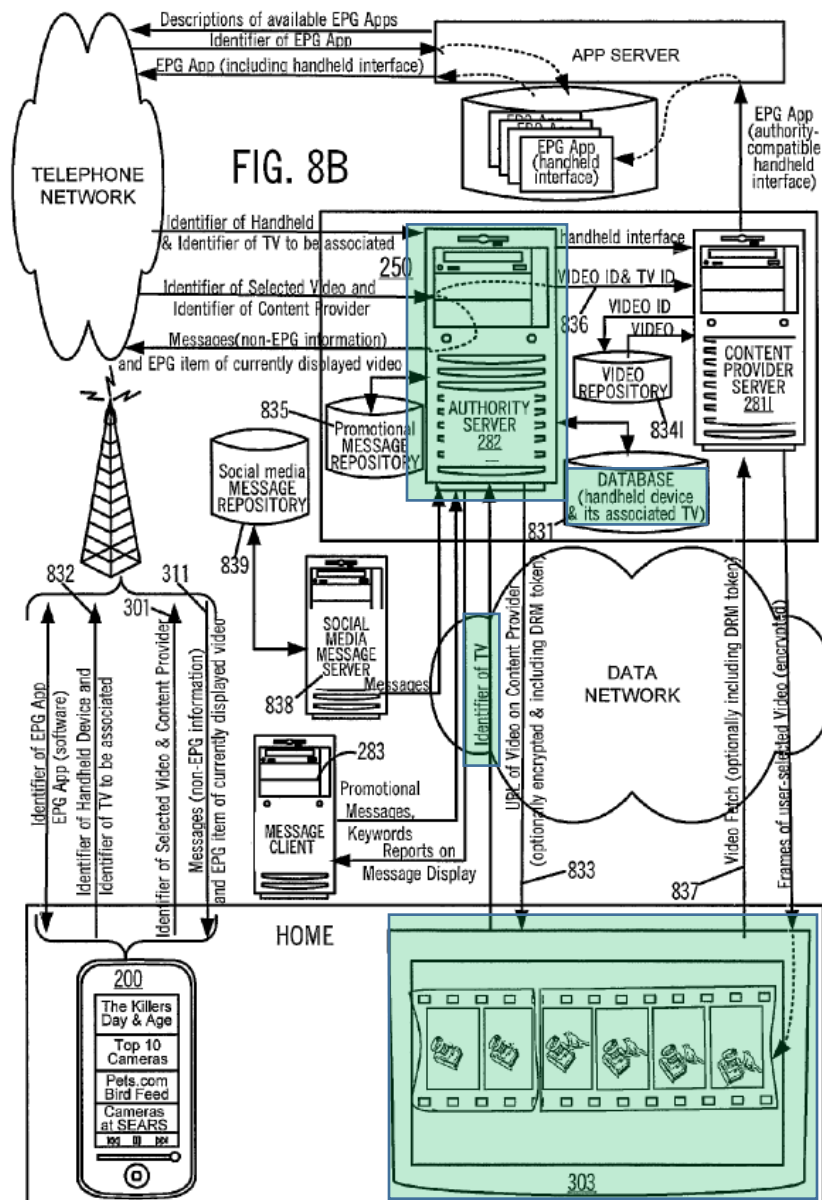
178. A POSITA would have had the skills and knowledge to implement support for multiple media players, as taught by Gonze, in the system disclosed in Redford by incorporating the ability to select among multiple media players, based on information received in messages from the server, into the Internet-enabled television in Redford. It is therefore in my opinion that a POSITA would have expected success in applying Gonze's teaching of loading different media players, as needed, to the similar Redford system which supports multiple, different media players because adding Gonze's information for determining which media player to load to Redford's television 303 display device would have required only minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

179. Therefore, Redford in view of Gonze teaches limitation [1A].

11.1.2. [1B] “assigning, by a server system, a synchronization code to the display device;”

180. It is my opinion that Redford discloses and teaches this limitation. It is further my opinion that Redford in view of Bartfeld teaches this limitation.

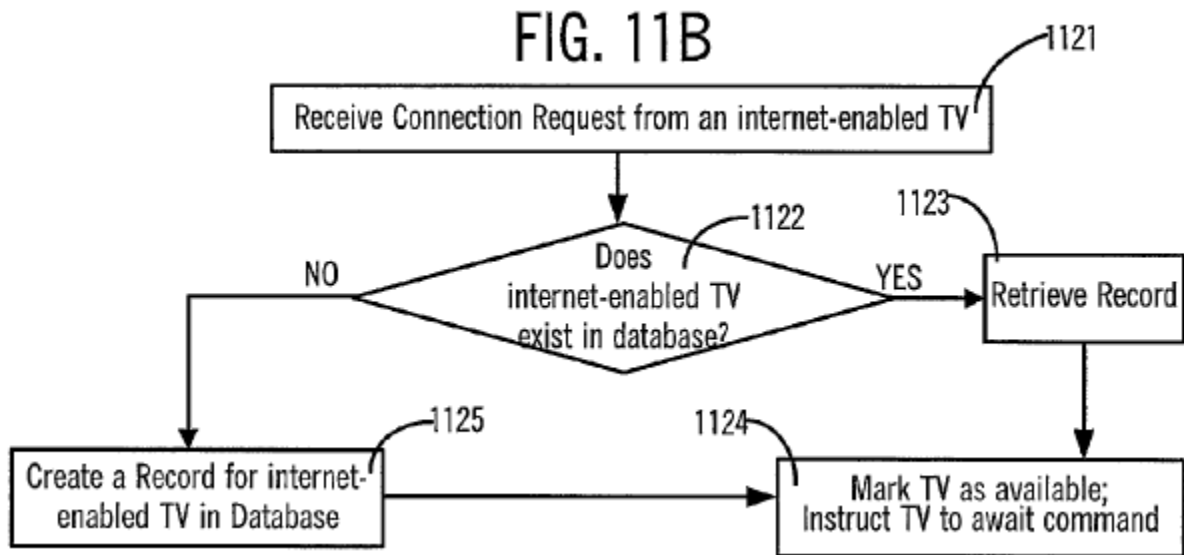
181. Redford discloses that the authority server 282 of computer system 250 (“server system”) receives, from a television 303, association information such as an IP address, TV-name, and TV-password, any of which could act as the “synchronization code.” Ex. 1005, 31:7-14, 43:15-20, 44:44-48, FIG. 8B.



Ex. 1005, FIG. 8B (annotated)

182. Redford describes, and illustrates in Figure 11B, that “computer 282 operating as an authority server ... 282 receives a connection request from an internet-enabled TV,” “checks if a record exists in database 831 (FIG. 8B) for internet-enabled TV 303 and if not ... creates a new record in database 831 using

the information received” from the TV and “marks TV 303 as being available.” Ex. 1005, 35:25-35.



Ex. 1005, FIG. 11B

183. Therefore, Redford discloses limitation [1B].

184. To the extent that it is determined that Redford does not expressly disclose that computer system 250 assigns a synchronization code to television 303, in my opinion, it would have been obvious to modify computer system 250 to include the claimed capability that computer system 250 generates a synchronization code for television 303, which a POSITA would have understood as a design choice. Specifically, in light of Redford’s teaching of an IP address, TV-name, and TV-password, a POSITA would have understood that the function of assigning an identifier to associate television 303 and handheld device 200, whether by computer system 250, handheld device 200, television 303, and/or a user of handheld device

200, would have been an obvious design choice. Furthermore, a POSITA would have understood that, in many cases when an Internet-enabled television 303 connected to the Internet, it would use Dynamic Host Configuration Protocol (DHCP) to automatically request an IP address from a DHCP server on computer system 250, and the DHCP server temporarily assigned an available IP address to the television 303. Ex. 1005, 43:5-14.

185. Therefore, to the extent that Redford does not expressly disclose limitation [1B], Redford renders it obvious.

186. To the extent it is determined that Redford does not teach that computer system 250 assigns a synchronization code to the television 303, in my opinion, it would have been obvious to modify computer system 250 to include the claimed capability that computer system 250 generates a synchronization code for television 303 as demonstrated by Bartfeld.

187. As I discussed above in Section 8.13, Bartfeld discloses a system for user assisted association between a television and a telephony device. Ex. 1018, Abstract. Bartfeld describes that a server generates a code, associates the code with a set-top address, and transmits the code back to the set-top box. Ex. 1018, Abstract. The set-top box displays the code on a television. Ex. 1018, [0007], [0025], [0026]. Using a personal computing device having an address associated therewith, the code is transmitted by a user, to the server. Ex. 1018, [0007], [0025], [0026]. The server

identifies the personal computing device address, and using the code, associates the device with the set-top box. Ex. 1018, [0007], [0025], [0026]. Specifically, Bartfeld discloses that the code “may be selected by any convenient manner such as random number generation, selection from a list, hashing the STB number, using a counter, and the like ... Clearly, a never repeating [synchronization code] may be used.” Ex. 1018, [0025]. Accordingly, Bartfeld’s server “assigns” “a synchronization code to the display device.”

188. Based on these descriptions in Bartfeld, in my opinion, a POSITA would have understood that a server system, such as computer system 250 of Redford, could assign a synchronization code to a display device, such as Redford’s television 303, with the code subsequently entered on the handheld device 200, where it is then sent to computer system 250 to create an association between television 303 and handheld device 200. Bartfeld teaches that the set-top box may be embedded within a device capable of displaying video signals, *e.g.*, Redford’s television 303. Ex. 1018, [0005], [0030]. Bartfeld describes that set-top-box 50 displays, on television 70, the code that was generated by the server 20 and transmitted by the server 20 to the set-top box 50. Ex. 1018, Abstract, [0007], [0025]-[0026], FIGs. 1, 2 (states such), 4 (provides an illustrative example). In my opinion, a POSITA would have looked to supplement the association in Redford with the server generated code for display on a television and entry by a user on a handheld

device as taught by Bartfeld. A POSITA would have recognized that such a combination would ensure that the user is easily and accurately associating the handheld device with a desired television. For example, in a case of a homeowner with televisions in a basement, a master bedroom, a guest bedroom, and a living room, the homeowner would want to watch content, at any particular time, with any of the televisions. When seeking to watch content on the basement television, for example, the homeowner would want to ensure that she is associating her handheld device, e.g., mobile phone, with a proper television, e.g., the basement television.

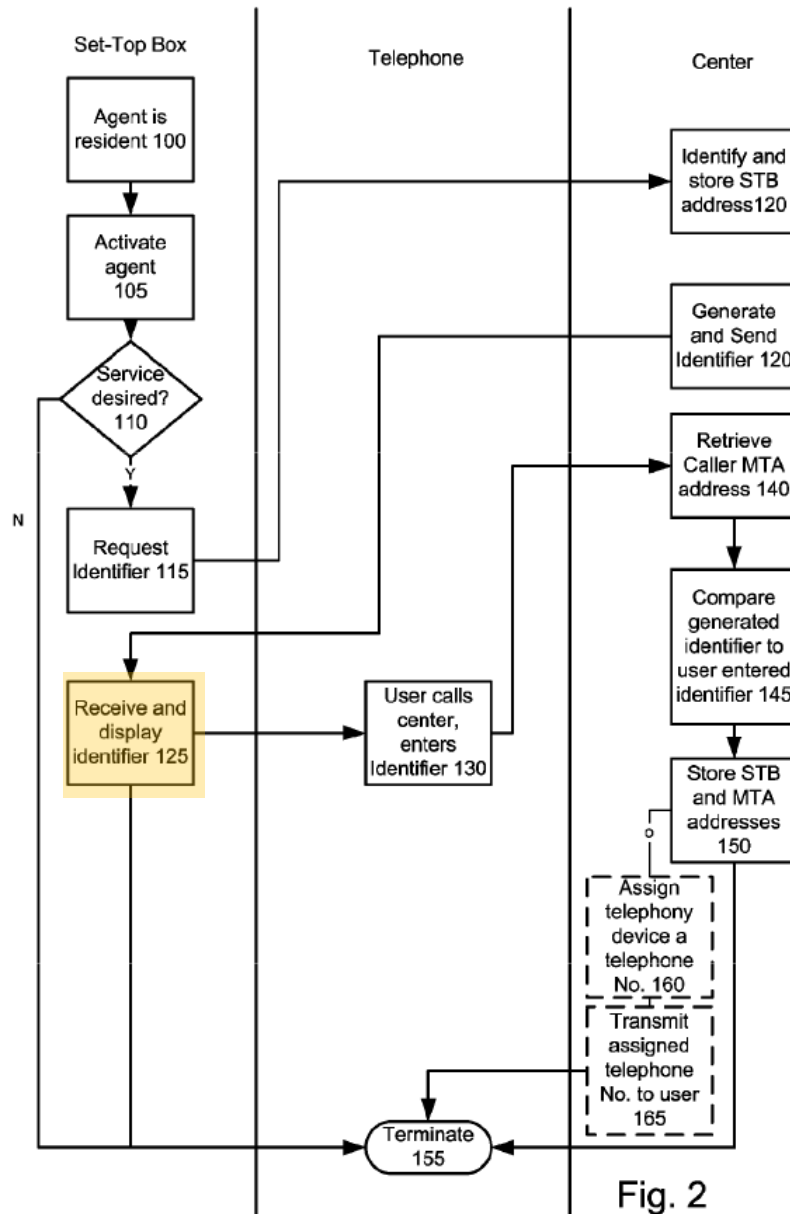
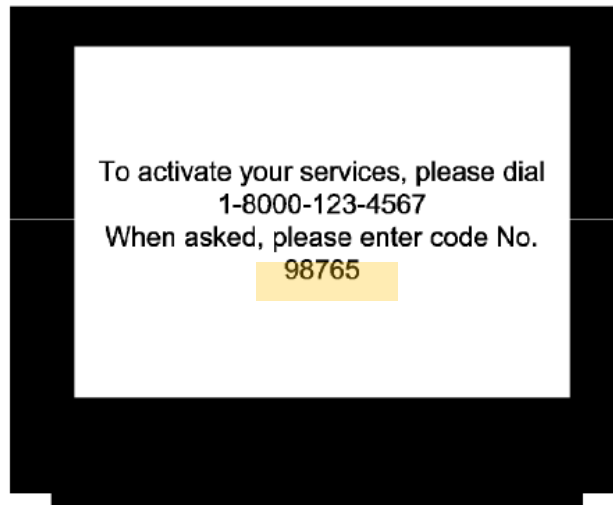


Fig. 2

Ex. 1018, FIG. 2 (annotated)



Ex. 1018, FIG. 4 (annotated)

189. Thus, per Bartfeld, a POSITA would have been motivated to implement Redford's system in view of Bartfeld's teachings to support assisted association of a television and a personal computing device in order to provide more options for playing back content to Redford's users accurately. Redford describes that the authority server 282 of computer system 250 ("server system") receives, from a television 303, association information such as an IP address, TV-name, and TV-password, any of which could act as the "synchronization code." Ex. 1005, 31:7-14, 43:15-20, 44:44-48. Accordingly, a POSITA would have recognized the desirability to users of being able to obtain content of their choosing via devices of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides the capability of receiving a synchronization code assigned to a television from a user's handheld device. Ex. 1005, 41:56-67. In my opinion, a POSITA would have been motivated by the assisted association teachings

of Bartfeld to employ a computer system generated synchronization code that is sent to the television in the system of Redford in order to allow an easy to follow step-by-step process for association of Redford's television 303 and handheld device 200.

190. To combine Bartfeld and Redford in this way would be to merely use known techniques (association between a television and a personal computing device) to improve similar devices (the server-based video streaming systems taught in Redford and Bartfeld) in the same way (assigning a synchronization code to a display device). Bartfeld teaches a system similar to Redford where a synchronization code is assigned between a television and a handheld device, a user on the handheld device selects content for display on the television, and a server provides information to the television associated with the handheld device regarding how to access and output the content.

191. In my opinion, a POSITA would have had the skills and knowledge to implement support for assisted association by a server system generating and assigning a synchronization code to a television, as taught by Bartfeld, in the system disclosed in Redford by incorporating into Redford's computer system 250 the ability to generate and assign a synchronization code to a particular television. It is therefore my opinion that a POSITA would have expected success in applying Bartfeld's teaching for associating the two as needed to the similar Redford system that associates the two because adding Bartfeld's association technique to Redford's

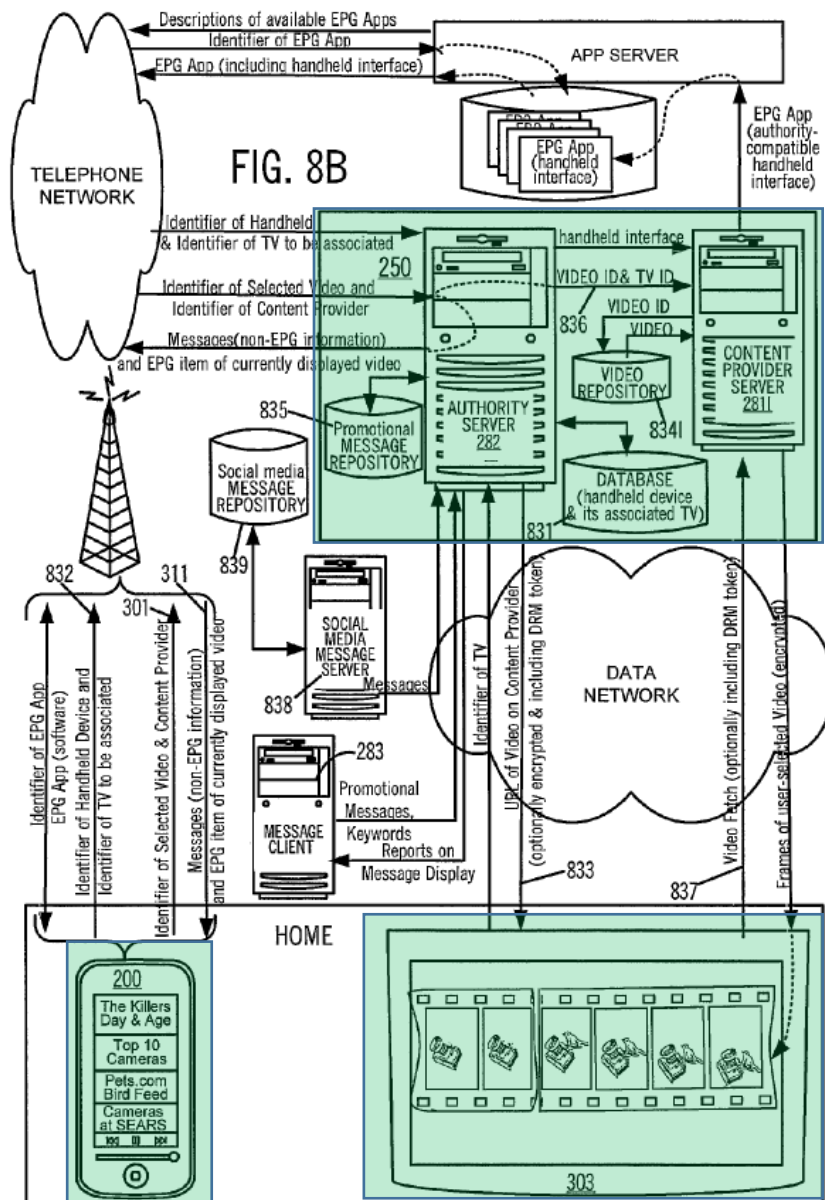
computer system 250 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

192. Therefore, Redford-Bartfeld and Redford-Gonze-Bartfeld each teaches limitation [1B].

11.1.3. [1C] “receiving, in the server system, a message from a personal computing device that is separate from the server system and separate from the display device, wherein the message includes the synchronization code;”

193. It is my opinion that Redford discloses this limitation.

194. Redford discloses that the computer system 250, handheld device 200, and television 303 are separate from each other, as shown below, for example.



Ex. 1005, FIG. 8B (annotated)

195. Furthermore, Redford discloses that “authority server 282 [“server system”] receives a command [“message”] to form an association, from a handheld device 200 identifying an internet-enabled TV [“display device”].” Ex. 1005, 35:59-61, 43:15-20. This is further illustrated in Figure 11D, below.

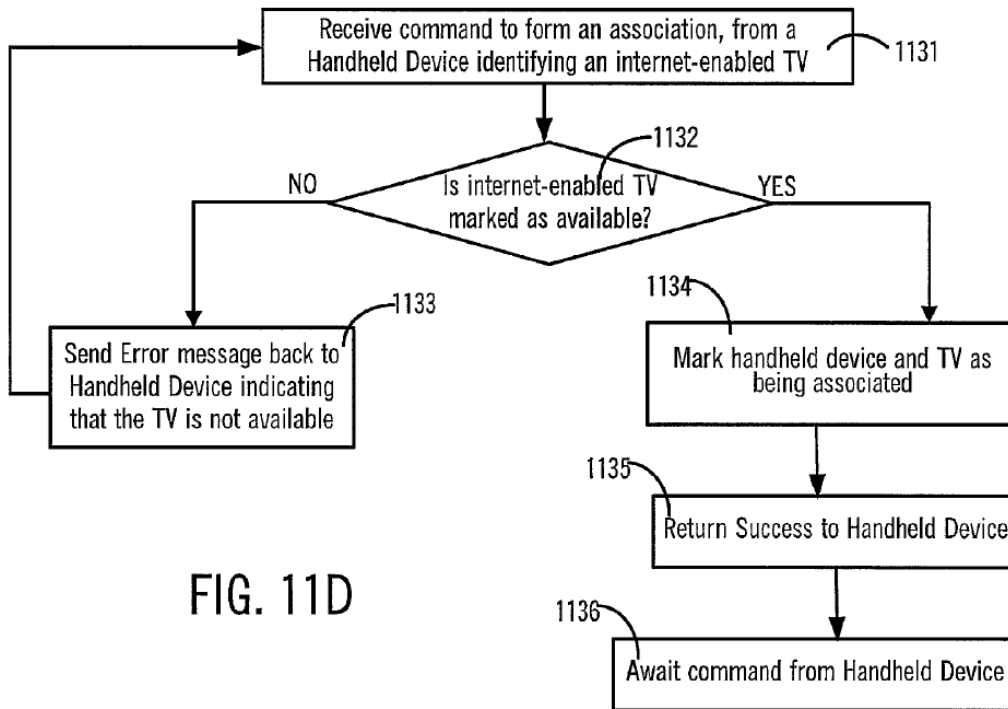


FIG. 11D

Ex. 1005, FIG. 11D

196. Redford further describes that “an authority server ... receives the following information from a handheld device: ... TV-name and TV-password.” Ex. 1005, 44:6-9. Thus, the command (“message”) from handheld device 200 to authority server 282 includes the synchronization code, as described in detail in the previous section, identifying the television.

197. Redford provides an example of such a command, RequestAssociation, which is “a command to associate the iPhone with a television. The input data for this command contains an identifier of the television (e.g. *in the form of a nickname previously registered with the authority server*) and optionally a password for the TV.” Ex. 1005, 39:37-41 (emphasis added). In other words, the computer system

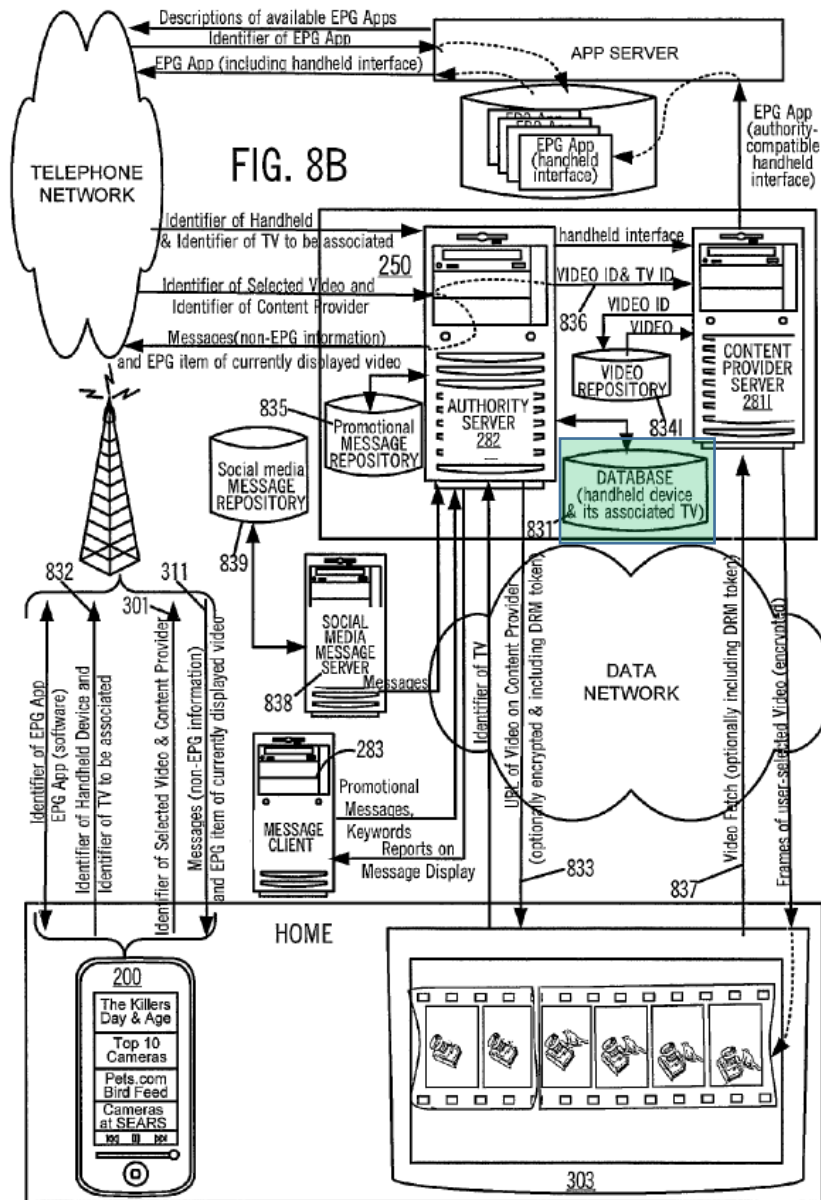
250, which includes the authority server, receives a RequestAssociation command (“message”) from handheld device 200 that includes TV-name (*e.g.*, “synchronization code”) and TV-password (*e.g.*, “synchronization code”). Ex. 1005, 44:6-9. For these reasons, Redford discloses limitation [1C].

198. In the proposed combinations with Bartfeld that I discussed above in Section 11.1.2, as the system displays the code on television 303, a user of handheld device 200 enters the code where it is sent to computer system 250. Ex. 1005, 44:6-9; Ex. 1018, [0007], [0025]-[0026]. Thus Redford-Bartfeld teaches limitation [1C].

11.1.4. [1D] “storing, by the server system, a record establishing an association between the personal computing device and the display device based on the synchronization code;”

199. It is my opinion that Redford discloses limitation [1D].

200. Redford discloses that, after the “authority server 282 receives a command to form an association,” the “authority server 282 marks handheld device 200 as being associated with TV 303” as association information in a database 831. Ex. 1005, 35:59-62, 36:2-3.



Ex. 1005, FIG. 8B (annotated)

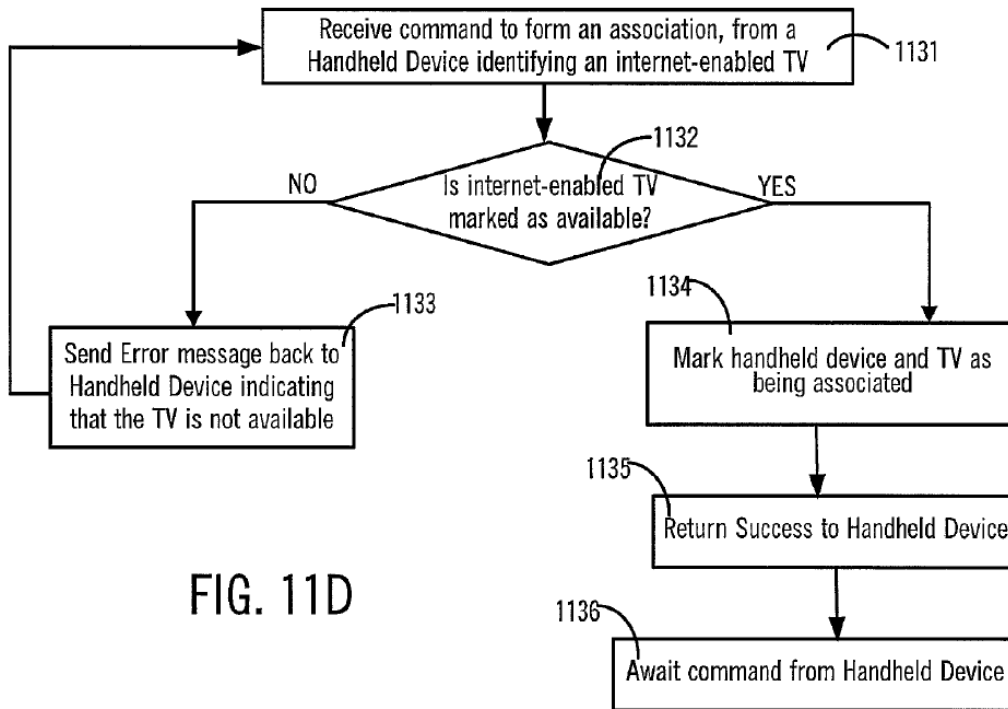


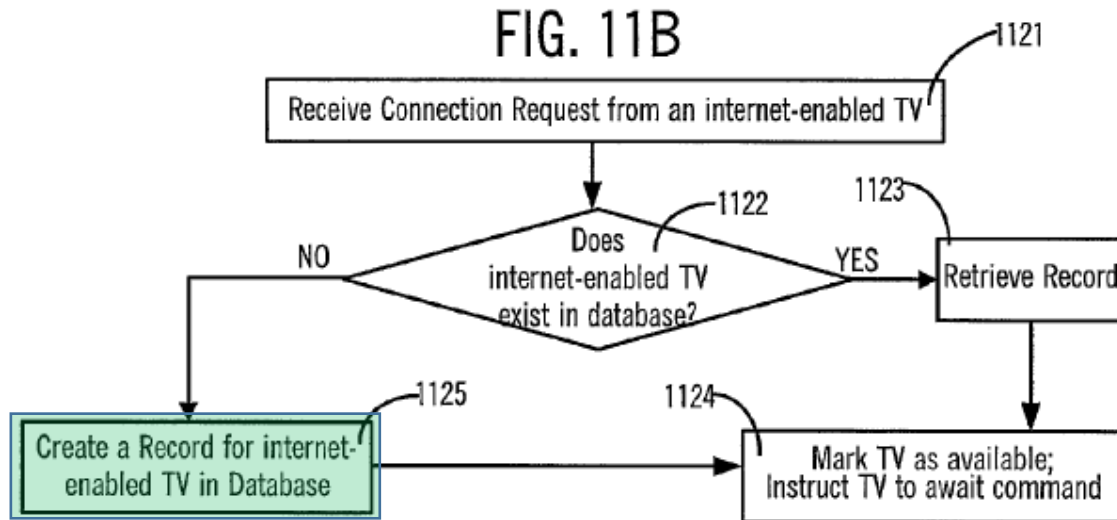
FIG. 11D

Ex. 1005, FIG. 11D

201. Redford further specifies that the “authority server ... maintains in its database ... [a]ssociation information (also called ‘pairing’) includ[ing]: identifier of the handheld device, ... IP address, TV-name and TV-password.” Ex. 1005, 43:15-20. As explained above, Redford’s IP address, TV-name, and TV-password are each examples of a “synchronization code.”

202. Redford describes that the “computer 282 operating as an authority server” performs the acts in Figures 11B and 11D, including that the “authority server 282 marks handheld device 200 as being associated with TV 303, e.g. identified by a session identifier” in the “[r]ecord for internet-enabled TV in

[d]atabase” and/or the “record ... in database ... for handheld device.” Ex. 1005, 35:25-30, 35:45-46, 36:2-4, FIGS. 11B, 11D.



Ex. 1005, FIG. 11B (annotated)

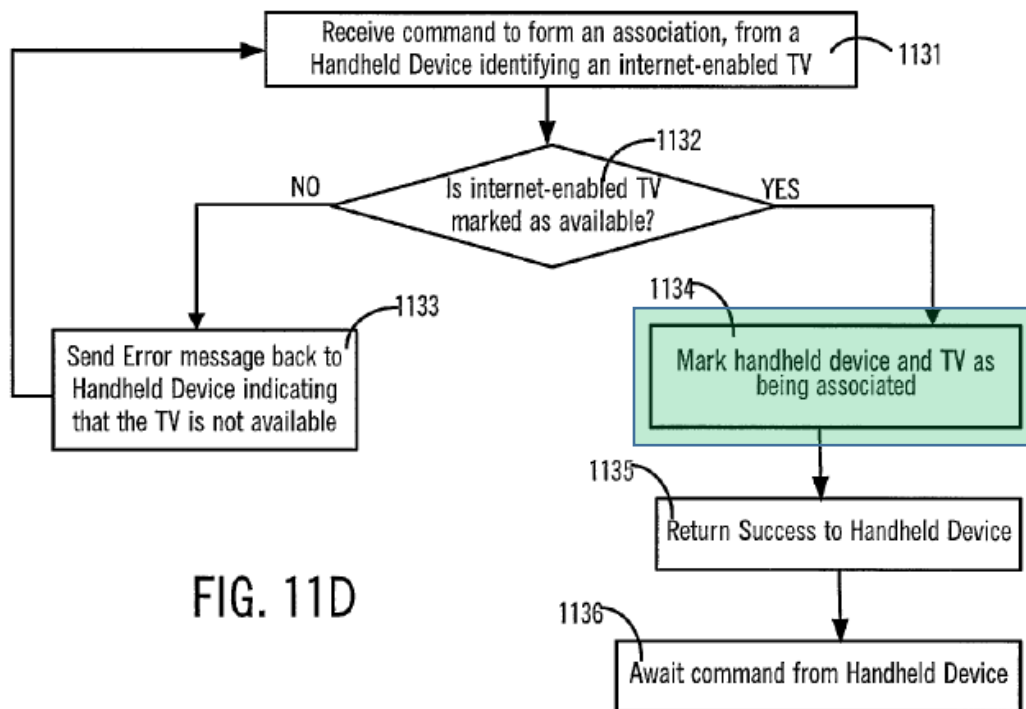
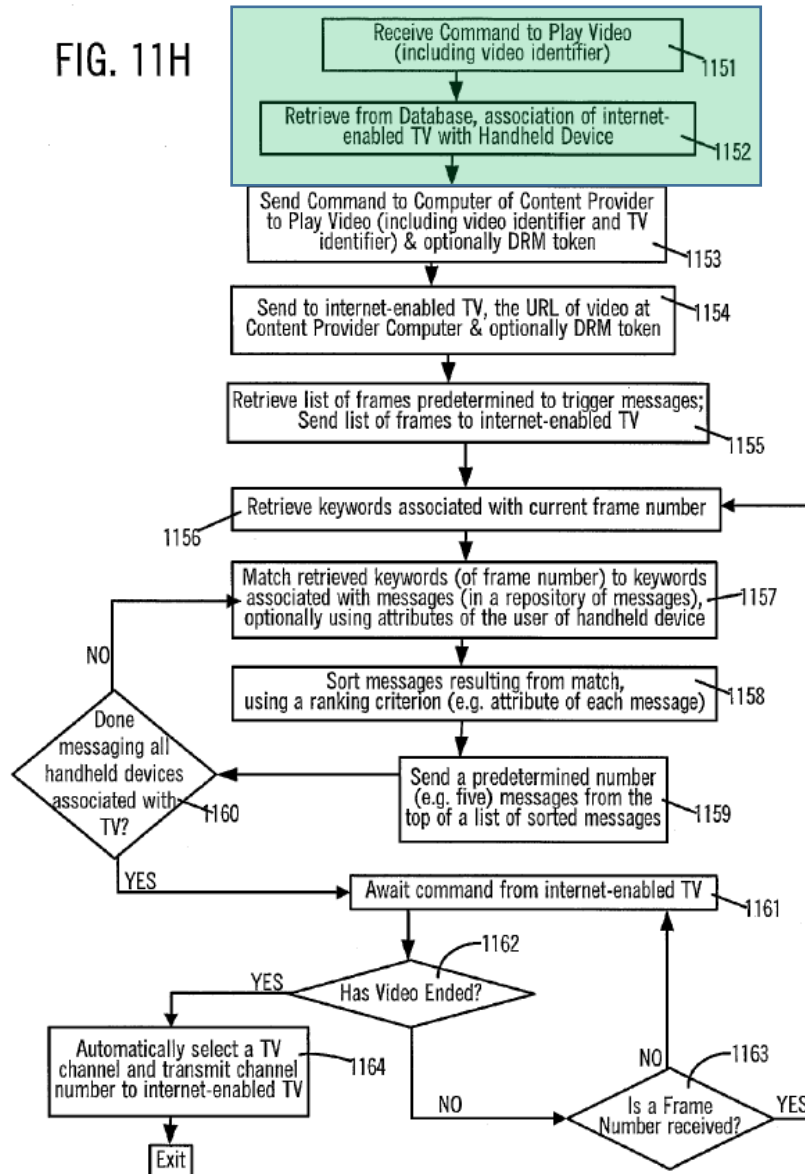


FIG. 11D

Ex. 1005, FIG. 11D (annotated)

203. As Redford describes, by maintaining the association information in its database, a “command to play a video,” causes the authority server 282 to “retrieve[] from database 831” a record containing “an identifier or the TV 303 which is associated with the handheld device 200.” Ex. 1005, 36:41-45.



Ex. 1005, FIG. 11H (annotated)

204. And a POSITA would have understood that Redford's description of the "authority server 282 mark[ing] handheld device 200 as being associated with TV 303" is an update to the "[r]ecord for internet-enabled TV in database" in the computer system 250. Ex. 1005, 36:2-3, 36:41-45, FIG. 11B.

205. Therefore, Redford discloses limitation [1D]. Also, in the proposed combinations with Bartfeld that I discussed above in Sections 11.1.2 and 11.1.3, as the system displays the code on television 303, a user of handheld device 200 enters the code where it is sent to computer system 250, and then stored in a record to associate the television 303 and handheld device 200. Ex. 1005, 35:25-30, 35:45-46, 36:2-4, 36:41-45, FIGS. 11B, 11D; Ex. 1018, [0007], [0025]-[0026]. Thus Redford-Bartfeld teaches limitation [1D].

11.1.5. [1E] "receiving, in the server system, one or more signals from the personal computing device, the one or more signals specifying a video file to be acted upon and identifying a particular media player for playing the video content,"

206. It is my opinion that Redford discloses limitation [1E].

207. Redford discloses that authority server "computer 282 receives an identifier of a video 302 in a video request 301 (FIG. 8B) from a handheld device 200." Ex. 1005, 26:62-64. In other words, the server system receives one or more signals specifying a video from a personal computing device.

208. Redford further specifies that for "embodiments that support multiple content providers," authority server "computer 282 may also receive, in act 801, an

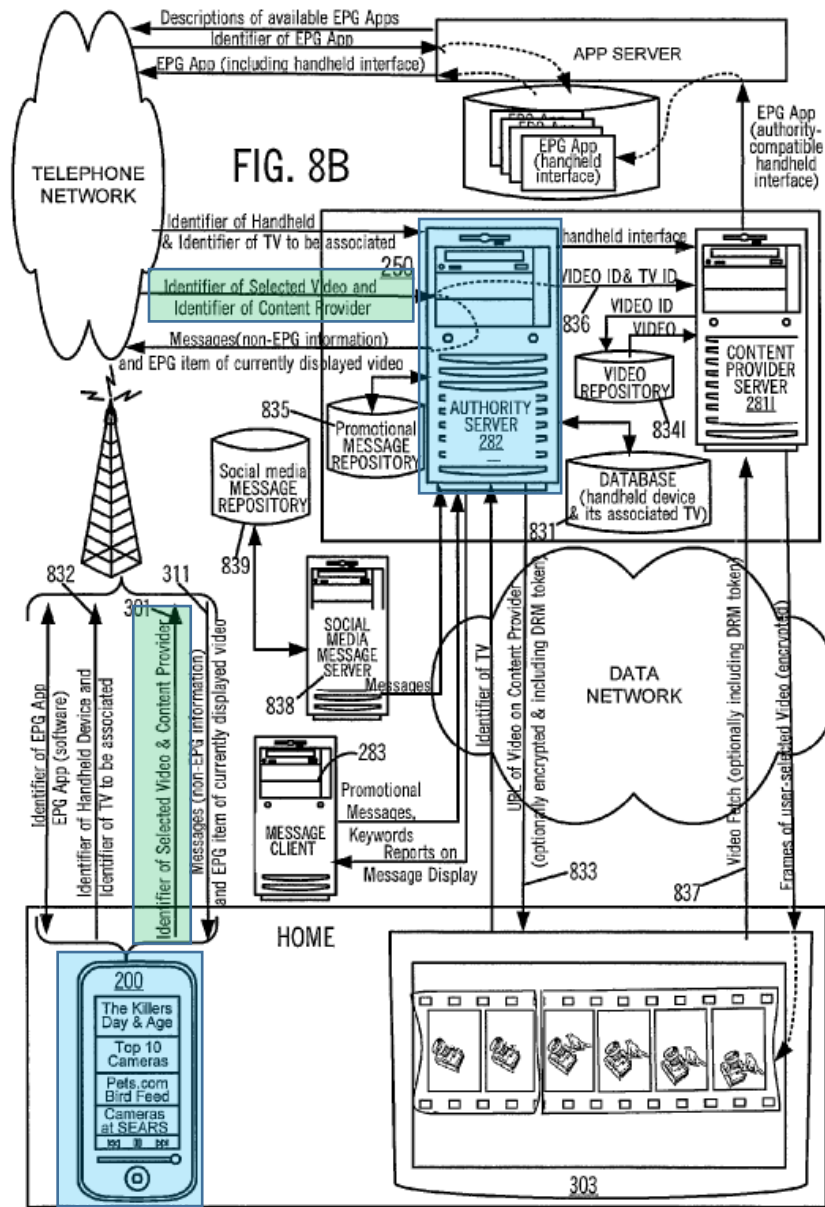
identifier of the content provider that maintains a repository 834I (FIG. 8B) in which a file containing video 302 is available.” Ex. 1005, 26:64-27:1. As examples, Figure 2B provides that content providers may include Netflix, Youtube, ZillonTV, and Paramount Pictures. Ex. 1005, FIG. 2B. Thus, the one or more signals specifies a video file to be acted upon. Ex. 1005, FIGS. 8A-8B.

209. Redford discloses that “a specific video can be made available to a user for selection by more than one content provider (i.e. by multiple content providers)” and, hence, “a user can obtain a video 208Z (or a copy thereof) for viewing on demand (VOD) from either one of two different content providers I and N, via their respective apps 202I, 202N (accessible in handheld device 200 by touching corresponding representations 203I, 203N).” Ex. 1005, 7:4-26, FIG. 2B. Furthermore, the authority server 282 may “receive[] from handheld device 200, the identity of an [electronic program guide] item that has been selected by the user, e.g. including a video identifier and an identifier of a content provider.” Ex. 1005, 36:18-21.

210. Redford also discloses the need for video codecs to play video content by streaming. Ex. 1005, 40:66-67, 41:1-2, 41:53-54. A POSITA would have understood that various video codecs are needed for the identified media player to play the chosen video content. Moreover, it is my opinion that a POSITA would

understand Redford to teach that “an identifier of the content provider” identifies a particular media player for playing the selected video content.

211. Redford also provides that in some embodiments, “an identifier of each content provider computer 281I and an identifier of each video 208J available therefrom (see FIG. 2B) are combined into (e.g. by concatenation to form) a single globally unique identifier (GUID) in computer system 250.” Ex. 1005, 27:4-8. Redford teaches that GUIDs “of videos 302 that are available for on-demand download from computer system 250, are transmitted by computer 282 to handheld device 200” and, upon a user’s selection of a particular GUID, causes handheld device 200 to send the particular GUID “in video request 301, and is received” by the computer system 250. Ex. 1005, 27:8-16, 36:18-27, FIGS. 8A-8B. In some examples, “video request 301 includes a UPC code that uniquely identifies video 302 which has been selected by the user,” and “video request 301 includes an identification of the video, such as a uniform resource locator (URL) address that identifies a specific computer uniquely on the Internet, and further identifies a directory path therein at which is located a file containing video.” Ex. 1005, 22:16-23. Thus, the one or more signals from the personal computing device to the server system specify a video file to be acted upon.



Ex. 1005, FIG. 8B (annotated)

212. Therefore, Redford discloses limitation [1E]. Also, in the proposed combinations with Gonze that I discussed above in Section 11.1.1, Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media

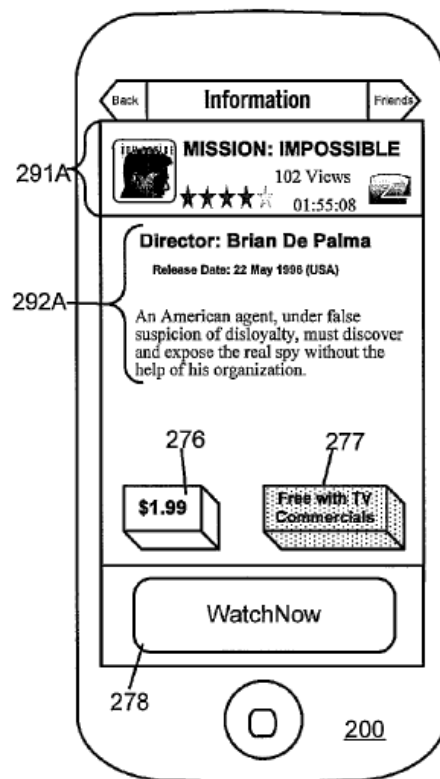
players. Ex. 1006, Abstract, [0005], [0006], [0010], [0034], [0035], [0040], [0049], [0051], [0052], [0060]. Gonze describes selecting from this plurality of media players based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze further describes determining “whether a media player capable of playing a media file in the playlist has been installed on the computing device,” and, “[i]f no such media player has been installed, the device may be provided with a link through which an appropriate media player can be obtained.” Ex. 1006, [0058], FIG. 1. Then, “[o]nce an appropriate media player has been identified and its installation status confirmed, the browser ... can cause the computing device to load the appropriate media player.” Ex. 1006, [0059], FIG. 1. Thus, when combined with the proposed systems, Gonze’s playlist is received by computer system 250 from handheld device 200, and the playlist specifies a video file to be acted upon and identifies a particular media player for playing the video content. Ex. 1006, [0006], [0010], [0034]-[0035], [0040], [0049], [0051], [0058]-[0060]. Thus, the Redford-Gonze and Redford-Bartfeld-Gonze combinations each teaches limitation [1E].

11.1.6. [1F] “the one or more signals further including a universal playback control command for controlling playing of the video content on the display device by the particular media player,”

213. It is my opinion that Redford discloses [1F].

214. Redford describes that computer system 250 receives, from handheld device 200, a command to play (*e.g.*, “a universal playback control command”) a video to be displayed on the television 303, which is associated with the handheld device 200. Ex. 1005, 8:1-2, 26:62-27:3, 36:18-27, 43:36-53, 44:6-18, FIGS. 2F, 8A-8B, 11H. Specifically, Redford explains that “the user may simply press button 278,” shown in Figure 2F below as input 278 labeled “WatchNow,” “to select a video 208A to be displayed,” and “computer 282 receives an identifier of a video 302 in a video request 301 (FIG. 8B) from a handheld device 200” thus serving as a universal playback control command. Ex. 1005, 8:1-2, 26:62-27:3.

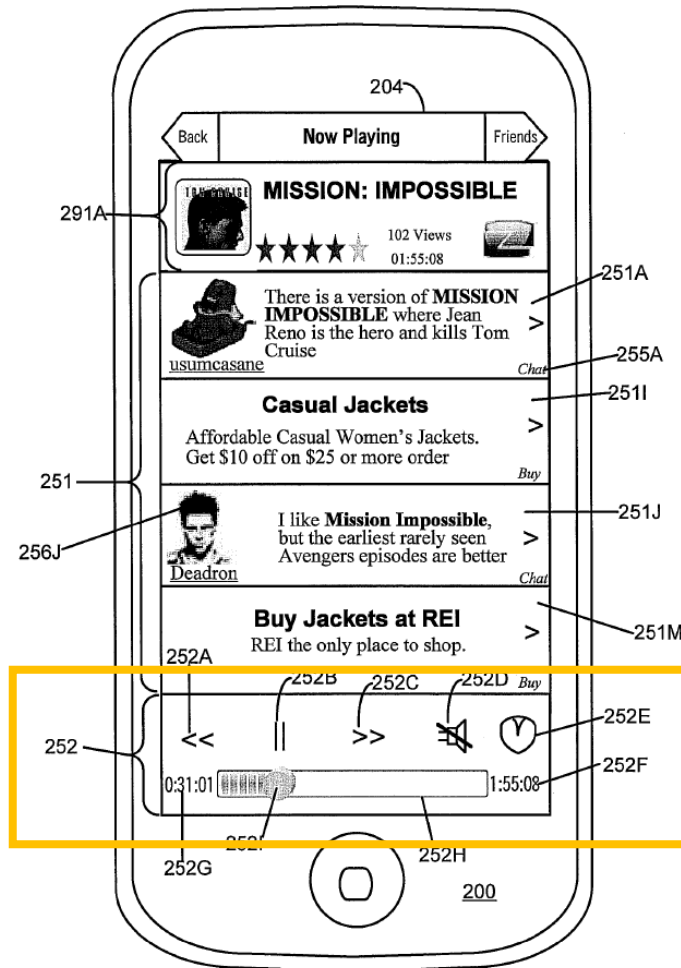
FIG. 2F



Ex. 1005, FIG. 2F

215. Redford further discloses that “[i]n response to the user selection, video 208A begins to play an internet-enabled television associated with handheld device 200.” Ex. 1005, 8:3-5. In other words, the selected video content plays on the display device based on signals from the handheld device. Redford further shows, in Figure 2G, that “[w]hile video 208A is playing on a television screen, handheld device 200 displays the corresponding EPG item 291A at the top of handheld screen 204 and a control panel 252 at the bottom of handheld screen 204” and that, “[s]pecifically, control panel 252 includes of some embodiments includes a rewind button 252A, a pause button 252B and a fast forward button 252C, to enable navigation of the play of video 208A on the television screen.” Ex. 1005, 8:5-12. Thus, each of the exemplary buttons 252A-C are a universal playback control command.

FIG. 2G



Ex. 1005, FIG. 2G (annotated)

216. Redford discloses that microcontroller 901 “may be included in a set-top box, or a player of an optical disk (such as a DVD player, or a Blue-ray player), or an Internet-enabled TV” and “executes the received command[s]” from the computer system 250. Ex. 1005, 30:34-41, 31:16-18. Thus, the television 303 receives and execute commands from the computer system 250. These commands may be, for example, “to navigate a currently playing video (such as fast forward, rewind, pause, play), to increase/decrease volume, to turn on/off the television, to

read or store information in the memory of microcontroller 901.” Ex. 1005, 31:19-22. Accordingly, a POSITA would understand Redford to teach handheld device 200 sending a universal playback control command, such as play, pause, rewind, or fast forward, to computer system 250, which thereafter sends a corresponding command to television 303 to enable navigation of the playing of the selected video content on the associated television display device. Ex. 1005, 8:5-12.

217. Furthermore, Redford describes illustrative commands (*e.g.*, “the one or more signals further including a universal playback control command”) sent from a handheld device to the computer system using authority-compatible handheld interface software. Ex. 1005, 38:50-66. And “on the APPLE iPhone[,] the implementation library for the authority-compatible handheld interface software is built on top of iPhone SDK ... referred to [by Redford] as the iLook iPhone SDK.” Ex. 1005, 38:50-57. Redford further describes, as an example, SetVideoRate, which “is a command to set the video rate of play,” and is “[u]seful for fast forward and rewind.” Ex. 1005, 39:16-17. Other examples in Redford include a PlayVideo command to play video content on television 303, a PauseStream command to pause the video at the current play time, and a ResumeStream command to resume playing the video. Ex. 1005, 39:2-54, 40:56-41:45. It is in my opinion that a POSITA would have understood any of these commands Redford describes to be sent from the handheld device 200 to computer system 250, as “the one or more signals further

including a universal playback control command for controlling playing of the video content on the display device by the particular media player.”

218. Therefore, Redford discloses limitation [1F]. Also, in the proposed combinations with Gonze that I discussed above in Sections 11.1.1 and 11.1.5, Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media players. Ex. 1006, Abstract, [0005], [0006], [0010], [0034], [0035], [0040], [0049], [0051], [0052], [0060]. Gonze describes selecting from this plurality of media players based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze further describes that once the browser causes an appropriate media player to be loaded, the loaded media player’s native controls may be hidden and the user can utilize controls provided by a graphical user interface. Ex. 1006, [0059]. The user’s interactions with the user interface elements (*e.g.*, “<--”, ‘<-’, ‘Stop’, ‘Play’, ‘||’, ‘->’, ‘-->.’”, Ex. 1006, [0053]) may be monitored and commands associated with the interactions may be sent to the loaded media player. Ex. 1006, [0059]. Thus, when combined with the proposed systems, Gonze’s playlist is received by computer system 250 from handheld device 200, and the playlist include a universal playback control command for controlling playing of the video content on the television 303 by the particular

media player. Accordingly, the Redford-Gonze and Redford-Bartfeld-Gonze combinations each teaches limitation [1F].

11.1.7. [1G] “converting, by the server system, the universal playback control command into corresponding programming code to control playing of the video content on the display device by the particular media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player; and”

219. It is my opinion that Redford discloses [1G].

220. As noted above, Redford describes using universal playback control commands, such as play, pause, rewind, and fast forward, by applying the iLook iPhone SDK. Ex. 1005, 8:1-12, 26:62-27:3, 31:18-23, 36:18-27, 38:50-63, 39:2-54, 40:56-41:45, 43:36-53, 44:6-18, 44:48-52, FIGS. 2F, 8A-8B. Figure 11H in Redford “illustrate[s], in [a] flow chart[], acts performed by the authority server” computer system, beginning with receiving a video request 301 specific to a request to play a user-selected video. Ex. 1005, 4:39-40, 36:41-37:40. In my opinion, a POSITA would have understood from Redford’s teachings that a command, such as play or pause, would similarly follow steps 1151-1154 shown in Figure 11H.

221. Once the computer 282 operating as an authority server receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including

video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGS. 8A-8B, 11H.

222. As previously noted, Redford describes, in the iLook set-top SDK API, a function “VideoPlay” that allows a video content to be played using supported streaming protocols including Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. Redford further teaches that RTSP has “varying implementation[s] depending on the content provider and service,” and therefore “several implementations of VideoPlay” could exist to support the various RTSP players. Ex. 1005, 40:56-63. Consequently, in my opinion, a POSITA would have understood Redford to teach that television 303 was configured to load any of the various RTSP application software for playing the video content for a particular VideoPlay implementation.

223. Thus, Redford teaches, for example, a PlayVideo command (a “universal playback control command”) sent from handheld device 200 to computer system 250 to play video on television 303, and a “VideoPlay” command (“corresponding programming code”) —sent from computer system 250 and received by television 303 that allows video content to be played on television 303

via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming— for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2.

224. Furthermore, the exemplary “VideoPlay” command is a function that allows video content to be played by a specific player. Ex. 1005, 40:56-64. Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, which was sent from handheld device 200, to a particular “VideoPlay” command, since RTSP has varying implementations depending on the content provider and service and since several implementations of VideoPlay exist to support various these various RTSP players.

225. Therefore, Redford discloses limitation [1G]. Also, in the proposed combinations with Gonze that I discussed above in Sections 11.1.1, 11.1.5, and 11.1.6, Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media players. Ex. 1006, Abstract, [0005], [0006], [0010], [0034], [0035], [0040], [0049], [0051], [0052], [0060]. Gonze describes selecting from this plurality of media players based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze

further describes that once the browser causes an appropriate media player to be loaded, the loaded media player's native controls may be hidden and the user can utilize universal controls provided by a graphical user interface. Ex. 1006, [0059]. The user's interactions with the universal user interface elements (*e.g.*, “<--”, “<-”, ‘Stop’, ‘Play’, ‘||’, ‘->’, ‘-->.’”, Ex. 1006, [0053]) may be monitored and commands associated with the interactions may be sent to the loaded media player. A POSITA would have understood that the particular universal user input element (*e.g.*, “<--”, “<-”, ‘Stop’, ‘Play’, ‘||’, ‘->’, ‘-->.’”, Ex. 1006, [0053]) entered by a user of handheld device 200 is sent to computer system 250 where it is converted to the associated command (“corresponding programming code”) for the loaded media player (“converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player”). Ex. 1006, [0059]. Thus, when combined with the proposed systems, Gonze's playlist is received by computer system 250 from handheld device 200, and the playlist include a universal playback control command, for controlling playing of the video content on the television 303 by the particular media player, which is converted by computer system 250 into an associated command specific to the particular media player loaded by television 303. Accordingly, the Redford-Gonze and Redford-Bartfeld-Gonze combinations each teaches limitation [1G].

11.1.8. [1H] “storing, in a database associated with the server system, information for transmission to or retrieval by the display device, wherein the information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command.”

226. It is my opinion that Redford discloses limitation [1H].

227. As previously noted, Redford discloses that, once the computer 282 operating as an authority server receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGS. 8A-8B, 11H.

228. After conversion of the “PlayVideo” command to a “VideoPlay” command (“programming code”) by the computer system 250 (“server system”) for use by the television 303 (“display device”), a POSITA would have understood that computer system 250 stores, for transmission to or retrieval by the television 303, information that specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control the playing of the video content on the display device

by the particular media player in accordance with the universal playback control command as a URL. Ex. 1005, 27:60-28:3, 29:4-20, 36:41-53, 38:50-56, 43:63-64, FIGS. 8A-8B, 11H. Computer system 250 “maintains in its database, the ... URL of content provider” and other associated data. Ex. 1005, 43:36-51. In my opinion, a POSITA would have known it was common to store in a server associated database, information for transmission to or retrieval by (Redford’s “fetch”) a display device (Redford’s television 303).

229. Therefore, Redford discloses limitation [1H]. Also, in the proposed combinations with Gonze that I discussed above in Sections 11.1.1, 11.1.5, 11.1.6, and 11.1.7, Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media players. Ex. 1006, Abstract, [0005], [0006], [0010], [0034], [0035], [0040], [0049], [0051], [0052], [0058], [0059], [0060]. In my opinion, a POSITA would have known it was common to store in a server associated database, Gonze’s associated command (“corresponding programming code”) for the media player (“particular media player”) in the Redford-Gonze and Redford-Gonze-Bartfeld combinations for transmission to or retrieval by (Redford’s “fetch”) a display device (Redford’s television 303). *Id.*; Ex. 1005, 27:60-28:3, 29:4-20, 36:41-53, 38:50-56, 43:63-64, FIGS. 8A-8B, 11H. Accordingly, the Redford-Gonze and Redford-Bartfeld-Gonze combinations each teaches limitation [1H].

11.2. Dependent Claim 2

11.2.1. [2A]: “The method of claim 1 including:”

230. Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitation [2A], which merely repeats limitations from limitations [1A]-[1H].

231. Therefore, Redford and Redford-Gonze disclose limitation [2A].

11.2.2. [2B]: “checking, in the server system, the identity of the media player identified in the one or more signals from the personal computing device;”

232. Figure 11H in Redford “illustrate[s], in [a] flow chart[], acts performed by the authority server” computer system, beginning with receiving a video request 301 specific to a request to play a user-selected video. Ex. 1005, 4:39-40, 11:36-37, 36:41-37:40, FIG 3A. Redford further discloses that, after “the system 250 receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGs. 8A-8B, 11H.

233. Redford describes, in the iLook set-top SDK API, a function “VideoPlay” that allows a video content to be played using supported streaming protocols including Real Time Streaming Protocol (RTSP), User Datagram Protocol

(UDP) and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. Redford further teaches that RTSP has “varying implementation[s] depending on the content provider and service,” and “therefore several implementations of VideoPlay” could exist to support the various RTSP players. Ex. 1005, 40:56-63. Consequently, in my opinion, a POSITA would have understood Redford to teach that television 303 was configured to load any of the various RTSP application software for playing the video content for a particular VideoPlay implementation. Redford teaches, for example, a PlayVideo command (a “universal playback control command”) sent from handheld device 200 to computer system 250 to play video on television 303, and a “VideoPlay” command (“corresponding programming code”)—sent from computer system 250 and received by television 303 that allows video content to be played on television 303 via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming—for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2. Furthermore, the exemplary “VideoPlay” command is a function that allows video content to be played by a specific player. Ex. 1005, 40:56-64. Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, which was sent from handheld device 200, to a particular “VideoPlay” command, since RTSP has varying implementations depending on the content

provider and service and since several implementations of VideoPlay exist to support various these various RTSP players. Redford further specifies that for “embodiments that support multiple content providers,” authority server “computer 282 receives an identifier of the content provider that maintains a repository 834I (FIG. 8B) in which a file containing video 302 is available.” Ex. 1005, 26:64-27:1. Thus, a POSITA would have understood from Redford that the computer system 250 checks, in the video request from handheld device 200, the identity of the identified content provider corresponding to the particular media player.

234. Therefore, Redford discloses and renders obvious limitation [2B].

11.2.3. [2C]: “loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the media player; and”

235. As previously noted, Redford describes, in the iLook set-top SDK API, a function “VideoPlay” that allows a video content to be played using supported streaming protocols including Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. In my opinion, a POSITA would have understood “SDK API” as software developer kit application programming interface. Redford further teaches that RTSP has “varying implementation[s] depending on the content provider and service,” and therefore “several implementations of VideoPlay” could exist to support the various RTSP players. Ex. 1005, 40:56-63. Consequently, in my opinion,

a POSITA would have understood Redford to teach that television 303 was configured to load any of the various RTSP application software for playing the video content for a particular VideoPlay implementation (“loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the media player”).

236. Thus, Redford teaches, for example, a PlayVideo command sent from handheld device 200 to computer system 250 to play video on television 303, and a “VideoPlay” command—sent from computer system 250 and received by television 303 that allows video content to be played on television 303 via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming— for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2.

237. In describing Fig. 9B, Redford specifically discloses that television 303 includes library 914:

Microcontroller 901 typically includes a processor 911, such as the SuperHitachi RISC running software stored in memory. The software executed by processor 911 in some embodiments of the invention is illustrated in FIG. 9B, and typically includes a Linux Kernel 912, one or more device drivers 913 (e.g. for USB, Ethernet, and HDMI interfaces), *and a software development kit (SDK) shared library 914 for media control of audio and video streams, such as RTSP, multi-cast, UDP and DVB.* One example of the just-described SDK software is available from STMicroelectronics as STAPI. Processor 911 additionally executes predetermined software 915 that provides an interface between microcontroller 901 and computer system 250 (also called “authority-compatible set-top

interface”, or simply “set-top interface”) by supporting various services, such as discovery, authentication, security, and video and audio streaming.

Ex. 1005, 30:46-61, emphasis added.

238. In my opinion, a POSITA would have understood that Redford discloses that library 914, in television 303, maintains the various protocols or application programming interfaces such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming— for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2.

239. Furthermore, the exemplary “VideoPlay” command is a function that allows video content to be played by a specific media player application (“based on the identity of the media player”). Ex. 1005, 40:56-64. Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, which was sent from handheld device 200, to a particular “VideoPlay” command, since RTSP has varying implementations depending on the content provider and service and since several implementations of VideoPlay exist to support various these various RTSP players.

240. It is in my opinion that a POSITA would have understood that television 303 loads an appropriate set of protocols or application programming interfaces from library 914 based on the identity of the media player.

241. Therefore, Redford discloses and teaches limitation [2C].

11.2.4. [2D]: “converting the command from the personal computing device into corresponding code to control the media player.”

242. As noted above, Redford describes using universal playback control commands, such as play, pause, rewind, and fast forward, by applying the iLook iPhone SDK. Ex. 1005, 8:1-12, 26:62-27:3, 31:18-23, 36:18-27, 38:50-63, 39:2-54, 40:56-41:45, 43:36-53, 44:6-18, 44:48-52, FIGS. 2F, 8A-8B. Figure 11H in Redford “illustrate[s], in [a] flow chart[], acts performed by the authority server” computer system, beginning with receiving a video request 301 specific to a request to play a user-selected video. Ex. 1005, 4:39-40, 36:41-37:40. In my opinion, a POSITA would have understood from Redford’s teachings that a command, such as play or pause, would similarly follow steps 1151-1154 shown in Figure 11H.

243. Once the computer 282 operating as an authority server receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGS. 8A-8B, 11H.

244. As previously noted, Redford describes, in the iLook set-top SDK API, a function “VideoPlay” that allows a video content to be played using supported streaming protocols including Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. Redford further teaches that RTSP has “varying implementation[s] depending on the content provider and service,” and therefore “several implementations of VideoPlay” could exist to support the various RTSP players. Ex. 1005, 40:56-63. Consequently, in my opinion, a POSITA would have understood Redford to teach that television 303 was configured to load any of the various RTSP application software for playing the video content for a particular VideoPlay implementation.

245. Thus, Redford teaches, for example, a PlayVideo command (the “command from the computing device”) sent from handheld device 200 (“computing device”) to computer system 250 to play video on television 303, and a “VideoPlay” command (“corresponding code to control the media player”) —sent from computer system 250 and received by television 303 that allows video content to be played on television 303 via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming— for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2.

246. Furthermore, the exemplary “VideoPlay” command is a function that allows video content to be played by a specific player. Ex. 1005, 40:56-64. Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, which was sent from handheld device 200, to a particular “VideoPlay” command, since RTSP has varying implementations depending on the content provider and service and since several implementations of VideoPlay exist to support various these various RTSP players.

247. Therefore, Redford discloses limitation [2D].

11.3. Dependent Claim 5: “The method of claim 1 wherein the universal command represents an instruction to play the video content, to stop playing the video content or to pause playing the video content.”

248. Claim 5 depends from claim 1 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 1, [1A]-[1H].

249. As I discussed in Sections 11.1.6-11.1.8, Redford discloses a command to play the video content as well a command to pause, or stop, the playing of the video content. Ex. 1005, 8:1-12, 26:62-27:3, 36:18-27, 36:41-42, 39:22-24, 39:48-49, 43:36-53, 44:6-18, FIGS. 2F, 8A-8B, 11H. For example, Redford discloses that “PlayVideo is a command to play video on the TV” and that “PauseStream is a command to pause the video at the current play time.” Ex. 1005, 39:16-24, 39:48-49.

250. Therefore, in my opinion, Redford discloses claim 5.

11.4. Dependent Claim 7: “The method of claim 1 wherein the video content is streaming media.”

251. Claim 7 depends from claim 1 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 1, [1A]-[1H].

252. Redford discloses that “television 303 receives a sequence of frames of video from a content provider 281I using any one of various protocols such as RTSP (real time streaming protocol), HTTP, UDP and any custom format or public format.” Ex. 1005, 26:53-56. Redford also discloses that, in some embodiments, a portion of “user-selected video 302 (also called ‘primary video’) is streamed initially in order to switch to transmitting (in the real-time stream) a secondary video as per act 414 ... before transmitting (in the real-time stream) a next portion ... of the primary video.” Ex. 1005, 22:47-57, *see also* Ex. 1005, 2:31-33, 16:40-47, 21:25-30, 23:37-41, 30:56-61, 40:42-46, 40:56-41:2.

253. Therefore, it is my opinion that Redford discloses claim 7.

11.5. Dependent Claim 8: “The method of claim 1 wherein the synchronization code is uniquely associated with the display device on which the video content is to be played.”

254. Claim 8 depends from claim 1 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 1, [1A]-[1H].

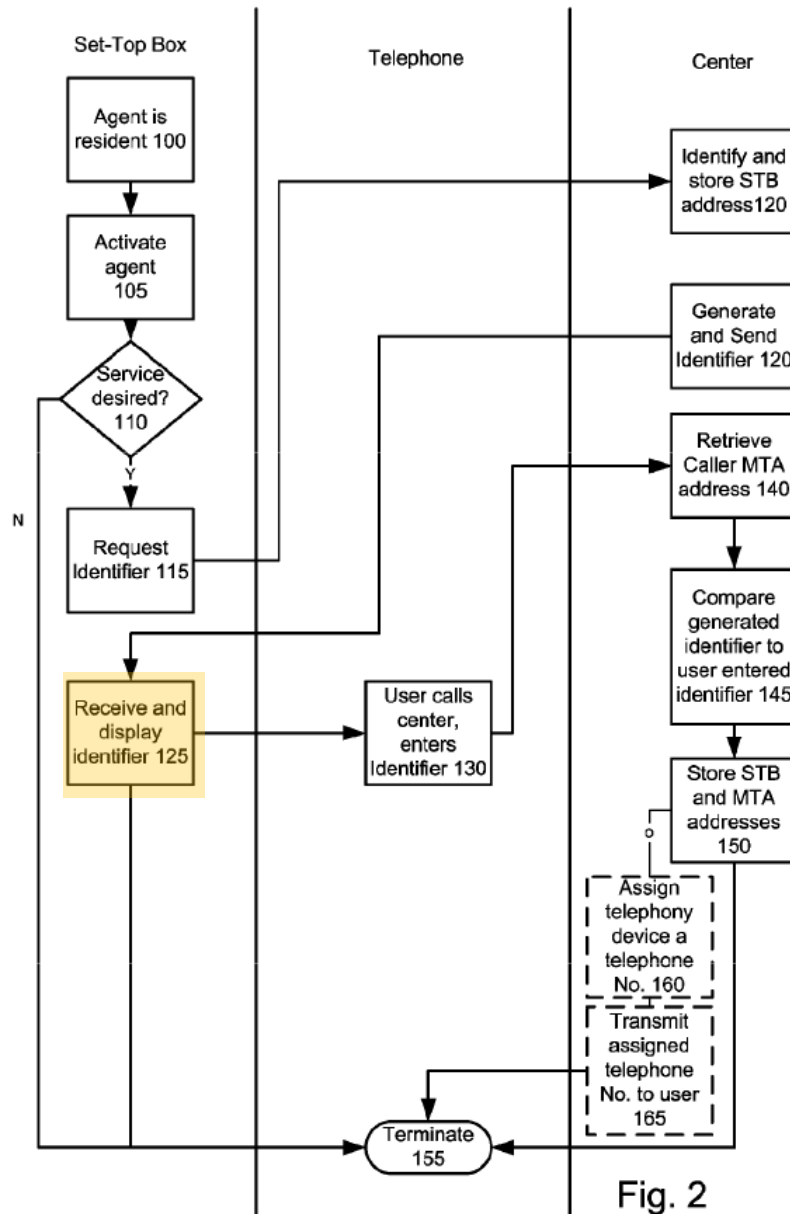
255. As discussed previously, Redford discloses that the “authority server” of the computer system “receives ... from a television: REGISTRATION information including an IP address, ... TV-name and TV-password.” Ex. 1005, 44:44-48. *See also* Ex. 1005, 31:7-14. In other words, the server system receives a synchronization code from the display device. Ex. 1005, 31:7-14, 44:44-48. In my opinion, a POSITA would have understood that an IP address, TV-name, and TV-password are each “uniquely associated with the display device on which the video content is to be played,” as each of these are stored in a record of the computer system unique to the specific television 303 associated with the handheld device 200. Ex. 1005, FIGS. 11B-11D.

256. Therefore, it is my opinion that Redford discloses claim 8.

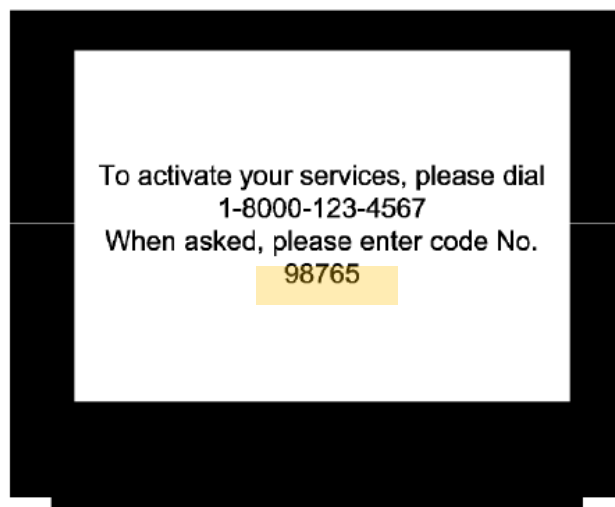
257. In addition, as I discussed above in Section 8.13, Bartfeld discloses a system for user assisted association between a television and a telephony device. Ex. 1018, Abstract. Bartfeld describes that a server generates a code, associates the code with a set-top address, and transmits the code back to the set-top box. Ex. 1018, Abstract. The set-top box displays the code on a television. Ex. 1018, [0007], [0025], [0026]. Using a personal computing device having an address associated therewith, the code is transmitted by a user, to the server. Ex. 1018, [0007], [0025], [0026]. The server identifies the personal computing device address, and using the code, associates the device with the set-top box. Ex. 1018, [0007], [0025], [0026].

Accordingly, Bartfeld's synchronization code is "uniquely associated with the display device on which the video content is to be played."

258. Based on these descriptions in Bartfeld, in my opinion, a POSITA would have understood that a server system, such as computer system 250 of Redford, could assign a unique synchronization code to a display device, such as Redford's television 303, since Bartfeld teaches that the set-top box may be embedded within a device capable of displaying video signals, *e.g.*, Redford's television 303. Ex. 1018, [0005], [0030]. Bartfeld describes that set-top-box 50 displays, on television 70, the unique code that was generated by the server 20 and transmitted by the server 20 to the set-top box 50. Ex. 1018, Abstract, [0007], [0025]-[0026], FIGs. 1, 2 (states such), 4 (provides an illustrative example).



Ex. 1018, FIG. 2 (annotated)



Ex. 1018, FIG. 4 (annotated)

259. Thus, per Bartfeld, a POSITA would have been motivated to implement Redford's system in view of Bartfeld's teachings to support assisted association of a television and a personal computing device in order to provide more options for playing back content to Redford's users. Redford describes that the authority server 282 of computer system 250 ("server system") receives, from a television 303, unique association information such as an IP address, TV-name, and TV-password, any of which could act as the "synchronization code." Ex. 1005, 31:7-14, 43:15-20, 44:44-48. Accordingly, a POSITA would have recognized that Redford already describes numerous manners for assigning a unique synchronization code to a television, thus recognizing the desirability to users of being able to obtain and play content of their choosing via devices of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides the capability of receiving a unique synchronization code assigned to a television from a user's

handheld device. Ex. 1005, 41:56-67. In my opinion, a POSITA would have been motivated by the assisted association teachings of Bartfeld to employ a computer system generated unique synchronization code that is sent to the television in the system of Redford in order to allow an easy to follow step-by-step process for association of Redford's television 303 and handheld device 200.

260. To combine Bartfeld and Redford in this way would be to merely use known techniques (association between a television and a personal computing device) to improve similar devices (the server-based video streaming systems taught in Redford and Bartfeld) in the same way (assigning a unique synchronization code to a display device). Bartfeld teaches a system similar to Redford where a unique synchronization code is assigned between a television and a handheld device, a user on the handheld device selects content for display on the television, and a server provides information to the television associated with the handheld device regarding how to access and output the content.

261. In my opinion, a POSITA would have had the skills and knowledge to implement support for assisted association by a server system generating and assigning a unique synchronization code to a television, as taught by Bartfeld, in the system disclosed in Redford by incorporating into Redford's computer system 250 the ability to generate and assign a unique synchronization code to a particular television. It is therefore my opinion that a POSITA would have expected success

in applying Bartfeld's teaching for associating the two as needed to the similar Redford system that associates the two because adding Bartfeld's association technique to Redford's computer system 250 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA. Therefore, it is my opinion that Redford-Bartfeld teaches claim 8.

11.6. Dependent Claim 9: “The method of claim 8 wherein the synchronization code is different from an IP address associated with the display device and is different from a MAC address associated with the display device.”

262. Claim 9 depends from claim 8 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 1, [1A]-[1H], as well as claim 8.

263. As discussed previously, Redford discloses that the “authority server” of the computer system “receives ... from a television: REGISTRATION information including an IP address, ... TV-name and TV-password.” Ex. 1005, 44:44-48. *See also* Ex. 1005, 31:7-14. A TV-name and a TV-password, like a synchronization code that “may be selected by any convenient manner such as random number generation, selection from a list, hashing the STB number, using a counter, and the like” (Ex. 1005, [0025]) are each “different from an IP address associated with the display device” and “different from a MAC address associated with the display device.”

264. Therefore, it is my opinion that Redford discloses claim 9.

265. In addition, it is my opinion that “wherein the synchronization code is different from an IP address associated with the display device and is different from a MAC address associated with the display device” is obvious over the combination of Redford and Bartfeld for at least the same reasons I discuss in Section 11.5 regarding claim 8. As discussed, Redford and Bartfeld both describe synchronization codes that are different from an IP address associated with the display device and are different from a MAC address associated with the display device.

11.7. Dependent Claim 10: “The method of claim 8 wherein assigning a synchronization code includes assigning a randomly generated code to the display device each time the display device connects to the server system.”

266. Claim 10 depends from claim 8 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 1, [1A]-[1H], as well as claim 8.

267. Claims 9 and 10 depend from claim 8, which depends from claim 1. As described above, claim 9 requires that the synchronization code “is different from an IP address associated with the display device.” Ex. 1001, claim 9. Accordingly, by claim differentiation, the synchronization code in claims 1, 8, and 10 may be an IP address associated with the display device.

268. First, as cited above, Redford discloses that the “authority server” of the computer system “receives ... from a television: REGISTRATION information

including an IP address,” (Ex. 1005, 31:7-14, 44:44-48), which a POSITA would have understood could be a dynamically generated IP address of the display device (*i.e.*, “a randomly generated code to the display device each time the display device connects to the server system”). Furthermore, based on Redford, a POSITA would have understood there to be no limit on the number of times that television 303 may connect to computer system 250, nor any limit on the number of times that initialization act 921 may be performed for each such connection, during which a new dynamic IP address would be assigned for television 303 display device. Ex. 1005, 31:7-14.

269. Second, Bartfeld discloses that “[t]he server generates and sends to the STB an identifier 120. The identifier may be selected by any convenient manner such as random number generation”. Ex 1018, [0025]. As discussed in section 11.1.2 [1B], the STB may be embedded in the television. Bartfeld explains that the random number is assigned to the display device each time the agent is activated. *Id.*, [0023]-[0024]. A POSITA would understand that as a simple design choice that the agent can be activated each time the display device connects to the server system. In my opinion, given Redford’s express teachings of the registration information of the display device, it would have been obvious to modify Redford’s display device identifier 120 to include the random number generation as disclosed by Bartfeld and it would have been an obvious design choice to do so.

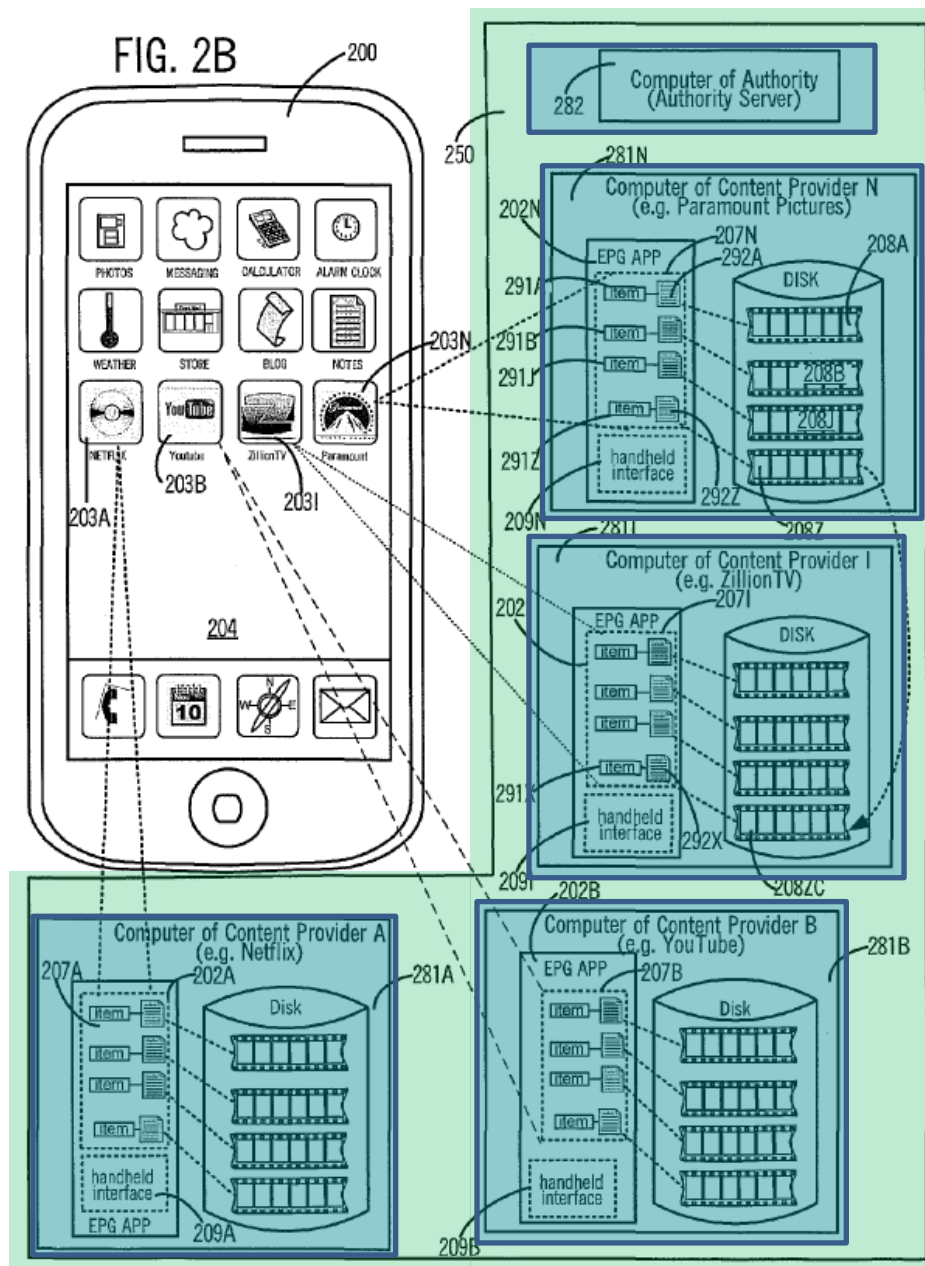
270. Therefore, it is my opinion that Redford and Redford-Bartfeld disclose claim 10.

11.8. Independent Claim 11

11.8.1. [11A]: “A system for controlling playing of video content on a display device that loads any one of a plurality of different media players, the system comprising:”

271. It is my opinion that each of Redford and Redford-Gonze teaches the preamble.

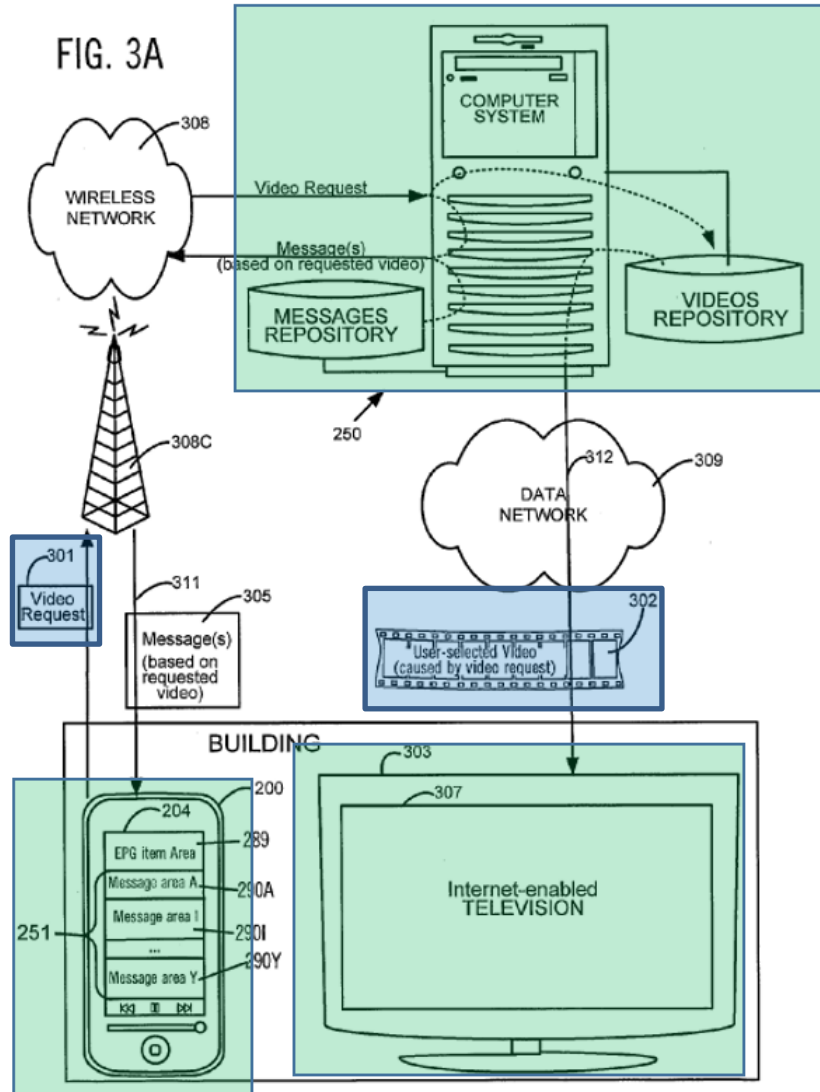
272. First, as to Redford, Redford’s disclosed computer system 250 includes various “computers 281A-281N of respective content providers A-N and a computer 282 that authorizes transfer of video (“authority server”).” Ex. 1005, 2:59-67.



Ex. 1005, FIG. 2B (annotated)

273. Redford further discloses that computer system 250 responds to content requests 301 from a handheld device 200 by sending a signal carrying user-selected video 302 to an internet-enabled television 303 (e.g., “display device”) for

presentation of the video content. Ex. 1005, 6:40-52, 11:37-12:12, 21:20-30, 22:5-46, FIGS. 2B, 3A-3C, 6A-6B, 8A-8B, 11A.



Ex. 1005, FIG. 3A (annotated)

274. As previously described, television 303 is a display device that loads any one of a plurality of different media players. Redford discloses that “television 303 executes predetermined software,” referred to as “authority-compatible set-top interface software,” to “display video 302” retrieved from a specific service

provider, via the Internet, “in response to user request 301.” Ex. 1005, 12:5-12, FIG. 2B. Furthermore, Figure 9A shows that television 303 includes a microcontroller 901, which includes a processor 911 that runs software stored in memory. Ex. 1005, 30:23-61, FIGS. 9A-9B. “The software executed by processor 911 ... typically includes ... a software development kit (SDK) shared library 914 for media control of audio and video streams, such as RTSP, multi-cast, UDP and DVB.” Ex. 1005, 30:48-54. Other software executed by processor 911 includes “predetermined software 915 that provides an interface between microcontroller 901 and computer system 250” for various services including video and audio streaming. Ex. 1005, 30:56-61.

275. Redford further discloses that television 303 includes “[a]uthority-compatible set-top interface software [that] provides a common set-top API (called iLook set-top SDK API) for any chip vendor implementation of set top functionality” and that “[t]he iLook set-top SDK API is implemented in some embodiments using the existing chip vendor API functions.” Ex. 1005, 40:24-29. “In the iLook set-top SDK API, a function VideoPlay allows video content to be played” using video-streaming protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP), and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. The SDK API may also include media player codecs that decode the content to be displayed. Ex. 1005, 41:1-2, 41:53-54. RTSP, one of the video-

streaming protocols, has “varying implementation depending on the content provider and service,” so, accordingly, there may be several implementations of VideoPlay to support the various RTSP players. Ex. 1005, 40:56-41:2. Thus, Redford discloses a display device, television 303, that a POSITA would have understood to have been configured to load any one of the plurality of different media players (various RTSP application software) for presenting the video content for a given VideoPlay implementation.

276. Therefore, Redford discloses limitation [11A].

277. To the extent that Redford does not explicitly disclose that the television 303 display device may load any of a plurality of various media players, Redford does specifically disclose “video [playing] on TV screen 307” in act 925 as well as “different types of content providers,” such as Netflix and Youtube, which a POSITA would understand to require loading different media layers in order to support different media player formats for the various content providers. Ex. 1005, 7:27-43, 31:35, FIGS. 2A, 9C.

278. In my opinion, given Redford’s express teachings and admission that Internet-enabled television was known prior art (Ex. 1005, FIG. 9A), it would have been obvious to modify Redford’s television to include the capability of loading any one of various media players. In particular, given Redford’s disclosure of various RTSP players being supported in television 303 (Ex. 1005, 26:52-55, 30:46-54,

40:59-63, FIG. 9A), a POSITA would have understood that presenting video content from one content provider, such as Netflix, as opposed to another content provider, such as YouTube, could be accomplished by different RTSP players (“any one of a plurality of different media players”) and it would have been an obvious design choice to do so. Ex. 1005, FIGS. 2B, 9A. In other words, it would have been obvious to play video content from one of various content providers by using one of various RTSP players.

279. Therefore, Redford renders limitation [1A] obvious.

280. To the extent that Redford does not teach that a television display device may load any one of a plurality of different RTSP media players, it was well-known before the priority date of the '251 Patent that display devices were enabled to load any one of a plurality of various media players, as established by Gonze.

281. Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media players. Ex. 1006, Abstract, [0010], [0034], [0035], [0040], [0049], [0051], [0052]. Specifically, Gonze discloses that “[t]he operating system ... determines an appropriate application, such as a media player, that should be loaded to handle the file based on information from the file” and the “operating system can cause a locally-installed media player to load, and can send instructions to the locally-installed media player to play [the content].” Ex. 1006, [0035]. This

content may be in a variety of media types, such as Quicktime, RealVideo, RealAudio, Windows Media Audio, Windows Media Video, Motion Picture Entertainment Group, MP3, WAVE, or Musical Instrument Digital Interface. And to properly output the content, those various media types often require different media players, such as a QuickTime player, RealPlayer, or Microsoft Media Player to properly output the content. Ex. 1006, [0005], [0006], [0060].

282. Gonze describes selecting from this plurality of media players based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze further describes determining “whether a media player capable of playing a media file in the playlist has been installed on the computing device,” and, “[i]f no such media player has been installed, the device may be provided with a link through which an appropriate media player can be obtained.” Ex. 1006, [0058], FIG. 1. Then, “[o]nce an appropriate media player has been identified and its installation status confirmed, the browser ... can cause the computing device to load the appropriate media player.” Ex. 1006, [0059], FIG. 1. Thus, the playback device disclosed in Gonze “loads any one of a plurality of different media players.”

283. The appropriate media player application may be selected to be loaded by, for example, looking to a given content “file’s extension.” Ex. 1006, [0035]. For

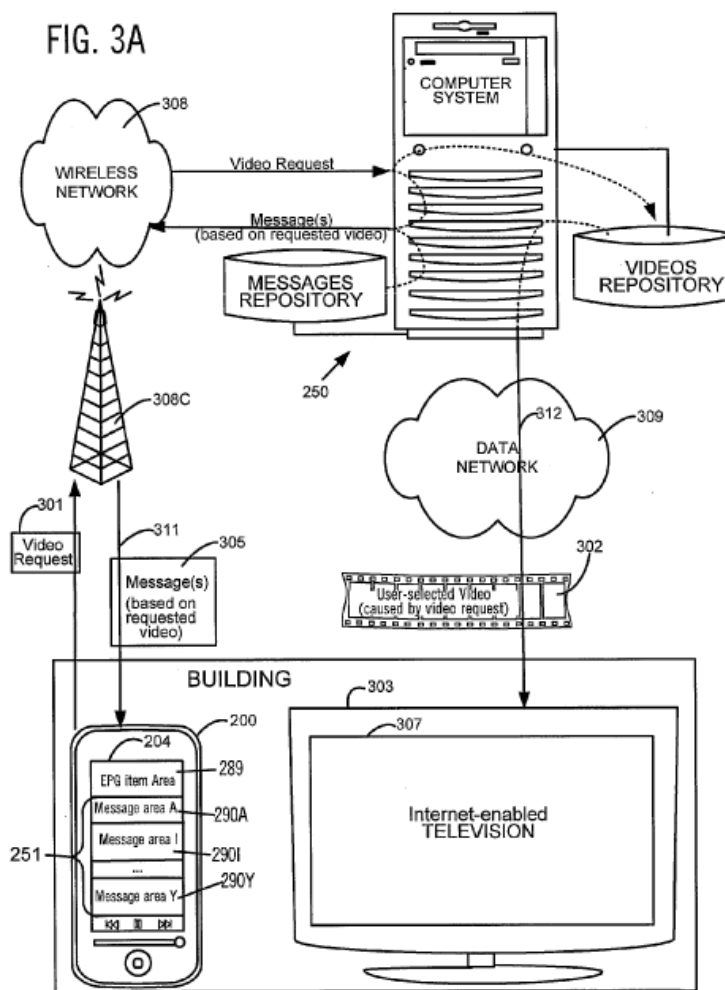
instance, Gonze further explains that, given a .mp3 file, “the operating system [of the playback device] can cause a locally-installed media player to load, and can send instructions to the locally-installed media player to play [the file].” Ex. 1006, [0035].

284. Thus, based on Gonze, a POSITA would have understood that a playback device, like television 303 of Redford, could include various media players. A POSITA also would have understood that choosing a particular media player to play a particular item of content could be determined based on information in a browser interpretable document, such as a content file’s extension, as described in Gonze.

285. And further, a POSITA would have understood that information regarding a particular piece of content’s corresponding media player could be supplied to handheld device 200 of Redford before a user selects the piece of content. Information regarding the corresponding media player could thereby be included in messages from handheld device 200 to computer system 250 and then from computer system 250 to television 303. Ex. 1005, 2:59-67, 5:42-58, FIGS. 2B, 10A-10C.

286. Redford discloses on demand movie video content where the content is streamed from a server to the user’s television. As one example, Redford describes that “display of video 208 on a TV screen 307 (FIG. 3A) is caused by a request 301 for on-demand viewing of a user-selected video 208A (also referred to as video 302)

from a predetermined software 209 (also referred to as authority-compatible handheld interface software) that is executed by handheld device 200.” Ex. 1005, 11:37-42. In this way, Redford recognizes the desirability of allowing users to obtain content of their choosing at a time of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16.



Ex. 1005, FIG. 3A

287. Redford also provides the capability of executing additional applications, given that “[h]igher level functions that perform video play are usually

supplied by the chip vendor or a 3rd party source” but “the iLook settop SDK API is agnostic with respect to the underlying chip set and base applications running on the chip” and the contents in chip flash memory can be “periodically re-flash[ed]” to “update[] the firmware.” Ex. 1005, 41:56-67. Thus, Redford enables the seamless addition of more functionality to the disclosed system.

288. The routine use of multiple media player applications for presenting media of different formats would have provided a POSITA with the motivation to employ those media players as additional applications in the system disclosed in Redford. Therefore, it is my opinion that a POSITA would have been motivated to modify Redford’s system in view of disclosures from Gonze to support and select among various media players to provide additional options for playing content to users.

289. To combine Redford and Gonze in this way would be to merely use known techniques (supporting multiple media players for presenting content) to improve similar devices (server-based video streaming systems, described in Redford and Gonze) in the same way (selecting one of the multiple players based on the format of the content). Gonze teaches a system similar to the system in Redford — information is received indicating the available content, a user selects from that available content, and a server provides information to the playback device regarding accessing and outputting the content.

290. A POSITA would have had the skills and knowledge to implement support for multiple media players, as taught by Gonze, in the system disclosed in Redford by incorporating the ability to select among multiple media players, based on information received in messages from the server, into the Internet-enabled television in Redford. It is therefore in my opinion that a POSITA would have expected success in applying Gonze's teaching of loading different media players, as needed, to the similar Redford system which supports multiple, different media players because adding Gonze's information for determining which media player to load to Redford's television 303 display device would have required only minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

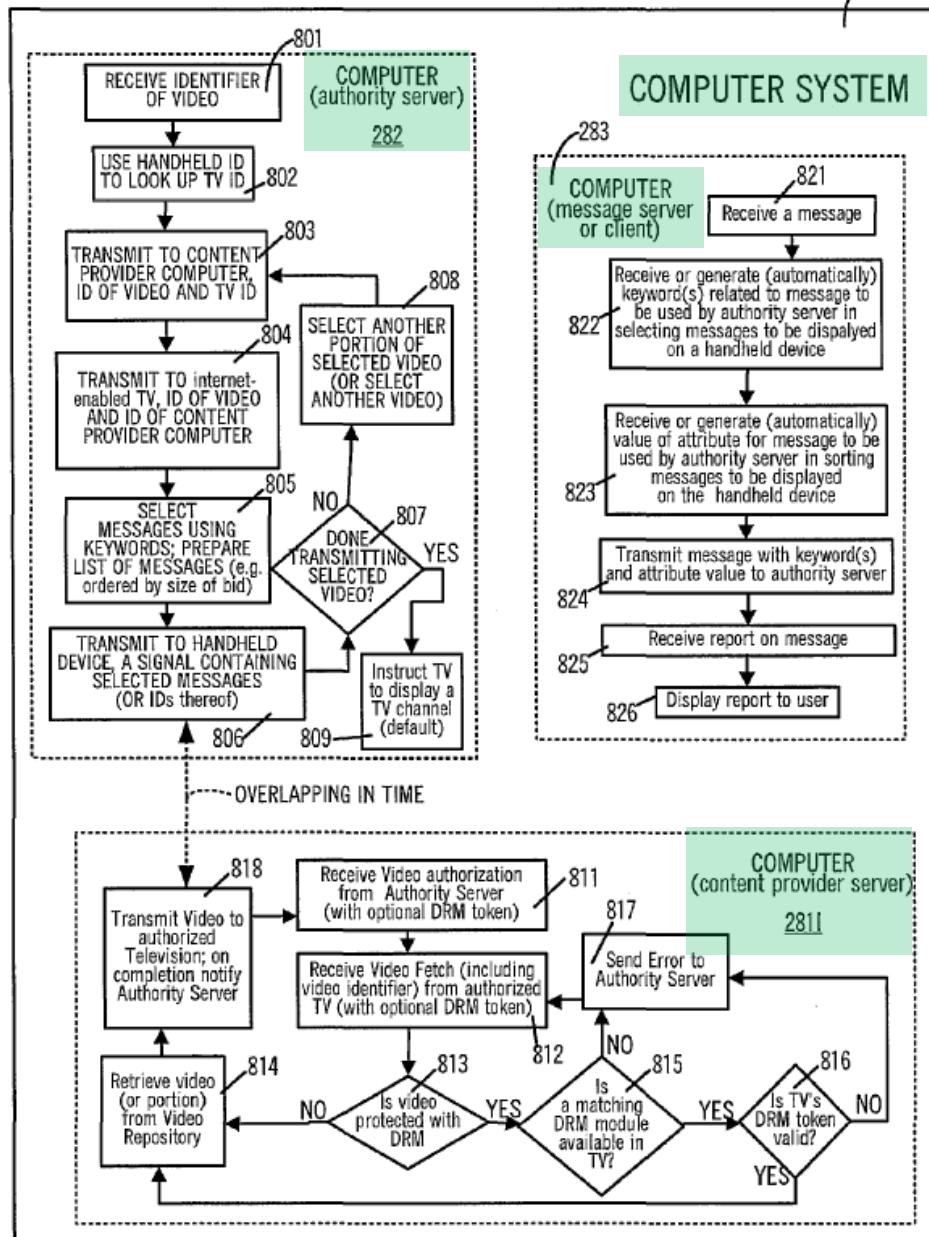
291. Therefore, Redford in view of Gonze discloses limitation [11A].

11.8.2. [11B] "a server system;"

292. It is my opinion that Redford discloses this limitation.

293. Redford's disclosed computer system 250 includes various "computers 281A-281N of respective content providers A-N and a computer 282 that authorizes transfer of video ('authority server')." Ex. 1005, 2:59-67, FIGS. 8A-8B.

FIG. 8A



Ex. 1005, FIG. 8A (annotated)

294. Therefore, Redford discloses limitation [11B].

11.8.3. [11C]: “a first database storing a relationship between a personal computing device and the display device based on a synchronization code assigned by the server system to the display device and received by the server system in a message

from the personal computing device, wherein the personal computing device is separate from the server system and separate from the display device; and”

295. It is my opinion that Redford discloses and teaches this limitation. It is my further opinion that Redford in view of Bartfeld teaches this limitation.

296. As explained above, Redford discloses that, after the “authority server 282 [of computer system 250] receives a command to form an association,” the “authority server 282 marks handheld device 200 as being associated with TV 303” as association information in a database 831. Ex. 1005, 35:59-62, 36:2-3.

297. Redford further specifies that the “authority server ... maintains in its database ... [a]ssociation information (also called ‘pairing’) includ[ing]: identifier of the handheld device, ... IP address, TV-name and TV-password.” Ex. 1005, 43:15-20. As explained above, Redford’s IP address, TV-name, and TV-password are each examples of a “synchronization code.”

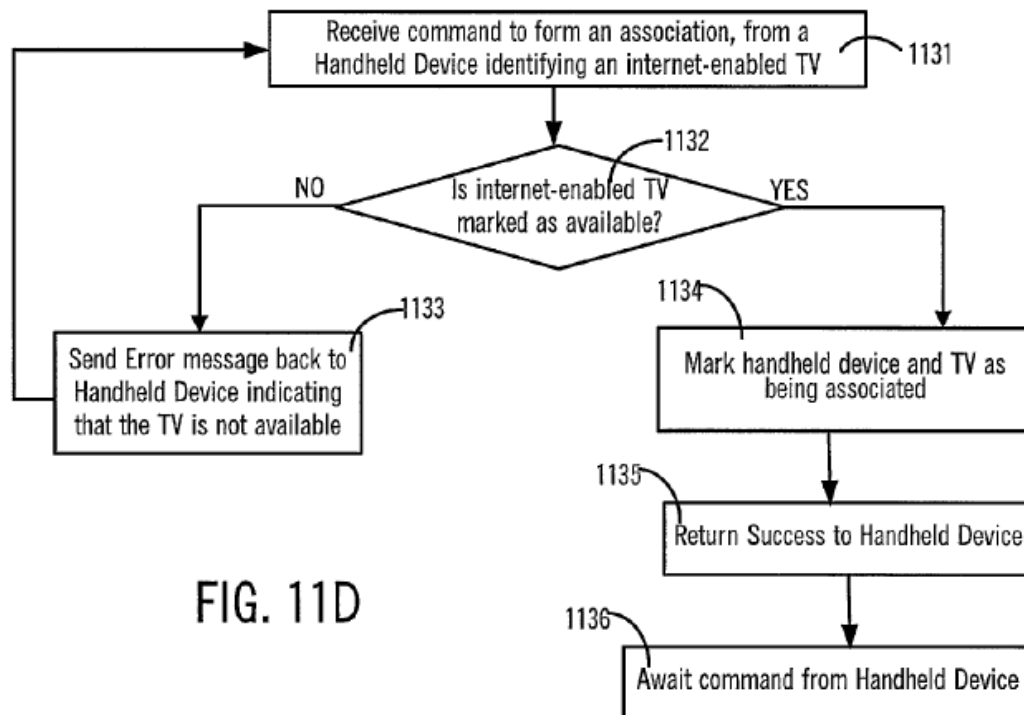
298. Redford describes that the “computer 282 operating as an authority server” performs the acts in Figures. 11B and 11D, including that the “authority server 282 marks handheld device 200 as being associated with TV 303, e.g. identified by a session identifier” in the “[r]ecord for internet-enabled TV in [d]atabase” and/or the “record ... in database ... for handheld device.” Ex. 1005, 35:25-30, 35:44-46, 36:2-4, FIGs. 11B, 11D. And a POSITA would have understood that Redford’s description of “the authority server 282 mark[ing] handheld device

200 as being associated with TV 303” is an update to the “[r]ecord for internet-enabled TV in database” in the computer system 250. Ex. 1005, 36:2-3, 36:41-45, FIG. 11B.

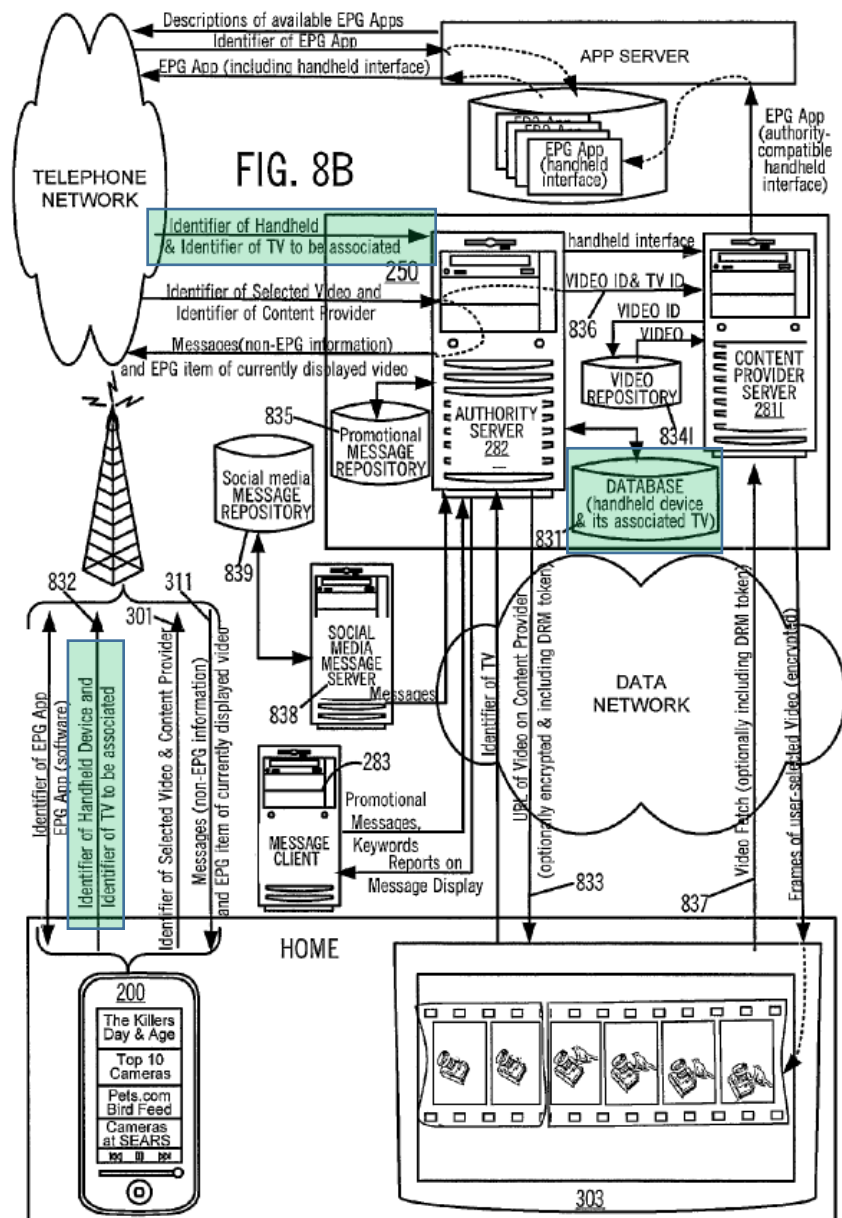
299. Therefore, in my opinion, Redford discloses limitation [11C].

300. To the extent that it is determined that Redford does not expressly disclose that computer system 250 assigns a synchronization code to television 303, in my opinion, it would have been obvious to modify computer system 250 to include the claimed capability that computer system 250 generates a synchronization code for television 303, which a POSITA would have understood as a design choice. Specifically, in light of Redford’s teaching of an IP address, TV-name, and TV-password, a POSITA would have understood that the function of assigning an identifier to associate television 303 and handheld device 200, whether by computer system 250, handheld device 200, television 303, and/or a user of handheld device 200, would have been an obvious design choice. Furthermore, a POSITA would have understood that, in many cases when an Internet-enabled television 303 connected to the Internet, it would use Dynamic Host Configuration Protocol (DHCP) to automatically request an IP address from a DHCP server on computer system 250, and the DHCP server temporarily assigned an available IP address to the television 303. Ex. 1005, 43:5-14.

301. Additionally, and further to the extent that it is determined that Redford does not expressly disclose that computer system 250 assigns a synchronization code to television 303, it would have been obvious that after the synchronization code, identifying a display device, is received by the server system in a message (or command) from the personal handheld device, the handheld device 200 is marked as being associated with the display device as association information in a server database. Ex. 1005, 36:2-3, 43:15-20.



Ex. 1005, FIG. 11D



Ex. 1005, FIG. 8B (annotated)

302. Therefore, Redford renders limitation [11C] obvious.

303. To the extent it is determined that Redford does not teach that computer system 250 assigns a synchronization code to the television 303, in my opinion, it would have been obvious to modify computer system 250 to include the claimed

capability that computer system 250 generates a synchronization code for television 303 as demonstrated by Bartfeld.

304. As I discussed above in Section 8.13, Bartfeld discloses a system for user assisted association between a television and a telephony device. Ex. 1018, Abstract. Bartfeld describes that a server generates a code, associates the code with a set-top address, and transmits the code back to the set-top box. *Id.* The set-top box displays the code on a television. *Id.*, [0007], [0025]-[0026]. Using a personal computing device having an address associated therewith, the code is transmitted by a user, to the server. *Id.* The server identifies the personal computing device address, and using the code, associates the device with the set-top box. *Id.* Accordingly, Bartfeld's server "assigns" "a synchronization code to the display device."

305. Based on these descriptions in Bartfeld, in my opinion, a POSITA would have understood that a server system, such as computer system 250 of Redford, could assign a synchronization code to a display device, such as Redford's television 303, since Bartfeld teaches that the set-top box may be embedded within a device capable of displaying video signals, *e.g.*, Redford's television 303. Ex. 1018, [0005], [0030]. Bartfeld describes that set-top-box 50 displays, on television 70, the code that was generated by the server 20 and transmitted by the server 20 to the set-top box 50. *Id.*, Abstract, [0007], [0025]-[0026], FIG. 1. Figure 2 states such and Figure 4 provides an illustrative example.

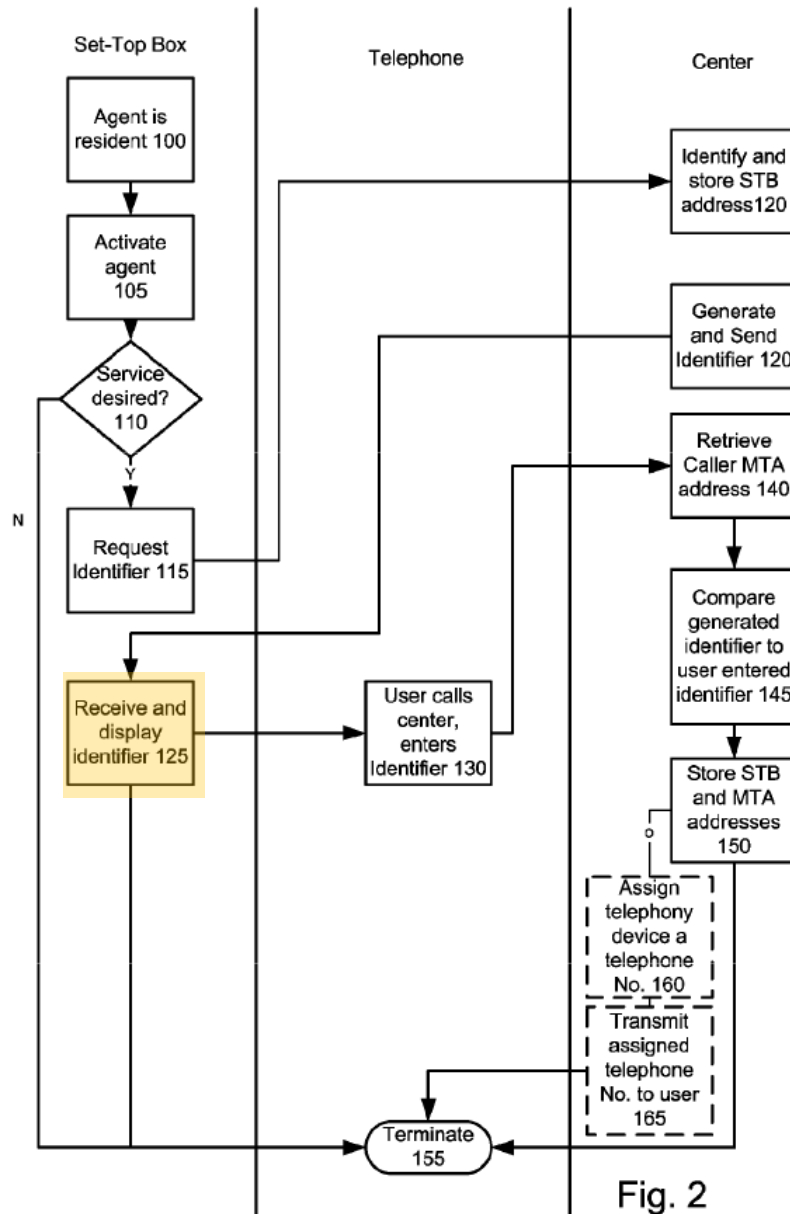
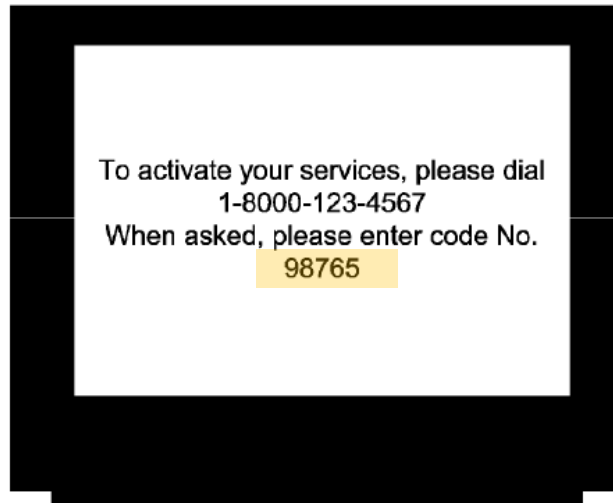


Fig. 2

Ex. 1018, FIG. 2 (annotated)



Ex. 1018, FIG. 4 (annotated)

306. Thus, per Bartfeld, a POSITA would have been motivated to implement Redford's system in view of Bartfeld's teachings to support assisted association of a television and a personal computing device in order to provide more options for playing back content to Redford's users. Redford describes that the authority server 282 of computer system 250 ("server system") receives, from a television 303, association information such as an IP address, TV-name, and TV-password, any of which could act as the "synchronization code." Ex. 1005, 31:7-14, 43:15-20, 44:44-48. Accordingly, a POSITA would have recognized that Redford already describes numerous manners for assigning a synchronization code to a television, thus recognizing the desirability to users of being able to obtain content of their choosing via devices of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides the capability of receiving a synchronization code assigned to a television from a user's handheld device. Ex.

1005, 41:56-67. In my opinion, a POSITA would have been motivated by the assisted association teachings of Bartfeld to employ a computer system generated synchronization code that is sent to the television in the system of Redford in order to allow a easy to follow step-by-step process for association of Redford's television 303 and handheld device 200.

307. To combine Bartfeld and Redford in this way would be to merely use known techniques (association between a television and a personal computing device) to improve similar devices (the server-based video streaming systems taught in Redford and Bartfeld) in the same way (assigning a synchronization code to a display device). Bartfeld teaches a system similar to Redford where a synchronization code is assigned between a television and a handheld device, a user on the handheld device selects content for display on the television, and a server provides information to the television associated with the handheld device regarding how to access and output the content.

308. In my opinion, a POSITA would have had the skills and knowledge to implement support for assisted association by a server system generating and assigning a synchronization code to a television, as taught by Bartfeld, in the system disclosed in Redford by incorporating into Redford's computer system 250 the ability to generate and assign a synchronization code to a particular television. It is therefore my opinion that a POSITA would have expected success in applying

Bartfeld's teaching for associating the two as needed to the similar Redford system that associates the two because adding Bartfeld's association technique to Redford's computer system 250 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

309. Therefore, Redford-Bartfeld renders limitation [11C] obvious.

11.8.4. [11D]: "a second database;"

310. It is my opinion that Redford discloses and teaches this limitation.

311. Redford discloses various information within the system that is stored in a database. For example, Redford discloses "a table in database 831 that holds an association between handheld device 200 and television 303" as well as a database maintaining "information on each content provider." Ex. 1005, 27:27-30, 43:36-51. It is my opinion that a POSITA would have understood that Redford describes that computer system 250 stores, for transmission to or retrieval by the television 303, information that specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control the playing of the video content on the display device by the particular media player in accordance with the universal playback control command as a URL. Ex. 1005, 27:60-28:3, 29:4-20, 36:41-52, 38:50-57, 43:63, FIGs. 8A-8B, 11H. Computer system 250 "maintains in its database ... [the] URL

of content provider” and other associated data. Ex. 1005, 43:36-51. In my opinion, a POSITA would have known it was common to store information for transmission to or retrieval by (Redford’s “fetch”) a display device (Redford’s television 303) including within one or multiple databases. In my opinion, a POSITA would have found it obvious and easy to configure the Redford’s computer system 250 to store such information in either a single database or multiple, separate databases, and either would have been an obvious design choice to permit transmission of such information to television 303 or retrieval of such information by television 303 via one database or multiple databases depending on the need of a network configuration, desire of the network developer, resources, cost, and/or other factors, such as backup systems in case of an outage, network communication bandwidth, and geographic limitations/obstacles.

312. Therefore, Redford discloses and teaches limitation [11D].

11.8.5. [11E]: “wherein the server system is configured to receive one or more signals from the personal computing device, the one or more signals specifying a video file to be acted upon and identifying a particular media player for playing the video content, the one or more signals further including a universal playback control command for controlling playing of the video content on the display device,”

313. It is my opinion that Redford discloses this limitation.

314. Redford discloses that authority server “computer 282 receives an identifier of a video 302 in a video request 301 (FIG. 8B) from a handheld device

200.” Ex. 1005, 26:62-64. In other words, the server system receives one or more signals specifying a video from a personal computing device.

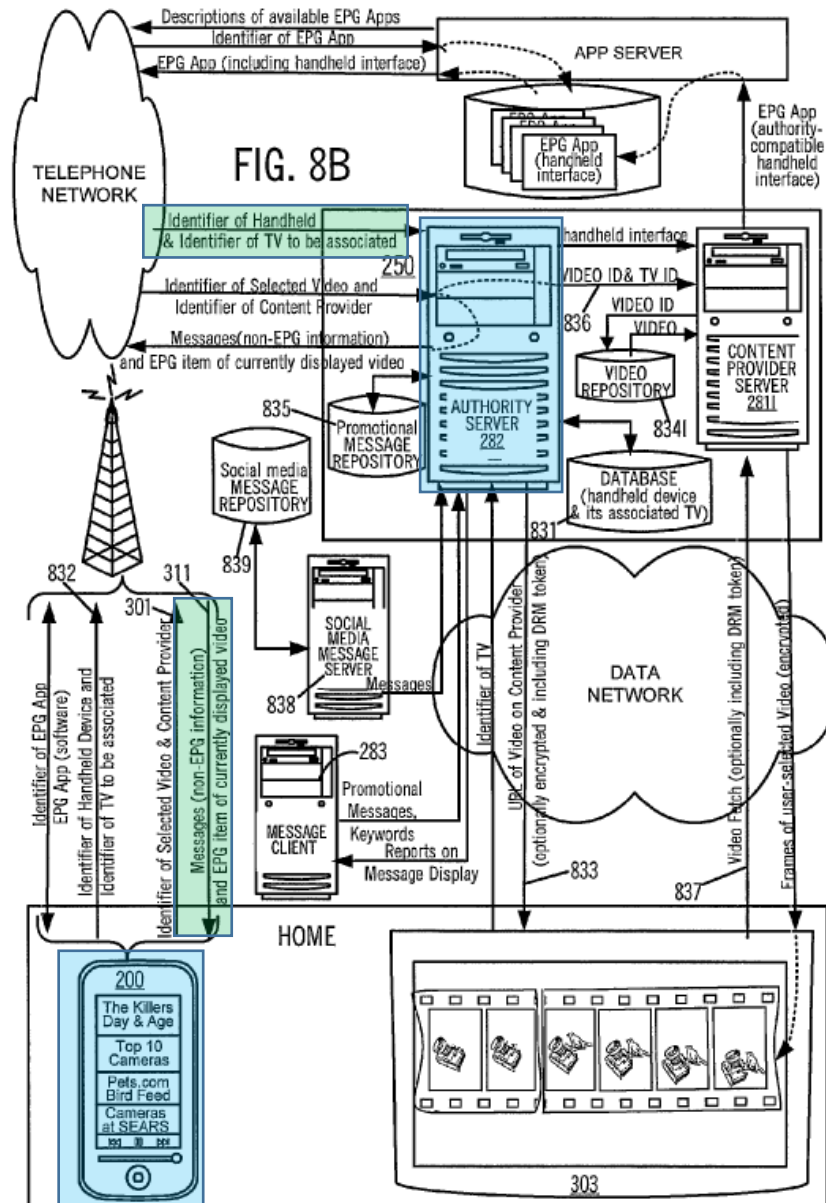
315. Redford further specifies that for “embodiments that support multiple content providers,” authority server “computer 282 may also receive... an identifier of the content provider that maintains a repository 834I (FIG. 8B) in which a file containing video 302 is available.” Ex. 1005, 26:64-27:1. As examples, Figure 2B provides that content providers may include Netflix, YouTube, ZillonTV, and Paramount Pictures. Ex. 1005, FIG. 2B. Thus, the one or more signals specifies a video file to be acted upon. Ex. 1005, FIGs. 8A-8B.

316. Redford discloses that “a specific video can be made available to a user for selection by more than one content provider (i.e. by multiple content providers)” and, hence, “a user can obtain a video 208Z (or a copy thereof) for viewing on demand (VOD) from either one of two different content providers I and N, via their respective apps 202I, 202N (accessible in handheld device 200 by touching corresponding representations 203I, 203N).” Ex. 1005, 7:4-26, FIG. 2B. Furthermore, the authority server 282 may “receive[] from handheld device 200, the identity of an [electronic program guide] item that has been selected by the user, e.g. including a video identifier and an identifier of a content provider.” Ex. 1005, 36:18-21.

317. Redford also discloses the need for video codecs to play video content by streaming. Ex. 1005, 40:66-41:2, 41:53-54. A POSITA would have understood that various video codecs are needed for the identified media player to play the chosen video content. Moreover, it is my opinion that a POSITA would understand Redford to teach that “an identifier of the content provider” identifies a particular media player for playing the selected video content. Ex. 1005, 36:21.

318. Redford also provides that in some embodiments, “an identifier of each content provider computer 281I and an identifier of each video 208J available therefrom (see FIG. 2B) are combined into (e.g. by concatenation to form) a single globally unique identifier (GUID) in computer system 250.” Ex. 1005, 27:4-8. Redford teaches that GUIDs “of videos 302 that are available for on-demand download from computer system 250, are transmitted by computer 282 to handheld device 200” and, upon a user’s selection of a particular GUID, causes handheld device 200 to send the particular GUID “in video request 301, and is received” by the computer system 250. Ex. 1005, 27:8-16, 36:18-27, FIGs. 8A-8B. In some examples, “video request 301 includes a UPC code that uniquely identifies video 302 which has been selected by the user,” and “video request 301 includes an identification of the video, such as a uniform resource locator (URL) address that identifies a specific computer uniquely on the Internet, and further identifies a directory path therein at which is located a file containing video. Ex. 1005, 22:16-

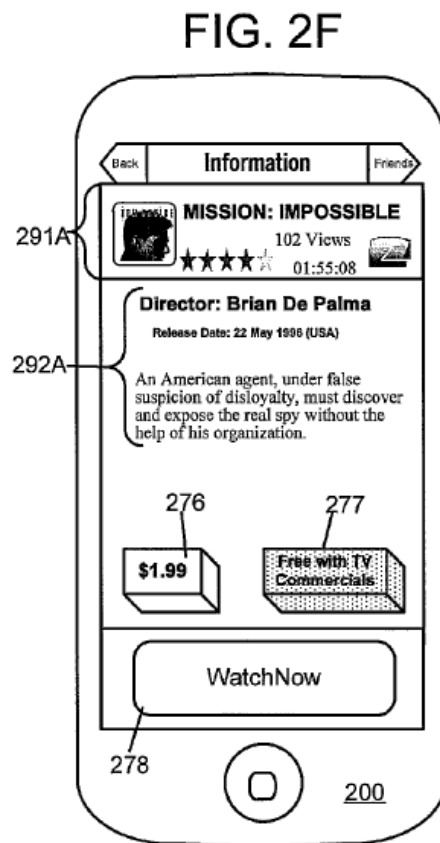
23. Thus, the one or more signals from the personal computing device to the server system specify a video file to be acted upon.



Ex. 1005, FIG. 8B (annotated)

319. Redford describes that computer system 250 receives, from handheld device 200, a command to play (e.g., “a universal playback control command”) a

video to be displayed on the television 303, which is associated with the handheld device 200. Ex. 1005, 8:1-2, 26:62-27:3, 36:18-27, 43:36-53, 44:6-18, FIGs. 2F, 8A-8B, 11H. Specifically, Redford explains that “the user may simply press button 278,” shown in Figure 2F, “to select a video 208A to be displayed,” and “computer 282 receives an identifier of a video 302 in a video request 301 (FIG. 8B) from a handheld device 200.” Ex. 1005, 8:1-2, 26:62-27:3.

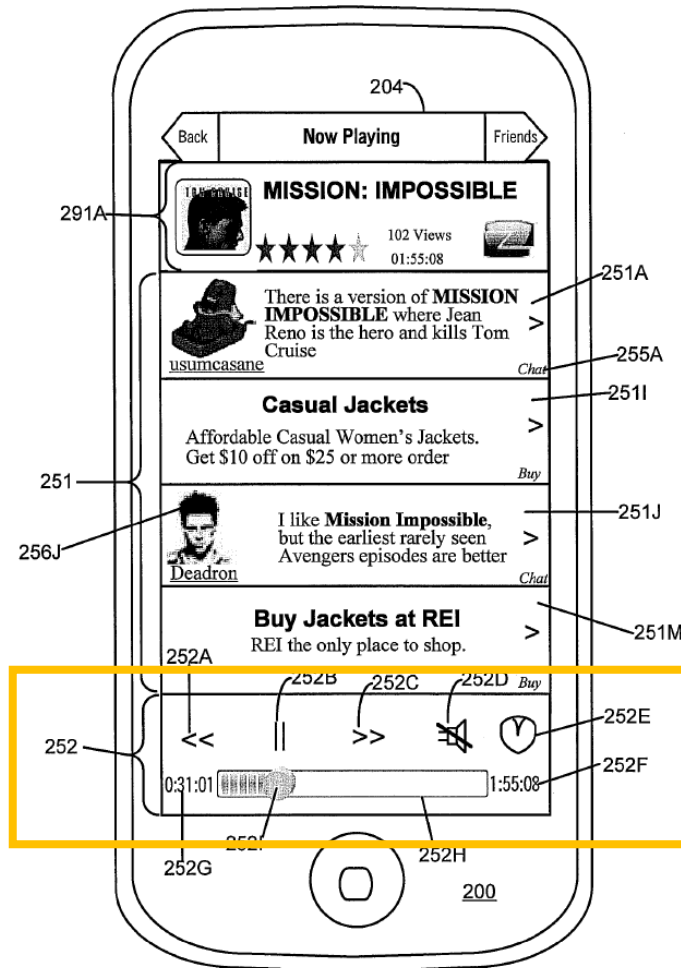


Ex. 1005, FIG. 2F

320. Redford further discloses that “[i]n response to the user selection, video 208A begins to play on an internet-enabled television associated with handheld device 200.” Ex. 1005, 8:3-5. In other words, the selected video content plays on the

display device based on signals from the handheld device. Redford further shows, in Figure 2G, that “[w]hile video 208A is playing on a television screen, handheld device 200 displays the corresponding EPG item 291A at the top of handheld screen 204 and a control panel 252 at the bottom of handheld screen 204” and that, “[s]pecifically, control panel 252 includes of some embodiments includes a rewind button 252A, a pause button 252B and a fast forward button 252C, to enable navigation of the play of video 208A on the television screen.” Ex. 1005, 8:5-12. Thus, each of the exemplary buttons 252A-C are a universal playback control command.

FIG. 2G



Ex. 1005, FIG. 2G (annotated)

321. Redford discloses that microcontroller 901 “may be included in a set-top box, or a player of an optical disk (such as a DVD player, or a Blue-ray player), or an Internet-enabled TV” and “executes the received command[s]” from the computer system 250. Ex. 1005, 30:34-41, 31:16-18. Thus, the television 303 receives and execute commands from the computer system 250. These commands may be, for example, “to navigate a currently playing video (such as fast forward, rewind, pause, play), to increase/decrease volume, to turn on/off the television, to

read or store information in the memory of microcontroller 901.” Ex. 1005, 31:19-23. Accordingly, a POSITA would understand Redford to teach handheld device 200 sending a universal playback control command, such as play, pause, rewind, or fast forward, to computer system 250, which thereafter sends a corresponding command to television 303 to enable navigation of the playing of the selected video content on the associated television display device. Ex. 1005, 8:5-12.

322. Furthermore, Redford describes illustrative commands (e.g., “the one or more signals further including a universal playback control command”) sent from a handheld device to the computer system using authority-compatible handheld interface software. Ex. 1005, 38:50-66. And “on the APPLE iPhone[,] the implementation library for the authority-compatible handheld interface software is built on top of iPhone SDK ... referred to [by Redford] as the iLook iPhone SDK.” Ex. 1005, 38:50-57. Redford further describes, as an example, SetVideoRate, which “is a command to set the video rate of play,” and is “useful for fast forward and rewind.” Ex. 1005, 39:16-18. Other examples in Redford include a PlayVideo command to play video content on television 303, a PauseStream command to pause the video at the current play time, and a ResumeStream command to resume playing the video. Ex. 1005, 39:2-54, 40:56-41:45. It is in my opinion that a POSITA would have understood any of these commands that Redford describes to be sent from the handheld device 200 to computer system 250, as “the one or more signals further

including a universal playback control command for controlling playing of the video content on the display device.”

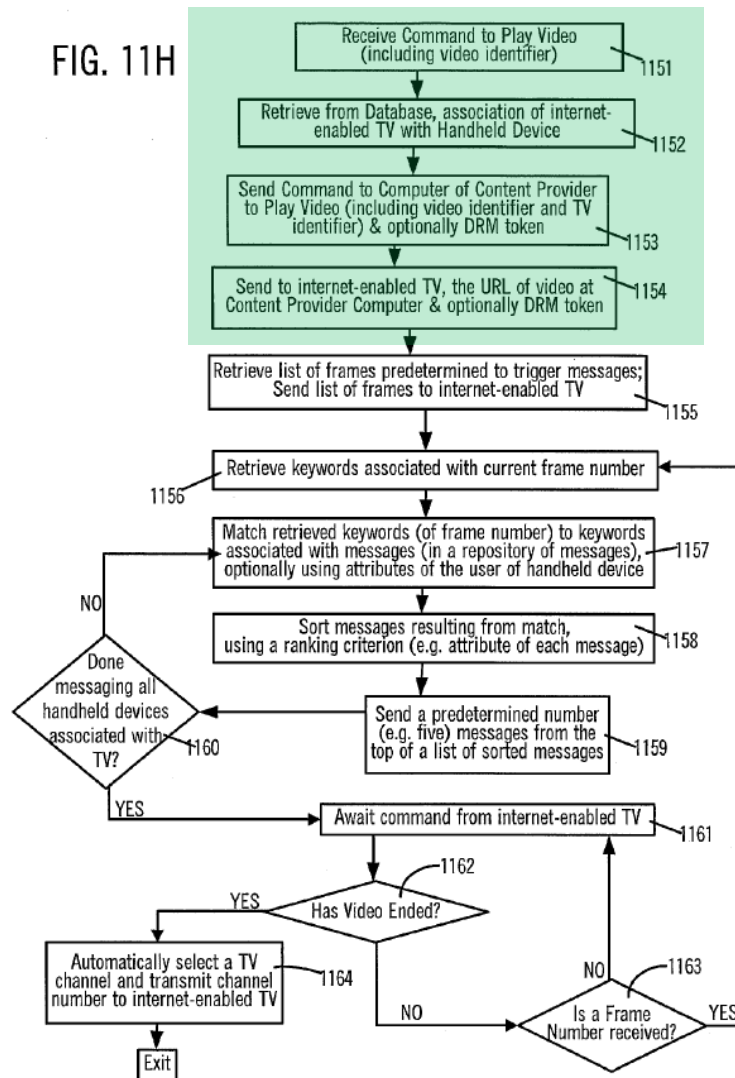
323. Therefore, Redford discloses limitation [11E].

11.8.6. [11F]: “one or more non-transitory computer-readable media storing instructions that when executed by the server system, cause the server system to perform operations including converting the universal playback control command into corresponding programming code to control playing of the video content by the particular media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player;”

324. It is my opinion that Redford discloses this limitation.

325. As noted above, Redford describes using universal playback control commands, such as play, pause, rewind, and fast forward, by applying the iLook iPhone SDK. Ex. 1005, 8:1-12, 26:62-27:3, 31:18-23, 36:18-27, 38:50-63, 39:3-54, 40:56-41:45, 43:36-53, 44:6-18, 44:48-52, FIGs. 2F, 8A-8B. Figure 11H in Redford “illustrate[s], in [a] flow chart[], acts performed by the authority server” computer system, beginning with receiving a video request 301 specific to a request to play a user-selected video. Ex. 1005, 4:39-40, 36:41-37:40. A POSITA would have understood that a command, such as play or pause, would similarly follow steps 1151-1154 shown in Figure 11H.

FIG. 11H



Ex. 1005, FIG. 11H

326. Redford also describes, in the iLook set-top SDK API, a function “VideoPlay” that allows a video content to be played using supported streaming protocols including Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. Redford further teaches that RTSP has “varying implementation[s] depending on the content provider and service,” and therefore “several implementations of

VideoPlay” could exist to support the various RTSP players. Ex. 1005, 40:56-63. Consequently, in my opinion, a POSITA would have understood Redford to teach that television 303 was configured to load any of the various RTSP application software for playing the video content for a particular VideoPlay implementation.

327. Thus, Redford teaches, for example, a PlayVideo command (a “universal playback control command”) sent from handheld device 200 to computer system 250 to play video on television 303, and a “VideoPlay” command (“corresponding programming code”) —sent from computer system 250 and received by television 303 that allows video content to be played on television 303 via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming— for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2.

328. Furthermore, the exemplary “VideoPlay” command is a function that allows video content to be played by a specific player. Ex. 1005, 40:56-64. Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, which was sent from handheld device 200, to a particular “VideoPlay” command, since RTSP has varying implementations depending on the content provider and service and since several implementations of VideoPlay exist to support various these various RTSP players.

329. Therefore, Redford discloses limitation [11F].

11.8.7. [11G]: “the server system being further configured to store in the second database information for transmission to or retrieval by the display device, wherein the information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command.”

330. It is my opinion that Redford discloses this limitation.

331. As previously noted, Redford discloses that, after computer system 250 receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGs. 8A-8B, 11H. Then, after conversion of the “PlayVideo” command to a “VideoPlay” command (“programming code”) by the computer system 250 (“server system”) for use by the television 303 (“display device”), a POSITA would have understood that computer system 250 stores, for transmission to or retrieval by the television 303, information that specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to

control the playing of the video content on the display device by the particular media player in accordance with the universal playback control command as a URL. Ex. 1005, 27:60-28:3, 29:4-20, 36:41-52, 38:50-57, 43:63, FIGs. 8A-8B, 11H. Computer system 250 “maintains in its database ... URL of content provider” and other associated data. Ex. 1005, 43:36-51. In my opinion, a POSITA would have known it was common to store in a server associated database, information for transmission to or retrieval by (Redford’s “fetch”) a display device (Redford’s television 303).

332. Therefore, Redford discloses limitation [11G].

11.9. Dependent Claim 16: “The system of claim 11 wherein the universal command represents an instruction to play the video content, to stop playing the video content or to pause playing the video content.”

333. Claim 16 depends from claim 11 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 11, [11A]-[1G].

334. As discussed, Redford discloses a command to play the video content as well a command to pause, or stop, the playing of the video content. Ex. 1005, 8:1-12, 26:62-27:3, 36:18-27, 36:41-42, 39:22-24, 39:48-49, 43:36-53, 44:6-18, FIGs. 2F, 8A-8B, 11H. For example, Redford discloses that “PlayVideo is a command to play video on the TV” and that “PauseStream is a command to pause the video at the current play time.” Ex. 1005, 39:16-24, 39:48-49.

335. Therefore, in my opinion, Redford discloses claim 16.

11.10. Dependent Claim 18: “The system of claim 11 wherein the video content is streaming media.”

336. Claim 18 depends from claim 11 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 11, [11A]-[1G].

337. Redford discloses that “television 303 receives a sequence of frames of video from a content provider 281I using any one of various protocols such as RTSP (real time streaming protocol), HTTP, UDP and any custom format or public format.” Ex. 1005, 26:53-56. Redford also discloses that, in some embodiments, a portion of “user-selected video 302 (also called “primary video”) is streamed initially in order to switch to transmitting (in the real-time stream) a secondary video as per act 414 ... before transmitting (in the real-time stream) a next portion ... of the primary video.” Ex. 1005, 22:47-57, *see also* Ex. 1005, 2:31-33, 16:40-47, 21:25-30, 23:37-41, 30:56-61, 40:42-46, 40:56-41:2.

338. Therefore, in my opinion, Redford discloses claim 18.

11.11. Dependent Claim 19: “The system of claim 11 wherein the synchronization code is uniquely associated with the display device on which the video content is to be played.”

339. Claim 19 depends from claim 11 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 11, [11A]-[1G].

340. As discussed, Redford discloses that the “authority server” of the computer system “receives ... from a television: REGISTRATION information including an IP address, ... TV-name and TV-password.” Ex. 1005, 44:44-48, *see also* 31:7-14. In other words, the server system receives a synchronization code from the display device. Ex. 1005, 31:7-14, 44:44-48. In my opinion, a POSITA would have understood that an IP address, TV-name, and TV-password are each “uniquely associated with the display device on which the video content is to be played,” as each of these are stored in a record of the computer system unique to the specific television 303 associated with the handheld device 200. Ex. 1005, FIGs. 11B-11D.

341. Therefore, Redford discloses claim 19.

11.12. Dependent Claim 20: “The system of claim 19 wherein the synchronization code is different from an IP address associated with the display device and is different from a MAC address associated with the display device.”

342. Claim 20 depends from claim 19, which depends from claim 11 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 11, [11A]-[1G] as well as claim 19.

343. As discussed, Redford discloses that the “authority server” of the computer system “receives ... from a television: REGISTRATION information including an IP address, ... TV-name and TV-password.” Ex. 1005, 44:44-48, *see also* 31:7-14. A TV-name and a TV-password are each “different from an IP address

associated with the display device” and “different from a MAC address associated with the display device.”

344. Therefore, Redford discloses claim 20.

11.13. Dependent Claim 21: “The system of claim 19 wherein the server system is configured to assign as the synchronization code a randomly generated code each time the display device connects to the server system.”

345. Claim 21 depends from claim 19, which depends from claim 11 and, as described above, Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach each and every limitation of claim 11, [11A]-[1G] as well as claim 19.

346. Claims 20 and 21 depend from claim 19, which depends from claim 11. As described above, claim 20 requires that the synchronization code “is different from an IP address associated with the display device.” Ex. 1001, claim 20. Accordingly, by claim differentiation, the synchronization code in claims 11, 19, and 21 may be an IP address associated with the display device.

347. As cited above, Redford discloses that the “authority server” of the computer system “receives ... from a television: REGISTRATION information including an IP address, (Ex. 1005, 44:44-48, 31:7-14), which a POSITA would have understood could be a dynamically generated IP address of the display device (i.e., “a randomly generated code each time the display device connects to the server system”). Furthermore, based on Redford, a POSITA would have understood there

to be no limit on the number of times that television 303 may connect to computer system 250, nor any limit on the number of times that initialization act 921 may be performed for each such connection, during which a new dynamic IP address would be assigned for television 303 display device. Ex. 1005, 31:7-14.

348. Therefore, in my opinion, Redford discloses claim 21.

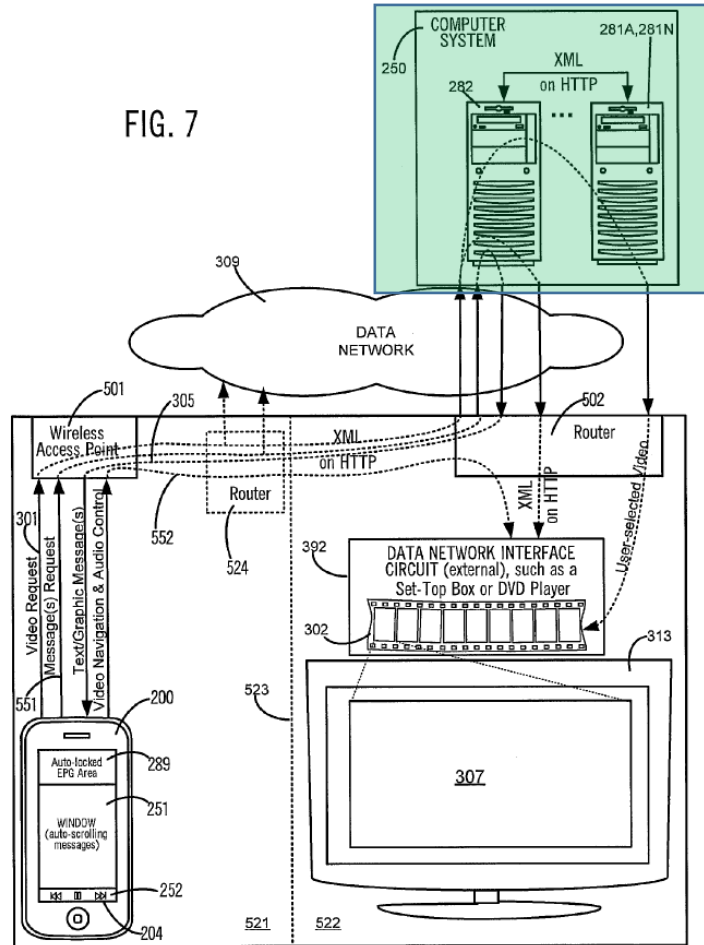
11.14. Independent Claim 22

11.14.1. [22A]: “An automated machine-implemented method of presenting video content on a display device that loads any one of a plurality of different media players, the method comprising:”

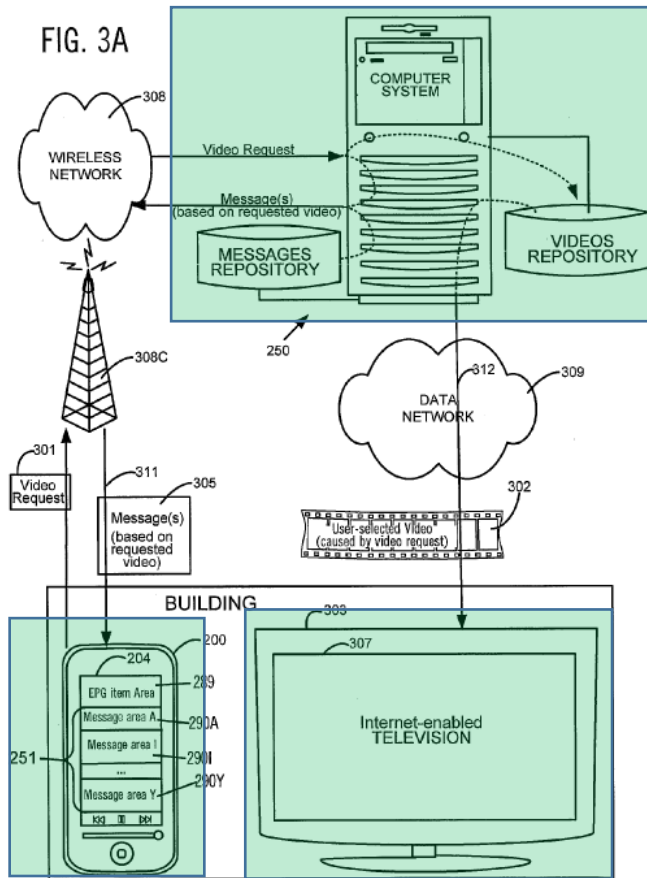
349. It is my opinion that each of Redford and Redford-Gonze teaches the preamble.

350. Redford discloses a computer system 250 that includes various video content provider computers 281A-281N and “a computer 282 that authorizes transfer of video (‘authority server’).” Ex. 1005, 2:59-67, FIG. 7.

FIG. 7



351. Redford's disclosed computer system 250 responds to requests 301 from a handheld device 200 (*e.g.*, "personal computing device") by sending a signal carrying user-selected video 302 to an internet-enabled television 303 (*e.g.*, "display device") for presentation of the video content. Ex. 1005, 6:40-52, 11:37-12:12, 21:20-30, 22:5-46, FIGs. 2B, 3A-3C, 6A-6B, 8A-8B, 11A.



Ex. 1005, FIG. 3A (annotated)

352. The disclosed display device in Redford, television 303, may load any one of a plurality of different media players. Specifically, Redford discloses that “television 303 executes predetermined software,” referred to as “authority-compatible set-top interface software,” to “display video 302” retrieved from a specific service provider, via the Internet, “in response to user request 301.” Ex. 1005, 12:5-12, FIG. 2B. Furthermore, Figure 9A shows that television 303 includes a microcontroller 901, which includes a processor 911 that runs software stored in memory. Ex. 1005, 30:23-61, FIGS. 9A-9B. “The software executed by processor

911 ... typically includes ... a software development kit (SDK) shared library 914 for media control of audio and video streams, such as RTSP, multi-cast, UDP and DVB.” Ex. 1005, 30:46-54. Other software executed by processor 911 includes “predetermined software 915 that provides an interface between microcontroller 901 and computer system 250” for various services including video and audio streaming. Ex. 1005, 30:56-61.

353. Redford further discloses that television 303 includes “[a]uthority-compatible set-top interface software [that] provides a common set-top API (called iLook set-top SDK API) for any chip vendor implementation of set top functionality” and that “[t]he iLook set-top SDK API is implemented in some embodiments using the existing chip vendor API functions.” Ex. 1005, 40:24-29. “In the iLook set-top SDK API, a function VideoPlay allows a video content to be played” using video-streaming protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP), and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. The SDK API may also include media player codecs that decode the content to be displayed. Ex. 1005, 40:67-41:2, 41:53-54. RTSP, one of the video-streaming protocols, has “varying implementation depending on the content provider and service,” so, accordingly, there may be several implementations of VideoPlay to support the various RTSP players. Ex. 1005, 40:56-41:2. Thus, Redford discloses a display device, television 303, that a POSITA

would have understood to have been configured to load any one of the plurality of different media players (various RTSP application software) for presenting the video content for a given VideoPlay implementation.

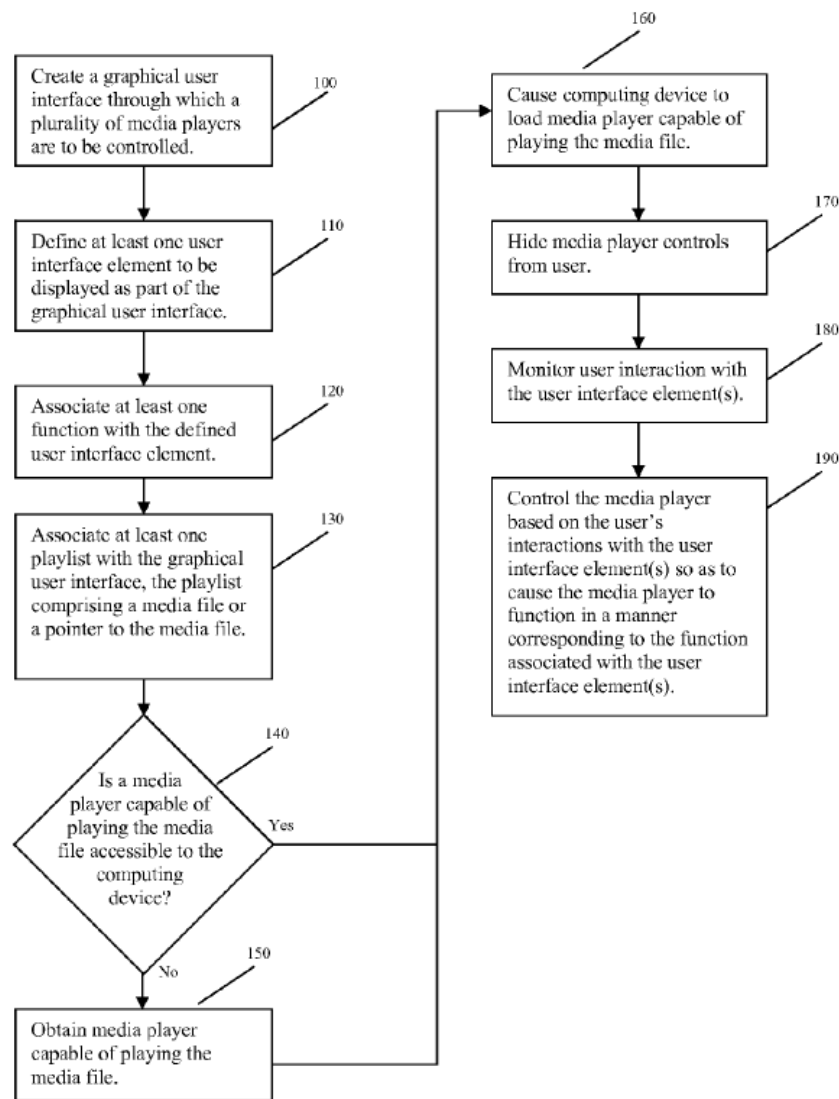
354. Therefore, Redford discloses limitation [22A].

355. To the extent that Redford does not teach that a television display device may load any one of a plurality of different RTSP media players, it was well-known before the priority date of the '251 Patent that display devices were enabled to load any one of a plurality of various media players, as established by Gonze.

356. Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media players. Ex. 1006, Abstract, [0010], [0034], [0035], [0040], [0049], [0051], [0052]. Specifically, Gonze discloses that “[t]he operating system ... determines an appropriate application, such as a media player, that should be loaded to handle the file based on information from the file” and the “operating system can cause a locally-installed media player to load, and can send instructions to the locally-installed media player to play [the content].” Ex. 1006, [0035]. This content may be in a variety of media types, such as Quicktime, RealVideo, RealAudio, Windows Media Audio, Windows Media Video, Motion Picture Entertainment Group, MP3, WAVE, or Musical Instrument Digital Interface. And to properly output the content, those various media types often require different

media players, such as a QuickTime player, RealPlayer, or Microsoft Media Player to properly output the content. Ex. 1006, [0005], [0006], [0060].

357. Gonze describes selecting from this plurality of media players based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze further describes determining “whether a media player capable of playing a media file in the playlist has been installed on the computing device,” and, “[i]f no such media player has been installed, the device may be provided with a link through which an appropriate media player can be obtained.” Ex. 1006, [0058], FIG. 1. Then, “[o]nce an appropriate media player has been identified and its installation status confirmed, the browser ... can cause the computing device to load the appropriate media player.” Ex. 1006, [0059], FIG. 1. Thus, the playback device disclosed in Gonze “loads any one of a plurality of different media players.”



Ex. 1006, FIG. 1

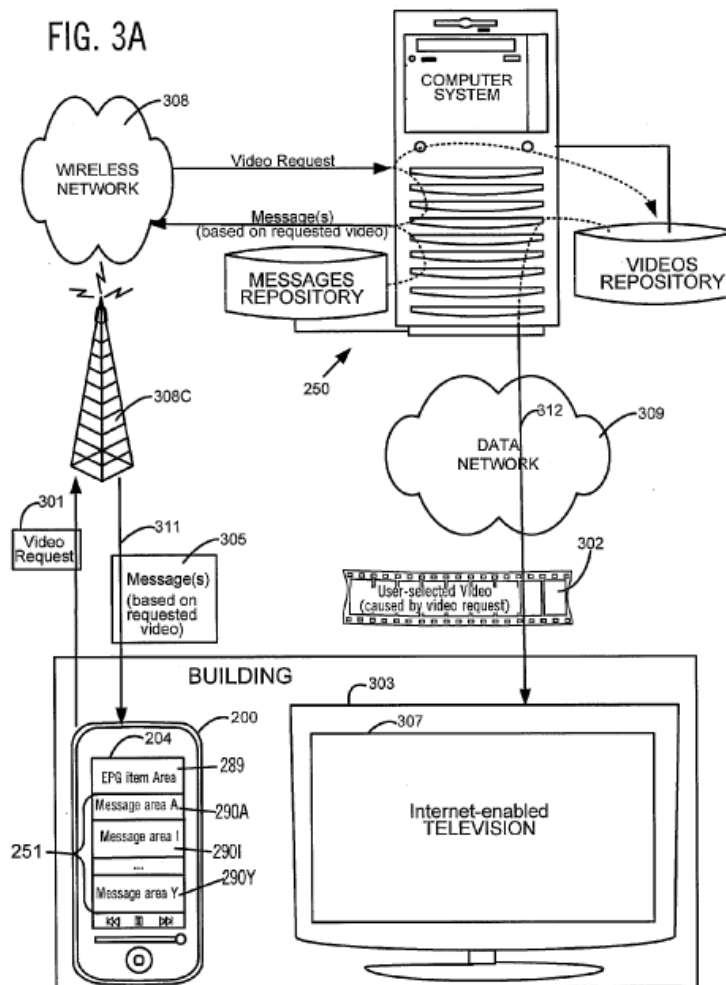
358. The appropriate media player application may be selected to be loaded by, for example, looking to a given content “file’s extension.” Ex. 1006, [0035]. For instance, Gonze further explains that, given a .mp3 file, “the operating system [of the playback device] can cause a locally-installed media player to load, and can send instructions to the locally-installed media player to play [the file].” Ex. 1006, [0035].

359. Thus, based on Gonze, a POSITA would have understood that a playback device, like television 303 of Redford, could include various media players. A POSITA also would have understood that choosing a particular media player to play a particular item of content could be determined based on information in a browser interpretable document, such as a content file's extension, as described in Gonze.

360. And further, a POSITA would have understood that information regarding a particular piece of content's corresponding media player could be supplied to handheld device 200 of Redford before a user selects the piece of content. Information regarding the corresponding media player could thereby be included in messages from handheld device 200 to computer system 250 and then from computer system 250 to television 303. Ex. 1005, 2:59-67, 5:42-58, FIGs. 2B, 10A-10C.

361. Redford discloses on demand movie video content where the content is streamed from a server to the user's television. As one example, Redford describes that "display of video 208 on a TV screen 307 (FIG. 3A) is caused by a request 301 for on-demand viewing of a user-selected video 208A (also referred to as video 302) from a predetermined software 209 (also referred to as authority-compatible handheld interface software) that is executed by handheld device 200." Ex. 1005, 11:37-42. In this way, Redford recognizes the desirability of allowing users to obtain

content of their choosing at a time of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16.



Ex. 1005, FIG. 3A

362. Redford also provides the capability of executing additional applications, given that “[h]igher level functions that perform video play are usually supplied by the chip vendor or a 3rd party source” but “the iLook settop SDK API is agnostic with respect to the underlying chip set and base applications running on the chip” and the contents in chip flash memory can be “periodically reflash[ed]” to

“update[] the firmware.” Ex. 1005, 41:56-67. Thus, Redford enables the seamless addition of more functionality to the disclosed system.

363. The routine use of multiple media player applications for presenting media of different formats would have provided a POSITA with the motivation to employ those media players as additional applications in the system disclosed in Redford. Therefore, it is my opinion that a POSITA would have been motivated to modify Redford’s system in view of disclosures from Gonze to support and select among various media players to provide additional options for playing content to users.

364. To combine Redford and Gonze in this way would be to merely use known techniques (supporting multiple media players for presenting content) to improve similar devices (server-based video streaming systems, described in Redford and Gonze) in the same way (selecting one of the multiple players based on the format of the content). Gonze teaches a system similar to the system in Redford — information is received indicating the available content, a user selects from that available content, and a server provides information to the playback device regarding accessing and outputting the content.

365. A POSITA would have had the skills and knowledge to implement support for multiple media players, as taught by Gonze, in the system disclosed in Redford by incorporating the ability to select among multiple media players, based

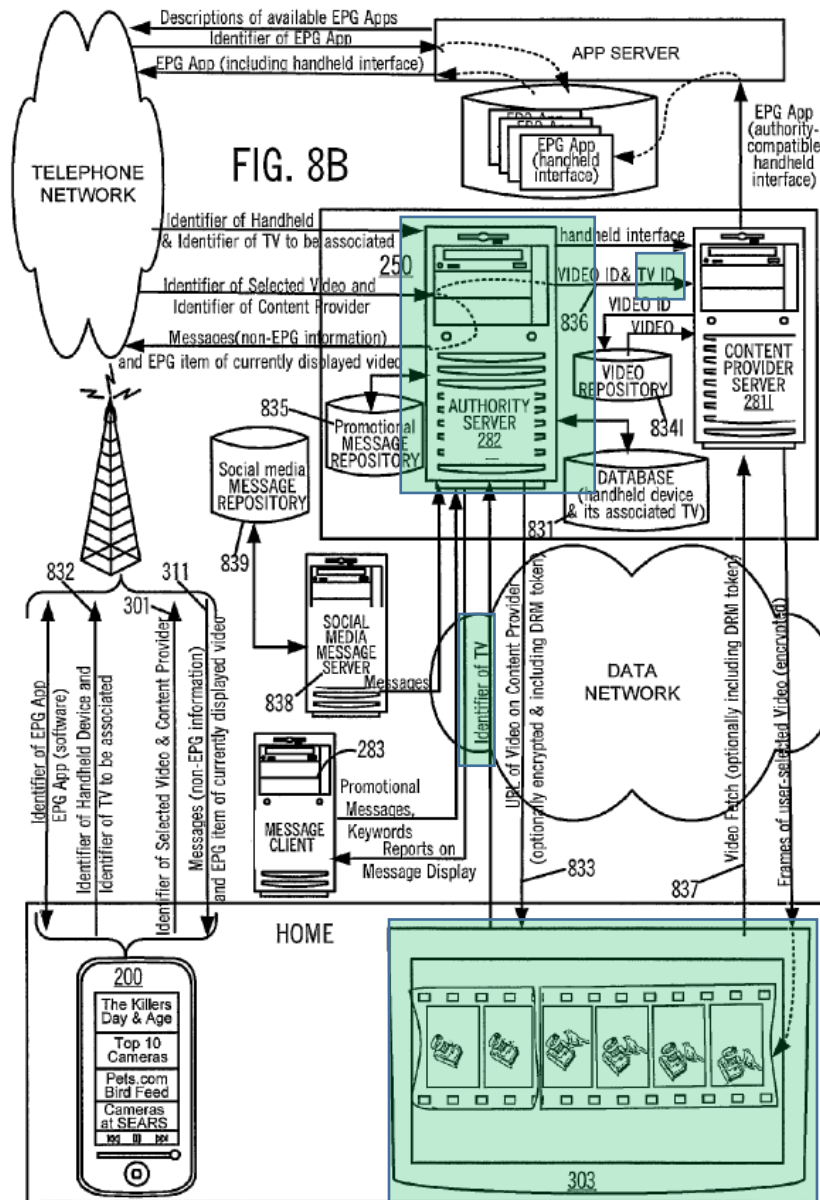
on information received in messages from the server, into the Internet-enabled television in Redford. It is therefore in my opinion that a POSITA would have expected success in applying Gonze's teaching of loading different media players, as needed, to the similar Redford system which supports multiple, different media players because adding Gonze's information for determining which media player to load to Redford's television 303 display device would have required only minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

366. Therefore, Redford in view of Gonze discloses limitation [22A].

11.14.2. [22B]: “displaying, by the display device, a synchronization code that was assigned to the display device by a server system, the server system subsequently storing, based on a message from a personal computing device that is separate from the server system and the display device, an association between the display device and the personal computing device, the message from the personal computing device including the synchronization code;”

367. It is my opinion that Redford-Bartfeld discloses this limitation.

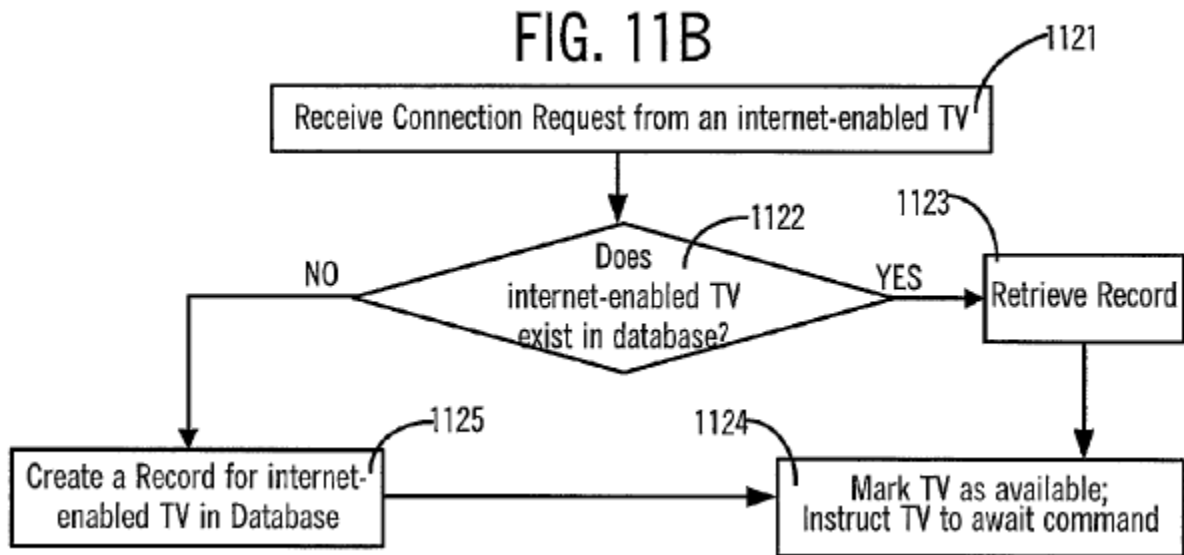
368. Redford discloses that the authority server 282 of computer system 250 (“server system”) receives, from a television 303, association information such as an IP address, TV-name, and TV-password, any of which could act as the “synchronization code.” Ex. 1005, 31:7-14, 43:15-20, 44:44-48.



Ex. 1005, FIG. 8B (annotated)

369. Redford describes, and illustrates in Figure 11B, that “computer 282 operating as an authority server ... 282 receives a connection request from an internet-enabled TV,” “checks if a record exists in database 831 (FIG. 8B) for internet-enabled TV 303 and if not ... creates a new record in database 831 using

the information received” from the TV and “marks TV 303 as being available.” Ex. 1005, 35:25-35.

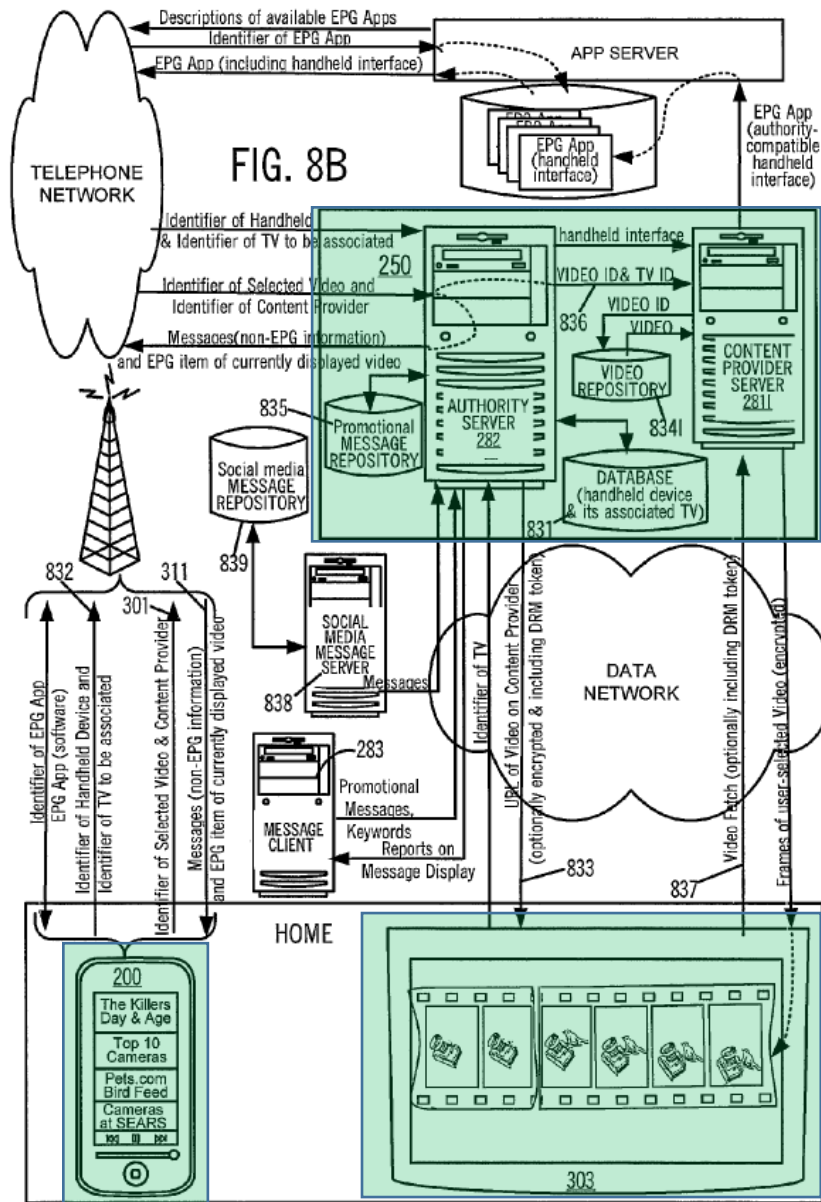


Ex. 1005, FIG. 11B

370. Additionally, Redford describes the process of registration. Redford discloses that microcontroller 901 “may be included in a set-top box, or a player of an optical disk (such as a DVD player, or a Blue-ray player), or an Internet-enabled TV.” Ex. 1005, 30:34-41, 31:16-18. The television 303 “microcontroller 901 performs initialization operations, such as configuring an Ethernet port and an IP address for connector 906 coupled to data network 309 and communicates with computer system 250 to identify itself, e.g. with a unique name and password supplied by the user to set up television 303 on initial activation by connection to computer system 250. The ... name and password are ... referred to [in Redford] as TV-name and TV-password.” Ex. 1005, 31:7-14. Redford also discloses that “an

authority server ... receives the following information from a television: REGISTRATION information including an IP address, identifier of a chip in the set-top device, TVname and TV-password,” any of which could act as the “synchronization code.” Ex. 1005, 44:44-48. Based on this disclosure, a POSITA would have understood that, for a user to supply a TV-name to television 303 and for television 303 to supply the user supplied TV-name to computer system 250, a common manner of user input at the time would have been some form of keystroke input to a displayed input area on television 303 on initial activation of television 303. Ex. 1005, 42:1-43. Furthermore, a POSITA would have recognized that displaying the user’s input keystroke(s) as the user entered the TV-name and completed the keystroke(s) would result in television 303 displaying that TV-name. or “synchronization code.” Thus, a POSITA would have known that Redford teaches “displaying, by the display device, a synchronization code.”

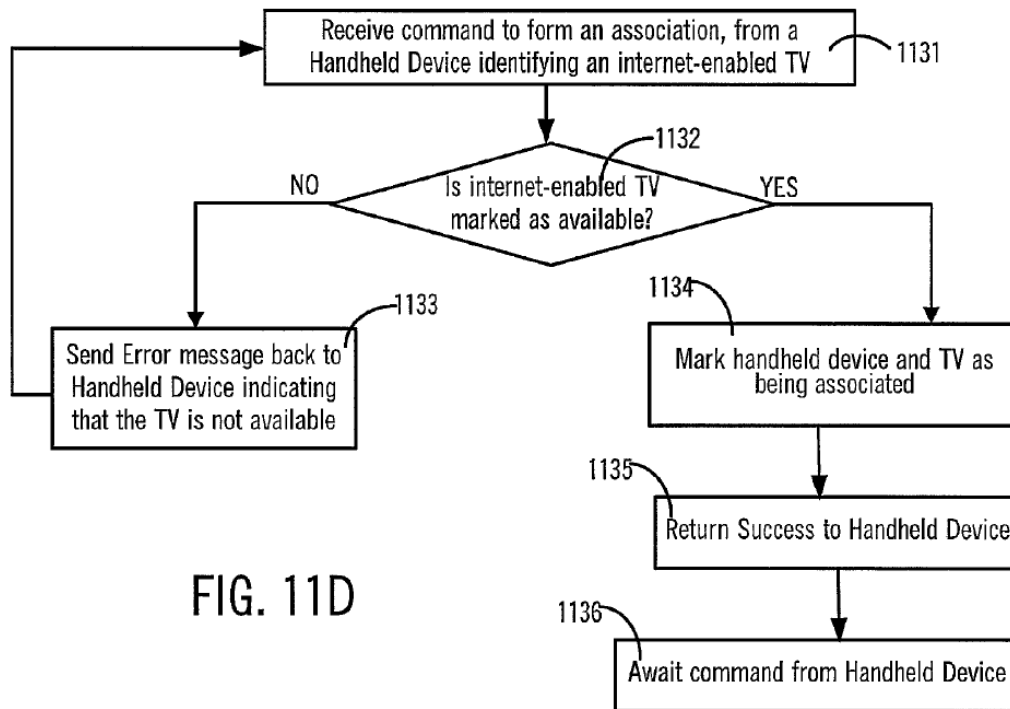
371. Redford discloses that the computer system 250, handheld device 200, and television 303 are separate from each other, as shown below, for example.



Ex. 1005, FIG. 8B

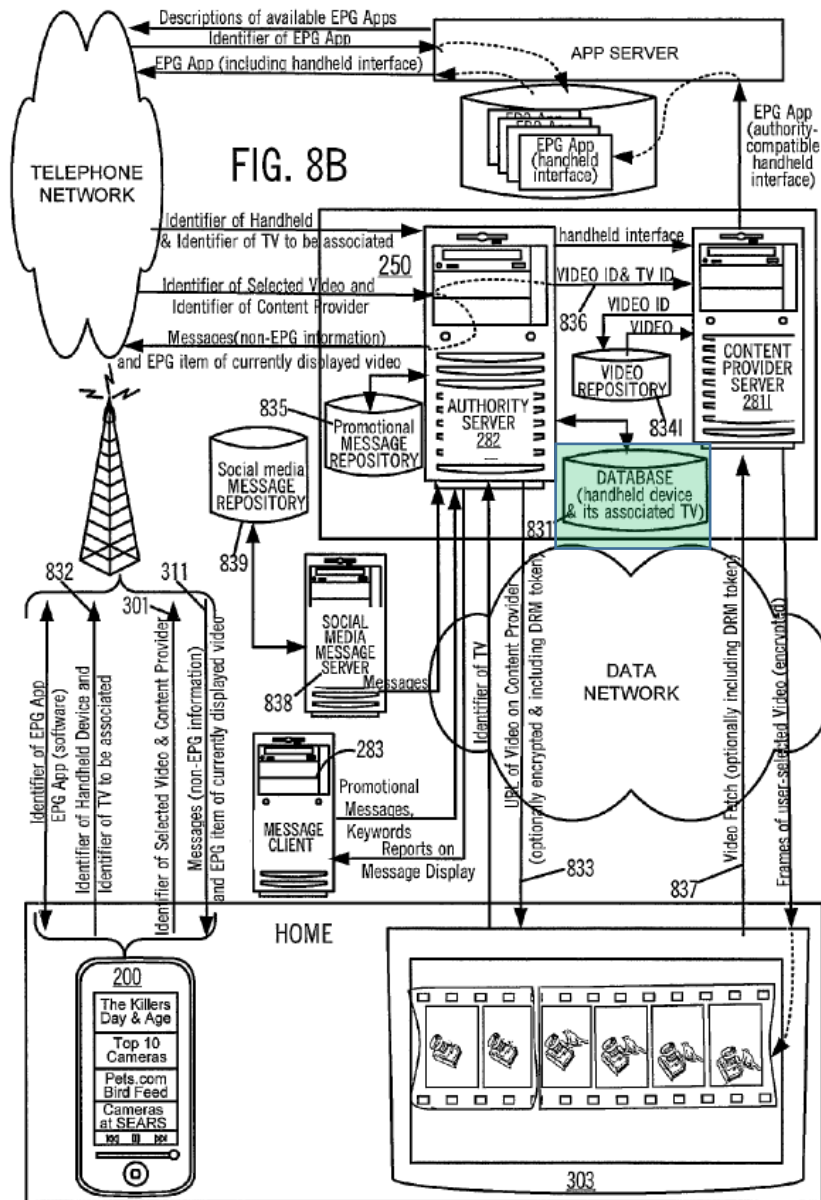
372. Furthermore, Redford discloses that “authority server 282 [“server system”] receives a command [“message”] to form an association, from a handheld device 200 identifying an internet-enabled TV [“display device”].” Ex. 1005, 35:59-

61, 43:15-20. This process beginning with a command to form an association is further illustrated in Figure 11D, below.



Ex. 1005, FIG. 11D

373. Redford teaches that after the “authority server 282 receives a command to form an association,” the “authority server 282 marks handheld device 200 as being associated with TV 303” as association information in a database 831, shown below. Ex. 1005, 35:59-62, 36:2-3.



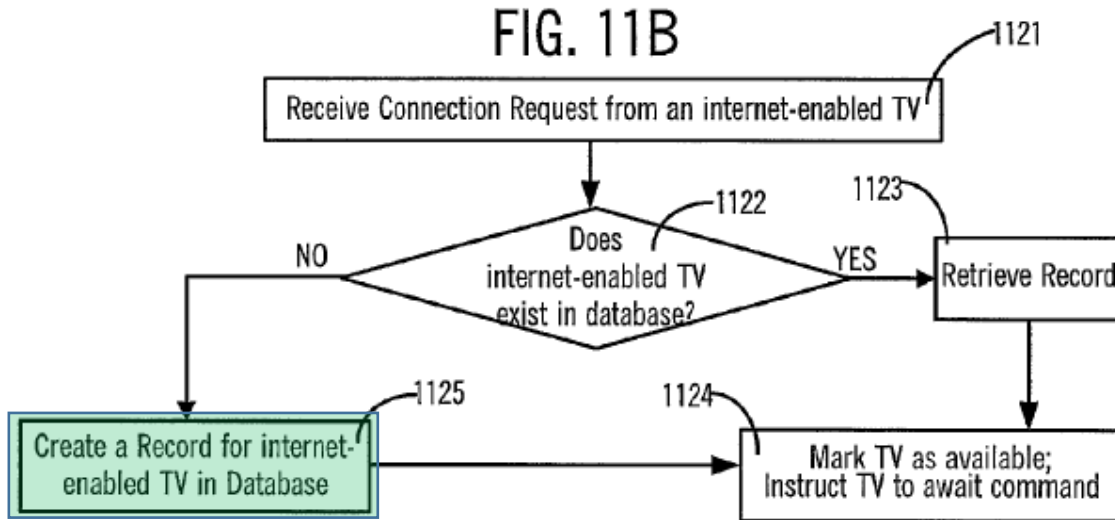
Ex. 1005, FIG. 8B (annotated)

374. Redford further describes that “an authority server ... receives the following information from a handheld device: ... TV-name and TV-password.” Ex. 1005, 44:6-9. Thus, the command (“message”) from handheld device 200 to authority server 282 includes the synchronization code, as previously described,

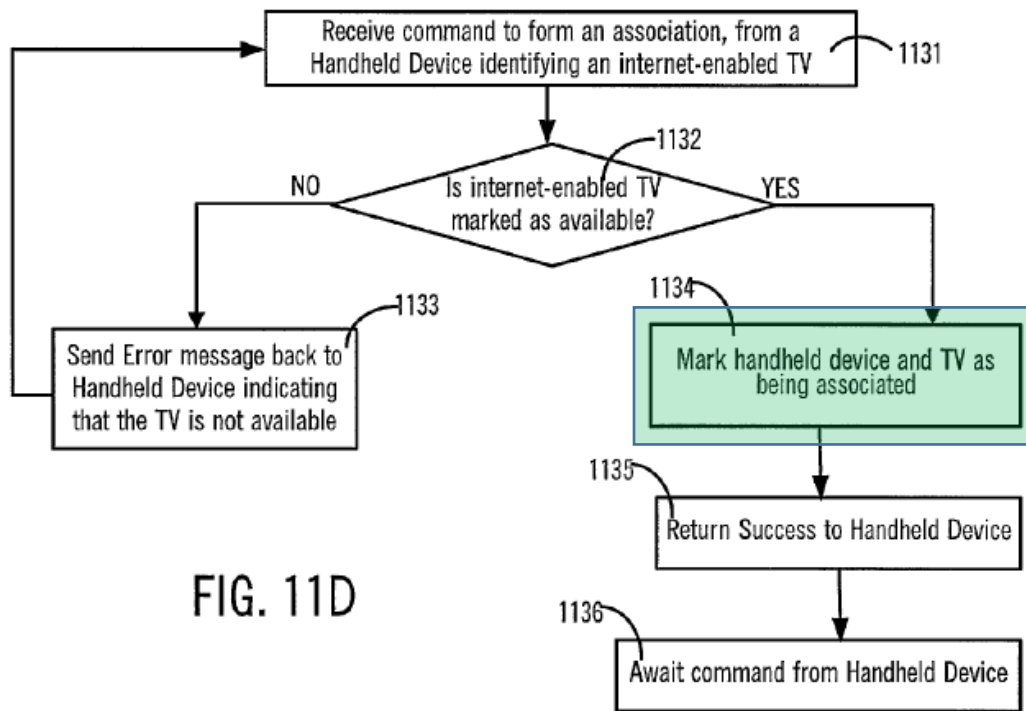
identifying the television. Redford provides an example of such a command, RequestAssociation, which is “a command to associate the iPhone with a television. The input data for this command contains an identifier of the television (e.g. *in the form of a nickname previously registered with the authority server*) and optionally a password for the TV.” Ex. 1005, 39:37-41 (emphasis added). In other words, the computer system 250, which includes the authority server, receives a RequestAssociation command (“message”) from handheld device 200 that includes TV-name (e.g., “synchronization code”) and TV-password (e.g., “synchronization code”). Ex. 1005, 44:6-9.

375. Redford further discloses that the “authority server ... maintains in its database ... [a]ssociation information (also called ‘pairing’) includ[ing]: identifier of the handheld device, ... IP address, TV-name and TV-password.” Ex. 1005, 43:15-20. Again, Redford’s IP address, TV-name, and TV-password are each examples of a “synchronization code.”

376. Redford describes that the “computer 282 operating as an authority server” performs the acts in Figures 11B and 11D, including that the “authority server 282 marks handheld device 200 as being associated with TV 303, e.g. identified by a session identifier” (Ex. 1005, 35:25-26) in the “[r]ecord for internet-enabled TV in [d]atabase”. Ex. 1005, 36:2-4, FIGs. 11B, 11D.



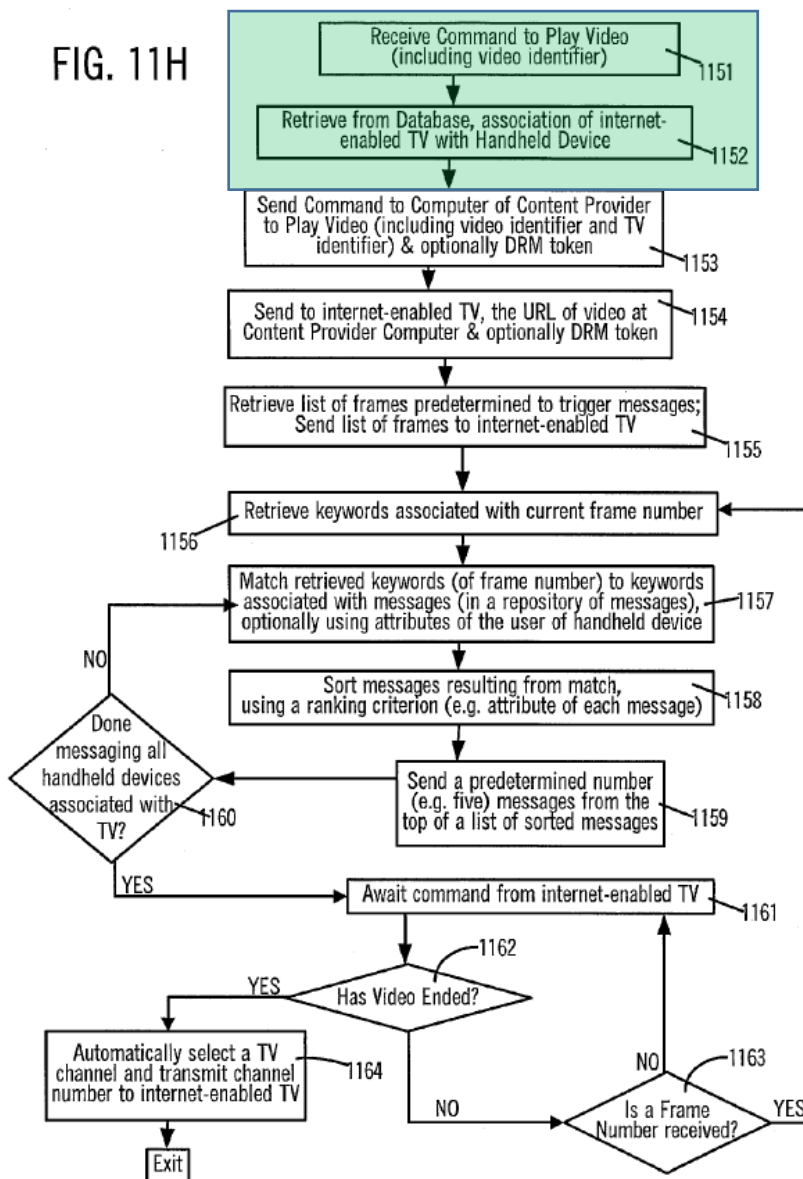
Ex. 1005, FIG. 11B (annotated)



Ex. 1005, FIG. 11D (annotated)

377. As Redford describes, by maintaining the association information in its database, a “command to play a video,” causes the authority server 282 to “retrieve[]

from database 831” a record containing “an identifier or the TV associated with the handheld device 200.” Ex. 1005, 36:41-45.



Ex. 1005, FIG. 11H (annotated)

378. And a POSITA would have understood that Redford’s description of “the authority server 282 mark[ing] handheld device 200 as being associated with

TV 303” is an update to the “[r]ecord for internet-enabled TV in database” in the computer system 250. Ex. 1005, 36:2-3, 36:41-45, FIG. 11B.

379. To the extent it is determined that Redford does not teach that computer system 250 assigns a synchronization code to the television 303 and that the display device displays the synchronization code, in my opinion, it would have been obvious to modify computer system 250 to include the claimed capability that computer system 250 generates a synchronization code for television 303 and modify television 303 to include the claimed capability that television 303 displays the synchronization code that was assigned by the computer system 250 as demonstrated by Bartfeld.

380. As I discussed above in Section 8.13, Bartfeld discloses a system for user assisted association between a television and a telephony device. Ex. 1018, Abstract. Bartfeld describes that a server generates a code, associates the code with a set-top address, and transmits the code back to the set-top box. *Id.* The set-top box displays the code on a television. *Id.*, [0007], [0025]-[0026]. Using a personal computing device having an address associated therewith, the code is transmitted by a user, to the server. *Id.* The server identifies the personal computing device address, and using the code, associates the device with the set-top box. *Id.* Accordingly, Bartfeld’s server “assigns” “a synchronization code to the display device.”

381. Based on these descriptions in Bartfeld, in my opinion, a POSITA would have understood that a server system, such as computer system 250 of Redford, could assign a synchronization code to a display device, such as Redford's television 303, since Bartfeld teaches that the set-top box may be embedded within a device capable of displaying video signals, *e.g.*, Redford's television 303. Ex. 1018, [0005], [0030]. Bartfeld describes that set-top-box 50 displays, on television 70, the code that was generated by the server 20 and transmitted by the server 20 to the set-top box 50 and in my opinion, a POSITA would have understood that television Redford's 303 displays the code that was generated by computer system 250 and transmitted to television 303. *Id.*, Abstract, [0007], [0025]-[0026], FIG. 1. Figure 2 states such and Figure 4 provides an illustrative example.

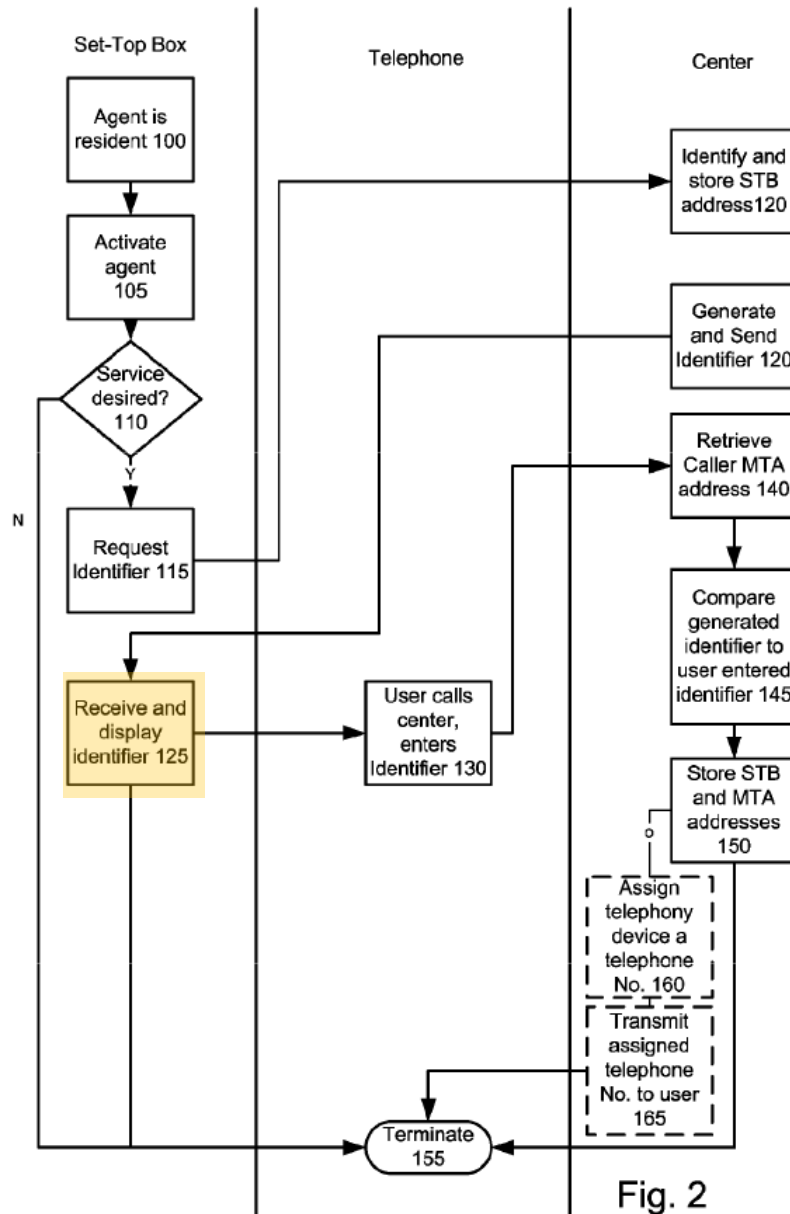
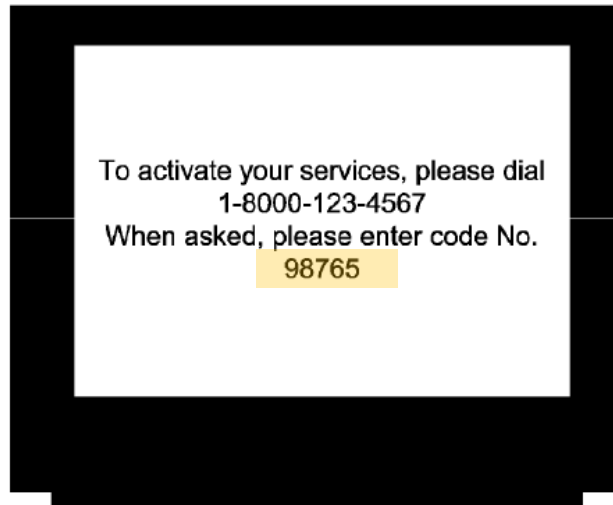


Fig. 2

Ex. 1018, FIG. 2 (annotated)



Ex. 1018, FIG. 4 (annotated)

382. Thus, per Bartfeld, a POSITA would have been motivated to implement Redford's system in view of Bartfeld's teachings to support assisted association of a television and a personal computing device in order to provide more options for playing back content to Redford's users. Redford describes that the authority server 282 of computer system 250 ("server system") receives, from a television 303, association information such as an IP address, TV-name, and TV-password, any of which could act as the "synchronization code." Ex. 1005, 31:7-14, 43:15-20, 44:44-48. Accordingly, a POSITA would have recognized that Redford already describes numerous manners for assigning a synchronization code to a television, thus recognizing the desirability to users of being able to obtain content of their choosing via devices of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides the capability of receiving a synchronization code assigned to a television from a user's handheld device. Ex.

1005, 41:56-67. In my opinion, a POSITA would have been motivated by the assisted association teachings of Bartfeld to employ a computer system generated synchronization code that is sent to the television in the system of Redford in order to allow an easy to follow step-by-step process for association of Redford's television 303 and handheld device 200 by having television 303 display the synchronization code for a user of handheld device 200 to use for association of the handheld device 200 and television 303.

383. To combine Bartfeld and Redford in this way would be to merely use known techniques (association between a television and a personal computing device) to improve similar devices (the server-based video streaming systems taught in Redford and Bartfeld) in the same way (assigning a synchronization code to a display device and displaying the synchronization code). Bartfeld teaches a system similar to Redford where a synchronization code is assigned between a television and a handheld device, a user on the handheld device selects content for display on the television, and a server provides information to the television associated with the handheld device regarding how to access and output the content.

384. In my opinion, a POSITA would have had the skills and knowledge to implement support for assisted association by a server system generating and assigning a synchronization code to a television and displaying the code on the television, as taught by Bartfeld, in the system disclosed in Redford by incorporating

into Redford's computer system 250 the ability to generate and assign a synchronization code to a particular television and by incorporating into Redford's television 303 the ability to display the assigned synchronization code. It is therefore my opinion that a POSITA would have expected success in applying Bartfeld's teaching for associating the two as needed to the similar Redford system that associates the two because adding Bartfeld's association technique to Redford's computer system 250 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

385. Therefore, in my opinion, Redford-Bartfeld discloses limitation [22B].

11.14.3. [22C]: “retrieving, by the display device from the server system, first information that specifies a first video file to be acted upon, that identifies a first media player for playing the first video file, and that indicates corresponding programming code to control playing of the first video file on the display device by the first media player in accordance with a first playback control command, wherein the server system previously received, from the personal computing device, one or more signals specifying the first video file, identifying the first media player and including the first playback control command;”

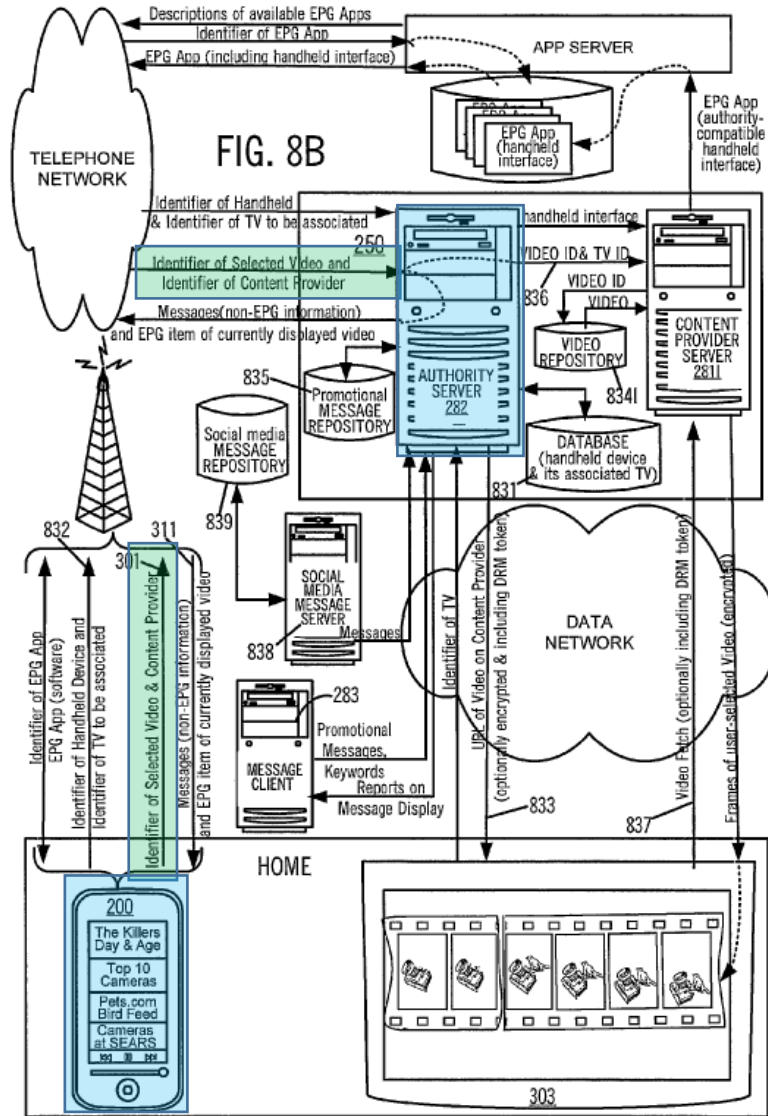
386. It is my opinion that Redford discloses limitation [22C].

387. Redford discloses that authority server “computer 282 receives an identifier of a video 302 in a video request 301 (FIG. 8B) from a handheld device 200.” Ex. 1005, 26:62-64. Redford further specifies that for “embodiments that

support multiple content providers,” authority server “computer 282 . . . receive[s] . . . an identifier of the content provider that maintains a repository 834I (FIG. 8B) in which a file containing video 302 is available.” Ex. 1005, 26:64-27:1. Thus, the one or more signals from a personal computing device to the server system specify a video file. Ex. 1005, FIGs. 8A-8B.

388. Redford also discloses that “a specific video can be made available to a user for selection by more than one content provider (i.e. by multiple content providers)” and, hence, “a user can obtain a video 208Z (or a copy thereof) for viewing on demand (VOD) from either one of two different content providers I and N, via their respective apps 202I, 202N (accessible in handheld device 200 by touching corresponding representations 203I, 203N).” Ex. 1005, 7:4-26, FIG. 2B. Furthermore, the authority server 282 may “receive[] from handheld device 200, the identity of an [electronic program guide] item that has been selected by the user, e.g. including a video identifier and an identifier of a content provider,” which would thus identify the particular media player for playing the video. Ex. 1005, 36:18-21. Furthermore, Redford discloses the need for video codecs to play video content by streaming. Ex. 1005, 40:66-41:2, 41:53-54. A POSITA would have understood that various video codecs are needed for the identified media player to play the chosen video content. Thus, a POSITA would understand Redford to teach that “an identifier of the content provider,” included in one or more signals from the handheld

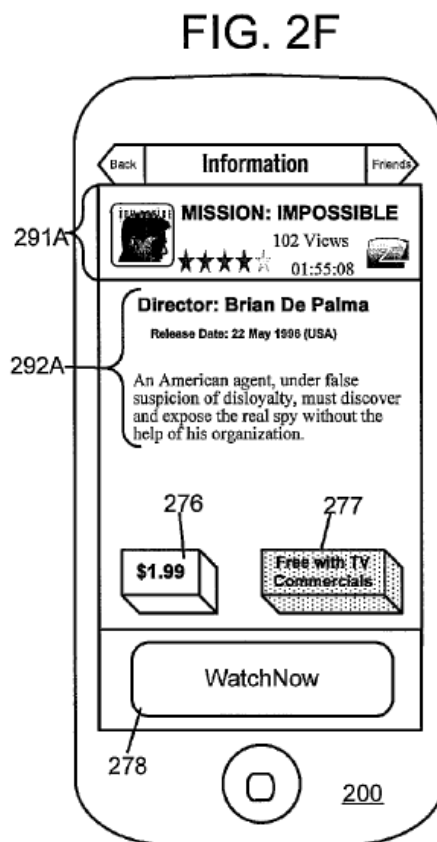
device to the server system, identifies a particular media player for playing the selected video content.



Ex. 1005, FIG. 8B (annotated)

389. Redford describes that computer system 250 receives, from handheld device 200, a command to play (e.g., “a universal playback control command”) a video to be displayed on the television 303, which is associated with the handheld

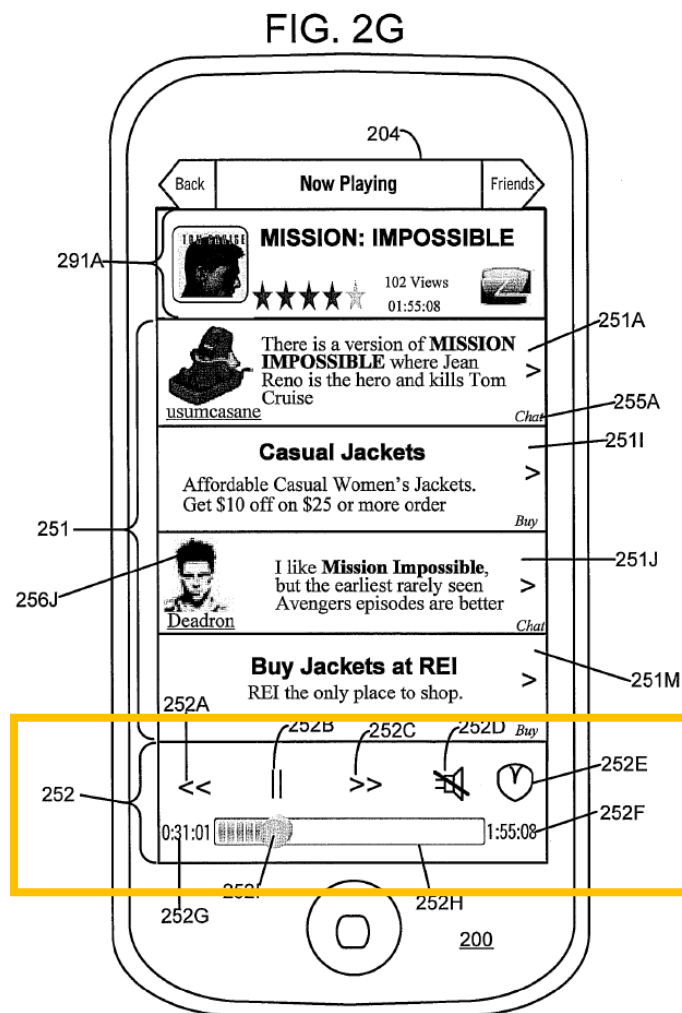
device 200. Ex. 1005, 8:1-2, 26:62-27:3, 36:18-27, 44:6-18, FIGs. 2F, 8A-8B, 11H. Specifically, Redford explains that “the user may simply press button 278,” shown in Figure 2F, “to select a video 208A to be displayed,” and “computer 282 receives an identifier of a video 302 in a video request 301 (FIG. 8B) from a handheld device 200.” Ex. 1005, 8:1-2, 26:62-64.



Ex. 1005, FIG. 2F

390. Redford further discloses that “[i]n response to the user selection [of a video in a request], video 208A begins to play on an internet-enabled television associated with handheld device 200.” Ex. 1005, 8:3-5. In other words, the selected video content plays on the display device based on signals from the handheld device.

Redford further shows, in Figure 2G, that “[w]hile video 208A is playing on a television screen, handheld device 200 displays the corresponding EPG item 291A at the top of handheld screen 204 and a control panel 252 at the bottom of handheld screen 204” and that, “[s]pecifically, control panel 252 includes of some embodiments includes a rewind button 252A, a pause button 252B and a fast forward button 252C, to enable navigation of the play of video 208A on the television screen.” Ex. 1005, 8:5-12. Thus, each of the exemplary buttons 252A-C are playback control commands.



Ex. 1005, FIG. 2G (annotated)

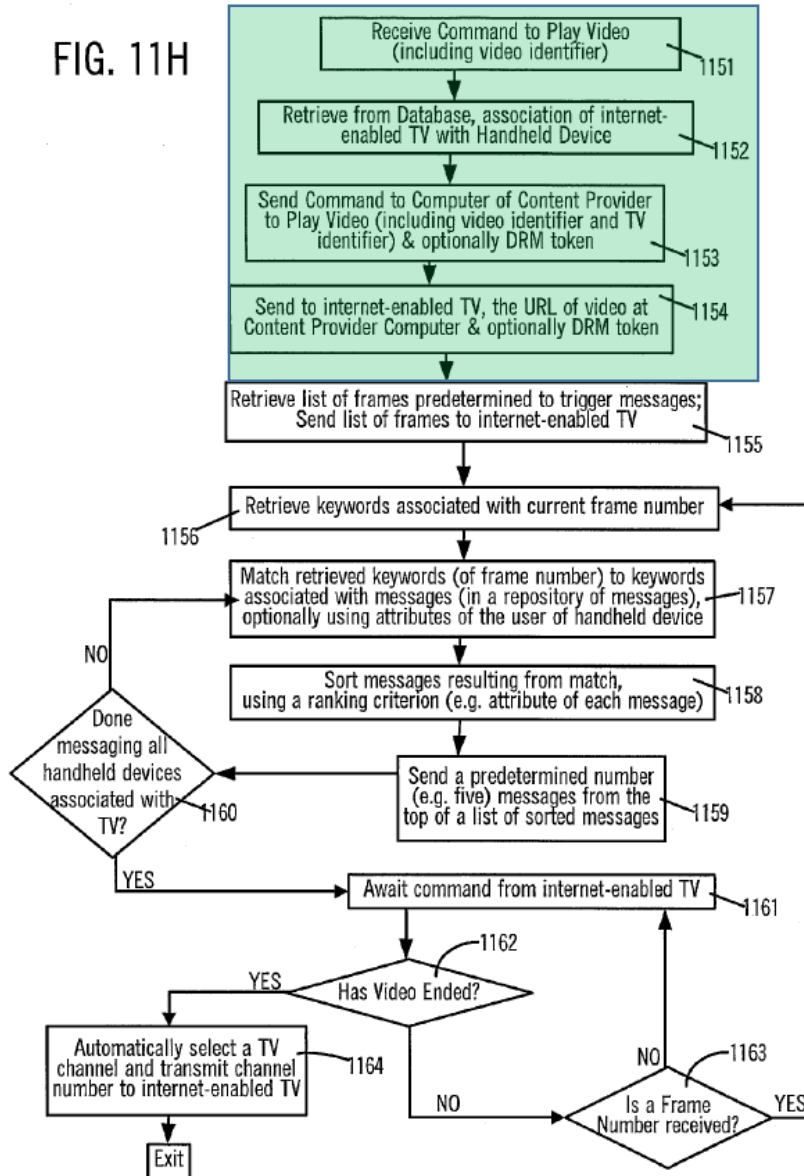
391. Redford discloses that microcontroller 901 “may be included in a set-top box, or a player of an optical disk (such as a DVD player, or a Blue-ray player), or an Internet-enabled TV” and “executes the received command[s]” from the computer system 250. Ex. 1005, 30:34-41, 31:16-18. Thus, the television 303 receives and execute commands from the computer system 250. These commands may be, for example, “to navigate a currently playing video (such as fast forward, rewind, pause, and play), to increase/decrease volume, to turn on/off the television, to read or store information in the memory of microcontroller 901.” Ex. 1005, 31:18-22. Accordingly, a POSITA would understand Redford to teach handheld device 200 sending a universal playback control command, such as play, pause, rewind, or fast forward, to computer system 250, which thereafter sends a corresponding command to television 303 to enable navigation of the playing of the selected video content on the associated television display device. Ex. 1005, 8:5-12.

392. Furthermore, Redford describes illustrative commands (*e.g.*, “the one or more signals further including a universal playback control command”) sent from a handheld device to the computer system using authority-compatible handheld interface software. Ex. 1005, 38:50-66. And “[o]n the APPLE iPhone[,] the implementation library for the authority-compatible handheld interface software is built on top of iPhone SDK ... referred to [by Redford] as the iLook iPhone SDK.”

Ex. 1005, 38:50-57. Redford further describes, as an example, SetVideoRate, which “is a command to set the video rate of play,” and is “useful for fast forward and rewind.” Ex. 1005, 39:16-18. Other examples in Redford include a PlayVideo command to play video content on television 303, a PauseStream command to pause the video at the current play time, and a ResumeStream command to resume playing the video. Ex. 1005, 39:3-54, 40:56-41:45. In my opinion, a POSITA would have understood any of these commands that Redford describes to be sent from the handheld device 200 to computer system 250, as “the one or more signals further including a universal playback control command for controlling playing of the video content on the display device by the particular media player.”

393. Figure 11H in Redford “illustrate[s], in [a] flow chart[], acts performed by the authority server” computer system, beginning with receiving a video request 301 specific to a request to play a user-selected video. Ex. 1005, 4:39-40, 36:41-37:40. In my opinion, a POSITA would have understood from Redford’s teachings that a command, such as play or pause, would similarly follow steps 1151-1154 shown in Figure 11H. Figure 11H, below, shows that once the computer system 250 receives a user’s video request, computer system 250 retrieves association information, sends a corresponding play command to the content provider specified in the user request, and sends a URL to the TV display device to allow the television to fetch and play the requested video content from the specific content provider.

FIG. 11H



Ex. 1005, FIG. 11H (annotated)

394. As previously discussed, Redford describes, in the iLook set-top SDK API, a function “VideoPlay” that allows a video content to be played using supported streaming protocols including Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. Redford further teaches that RTSP has “varying implementation[s]

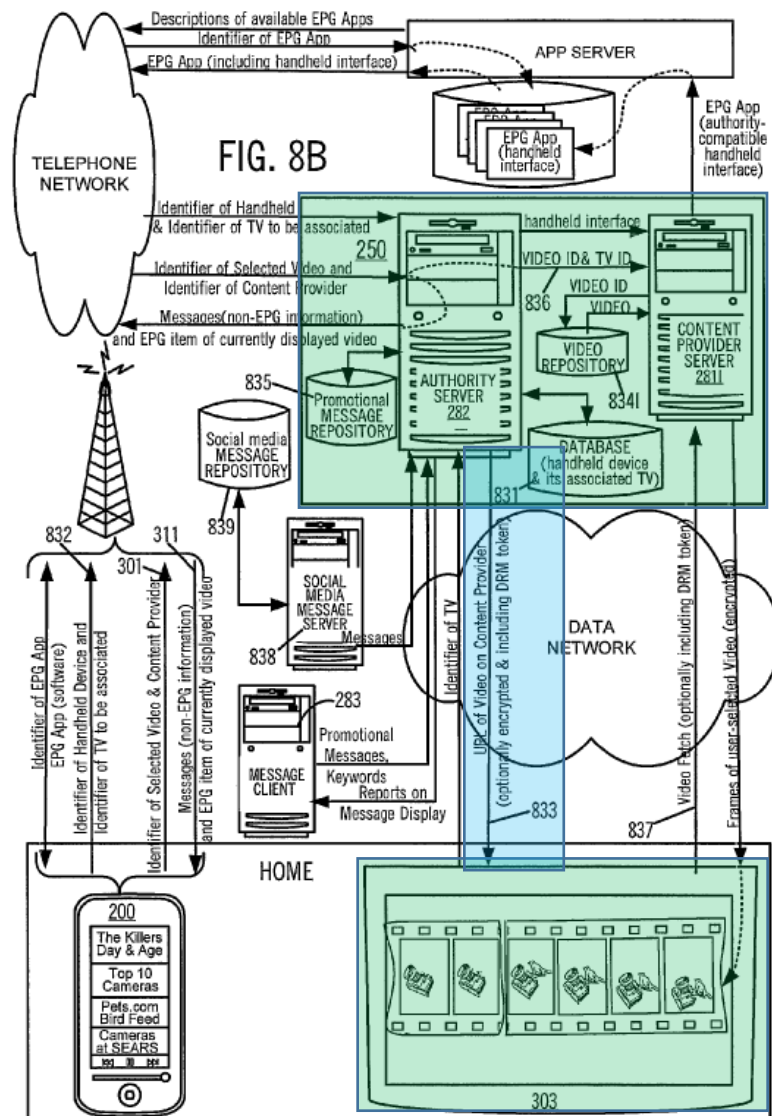
depending on the content provider and service,” and therefore “several implementations of VideoPlay” could exist to support the various RTSP players. Ex. 1005, 40:56-63. Consequently, in my opinion, a POSITA would have understood Redford to teach that television 303 was configured to load any of the various RTSP application software for playing the video content for a particular VideoPlay implementation.

395. Thus, Redford teaches, for example, a PlayVideo command (a “universal playback control command”) sent from handheld device 200 to computer system 250 to play video on television 303, and a “VideoPlay” command (“corresponding programming code”) —sent from computer system 250 and received by television 303 that allows video content to be played on television 303 via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming— for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2. The exemplary “VideoPlay” command is a function that allows video content to be played by a specific player. Ex. 1005, 40:56-64. Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, which was sent from handheld device 200, to a particular “VideoPlay” command, since RTSP has varying implementations

depending on the content provider and service and since several implementations of VideoPlay exist to support various these various RTSP players.

396. Thus, in sum, Redford discloses that, once the system 250 receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGs. 8A-8B, 11H. Then, after conversion of the “PlayVideo” command to a “VideoPlay” command by the computer system 250 (“server system”) for use by the television 303, a POSITA would have understood that computer system 250 stores information for transmission to or retrieval by the television 303 (“display device”) where such information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command as a URL. Ex. 1005, 27:60-28:3, 29:4-20, 36:41-53, 38:50-56, FIGs. 8A-8B, 11H. Computer system 250 “maintains in its database ... the URL of content provider” and other associated data. Ex. 1005, 43:36-51. Subsequently, television 303 retrieves, from the

computer system 250, first information (signal 833) that specifies a first video file to be acted upon, identifies a first media player for playing the first video file, and indicates corresponding programming code to control playing of the first video file on the display device by the first media player in accordance with a first playback control command.



Ex. 1005, FIG. 8B (annotated)

397. Therefore, it is my opinion that Redford discloses limitation [22C].

11.14.4. [22D]: “obtaining, by the display device, over the Internet the first media player for playing the first video file;”

398. It is my opinion that Redford-Gonze discloses limitation [22D].

399. Gonze describes selecting from a plurality of media players, such as a QuickTime player, RealPlayer, or Microsoft Media Player, based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze further describes determining “whether a media player capable of playing a media file in the playlist has been installed on the computing device,” and, “[i]f no such media player has been installed, the device may be provided with a link through which an appropriate media player can be obtained.” Ex. 1006, [0005], [0006], [0058], [0060], FIG. 1. Gonze further specifies that such a link may be an “Internet connection.” Ex. 1006, [0013]. Thus, Gonze describes that the “link, such as an Internet connection” may be used to obtain a first media player for playing a first video file. Ex. 1006, [0013], FIG. 1.

400. Therefore, it is my opinion that Redford in light of Gonze discloses limitation [22D].

11.14.5. [22E]: “loading the first media player in the display device;”

401. It is my opinion that Redford and Redford-Gonze discloses limitation [22E].

402. As previously discussed, Redford discloses that television 303 includes “[a]uthority-compatible set-top interface software [that] provides a common set-top API (called iLook set-top SDK API) for any chip vendor implementation of set top functionality” and that “[t]he iLook set-top SDK API is implemented in some embodiments using the existing chip vendor API functions.” Ex. 1005, 40:24-29. “In the iLook set-top SDK API, a function VideoPlay allows a video content to be played” using video-streaming protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP), and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. The SDK API may also include media player codecs that decode the content to be displayed. Ex. 1005, 41:1-2, 41:53-54. RTSP, one of the video-streaming protocols, has “varying implementation depending on the content provider and service,” so, accordingly, there may be several implementations of VideoPlay to support the various RTSP players. Ex. 1005, 40:56-41:2. Thus, Redford discloses a display device, television 303, that a POSITA would have understood to have been configured to load any one of the plurality of different media players (various RTSP application software) for presenting the video content for a given VideoPlay implementation.

403. Therefore, Redford discloses limitation [22E].

404. Also discussed above, Gonze discloses that if an appropriate media player has not been installed, a “device may be provided with a link through which

an appropriate media player can be obtained (Block 150).” Ex. 1006, [0058], FIG.

1. Thereafter, “[o]nce an appropriate media player has been identified and its installation status confirmed, the browser in which the instant method is implemented can cause the computing device to load the appropriate media player (Block 160).” Ex. 1006, [0059], FIG. 1.

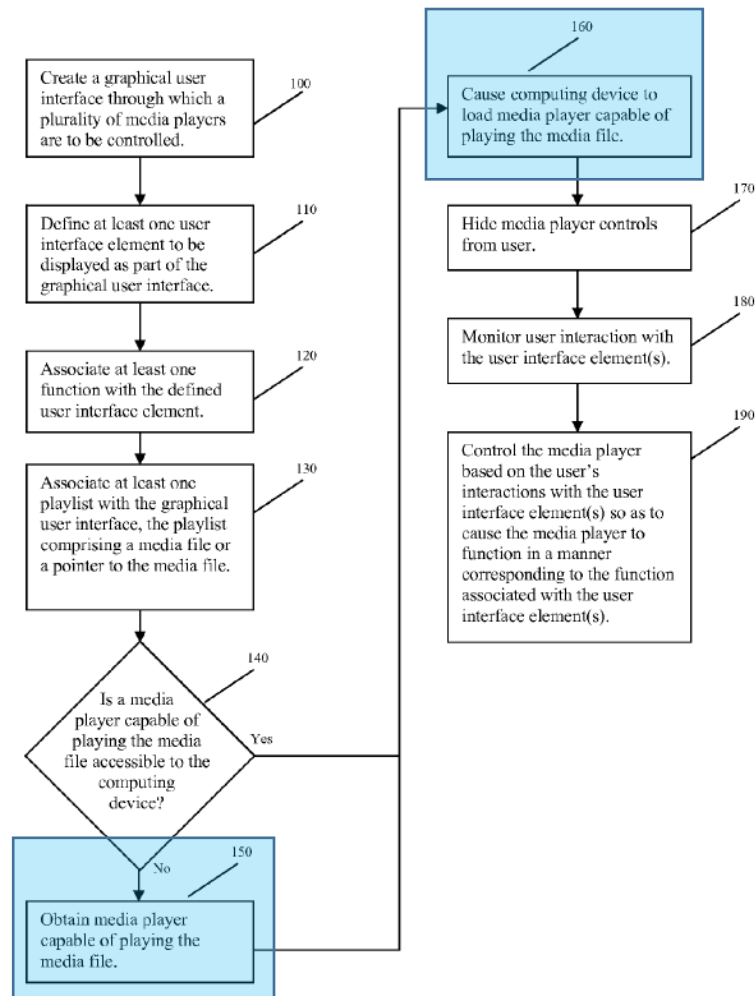


Figure 1

Ex. 1006, FIG. 1 (annotated)

405. Therefore, it is my opinion that Redford in light of Gonze also discloses limitation [22E].

11.14.6. [22F]: “executing the first playback control command with respect to the first video file using the first media player;”

406. It is my opinion that Redford discloses limitation [22F].

407. Redford discloses that “television 303 executes predetermined software, referred to herein as authority-compatible set-top interface software, to display video 302 that is retrieved from the Internet in response to request 301.” Ex. 1005, 12:5-12, 30:23-61.

408. Therefore, it is my opinion that Redford discloses limitation [22F].

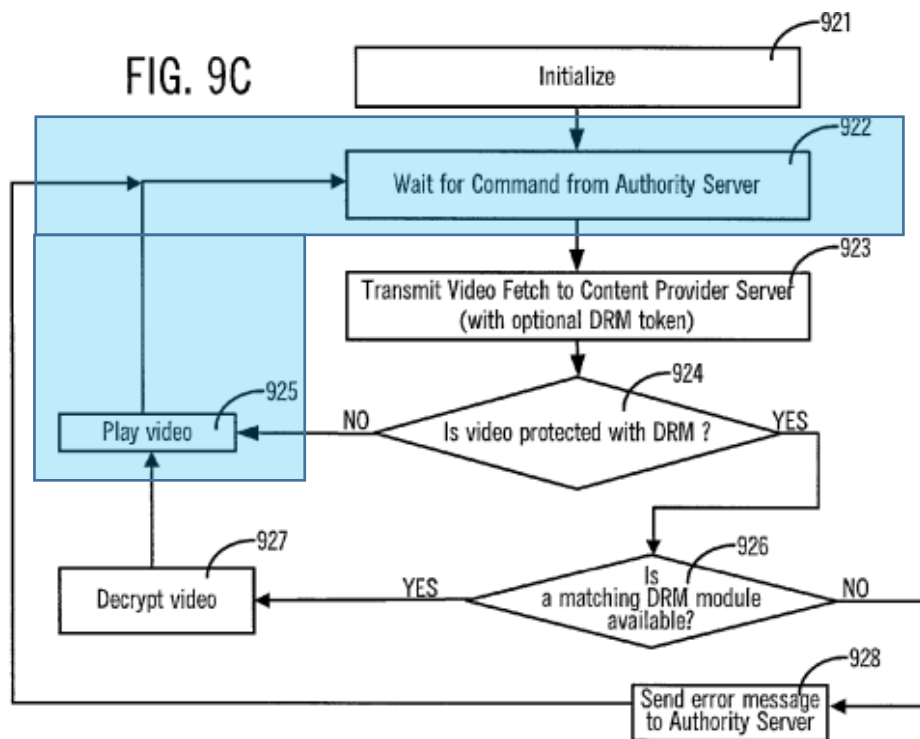
11.14.7. [22G]: “subsequently retrieving, by the display device from the server system, second information that specifies a second video file to be acted upon, that identifies a second media player different from the first media player for playing the second video file, and that indicates corresponding programming code to control playing of the second video file on the display device by the second media player in accordance with a second playback control command, wherein the server system previously received, from the personal computing device, one or more signals specifying the second video file, identifying the second media player and including the second playback control command;”

409. It is my opinion that Redford discloses limitation [22G].

410. Limitation [22G] is no different than limitation [22C] but for a “second video file,” “second media player different from the first media player,” and “second playback control command.” Ex. 1001, claim 22. Redford’s television 303 and

computer system 250 operate in the same manner as described for limitation [11C] for a subsequent command entered from the user's handheld device to computer system 250 and converted to a second playback control command.

411. Redford discloses that television 303 plays a user requested video and then the process “returns to act 922,” to “wait[] for computer system 250 to provide a command ... such as fast forward, rewind, pause, play.” Ex. 1005, 31:14-23, 31:24-35, 31:41-42. In my opinion, a POSITA would have understood Redford to describe a system that allows a user to request and play first and second video files using different media players and respective first and second playback control commands. Ex. 1005, 30:23-61, 40:24-29, 40:56-41:2.



Ex. 1005, FIG. 9C (annotated)

412. Therefore, it is my opinion that Redford discloses limitation [22G].

11.14.8. [22H]: obtaining, by the display device, over the Internet the second media player for playing the second video file;”

413. It is my opinion that Redford-Gonze discloses limitation [22H].

414. As previously described, Gonze describes selecting from a plurality of media players, such as a QuickTime player, RealPlayer, or Microsoft Media Player, based on information in a “browser interpretable document” playlist which contains “a plurality of content entries and a set of instructions for controlling a plurality of media players.” Ex. 1006, [0034]. Gonze further describes determining “whether a media player capable of playing a media file in the playlist has been installed on the computing device,” and, “[i]f no such media player has been installed, the device may be provided with a link through which an appropriate media player can be obtained.” Ex. 1006, [0005], [0006], [0058], [0060], FIG. 1. Gonze further specifies that such a link may be an “Internet connection.” Ex. 1006, [0013]. Thus, Gonze describes that the “link, such as an Internet connection” may be used to obtain a first media player for playing a first video file. Ex. 1006, [0013], FIG. 1.

415. Therefore, it is my opinion that Redford discloses limitation [22H].

11.14.9. [22I]: “loading the second media player in the display device; and”

416. It is my opinion that Redford and Redford-Gonze discloses limitation [22I].

417. As previously described, Redford discloses that television 303 includes “[a]uthority-compatible set-top interface software [that] provides a common set-top API (called iLook set-top SDK API) for any chip vendor implementation of set top functionality” and that “[t]he iLook set-top SDK API is implemented in some embodiments using the existing chip vendor API functions.” Ex. 1005, 40:24-29. “In the iLook set-top SDK API, a function VideoPlay allows video content to be played” using video-streaming protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP), and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. The SDK API may also include media player codecs that decode the content to be displayed. Ex. 1005, 41:1-2, 41:53-54. RTSP, one of the video-streaming protocols, has “varying implementation depending on the content provider and service,” so, accordingly, there may be several implementations of VideoPlay to support the various RTSP players. Ex. 1005, 40:56-41:2. Thus, Redford discloses a display device, television 303, that a POSITA would have understood to have been configured to load any one of the plurality of different media players (various RTSP application software) for presenting the video content for a given VideoPlay implementation.

418. Therefore, in my opinion, Redford discloses limitation [22I].

419. Also discussed above, Gonze discloses that if an appropriate media player has not been installed, a “device may be provided with a link through which

the appropriate media player can be obtained (Block 150).” Ex. 1006, [0058], FIG.

1. Thereafter, “[o]nce an appropriate media player has been identified and its installation status confirmed, the browser in which the instant method is implemented can cause the computing device to load the appropriate media player (Block 160).” Ex. 1006, [0059], FIG. 1.

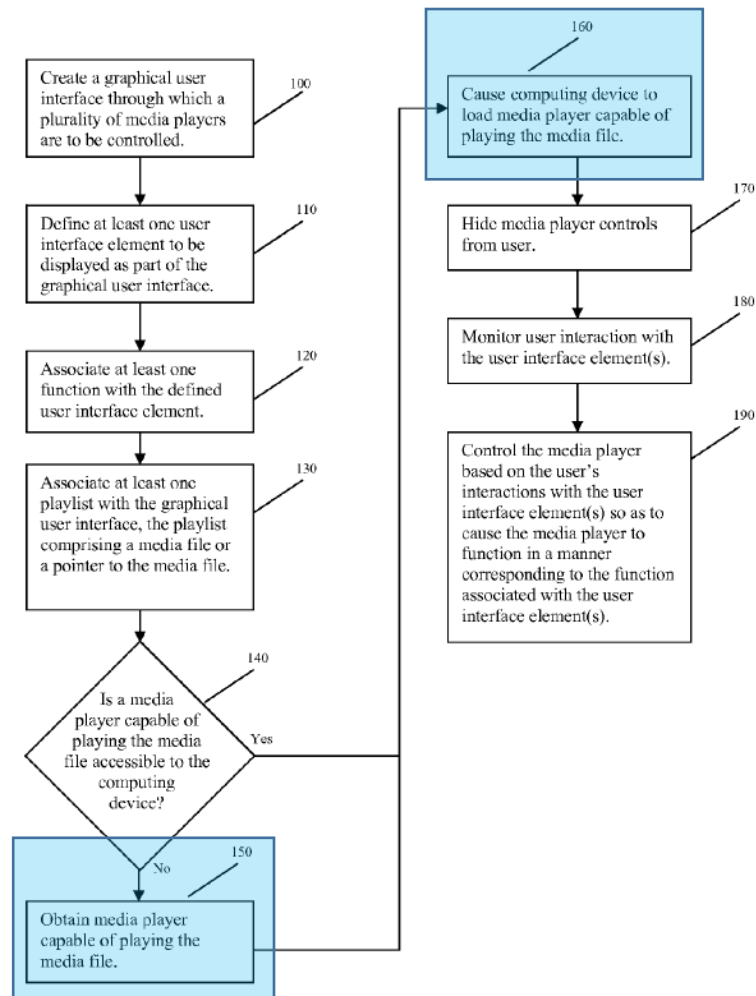


Figure 1

Ex. 1006, FIG. 1 (annotated)

420. Therefore, Redford in light of Gonze discloses limitation [22I].

11.14.10. [22J]: “executing the second playback control command with respect to the second video file using the second media player.”

421. It is my opinion that Redford discloses limitation [22J].

422. As described above, Redford discloses that “television 303 executes predetermined software, referred to herein as authority-compatible set-top interface software, to display video 302 that is retrieved from the Internet in response to request 301.” Ex. 1005, 12:5-12, 30:23-61.

423. Therefore, it is my opinion that Redford discloses limitation [22J].

11.15. Dependent Claim 23: “The method of claim 22 wherein the display device comprises a television set with a display screen.”

424. Claim 23 depends from claim 22 and, as described above, Redford-Bartfeld and Redford-Gonze-Bartfeld each teach each and every limitation of claim 22, [22A]-[22J].

425. Television 303 of Redford is a television set 313 with a display screen 307. Ex. 1005, FIG. 9A.

426. Therefore, it is my opinion that Redford discloses claim 23.

11.16. Dependent Claim 24: “The method of claim 22 wherein the display device comprises a laptop or personal computer.”

427. Claim 24 depends from claim 22 and, as described above, Redford-Bartfeld and Redford-Gonze-Bartfeld each teach each and every limitation of claim 22, [22A]-[22J].

428. Redford discloses that the display device may be an internet-enabled television 303, and notes that “[n]umerous modifications and adaptations of the embodiments described herein will become apparent to the skilled artisan in view of this disclosure.” Ex. 1005, 5:36, 48:16-18, FIGs. 3A-3C, 9A. Gonze discloses a system of using a playlist to make content available such that a playback device can request, receive, and present the content using the proper choice of various media players. Ex. 1006, Abstract, [0010], [0034], [0035], [0040], [0049], [0051], [0052]. Specifically, Gonze discloses that “[t]he operating system ... determines an appropriate application, such as a media player, that should be loaded to handle the file based on information from the file” and the “operating system can cause a locally-installed media player to load, and can send instructions to the locally-installed media player to play [the content].” Ex. 1006, [0035]. This content may be in a variety of media types, such as Quicktime, RealVideo, RealAudio, Windows Media Audio, Windows Media Video, Motion Picture Entertainment Group, MP3, WAVE, or Musical Instrument Digital Interface. And to properly output the content, those various media types often require different media players, such as a QuickTime player, RealPlayer, or Microsoft Media Player to properly output the content. Ex. 1006, [0005], [0006], [0060]. Moreover, Gonze states that “[m]any devices, including, without limitation, personal computers (“PC's”), laptops, personal digital assistants (“PDA's”), cellular telephones, gaming consoles, and

portable media players (“PMP's”) are now capable of playing content.” Ex. 1006, [0010]. And a POSITA would have understood that Redford’s television 303 could have been a user’s “personal computer[]” or “laptop[]” as described in Gonze.

429. Thus, based upon the teachings in Redford, it would have been obvious to a POSITA that Internet-enabled television 303 could have been a personal laptop or computer. Furthermore, modifying the internet-enabled television functionality disclosed in Redford into a personal computer or laptop, as described in Gonze, would be merely using known techniques of supporting multiple media players for presenting content in a playback device in order to improve similar devices, including the server-based video systems of Redford and Gonze, in the same way by applying the teachings of Redford’s television 303 in Gonze’s personal computer or laptop. A POSITA would have had the skills and knowledge to implement Gonze’s personal computer or laptop in Redford’s system by modifying the capabilities of Redford’s Internet-enabled television to be applicable for use in a personal computer or laptop as taught by Gonze. Accordingly, a POSITA would have expected success in applying Gonze’s disclosure of a personal computer or laptop as a playback device to the similar system in Redford that uses a television as playback device, because adding Gonze’s device to Redford’s system would have required only minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

430. Therefore, Redford-Gonze discloses claim [24].

11.17. Dependent Claim 25: “The method of claim 22 wherein each of the first and second commands represents an instruction to play the respective video file, to stop playing the respective video file or to pause playing the respective video file.”

431. Claim 25 depends from claim 22 and, as described above, Redford-Bartfeld and Redford-Gonze-Bartfeld each teach each and every limitation of claim 22, [22A]-[22J].

432. Redford discloses that “PlayVideo is a command to play video on the TV” and that “PauseStream is a command to pause the video at the current play time.” Ex. 1005, 39:16-24, 39:48-49.

433. Therefore, Redford discloses claim [25].

11.18. Dependent Claim 26: “The method of claim 22 wherein the display device checks whether the respective media player needed to play the particular one of the video files already is loaded in the display device before obtaining a copy of the media player over the Internet.”

434. Claim 26 depends from claim 22 and, as described above, Redford-Bartfeld and Redford-Gonze-Bartfeld each teach each and every limitation of claim 22, [22A]-[22J].

435. Gonze describes selecting from “a plurality of media players” based on information in a browser interpretable document. Ex. 1006, [0034]. In particular, Gonze discloses determining “whether a media player capable of playing a media file in the playlist has been installed on the computing device on which the instant method is implemented.” Ex. 1006, [0058]. “If no such media player has been

installed, the device may be provided with a link through which an appropriate media player can be obtained (Block 150).” Ex. 1006, [0058]. But if the proper media player has been installed, the process proceeds without obtaining a copy of the media player over the Internet.” Ex. 1006, FIG. 1.

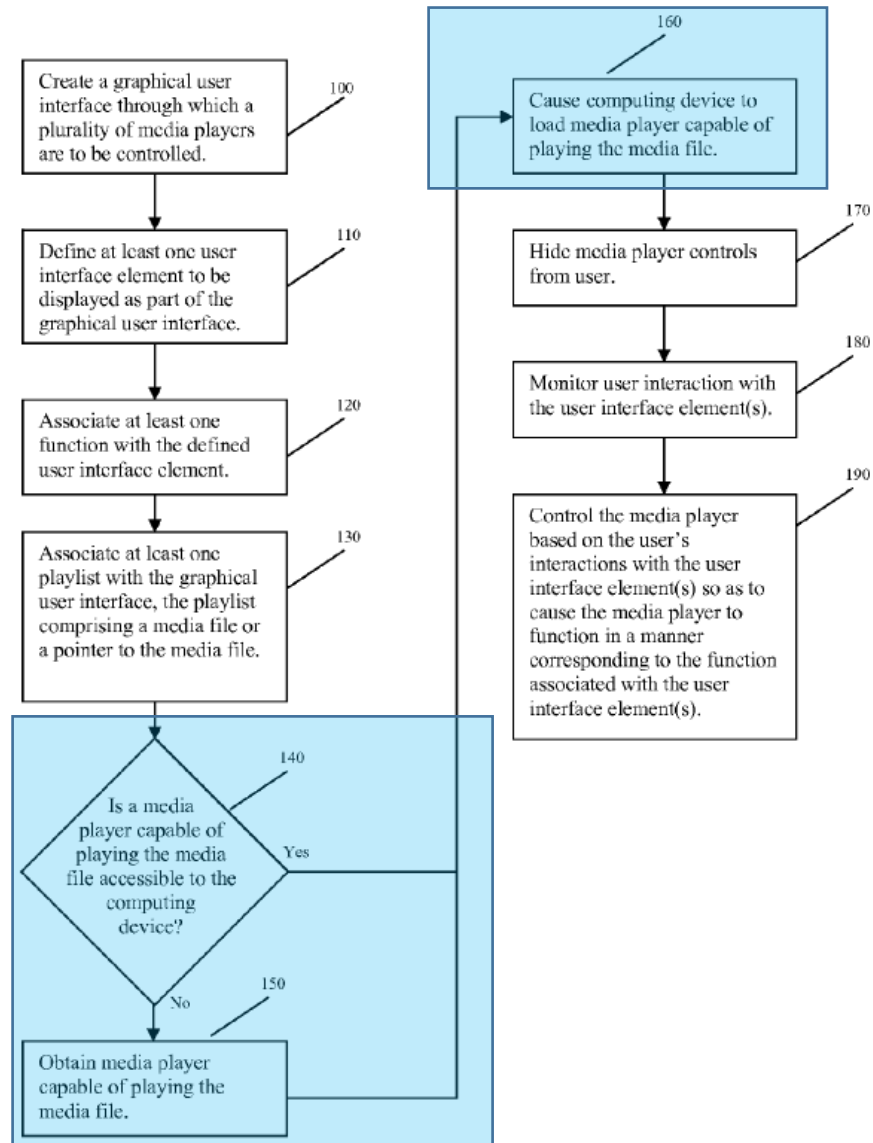


Figure 1

Ex. 1006, FIG. 1 (annotated)

436. Therefore, Redford-Gonze discloses claim [26].

12. REDFORD-CHILVERS, REDFORD-GONZE-CHILVERS, REDFORD-BARTFELD-CHILVERS AND REDFORD-GONZE-BARTFELD-CHILVERS RENDER CLAIMS 2-4 AND 12-15 OBVIOUS

12.1. Dependent Claim 2

12.1.1. [2A]: “The method of claim 1 including:”

437. Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitation [2A], which merely repeats limitations from limitations [1A]-[1H].

438. Therefore, Redford and Redford-Gonze disclose limitation [2A].

12.1.2. [2B]: “checking, in the server system, the identity of the media player identified in the one or more signals from the personal computing device;”

439. Figure 11H in Redford “illustrate[s], in [a] flow chart[], acts performed by the authority server” computer system, beginning with receiving a video request 301 specific to a request to play a user-selected video. Ex. 1005, 4:39-40, 36:41-37:40. Redford further discloses that, after “the system 250 receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGs. 8A-8B, 11H.

440. Redford describes, in the iLook set-top SDK API, a function “VideoPlay” that allows a video content to be played using supported streaming protocols including Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. Ex. 1005, 40:56-58. Redford further teaches that RTSP has “varying implementation[s] depending on the content provider and service,” and “therefore several implementations of VideoPlay” could exist to support the various RTSP players. Ex. 1005, 40:56-63. Consequently, in my opinion, a POSITA would have understood Redford to teach that television 303 was configured to load any of the various RTSP application software for playing the video content for a particular VideoPlay implementation. Redford teaches, for example, a PlayVideo command (a “universal playback control command”) sent from handheld device 200 to computer system 250 to play video on television 303, and a “VideoPlay” command (“corresponding programming code”)—sent from computer system 250 and received by television 303 that allows video content to be played on television 303 via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming— for which there may be several implementations to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2. Furthermore, the exemplary “VideoPlay” command is a function that allows video content to be played by a specific player. Ex. 1005, 40:56-64. Accordingly, a POSITA would have known

from reading Redford that computer system 250 converts the “PlayVideo” command, which was sent from handheld device 200, to a particular “VideoPlay” command, since RTSP has varying implementations depending on the content provider and service and since several implementations of VideoPlay exist to support various these various RTSP players. Redford further specifies that for “embodiments that support multiple content providers,” authority server “computer 282 receives an identifier of the content provider that maintains a repository 834I (FIG. 8B) in which a file containing video 302 is available.” Ex. 1005, 26:64-27:1. Thus, a POSITA would have understood from Redford that the computer system 250 checks, in the video request from handheld device 200, the identity of the identified content provider corresponding to the particular media player.

441. Therefore, Redford renders obvious limitation [2B].

442. To the extent it is determined that Redford does not teach limitation [2B], limitation [2B] was known before the priority date of the '251 Patent as demonstrated by Chilvers.

443. Chilvers describes a system for “remotely accessing user equipment” by “receiving user equipment identification information indicating at least one characteristic of the user equipment,” “receiving from a user device a user request indicating instructions for the user equipment,” and “cross-referenc[ing]” the user request “with an action request in a user equipment format selected from a plurality

of formats to be compatible with the user equipment.” Ex. 1007, 2:6-13. Furthermore, the “action request in the user equipment format is transmitted for receipt by the user equipment for enabling execution of the indicated instructions. Ex. 1007, 2:13-16, FIGs. 4, 13A-13B. Figure 13A is described as a “process 1300 for remotely scheduling an action request with interactive media guidance applications on user equipment.” Ex. 1007, 27:24-26. Chilvers describes a “interactive media guidance application” as “a form of media guidance through an interface that allows users to efficiently navigate media selections and easily identify media that they may desire.” Ex. 1007, 3:37-43.

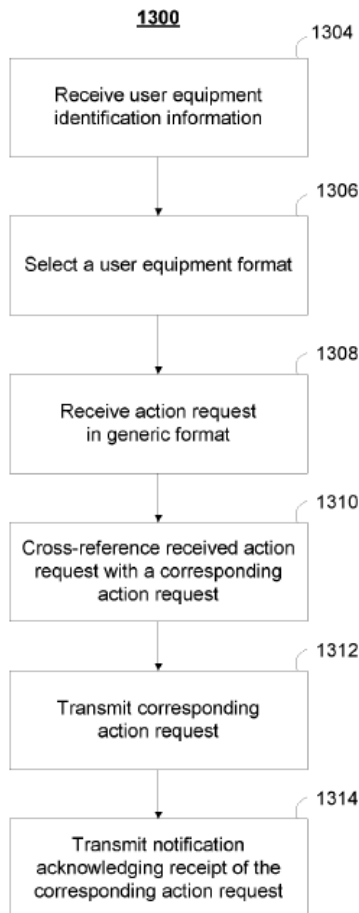


FIG. 13A

Ex. 1007, FIG. 13A

444. Moreover, Chilver’s remote access server 460 receives user equipment identification information, for user equipment, from a remote access user device 440. Ex. 1007, 27:36-42. The user equipment identification information indicates “at least one characteristic of the user equipment” such as a vendor of the user equipment, a model of the user equipment, and/or a unique identifier. Ex. 1007, 18:24-33. As an example, Chilvers discloses that “the user equipment identification information may

indicate that the user equipment includes a 180-hr TiVo Series2 digital video recorder vended by TiVo, Inc. Ex. 1007, 27:42-45.

445. Chilvers further discloses that “a user request may be received by a remote access server” in a generic format for a function offered by an interactive media guidance application, such as order or record. Ex. 1007, Abstract, 1:10-23, 28:9-47. Chilvers explains that, at step 1308, “[t]he user request may be in a format that corresponds to (e.g., be proprietary to) a remote access service provider providing a remote access server, such as remote access server 460, capable of facilitating remote access to a plurality of user equipment devices which do not necessarily have the same application program interface.” Ex. 1007, 28:9-19. Thereafter, the user request from step 1308 “is cross-referenced with an action request in a user equipment format, which may be the user equipment format selected at step 1306” and, thus, indicated by the received user equipment identification information. Ex. 1007, 27:57-66, 28:64-29:46. Specifically, the user request may be cross-referenced with the corresponding action request via a lookup table. Ex. 1007, 28:19-28, 28:64-29:46. The action request is then transmitted to the equipment to execute the properly-formatted instructions. Ex. 1007, Title, Abstract, 1:50-52, 2:6-15, 3:37-43 27:24-26, 28:9-47, 28:64-29:46 Figs. 4, 13A-13B. Thus, Chilvers discloses the server checking for user equipment identification information in order to cross-reference the needed format for the action request from the user

device 440. In this way, Chilvers teaches “checking ... the identity of the media player identified.”

446. From the disclosures of Chilvers, in my opinion, a POSITA would have understood that a server system, such as computer system 250 of Redford that supports various media players, would—as taught by Chilvers— have a means for checking the identity of a media player in a user request. Furthermore, it is my opinion that a POSITA would have understood that information regarding which media player corresponds to a particular user could be supplied to Redford’s handheld device 200—as taught by Chilvers— in advance of a user selecting content, and thus information on the corresponding media player could be included in messages from handheld device 200 to computer system 250 and subsequently in the message from computer system 250 to television 303.

447. A POSITA would have been motivated to implement Redford’s, Redford-Gonze’s, Redford-Bartfeld, and Redford-Gonze-Bartfeld’s system in view of Chilver’s teachings in order to support and select between multiple media players in order to provide instructions that are appropriately formatted for a particular media player. In my opinion, a POSITA would have understood that the proposed systems, with Chilver’s teachings included, ensures that the conversion at the computer system 250 is carried out properly for the particular media player needed for playback. Redford discloses that video on-demand content may streamed from

a server to the user's television, thus recognizing the desirability to users of obtaining content of their choosing at a time of their choosing. Ex. 1005, 2:24-28, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides the capability of executing additional applications, given that "[h]igher level functions that perform video play are usually supplied by the chip vendor or a 3rd party source" but "the iLook settop SDK API is agnostic with respect to the underlying chip set and base applications running on the chip" and the contents in chip flash memory can be "periodically reflash[ed]" to "update[] the firmware." Ex. 1005, 41:56-67. Thus, Redford enables the seamless addition of more functionality to the disclosed system.

448. The routine use of multiple media player applications for presenting media of different formats would have provided a POSITA with the motivation to employ those media players as additional applications in the system disclosed in Redford. A POSITA would have been motivated by the teachings of Chilvers to have computer system 250 check for user equipment identification information — as taught by Chilvers— in order to cross-reference the information for the required proper format for the action request from the handheld device 200.

449. Combining Chilvers with Redford would be merely using known techniques of checking the identity of a particular media player in a received signal to improve similar devices, those devices being server-based video systems, in the

same way by ensuring proper signals are used for Redford's conversion. Furthermore, Chilvers teaches a system similar to that in Redford, where received information indicates the available content choices, a user selects from that available content, and a server provides information to the display device regarding how to access and output the selected content.

450. A POSITA would have had the skills and knowledge to check the identity of a particular media player in Redford's system, as taught by Chilvers, by incorporating the ability to check the identity of a particular media player, among a plurality of media players, as disclosed in Chilvers and based on information received in messages from the handheld device 200, into Redford's computer system 250. Therefore, it is my opinion that a POSITA would have expected success in applying Chilvers' teaching for checking the identity of various media players as needed to the similar system in Redford, which supports various media players, because adding Chilvers' aforementioned teaching for determining which media player to load to Redford's television 303 would have required only minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

451. Thus, in my opinion, Redford-Chilvers renders limitation [2B] obvious.

12.1.3. [2C]: “loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the media player; and”

452. As previously discussed, Redford-Chilvers teaches that a user request, such as ordering or recording content, “is cross-referenced with an action request in a user equipment format, which may be the user equipment format selected at step 1306” and indicated by the received user equipment identification information. Ex. 1007, 27:57-66, 28:64-29:46. Specifically, the user request is cross-referenced with the corresponding action request via lookup table. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers describes that “[p]rocessing circuitry 464 of remote access server 460 may perform the cross-referencing and may retrieve information from storage 470, which may store the lookup table in any suitable format such as, in Structured Query Language (SQL) format.” Ex. 1007, 29:12-16. Chilvers further describes that application program interface (API) 462 is “an application run by processing

circuitry 464 and stored on storage 470.” Ex. 1007, 15:45-47, FIGs. 4-5.

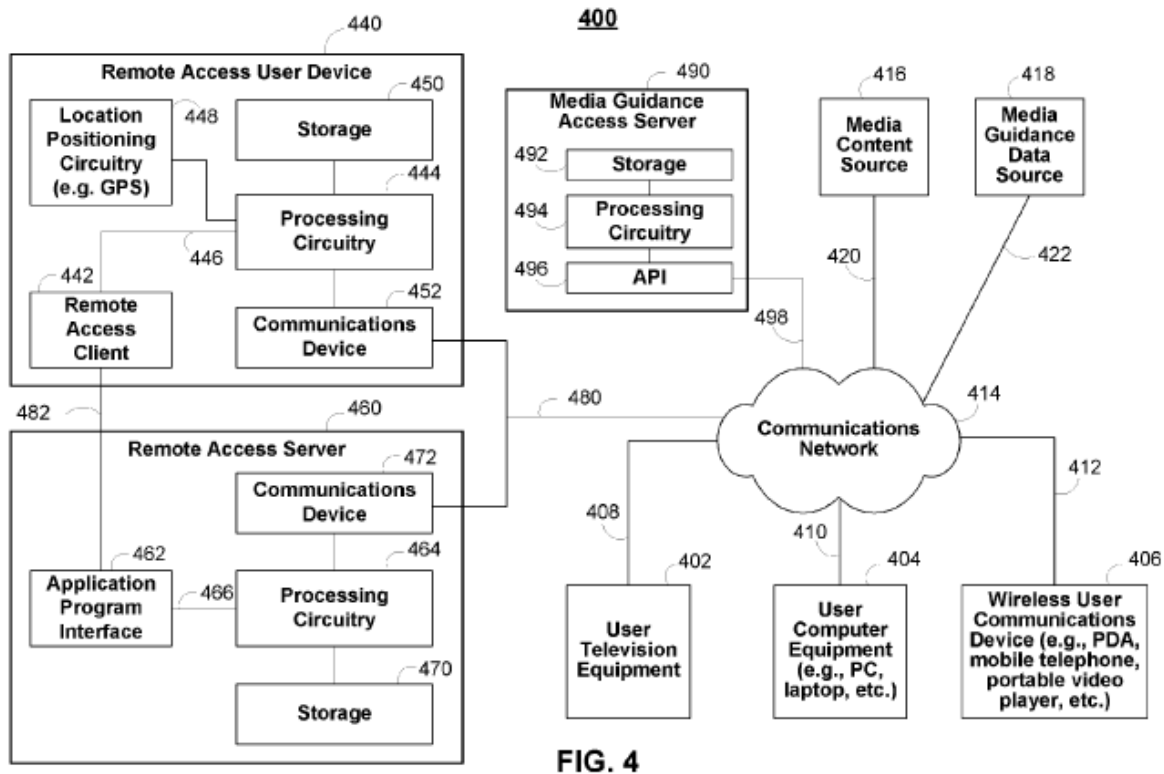


FIG. 4

Ex. 1007, FIG. 4

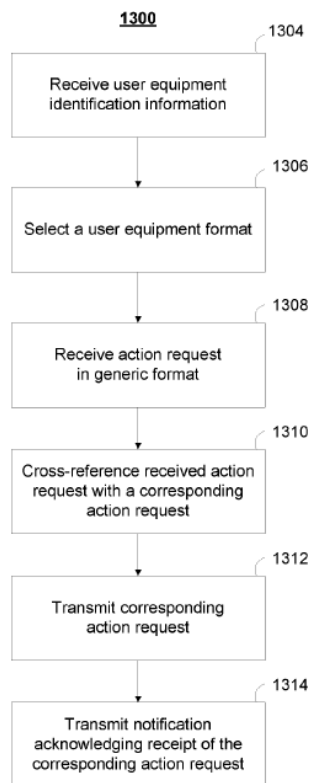
453. Thus, Chilvers teaches that server 460 loads an appropriate set of protocols or application programming interfaces, such as Chilver’s API 462, from a storage library based on the identity of the media player, such as Chilver’s user equipment identification information.

454. Therefore, Redford-Chilvers renders limitation [2C] obvious.

12.1.4. [2D]: “converting the command from the personal computing device into corresponding code to control the media player.”

455. Chilvers discloses that a “user request may be received by [a] remote access server” in a generic format for a function offered by an interactive media

guidance application, such as order or record. Ex. 1007, Abstract, 1:10-23, 28:9-47. Specifically, Chilvers explains that, at step 1308, “[t]he user request may be in a format that corresponds to (e.g., be proprietary to) a remote access service provider providing a remote access server, such as remote access server 460, capable of facilitating remote access to a plurality of user equipment devices which do not necessarily have the same application program interface.” Ex. 1007, 28:9-19.



Ex. 1007, FIG. 13A

456. Moreover, the generic user requests may be cross-referenced with the corresponding action request via a lookup table. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers provides an “illustrative lookup table 1350 for cross-referencing user

requests with action requests in a plurality of formats.” Ex. 1007, 29:17-46.

<u>Generic Command</u>	<u>TiVo Series2 DVR Cmd</u>	<u>Comcast CVC8 DVR</u> <u>Cmd</u>	<u>DirecTV XR2 HD-DVR</u> <u>Cmd</u>
RECORD	REC	RC1	837068X
SET REMINDER	REM	RM4	837078X
...	...	...	...

FIG. 13B

Ex. 1007, FIG. 13B

457. Thus, depending on the given user equipment identification information, the generic-format command from the user's device is converted, via the look-up table, to the corresponding command code needed to control the media player. For example, using illustrative lookup table 1350, above, "837068X" would be a DirectTV XR2 HD-DVR command for the generic command to record. Ex. 1007, FIG. 13B.

458. In my opinion, a POSITA would have understood that, in the Redford-Chilvers and the Redford-Gonze-Chilvers systems, by utilizing a look-up table that allows for cross-referencing generic user commands to specific user equipment commands, a command for the required media player (as taught by Redford and

Redford-Gonze) may be identified and thereafter used as part of the storing step in
aforementioned limitation [1H].

12.2. Dependent Claim 3: “The method of claim 1 wherein converting the command into corresponding programming code to control the media player includes using information in a look-up table.”

461. Redford-Chilvers teaches that the generic-format command from the user's device is converted, via a look-up table, to the corresponding command code needed to control the media player. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers illustrates this in Figure 13B, as the generic commands in column 1352 may be cross-referenced with the codes for various media players in the columns 1354.

Ex. 1007, FIG. 13B (annotated)

12.3. Dependent Claim 4: “The method of claim 3 wherein the look-up table stores a plurality of specific commands, each of which represents, respectively, a corresponding command for a different media player.”

463. Claim 4 depends from claim 3 and Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitations [1A]-[1H] as well as claim 3.

464. Redford-Chilvers teaches that the generic-format command from the user’s device is converted, via a look-up table, to the corresponding command code needed to control the media player. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers illustrates this in Figure 13B, as the generic commands in column 1352 may be cross-referenced with the codes for various media players in the columns 1354. As shown in Figure 13B below, look-up table 1350 stores referenceable information regarding commands specific to each supported media player or user equipment (such as REC and REM, which is specific to the TiVo Series2 DVR Cmd) and the corresponding generic command (such as Record and Set Reminder). In my opinion, a POSITA would understand this teaching in Chilvers to be applicable to different software media players in Redford.

1350			
Generic Command	TiVo Series2 DVR Cmd	Comcast CVC8 DVR	DirecTV XR2 HD-DVR
RECORD	REC	RC1	837068X
SET REMINDER	REM	RM4	837078X
...	...	...	...

1352 1354 1358

Ex. 1007, FIG. 13B (annotated)

465. Therefore, Redford-Chilvers renders claim 4 obvious.

12.4. Dependent Claim 12

12.4.1. [12A]: “The system of claim 11 including:”

466. Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitation [12A], which merely repeats limitations from limitations [11A]-[11F].

467. Therefore, Redford and Redford-Gonze disclose limitation [12A].

12.4.2. [12B] “a library storing protocols or application programming interfaces,”

[12C]: “wherein the server system is configured to check the identity of the media player identified in the one or more signals from the personal computing device, load an appropriate set of protocols or application programming interfaces from the library based on the identity of the media player, and convert the command from the personal computing device into a corresponding programming code to control the media player.”

468. Redford “illustrate[s], in [a] flow chart[], acts performed by the authority server” computer system, beginning with receiving a video request 301

specific to a request to play a user-selected video. Ex. 1005, 4:39-40, 36:41-37:40. Redford further discloses that, after “the system 250 receives a command to, for example, play video, the computer system “Retrieve[s] from Database, association of internet-enabled TV with Handheld Device,” “Send[s] Command to Computer of [specified] Content Provider to Play Video (including video identifier and TV identifier),” and “Send[s] to internet-enabled TV, the URL of video” to allow the television to fetch and play the user-requested content from the corresponding content provider. Ex. 1005, 29:4-20, 36:41-53, FIGs. 8A-8B, 11H.

469. Redford teaches a PlayVideo command sent from handheld device 200 to computer system 250 to play video on television 303, and a “VideoPlay” command sent from computer system 250 and received by television 303 that allows video content to be played on television 303 via protocols such Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming including media player codecs needed for decoding the content for display and several implementations of VideoPlay existing to support various RTSP players. Ex. 1005, 39:22, 40:56-41:2, 41:53-54.

470. Accordingly, in my opinion, a POSITA would have known from Redford that for computer system 250 to convert the “PlayVideo” command from handheld device 200 to a particular “VideoPlay” command, given that RTSP has varying implementations depending on the content provider and service and since

several implementations of VideoPlay exist to support various these various RTSP players, computer system 250 identifies the particular media player, e.g., RTSP player, in the video request from the handheld device 200. Ex. 1005, 39:22, 40:56-41:2, 41:53-54. Redford further specifies that for “embodiments that support multiple content providers,” authority server “computer 282 receives an identifier of ... the content provider that maintains a repository 834I (FIG. 8B) in which a file containing video 302 is available.” Ex. 1005, 26:64-27:1. Thus, a POSITA would have understood from Redford that the computer system 250 checks, in the video request from handheld device 200, the identity of the identified content provider corresponding to the particular media player.

471. Therefore, Redford renders limitations [12B] and [12C] obvious.

472. To the extent that Redford does not teach limitations [12B] and [12C], the limitations were known before the priority date of the '251 Patent as demonstrated by Chilvers.

473. Chilvers describes a system for “remotely accessing user equipment” by “receiving user equipment identification information indicating at least one characteristic of the user equipment,” “receiving from a user device a user request indicating instructions for the user equipment,” and “cross-referenc[ing]” the user request “with an action request in a user equipment format selected from a plurality of formats to be compatible with the user equipment.” Ex. 1007, 2:6-13.

Furthermore, the “action request in the user equipment format is transmitted for receipt by the user equipment for enabling execution of the indicated instructions. Ex. 1007, 2:13-16, FIGs. 4, 13A-13B. Figure 13A is described as a “process 1300 for remotely scheduling an action request with interactive media guidance applications on user equipment.” Ex. 1007, 27:24-26. Chilvers describes a “interactive media guidance application” as “a form of media guidance through an interface that allows users to efficiently navigate media selections and easily identify media that they may desire.” Ex. 1007, 3:37-43.

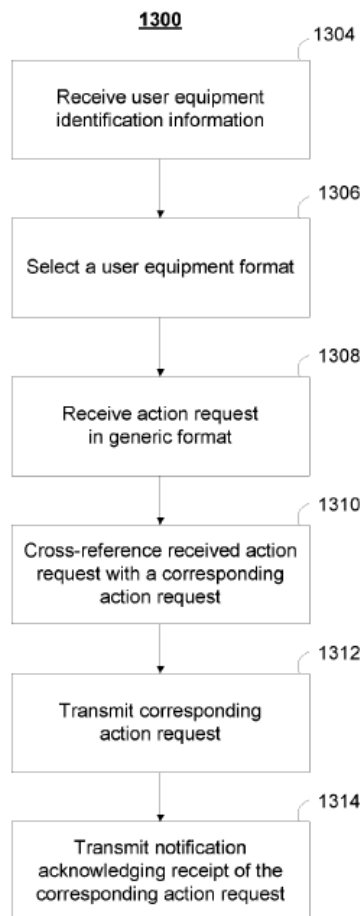


FIG. 13A

Ex. 1007, FIG. 13A

474. Moreover, Chilver's remote access server 460 receives user equipment identification information, for user equipment, from a remote access user device 440. Ex. 1007, 27:36-42. The user equipment identification information indicates "at least one characteristic of the user equipment" such as a vendor of the user equipment, a model of the user equipment, and/or a unique identifier. Ex. 1007, 18:24-33. As an example, Chilvers discloses that "the user equipment identification information may indicate that the user equipment includes a 180-hr TiVo Series2 digital video recorder vended by TiVo, Inc. Ex. 1007, 27:42-45.

475. Chilvers further discloses that "a user request may be received by a remote access server" in a generic format for a function offered by an interactive media guidance application, such as order or record. Ex. 1007, Abstract, 1:10-23, 28:9-47. Chilvers explains that, at step 1308, "[t]he user request may be in a format that corresponds to (e.g., be proprietary to) a remote access service provider providing a remote access server, such as remote access server 460, capable of facilitating remote access to a plurality of user equipment devices which do not necessarily have the same application program interface." Ex. 1007, 28:9-19. Thereafter, the user request from step 1308 "is cross-referenced with an action request in a user equipment format, which may be the user equipment format selected at step 1306" and, thus, indicated by the received user equipment

identification information. Ex. 1007, 27:57-66, 28:64-29:46. Specifically, the user request may be cross-referenced with the corresponding action request via a lookup table. Ex. 1007, 28:19-28, 28:64-29:46. Thus, Chilvers discloses the server checking for user equipment identification information in order to cross-reference the needed format for the action request from the user device 440. In this way, Chilvers teaches “checking ... the identity of the media player identified in the one or more signals from the personal computing device.”

476. It is my opinion that, based on Chilvers’ teachings, a POSITA would have understood that a server system, such as computer system 250 of Redford that supports various media players, would —as taught by Chilvers— have a means for checking the identity of a media player in a user request. Furthermore, it is my opinion that a POSITA would have understood that information regarding which media player corresponds to a particular user could be supplied to Redford’s handheld device 200 —as taught by Chilvers— in advance of a user selecting content, and thus information on the corresponding media player could be included in messages from handheld device 200 to computer system 250 and subsequently in the message from computer system 250 to television 303.

477. A POSITA would have been motivated to implement Redford’s and Redford-Gonze’s systems in view of Chilver’s teachings in order to support and select between multiple media players in order to provide additional options for

playing back content to users. Redford discloses that video on-demand content may be streamed from a server to the user's television, thus recognizing the desirability to users of obtaining content of their choosing at a time of their choosing. Ex. 1005, 2:24-28, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides the capability of executing additional applications, given that "[h]igher level functions that perform video play are usually supplied by the chip vendor or a 3rd party source" but "the iLook settop SDK API is agnostic with respect to the underlying chip set and base applications running on the chip" and the contents in chip flash memory can be "periodically re-flash[ed]" to "update[] the firmware." Ex. 1005, 41:56-67. Thus, Redford enables the seamless addition of more functionality to the disclosed system. Additionally, the routine use of multiple media player applications for presenting media of different formats would have provided a POSITA with the motivation to employ those media players as additional applications in the system disclosed in Redford. A POSITA would have been motivated by the teachings of Chilvers to have Redford's and Redford-Gonze's, computer system 250 check for user equipment identification information—as taught by Chilvers—in order to cross-reference the information for the required format for the action request from the handheld device 200.

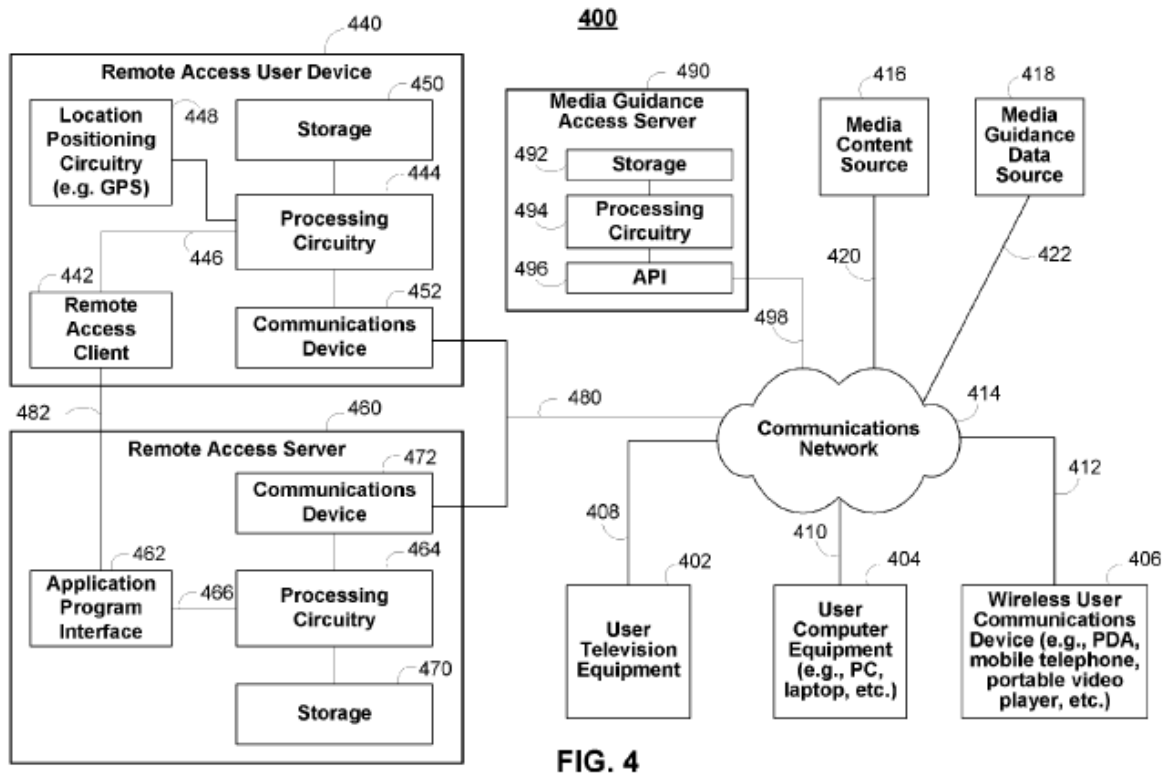
478. Combining Chilvers with Redford would be merely using known techniques of supporting multiple media players for presenting content by

identifying a suitable media player to improve similar devices, those devices being server-based video systems, in the same way by selecting between the various media players based on the selected content's format. Furthermore, Chilvers teaches a system similar to that in Redford, where received information indicates the available content choices, a user selects from that available content, and a server provides information to the display device regarding how to access and output the selected content.

479. In my opinion, a POSITA would have had the skills and knowledge to check the identity of a particular media player in Redford's system, as taught by Chilvers, by incorporating the ability to check the identity of a particular media player, among a plurality of media players, as disclosed in Redford and based on information received in messages from the handheld device 200, into Redford's computer system 250. Therefore, it is my opinion that a POSITA would have expected success in applying Chilvers' teaching for checking the identity of various media players as needed to the similar system in Redford, which supports various media players, because adding Chilvers' aforementioned teaching for determining which media player to load to Redford's television 303 would have required only minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

480. Redford-Chilvers teaches that a user request, such as ordering or recording content, “is cross-referenced with an action request in a user equipment format, which may be the user equipment format selected at step 1306” and indicated by the received user equipment identification information. Ex. 1007, 27:57-66, 28:64-29:46. Specifically, the user request is cross-referenced with the corresponding action request via lookup table. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers describes that “[p]rocessing circuitry 464 of remote access server 460 may perform the cross-referencing and may retrieve information from storage 470, which may store the lookup table in any suitable format such as, in Structured Query Language (SQL) format.” Ex. 1007, 29:12-16. Chilvers further describes that application program interface (API) 462 is “an application run by processing

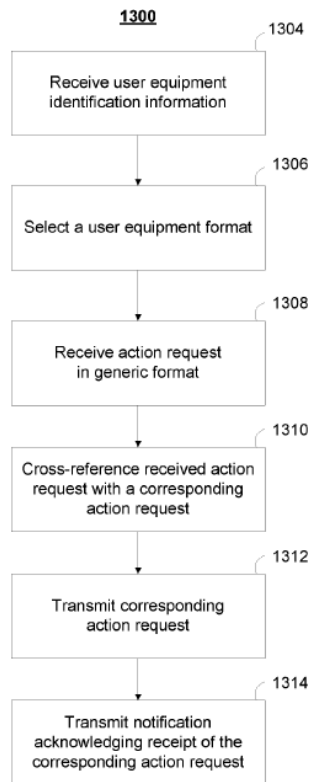
circuitry 464 and stored on storage 470.” Ex. 1007, 15:45-47, FIGs. 4-5.



Ex. 1007, FIG. 4

481. Thus, Chilvers teaches that server 460 loads an appropriate set of protocols or application programming interfaces, such as Chilver’s API 462, from a storage library based on the identity of the media player, such as Chilver’s user equipment identification information. Moreover, Chilvers explains that, at step 1308, “[t]he user request may be in a format that corresponds to (e.g., be proprietary to) a remote access service provider providing a remote access server, such as remote access server 460, capable of facilitating remote access to a plurality of user

equipment devices which do not necessarily have the same application program interface.” Ex. 1007, 28:9-19.



Ex. 1007, FIG. 13A

482. Moreover, the generic user requests may be cross-referenced with the corresponding action request via a lookup table. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers provides an “illustrative lookup table 1350 for cross-referencing user

requests with action requests in a plurality of formats.” Ex. 1007, 29:17-46.

1350

1354			
<u>Generic Command</u>	<u>TiVo Series2 DVR Cmd</u>	<u>Comcast CVC8 DVR</u>	<u>DirecTV XR2 HD-DVR</u>
		<u>Cmd</u>	<u>Cmd</u>
RECORD	REC	RC1	837068X
SET REMINDER	REM	RM4	837078X
...	...	...	...

1352

1358

FIG. 13B

Ex. 1007, FIG. 13B

483. Thus, depending on the given user equipment identification information, the generic-format command from the user’s device is converted, via the look-up table, to the corresponding command code needed to control the media player. For example, using illustrative lookup table 1350, above, “837068X” would be a DirecTV XR2 HD-DVR command for the generic command to record. Ex. 1007, FIG. 13B.

484. It is my opinion that, in the Redford-Chilvers and Redford-Gonze-Chilvers systems, a POSITA would have understood that, in the Redford-Chilvers and the Redford-Gonze-Chilvers systems, by utilizing a look-up table that allows for cross-referencing generic user commands to specific user equipment commands, a command for the required media player (as taught by Redford and Redford-Gonze)

may be identified and thereafter used as part of the storing step in aforementioned limitation [1H].

485. Therefore, Redford-Chilvers renders limitations [12B] and [12C] obvious.

12.5. Dependent Claim 13

12.5.1. [13A]: “The system of claim 11 including:”

486. Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitation [13A], which merely repeats limitations from limitations [11A]-[11F].

487. Therefore, Redford and Redford-Gonze disclose limitation [13A].

12.5.2. [13B]: “a look-up table storing a plurality of commands each of which is for a particular type of media player,”

[13C]: “wherein the server system is configured to convert the command into corresponding programming code to control the media player based on information in the look-up table.”

488. As previously discussed, Redford-Chilvers teaches that the generic-format command from the user’s device is converted, via a look-up table, to the corresponding command code needed to control the media player. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers illustrates this in Figure 13B, as the generic commands in column 1352 may be cross-referenced with the codes for various media players in the columns 1354.

1350			
Generic Command	TiVo Series2 DVR Cmd	Comcast CVC8 DVR	DirecTV XR2 HD-DVR
		Cmd	Cmd
	RECORD	RC1	837068X
	SET REMINDER	RM4	837078X
...	...	...	...

1352

1354

1358

Ex. 1007, FIG. 13B (annotated)

489. Therefore, Redford-Chilvers renders limitations [13B] and [13C] obvious.

12.6. Dependent Claim 14: “The system of claim 11 wherein the look-up table stores a correspondence between the universal command and a plurality of specific commands, each of which is for a different media player.”

490. Claim 14 depends from claim 11 and Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitations [11A]-[11F].

491. As discussed above, Redford-Chilvers teaches that the generic-format command from the user’s device is converted, via a look-up table, to the corresponding command code needed to control the media player. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers illustrates this in Figure 13B, as the generic commands in column 1352 may be cross-referenced with the codes for various media players in the columns 1354. As shown in Figure 13B below, look-up table 1350 stores referenceable information regarding commands specific to each supported media player or user equipment (such as REC and REM, which is specific to the TiVo

Series2 DVR Cmd) and the corresponding generic command (such as Record and Set Reminder). In my opinion, a POSITA would understand this teaching in Chilvers to be applicable to different software media players in Redford.

1350

Generic Command	TiVo Series2 DVR Cmd	Comcast CVC8 DVR Cmd	DirecTV XR2 HD-DVR Cmd
RECORD	REC	RC1	837068X
SET REMINDER	REM	RM4	837078X
...	...	...	...

1352 1354 1358

Ex. 1007, FIG. 13B (annotated)

492. Therefore, Redford-Chilvers renders claim 14 obvious.

12.7. **Dependent Claim 15:** “The system of claim 14 the server system is configured to convert the universal command by selecting from among the plurality of specific commands stored in the look-up table.”

493. Claim 15 depends from claim 14 and Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach claim 14.

494. As discussed above, Redford-Chilvers teaches that the generic-format command from the user’s device is converted, via a look-up table, to the corresponding command code needed to control the media player. Ex. 1007, 28:19-28, 28:64-29:46. Chilvers illustrates this in Figure 13B, as the generic commands in column 1352 may be cross-referenced with the codes for various media players in the columns 1354. As shown in Figure 13B below, look-up table 1350 stores

referenceable information regarding commands specific to each supported media player or user equipment (such as REC and REM, which is specific to the TiVo Series2 DVR Cmd) and the corresponding generic command (such as Record and Set Reminder). In my opinion, a POSITA would understand this teaching in Chilvers to be applicable to different software media players in Redford.

1350

The diagram shows a table with four columns. The first column is labeled 'Generic Command' and has rows for 'RECORD', 'SET REMINDER', and '...'. The second column is labeled 'TiVo Series2 DVR Cmd' and has rows for 'REC', 'REM', and '...'. The third column is labeled 'Comcast CVC8 DVR' and has rows for 'Cmd', 'RC1', 'RM4', and '...'. The fourth column is labeled 'DirecTV XR2 HD-DVR' and has rows for 'Cmd', '837068X', '837078X', and '...'. A bracket labeled '1352' spans the first column. A bracket labeled '1354' spans the last three columns. A bracket labeled '1358' spans the third and fourth columns.

Generic Command	TiVo Series2 DVR Cmd	Comcast CVC8 DVR	DirecTV XR2 HD-DVR
RECORD	REC	Cmd	Cmd
SET REMINDER	REM	RC1	837068X
...	...	RM4	837078X
...	...	...	...

Ex. 1007, FIG. 13B (annotated)

495. Therefore, Redford-Chilvers renders claim 15 obvious.

13. REDFORD-MALIK, REDFORD-GONZE-MALIK, REDFORD-BARTFELD-MALIK, AND REDFORD-GONZE-BARTFELD-MALIK RENDER CLAIMS 6 AND 17 OBVIOUS

13.1. Dependent Claim 6: “The method of claim 1 wherein the video content is an interactive video game.”

496. Claim 6 depends from claim 1 and Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitations [1A]-[1H].

497. Redford’s system allows a user to stream video content for output to a display device, television 303. Ex. 1005, 6:40-52, 11:37-12:12, 21:20-30, 22:5-23,

22:47-61, FIGs. 2B, 3A-3C, 6A-6B, 8A-8B, 11A. Redford discloses that video content includes “on-demand” and “live broadcast.” Ex. 1005, 2:53-58, 4:66-5:4, 5:28-41, 6:3-5, 7:22-26, 47:1-2. Redford further discloses that video content “can be from different types of content providers” such as “a movie studio that produces normal movies, such as Paramount Pictures,” a provider that “supplies movies on demand using the Internet, such as Zillion,” a provider that “rents movies” and “supports download of movies via the Internet on digital video records like TiVo” (such as Netflix), and a “provider which makes user-submitted videos available for download via the Internet” (such as Youtube). Ex. 1005, 7:30-43.

498. Malik discloses a game server 110, which adds a remote communication device 170 to an interactive video game based on the user request sent via the wireless communication device 170, which is used as a data controller by users that join the interactive video game that is outputted on a display. Ex. 1008, [0022], [0029], [0030]. Similar to the use of URL addressing in Redford, the wireless communications device 170 in Malik allows for “a request to join the game by entering a ... hypertext transfer protocol (HTTP), or other address associated with game instance 112 on game server 110. Ex. 1005, 29:4-20, 36:41-52; Ex. 1008, [0035].

499. In my opinion, it would have been obvious to apply the video content presentation system that facilitates access to various types of content providers such

that one content provider is a provider of interactive video games as taught by Malik. And, in view of Malik, it would have been obvious to modify the system of Redford and Redford-Gonze to similarly search for and request interactive video game content from an interactive video game content provider. Ex. 1005, 7:28-43.

500. Based on the teachings of Malik, a POSITA would have understood that Redford's disclosed video content from a number of different types of content providers could include other types of video content provided by other types of content providers that would have been known to a POSITA, such as interactive video game content provided by a game server, as disclosed in Malik. Furthermore, a POSITA would have understood that Redford discloses a system that includes various video content providers and does not limit or exclude any video content providers. Certainly, Redford does not exclude interactive video game content from video content providers.

501. It is my opinion that a POSITA would have been motivated to implement Redford's system in view of Malik's disclosures such that a user is able to request interactive video game video content in order to provide additional options for playing back content, thus offering a better user experience. Redford already describes various types of video content, and therefore recognizes the appeal to users of obtaining content of their choosing at a time of their choosing. Ex. 1005, 4:57-5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides

the capability of executing additional applications thus enabling the easy addition of additional functionality to Redford's system, including applications directed to interactive gaming. Ex. 1005, 41:56-67; Ex. 1008, [0017], [0018]. Furthermore, the routine use of various content providers to support presenting media of various types and formats would have provided a POSITA with motivation to implement interactive video game content providers as a type of content provider in the system disclosed by Redford.

502. To combine Malik with Redford would be to merely use known techniques of supporting different types of video content providers for presenting different types of video content in order to improve similar devices (the server-based video systems of Redford and Malik) in the same way by selecting between the multiple service providers based on the type of user-selected video content, such as an interactive video game. Malik teaches a system similar to that in Redford in which information received indicates the available content choices, a user selects from that available content, and a server provides information to the display device regarding how to access and output the selected content.

503. Additionally, a POSITA would have had the skills and knowledge to implement support for interactive video game content providers, as disclosed by Malik, in Redford's system by incorporating the ability to receive a video request for an interactive video game into Redford's computer system 250. Thus, it is my

opinion that a POSITA would have expected success in applying Malik's teaching of interactive video game content providers to the similar system from Redford which supports various video content providers, because adding Malik's game server to Redford's computer 250 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA. In my opinion, a POSITA would have understood that implementing certain commands in the proposed systems with Malik to be a converted command for video game content. One such example is a pause command. A POSITA would have known that many interactive video games included the ability to allow a user to pause the interactive video game experience. In the proposed systems, when combined with Malik, a user playing an interactive video game would pause the interactive video game per the teaching of a pause command described above in Redford.

504. Therefore, Redford-Malik, Redford-Gonze-Malik, Redford-Bartfeld-Malik, and Redford-Bartfeld-Gonze-Malik discloses claim 6.

13.2. Dependent Claim 17: "The system of claim 11 wherein the video content is an interactive video game."

505. Claim 17 depends from claim 11 and Redford, Redford-Gonze, Redford-Bartfeld, and Redford-Gonze-Bartfeld each teach limitations [11A]-[11F].

506. As discussed above, Redford's system allows a user to stream video content for output to a display device, television 303. Ex. 1005, 6:40-52, 11:37-

12:12, 21:20-30, 22:5-23, 22:47-61, FIGs. 2B, 3A-3C, 6A-6B, 8A-8B, 11A. Redford discloses that video content includes “on-demand” and “live broadcast.” Ex. 1005, 2:53-58, 4:66-5:4, 5:28-41, 6:3-5, 7:22-26, 47:1-2. Redford further discloses that video content “can be from different types of content providers” such as “a movie studio that produces normal movies, such as Paramount Pictures,” a provider that “supplies movies on demand using the Internet, such as Zillion,” a provider that “rents movies” and “supports download of movies via the Internet on digital video records like TiVo” (such as Netflix), and a “provider which makes user-submitted videos available for download via the Internet” (such as Youtube). Ex. 1005, 7:30-43.

507. Furthermore, Malik discloses a game server 110, which adds a remote communication device 170 to an interactive video game based on the user request sent via the wireless communication device 170, which is used as a data controller by users that join the interactive video game that is outputted on a display. Ex. 1008, [0022], [0029], [0030]. Similar to the use of URL addressing in Redford, the wireless communications device 170 in Malik allows for “a request to join the game by entering a ... hypertext transfer protocol (HTTP), or other address associated with game instance 112 on game server 110. Ex. 1005, 29:4-20, 36:41-53; Ex. 1008, [0035].

508. In my opinion, it would have been obvious to apply the video content presentation system that facilitates access to various types of content providers such that one content provider is a provider of interactive video games as taught by Malik. And, in view of Malik, it would have been obvious to modify the system of Redford and Redford-Gonze to similarly search for and request interactive video game content from an interactive video game content provider. Ex. 1005, 7:28-43.

509. In my opinion, based on the teachings of Malik, a POSITA would have understood that Redford's disclosed video content from a number of different types of content providers could include other types of video content provided by other types of content providers that would have been known to a POSITA, such as interactive video game content provided by a game server, as disclosed in Malik. Furthermore, a POSITA would have understood that Redford discloses a system that includes various video content providers and does not limit or exclude any video content providers.

510. It is my opinion that a POSITA would have been motivated to implement Redford's system in view of Malik's disclosures such that a user is able to request interactive video game video content in order to provide additional options for playing back content, thus offering a better user experience. Redford already describes various types of video content, and therefore recognizes the appeal to users of obtaining content of their choosing at a time of their choosing. Ex. 1005, 4:57-

5:4, 5:34-36, 7:22-26, 7:33-35, 11:37-42, 12:8-12, 27:4-16. Redford also provides the capability of executing additional applications thus enabling the easy addition of additional functionality to Redford's system, including applications directed to interactive gaming. Ex. 1005, 41:56-67; Ex. 1008, [0017], [0018]. Furthermore, the routine use of various content providers to support presenting media of various types and formats would have provided a POSITA with motivation to implement interactive video game content providers as one of the various types of content providers in Redford's system.

511. To combine Malik with Redford would be to merely use known techniques of supporting different types of video content providers for presenting different types of video content in order to improve similar devices (the server-based video systems of Redford and Malik) in the same way by selecting between the multiple service providers based on the type of user-selected video content, such as an interactive video game. Malik teaches a system similar to that in Redford in which information received indicates the available content choices, a user selects from that available content, and a server provides information to the display device regarding how to access and output the selected content.

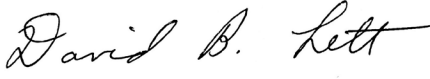
512. Additionally, a POSITA would have had the skills and knowledge to implement support for interactive video game content providers, as disclosed by Malik, in Redford's system by incorporating the ability to receive a video request

for an interactive video game into Redford's computer system 250. Thus, it is my opinion that a POSITA would have expected success in applying Malik's teaching of interactive video game content to the similar system from Redford which supports various video content providers, because adding Malik's game server to Redford's computer 250 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA.

513. Therefore, Redford-Malik and Redford-Gonze-Malik discloses claim 17.

14. CONCLUSION

514. All of the statements made in this declaration of my own knowledge are true. All statements made based on information and belief are believed to be true. I declare under penalty of perjury that the foregoing is true and correct.

Dated: 12/27/2023 By: 
David B. Lett

CLAIM LISTING APPENDIX

U.S. Pat. No. 8,356,251

Designation	Claim Language
Claim 1	
[1A]	1. A machine-implemented method of controlling presentation of video content on a display device that loads any one of a plurality of different media players, the method comprising:
[1B]	assigning, by a server system, a synchronization code to the display device;
[1C]	receiving, in the server system, a message from a personal computing device that is separate from the server system and separate from the display device, wherein the message includes the synchronization code;
[1D]	storing, by the server system, a record establishing an association between the personal computing device and the display device based on the synchronization code;
[1E]	receiving, in the server system, one or more signals from the personal computing device, the one or more signals specifying a video file to be acted upon and identifying a particular media player for playing the video content,
[1F]	the one or more signals further including a universal playback control command for controlling playing of the video content on the display device by the particular media player,
[1G]	converting, by the server system, the universal playback control command into corresponding programming code to control playing of the video content on the display device by the particular media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player; and
[1H]	storing, in a database associated with the server system, information for transmission to or retrieval by the display device, wherein the information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding

Designation	Claim Language
	programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command.
Claim 2	
[2A]	2. The method of claim 1 including:
[2B]	checking, in the server system, the identity of the media player identified in the one or more signals from the personal computing device;
[2C]	loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the media player; and
[2D]	converting the command from the personal computing device into corresponding code to control the media player.
Claim 3	
3	3. The method of claim 1 wherein converting the command into corresponding programming code to control the media player includes using information in a look-up table.
Claim 4	
4	4. The method of claim 3 wherein the look-up table stores a plurality of specific commands, each of which represents, respectively, a corresponding command for a different media player.
Claim 5	
5	5. The method of claim 1 wherein the universal command represents an instruction to play the video content, to stop playing the video content or to pause playing the video content.
Claim 6	
6	6. The method of claim 1 wherein the video content is an interactive video game.
Claim 7	
7	7. The method of claim 1 wherein the video content is streaming media.
Claim 8	
8	8. The method of claim 1 wherein the synchronization code is uniquely associated with the display device on which the video content is to be played.
Claim 9	

Designation	Claim Language
9	9. The method of claim 8 wherein the synchronization code is different from an IP address associated with the display device and is different from a MAC address associated with the display device.
Claim 10	
10	10. The method of claim 8 wherein assigning a synchronization code includes assigning a randomly generated code to the display device each time the display device connects to the server system.
Claim 11	
[11A]	11. A system for controlling playing of video content on a display device that loads any one of a plurality of different media players, the system comprising:
[11B]	a server system;
[11C]	a first database storing a relationship between a personal computing device and the display device based on a synchronization code assigned by the server system to the display device and received by the server system in a message from the personal computing device, wherein the personal computing device is separate from the server system and separate from the display device; and
[11D]	a second database;
[11E]	wherein the server system is configured to receive one or more signals from the personal computing device, the one or more signals specifying a video file to be acted upon and identifying a particular media player for playing the video content, the one or more signals further including a universal playback control command for controlling playing of the video content on the display device,
[11F]	one or more non-transitory computer-readable media storing instructions that when executed by the server system, cause the server system to perform operations including converting the universal playback control command into corresponding programming code to control playing of the video content by the particular media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a

Designation	Claim Language
	corresponding playback control command for a respective media player;
[11G]	the server system being further configured to store in the second database information for transmission to or retrieval by the display device, wherein the information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command.
Claim 12	
[12A]	12. The system of claim 11 including:
[12B]	a library storing protocols or application programming interfaces,
[12C]	wherein the server system is configured to check the identity of the media player identified in the one or more signals from the personal computing device, load an appropriate set of protocols or application programming interfaces from the library based on the identity of the media player, and convert the command from the personal computing device into a corresponding programming code to control the media player.
Claim 13	
[13A]	13. The system of claim 11 including:
[13B]	a look-up table storing a plurality of commands each of which is for a particular type of media player,
[13C]	wherein the server system is configured to convert the command into corresponding programming code to control the media player based on information in the look-up table.
Claim 14	
14	14. The system of claim 11 wherein the look-up table stores a correspondence between the universal command and a plurality of specific commands, each of which is for a different media player.
Claim 15	

Designation	Claim Language
15	15. The system of claim 14 the server system is configured to convert the universal command by selecting from among the plurality of specific commands stored in the look-up table.
Claim 16	
16	16. The system of claim 11 wherein the universal command represents an instruction to play the video content, to stop playing the video content or to pause playing the video content.
Claim 17	
17	17. The system of claim 11 wherein the video content is an interactive video game.
Claim 18	
18	18. The system of claim 11 wherein the video content is streaming media.
Claim 19	
19	19. The system of claim 11 wherein the synchronization code is uniquely associated with the display device on which the video content is to be played.
Claim 20	
20	20. The system of claim 19 wherein the synchronization code is different from an IP address associated with the display device and is different from a MAC address associated with the display device.
Claim 21	
21	21. The system of claim 19 wherein the server system is configured to assign as the synchronization code a randomly generated code each time the display device connects to the server system.
Claim 22	
[22A]	22. An automated machine-implemented method of presenting video content on a display device that loads any one of a plurality of different media players, the method comprising:
[22B]	displaying, by the display device, a synchronization code that was assigned to the display device by a server system, the server system subsequently storing, based on a message from a personal computing device that is separate from the server system and the display device, an association between the

Designation	Claim Language
	display device and the personal computing device, the message from the personal computing device including the synchronization code;
[22C]	retrieving, by the display device from the server system, first information that specifies a first video file to be acted upon, that identifies a first media player for playing the first video file, and that indicates corresponding programming code to control playing of the first video file on the display device by the first media player in accordance with a first playback control command, wherein the server system previously received, from the personal computing device, one or more signals specifying the first video file, identifying the first media player and including the first playback control command;
[22D]	obtaining, by the display device, over the Internet the first media player for playing the first video file;
[22E]	loading the first media player in the display device;
[22F]	executing the first playback control command with respect to the first video file using the first media player;
[22G]	subsequently retrieving, by the display device from the server system, second information that specifies a second video file to be acted upon, that identifies a second media player different from the first media player for playing the second video file, and that indicates corresponding programming code to control playing of the second video file on the display device by the second media player in accordance with a second playback control command, wherein the server system previously received, from the personal computing device, one or more signals specifying the second video file, identifying the second media player and including the second playback control command;
[22H]	obtaining, by the display device, over the Internet the second media player for playing the second video file;
[22I]	loading the second media player in the display device; and
[22J]	executing the second playback control command with respect to the second video file using the second media player.
Claim 23	

Designation	Claim Language
23	23. The method of claim 22 wherein the display device comprises a television set with a display screen.
Claim 24	
24	24. The method of claim 22 wherein the display device comprises a laptop or personal computer.
Claim 25	
25	25. The method of claim 22 wherein each of the first and second commands represents an instruction to play the respective video file, to stop playing the respective video file or to pause playing the respective video file.
Claim 26	
26	26. The method of claim 22 wherein the display device checks whether the respective media player needed to play the particular one of the video files already is loaded in the display device before obtaining a copy of the media player over the Internet.