

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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COMCAST CABLE COMMUNICATIONS, LLC,  
Petitioner,

v.

TOUCHSTREAM TECHNOLOGIES, INC.,  
Patent Owner.

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Patent No. 11,086,934

Filing Date: June 30, 2020

Issue Date: August 10, 2021

Title: PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

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*Inter Partes* Review No.: IPR2024-00325

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

## **TABLE OF CONTENTS**

|                                                                                                                                           |      |
|-------------------------------------------------------------------------------------------------------------------------------------------|------|
| MANDATORY NOTICES .....                                                                                                                   | viii |
| I. INTRODUCTION .....                                                                                                                     | 1    |
| II. SUMMARY OF ARGUMENT .....                                                                                                             | 1    |
| III. OVERVIEW OF THE '934 PATENT.....                                                                                                     | 1    |
| A. Brief Description .....                                                                                                                | 1    |
| B. Prosecution History .....                                                                                                              | 3    |
| C. Earliest Priority Date for the Claims.....                                                                                             | 5    |
| IV. OVERVIEW OF PRIOR ART .....                                                                                                           | 5    |
| A. Redford .....                                                                                                                          | 5    |
| B. Gonze .....                                                                                                                            | 7    |
| C. Bartfeld .....                                                                                                                         | 7    |
| V. IDENTIFICATION OF CHALLENGE PURSUANT TO 37 C.F.R.<br>§ 42.104(b).....                                                                  | 8    |
| A. Claims for Which Review is Requested and Grounds on Which<br>Challenge Is Based .....                                                  | 8    |
| B. 314(a) Discretion Does Not Apply .....                                                                                                 | 8    |
| C. 325(d) Discretion Does Not Apply .....                                                                                                 | 9    |
| D. Level of Ordinary Skill.....                                                                                                           | 10   |
| E. Claim Construction.....                                                                                                                | 10   |
| VI. SPECIFIC GROUNDS FOR UNPATENTABILITY .....                                                                                            | 11   |
| A. Grounds A and B: Claims 1-20 are Rendered Obvious by<br>Redford In View of Bartfeld and Redford in View of Bartfeld<br>and Gonze ..... | 11   |
| 1. Independent Claim 1.....                                                                                                               | 11   |
| 2. Dependent Claim 2 .....                                                                                                                | 47   |
| 3. Dependent Claim 3 .....                                                                                                                | 49   |
| 4. Dependent Claim 4 .....                                                                                                                | 50   |
| 5. Dependent Claim 5 .....                                                                                                                | 52   |

|       |                                            |    |
|-------|--------------------------------------------|----|
| 6.    | Dependent Claim 6 .....                    | 53 |
| 7.    | Dependent Claim 7 .....                    | 56 |
| 8.    | Independent Claim 8.....                   | 57 |
| 9.    | Dependent Claim 9 .....                    | 61 |
| 10.   | Dependent Claim 10.....                    | 61 |
| 11.   | Dependent Claim 11 .....                   | 62 |
| 12.   | Dependent Claim 12 .....                   | 62 |
| 13.   | Dependent Claim 13 .....                   | 62 |
| 14.   | Dependent Claim 14.....                    | 63 |
| 15.   | Dependent Claim 15 .....                   | 63 |
| 16.   | Dependent Claim 16.....                    | 63 |
| 17.   | Independent Claim 17.....                  | 64 |
| 18.   | Dependent Claim 18 .....                   | 68 |
| 19.   | Dependent Claim 19 .....                   | 69 |
| 20.   | Dependent Claim 20 .....                   | 69 |
| VII.  | GROUPS FOR STANDING & FEE PAYMENT.....     | 69 |
| VIII. | CONCLUSION .....                           | 70 |
|       | CERTIFICATION UNDER 37 CFR § 42.24(d)..... | 71 |
|       | CERTIFICATE OF SERVICE.....                | 72 |
|       | CLAIM LISTING APPENDIX.....                | 73 |

## EXHIBITS

|              |                                                                                                                                                     |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Ex. 1001:    | U.S. Pat. No. 11,086,934 (“the ’934 Patent”)                                                                                                        |
| Ex. 1002:    | Expert Declaration of David B. Lett                                                                                                                 |
| Ex. 1003:    | Curriculum Vitae of David B. Lett                                                                                                                   |
| Ex. 1004:    | Certified Prosecution History of the ’934 Patent                                                                                                    |
| Ex. 1005:    | U.S. Pat. No. 8,660,545 (“Redford”)                                                                                                                 |
| Ex. 1006:    | U.S. Pub. No. 2008/0235588 (“Gonze”)                                                                                                                |
| Ex. 1007-17: | Reserved                                                                                                                                            |
| Ex. 1018:    | U.S. Pub. No. 2006/0107299 (“Bartfeld”)                                                                                                             |
| Ex. 1019:    | Reserved                                                                                                                                            |
| Ex. 1020:    | Joint Claim Construction Statement, <i>Touchstream Technologies, Inc. v. Google LLC</i> , 6:21-cv-00569-ADA (WDTX) (Feb. 8, 2022)                   |
| Ex. 1021:    | Exhibit 1 to Joint Disputed Claim Terms Charts, <i>Touchstream Technologies, Inc. v. Vizbee, Inc.</i> , 1:17-cv-06247-PGG-KNF (SDNY) (Aug. 6, 2018) |
| Ex. 1022:    | Jury Instructions, <i>Touchstream Technologies, Inc. v. Google LLC</i> , 6:21-cv-00569-ADA (WDTX) (July 21, 2023)                                   |
| Ex. 1023-29: | Reserved                                                                                                                                            |
| 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: Reserved
- Ex. 1037: U.S. Pat. No. 7,343,419 (“Robinson”)
- Ex. 1038-40: Reserved
- 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: Reserved
- 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: Reserved
- 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: U.S. Pat. No. 9,767,195 to Strober (“the ’195 Patent”)
- Ex. 1074: Certified Prosecution History for U.S. Patent No. 9,767,195
- Ex. 1075: U.S. Pat. No. 11,048,751 to Strober (“the ’751 Patent”)

- Ex. 1076: Certified Copy of Prosecution History of U.S. Pat. No.  
11,048,751
- Ex. 1077-81: Reserved
- Ex. 1082: Stipulation Regarding Invalidity Defenses

## MANDATORY NOTICES

### **Real Parties in Interest (37 C.F.R. § 42.8(b)(1))**

The real parties-in-interest for this petition are (i) Comcast Cable Communications, LLC and (ii) Comcast Corporation.

No unnamed entity is funding, controlling, or directing this Petition for *inter partes* review (IPR) of U.S. Patent No. 11,086,934 (“the ’934 Patent”), or otherwise has an opportunity to control or direct this Petition or Petitioner’s participation in any resulting IPR.

### **Related Matters (37 C.F.R. § 42.8(b)(2))**

The ’934 Patent, along with related U.S. Patent Nos. 8,356,251 (“the ’251 Patent”) and 11,048,751 (“the ’751 Patent”), is being asserted against Comcast Cable Communications, LLC, d/b/a Xfinity, Comcast Cable Communications Management, LLC, and Comcast of Houston, LLC in the Eastern District of Texas in *Touchstream Technologies, Inc. v. Comcast Cable Communications, LLC d/b/a Xfinity et al.*, 2:23-cv-00062-JRG (“EDTX Litigation”). The earliest date of service on any of the Comcast entities named in the EDTX Litigation was March 1, 2023, however the ’934 and ’751 Patents were first asserted in a First Amended Complaint served on May 25, 2023.

The ’251, ’751, and ’934 Patents are also presently being asserted against Charter Communications, Inc., Charter Communications Operating, LLC, Spectrum

Management Holding Company, LLC, Time Warner Cable Enterprises, LLC, and Spectrum Gulf Coast, LLC in *Touchstream Technologies, Inc. v. Charter Communications, Inc. et al*, 2:23-cv-00059-JRG (EDTX); and against Altice USA, Inc., Cequel Communications, LLC, CSC Holdings, LLC, and Friendship Cable of Texas, Inc. in *Touchstream Technologies, Inc. v. Altice USA, Inc. et al*, 2:23-cv-00060-JRG (EDTX).

The '251 Patent is also presently being asserted against Google LLC in *Touchstream Technologies, Inc. v. Google LLC*, 6:21-cv-00569-ADA (WDTX) along with related U.S. Patent Nos. 8,782,528 (“the '528 Patent”) and 8,904,289 (“the '289 Patent”). The '251, '528, and '289 Patents were the subject of requests for *inter partes* review filed by Google LLC in IPR2022-00795, IPR2022-00793, and IPR2022-00794 (presently on appeal). The real parties-in-interest in this Petition are not involved in any of those IPRs. The '251, '528, and '289 Patents were previously asserted against Vizbee, Inc. in *Touchstream Technologies, Inc. v. Vizbee, Inc.*, 1:17-cv-06247-PGG-KNF (SDNY) which was terminated by stipulated dismissal on January 24, 2020.

According to the Office’s records, the '934 Patent is a continuation of U.S. Pat. App. No. 15/687,249, filed August 25, 2017 (issued as the '751 Patent), which is a continuation of U.S. Pat. App. No. 13/532,546, filed June 25, 2012 (issued as U.S. Pat. No. 9,767,195), which is a continuation-in-part of U.S. Pat. App. No.

13/157,821, filed June 10, 2011 (issued as the '289 Patent). The '934 Patent claims priority to Provisional App. No. 61/477,998, filed April 21, 2011.

No other petitions for *inter partes* review, post-grant review, or covered business method review have been filed against the '934 Patent.

This is the first of two petitions for *inter partes* review filed by Petitioner against the '934 Patent. Petitioner is also filing petitions for *inter partes* review against the related '251 and '751 Patents.

**Lead and Back-Up Counsel (37 C.F.R. § 42.8(b)(3))**

Petitioner designates counsel listed below. A power of attorney for counsel is being concurrently filed.

|                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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## **I. INTRODUCTION**

Comcast Cable Communications, LLC (“Petitioner”) petitions for *inter partes* review and cancellation of claims 1-20 of U.S. Patent No. 11,086,934 (“the ’934 Patent”) (Ex. 1001).

## **II. SUMMARY OF ARGUMENT**

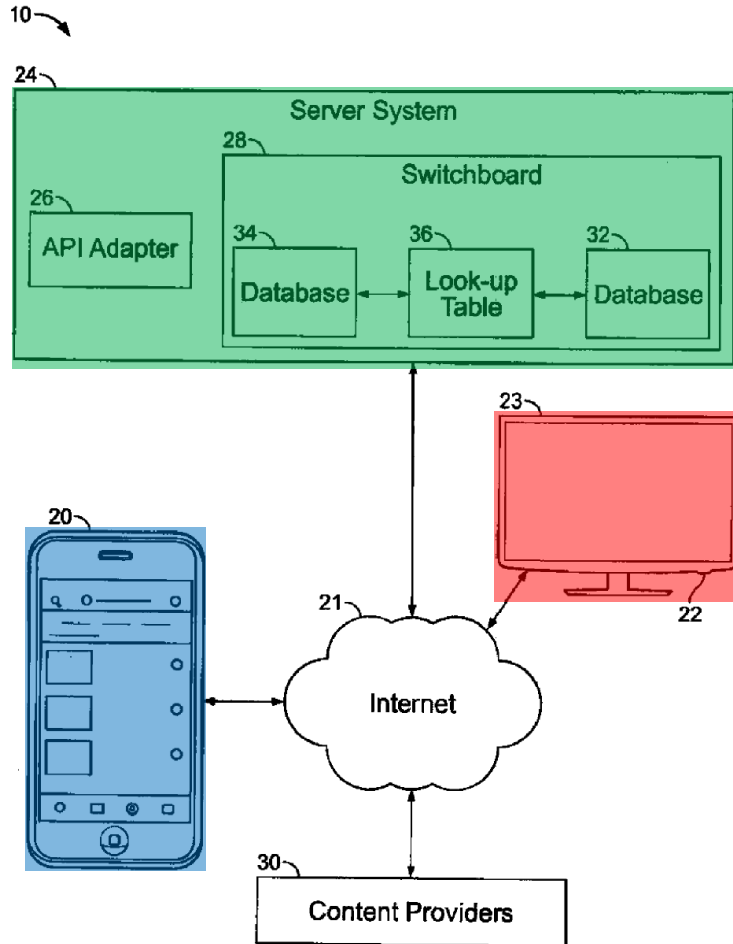
The ’934 Patent claims systems and methods directed to translating commands among associated devices to control media. The methods present video content on a display device using one of various media players, via messages transmitted from a computer. The messages are converted into commands for the selected media player and then transmitted to a display device. In one embodiment, the display device is assigned a synchronization code used to associate the computer with the display device and stored in the server.

The ’934 Patent claims are disclosed and rendered obvious by the prior art relied on herein, in view of the declaration of Mr. Lett.

## **III. OVERVIEW OF THE ’934 PATENT**

### **A. Brief Description**

The ’934 Patent describes a system 10 for using a server system 24 (**green**) to facilitate a connection between a personal computing device 20 (**blue**) for selecting content, and a television/display device 22 (**red**) for displaying the selected content. Ex. 1001, 3:15-3:28; Ex. 1002, ¶¶ 40-42.



Ex. 1001, Fig. 1 (annotated)

The connection between the personal computing device (e.g., a mobile phone) and the display device may be established by the user selecting from a list of devices displayed on the mobile phone's screen or alternatively the user can enter a unique identifier on the mobile phone that is uniquely associated with the display device. Ex. 1001, 5:27-35. The unique identifier can be obtained from, for example, a text or QR code displayed on the screen of the display device. Ex. 1001, 5:35-42. The

server system may then store the association between the personal computing device and display device. Ex. 1001, 5:49-54.

When a user selects particular content on the mobile phone, a message is formatted and transmitted to the server which contains information to facilitate the playback of video content. Ex. 1001, 4:41-57. The message is received by the server and the information is stored in a database. Ex. 1001, 4:58-5:6. The server then confirms if a connection between the personal computing device and display device, and copies the message information to a database associated with the display device. Ex. 1001, 5:61-6:6. The server also identifies the media player requested in the message and converts the commands from the personal computing device into the correct code for use on the display device to control the media player. Ex. 1001, 6:6-39. The information in the database associated with the display device is then transmitted to, or retrieved by the display device. Ex. 1001, 6:39-49. The display device then acts on the message information by, for example, loading the requested media player, obtaining the selected video content file, and playing the video. Ex. 1001, 6:50-7:4.

## **B. Prosecution History**

The application that led to the '934 Patent, U.S. Application No. 16/917,095, was filed on June 30, 2020, as a Track 1 application filed under the First Action Interview Full Pilot Program. Ex. 1004, pp. 1-2; Ex. 1002, ¶¶ 43-66. The application

was a continuation of U.S. Application No. 15/687,249, filed August 25, 2017, which was a continuation of U.S. Application No. 13/532,546, filed June 25, 2012, which was a continuation-in-part of U.S. Patent No. of 13/157,821, filed June 10, 2011, which claimed the benefit of U.S. Provisional Application No. 61/477,998, filed April 21, 2011. Ex. 1001, cover.

The '934 Patent was initially rejected under the pilot program in view of U.S. Pub. No. 2009/0172780 to Sukeda et al. as to claims 1, 5, 8, 12, 15, and 16, and Sukeda in view of U.S. Pub. No. 2009/0248802 to Mahajan as to the remaining claims. *Id.*, pp. 66-86. Mahajan was cited by the Office as a secondary reference (to Sukeda) “to improve the device with reasonable expectation that this would result in a content display device that could ‘facilitate effective communication between the server and client such that the user’s media playback commands are executable on the client independent of platforms employed on the server and client’ as suggested by Mahajan (paragraph [0014])”. *Id.*, pp. 74-76.

On March 3, 2021, the Applicant amended the claims to recite “a first media playing application.” *Id.*, pp. 779-785. Still, the rejections were maintained (*Id.*, pp. 793-820), and the Applicant further amended to further recite “a first type of media playing application” and “select the first type of media playing application... based at least in part on its association with the piece of content referenced in the received set of messages.” *Id.*, pp. 879-884. This amendment was alleged to distinguish from

the Office’s citation of a “content body 177” in Sukeda as “a first media playing application.” *Id.*, p. 888. Applicant further argued only generically that Mahajan failed to cure the deficiencies in Sukeda, while conceding that “Applicant submits that Mahajan’s translations for playback commands are being performed based on a ‘client’s media platform.’” *Id.*, p. 890.

Following those amendments, and interview, the Application was allowed on June 30, 2021. *Id.*, pp. 910-917.

### **C. Earliest Priority Date for the Claims**

The earliest possible priority date for the claims of the ’934 Patent is April 21, 2011, the filing date of U.S. Provisional Application No. 61/477,998 to which the ’934 Patent claims priority. Ex. 1001, cover; Ex. 1002, ¶ 34. Each of the references relied on herein is prior art to that date as explained below.

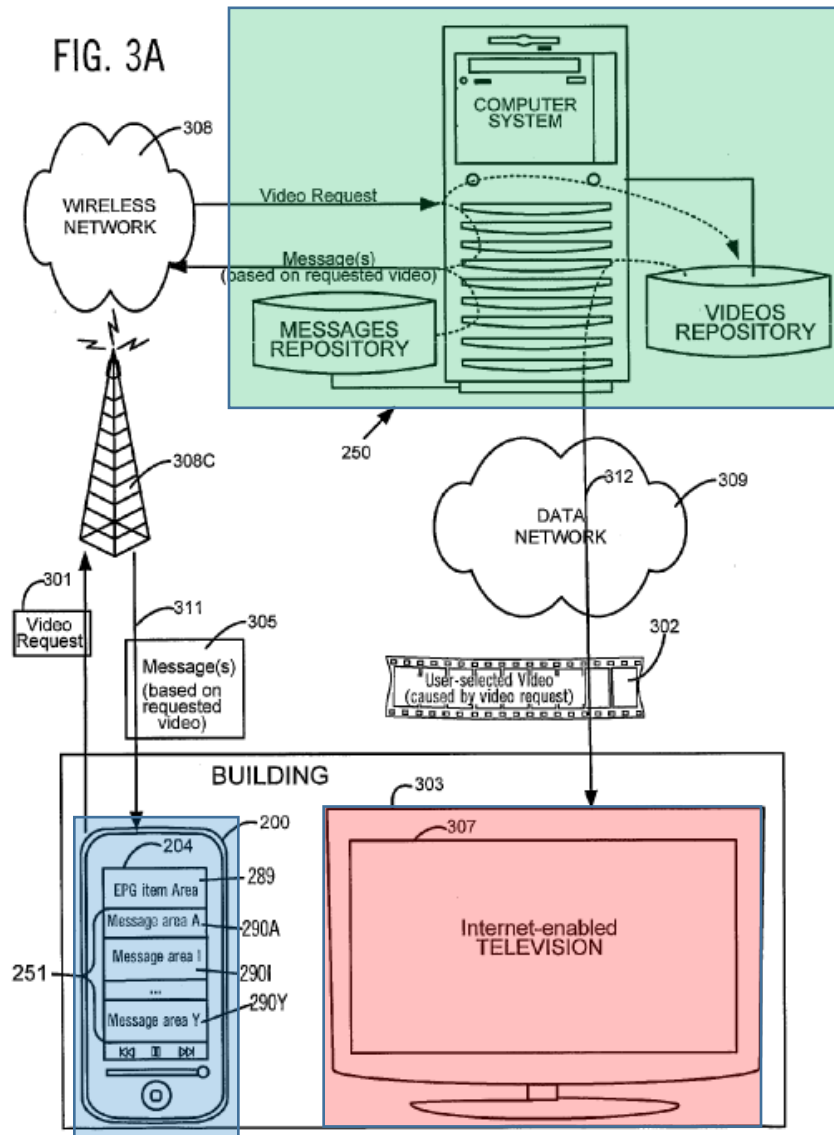
## **IV. OVERVIEW OF PRIOR ART**

### **A. Redford**

Redford, U.S. Patent No. 8,660,545 (Ex. 1005), issued on an application filed on January 6, 2010, and is prior art at least under 35 U.S.C. § 102(e). Ex. 1002, ¶ 85.

Redford discloses a computer system 250 (green) including various video content provider computers 281A-281N and a computer 282 that authorizes transfer of video based on a user’s request. Ex. 1005, 2:59-67, Fig. 2B; Ex. 1002, ¶ 86.

Computer system 250 responds to requests from a handheld device 200 (blue) by sending a signal carrying user-selected video, for presentation, to an internet-enabled television 303 (red). 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. 1002, ¶¶ 86-103.



Ex. 1005, Fig. 3A (annotated)

## **B. Gonze**

Gonze, U.S. Pub. No. 2008/0235588 (Ex. 1006), published on September 25, 2008, and is prior art under 35 U.S.C. § 102(b). Ex. 1002, ¶ 104.

Gonze discloses 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]. Gonze describes that a browser and/or an operating system (OS) may use information from a file, for example, the file extension, to determine appropriate software to be loaded to play the file. *Id.*, [0035]. For example, Gonze describes that the browser may determine whether the selected file can be played by any plug-ins. *Id.* 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.” *Id.* The browser may determine whether the selected file can be played by any plug-ins. *Id.*; Ex. 1002, ¶¶ 105-112.

## **C. Bartfeld**

Bartfeld, U.S. Pub. No. 2006/0107299 (Ex. 1018), published on May 18, 2006, and is prior art under 35 U.S.C. § 102(b). Ex. 1002, ¶ 113.

Bartfeld discloses a system for user assisted association between a television and a telephony device. Ex. 1018, Abstract. A server generates a code, associates it

with a set-top address, and transmits it back to the STB. *Id.* The STB displays the code on a television. *Id.*, [0007], [0025]-[0026]; Ex. 1002, ¶¶ 114-118.

**V. IDENTIFICATION OF CHALLENGE PURSUANT TO 37 C.F.R. § 42.104(B)**

**A. Claims for Which Review is Requested and Grounds on Which Challenge Is Based**

Petitioner requests review of claims 1–20 on the following grounds.

| Ground | References                            | Basis | Claims Challenged |
|--------|---------------------------------------|-------|-------------------|
| A      | Redford in view of Bartfeld           | §103  | 1-20              |
| B      | Redford in view of Bartfeld and Gonze | §103  | 1-20              |

None of the prior art listed in the table above was before the examiner during prosecution of the '934 Patent.

**B. 314(a) Discretion Does Not Apply**

The Fintiv factors as set forth in the Director's June 21, 2022, Guidance Memorandum do not warrant discretionary denial.

Factor one appears neutral. Petitioner has filed IPR petitions challenging all three patents asserted in the District Court. If trial is instituted, Petitioner expects to request a stay, as decisions in Petitioner's favor would resolve the dispute in its entirety.

Factor two does not warrant denial. The District Court case against Petitioner is consolidated with the cases against Charter and Altice with the Altice case designated as the lead case. Trial in all three cases is set for October 28, 2024; Petitioner's trial will occur on or after that date. Furthermore, motions to transfer are awaiting ruling.

Factor three does not warrant denial. The District Court has not yet begun the claim construction process and fact discovery does not close until June 2024.

Factor four strongly favors institution. The petition challenges all claims in the '934 Patent while only claims 17-20 are asserted in the District Court. Furthermore, Petitioner stipulates not to pursue in the District Court any ground that utilizes the same combination of prior art references relied upon in the instituted petition. Ex. 1082.

Factor five does not warrant denial as Petitioner is a defendant in the District Court case.

Factor six favors institution. Petitioner presents compelling unpatentability challenges that merit institution, relying on entirely different prior art than that of the previously-considered Google petition.

### **C. 325(d) Discretion Does Not Apply**

The Board should not exercise its 35 U.S.C. § 325(d) discretion to deny institution. The grounds raised herein are not the same or substantially the same as

the art and arguments raised during prosecution, and if they are, Examiner erred in a manner material to the patentability of the challenged claims.

#### **D. Level of Ordinary Skill**

A person of ordinary skill in the art (a “POSITA”) at the time of the alleged invention would have had 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 cable systems and Internet video streaming. Ex. 1002, ¶¶ 30-31.

#### **E. Claim Construction**

For purposes of this petition only, all claim terms herein are given their ordinary and customary meaning to a POSITA. 37 C.F.R. § 42.100(b). No terms need be specifically construed in order to resolve any controversy in the instant Petition. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”). Petitioner does not contend that the claims include any means-plus-function limitations.

In the Touchstream-Google case involving the related ’251, ’528, and ’289 Patents, Patent Owner advocated that plain and ordinary meaning applies for all

claim terms<sup>1</sup>, and that position was adopted by the Court. Ex. 1020, pp. 2-4; Ex. 1022, p. 22. In the earlier Touchstream-Vizbee case involving the same patents, Patent Owner advocated that plain and ordinary meaning applies for certain claim terms but for other terms proposed constructions which it seems to have now abandoned. Ex. 1021, pp. 1-14.

In IPR2022-00795, involving the '251 Patent, the Board noted that “the parties agree that the term ‘media player’ refers to software and not to a hardware device” but otherwise did not construe any terms. Ex. 1064, pp. 11-13. The prior art relied on herein includes software media players.

## **VI. SPECIFIC GROUNDS FOR UNPATENTABILITY**

### **A. Grounds A and B: Claims 1-20 are Rendered Obvious by Redford In View of Bartfeld and Redford in View of Bartfeld and Gonze**

#### **1. Independent Claim 1**

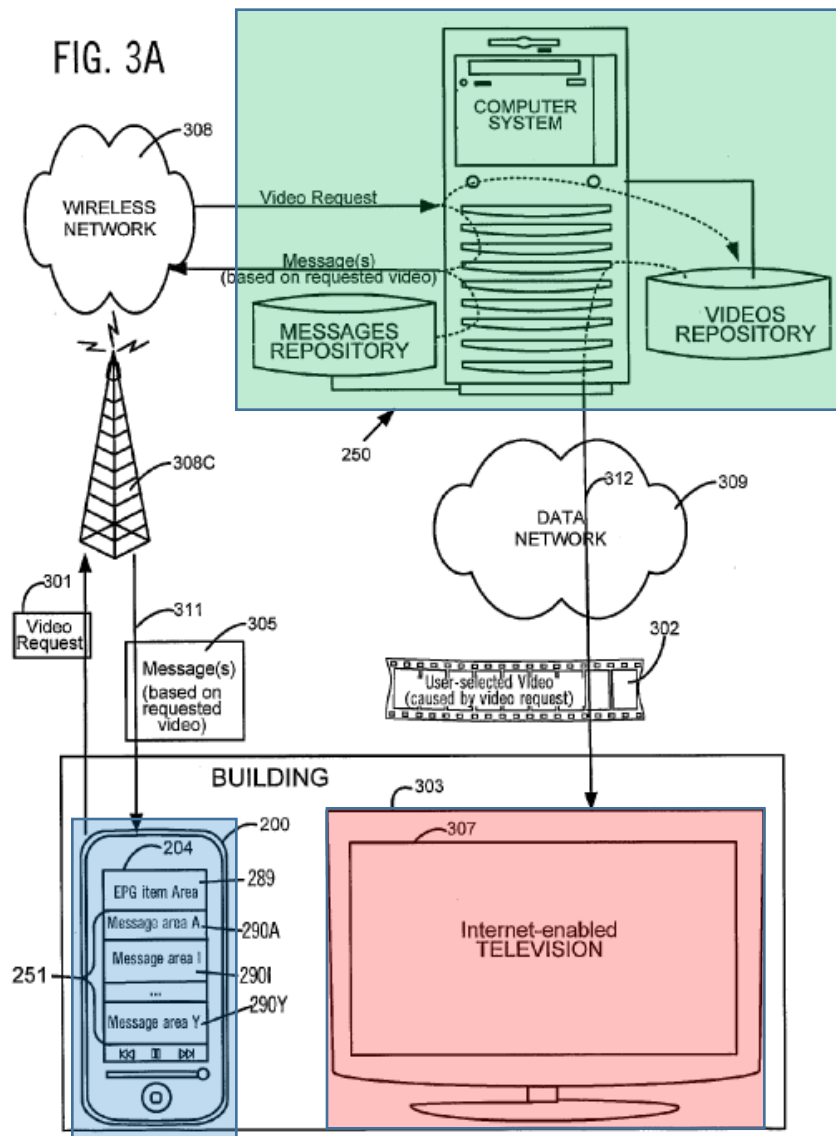
- a. [1A]: “A non-transitory computer storage medium storing computer-useable instructions that, when used by a computing device, cause the computing device to perform operations comprising:”**

To the extent the preamble is limiting, Redford discloses it. Redford discloses a computer system 250 (green) including various video content provider computers 281A-281N and a computer 282 that authorizes transfer of video

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<sup>1</sup> For some terms, Patent Owner provided its view as to what that meaning is.

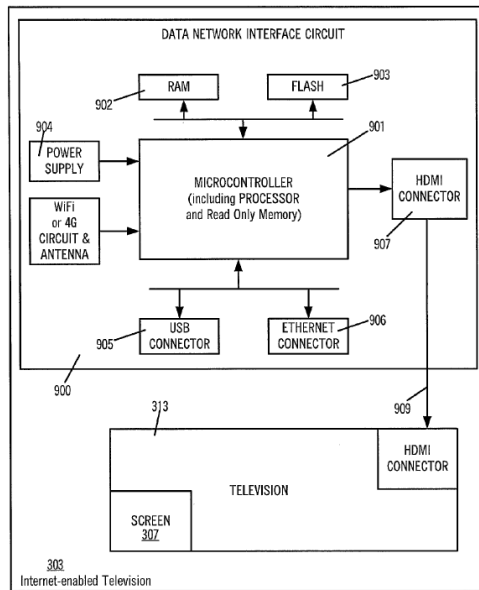
(“authority server”). Ex. 1005, 2:59-67, 5:28-41, Fig. 2B; Ex. 1002, ¶¶ 125-126. Computer system 250 responds to requests 301 from a handheld device 200 (blue) by sending a signal carrying user-selected video 302, for presentation, to an internet-enabled television 303 (red) (e.g., “computing device”). 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. 1002, ¶ 127.



Ex. 1005, Fig. 3A (annotated)

Television 303 is a computing device that includes a microcontroller 901 and processor 911 for executing program instructions stored on a non-transitory storage medium (e.g., ROM, RAM 902 or flash 903) to perform operations. Ex. 1005, 12:5-12, 30:23-61, FIGs. 9A-9B; Ex. 1002, ¶¶ 128-129.

FIG. 9A (PRIOR ART)



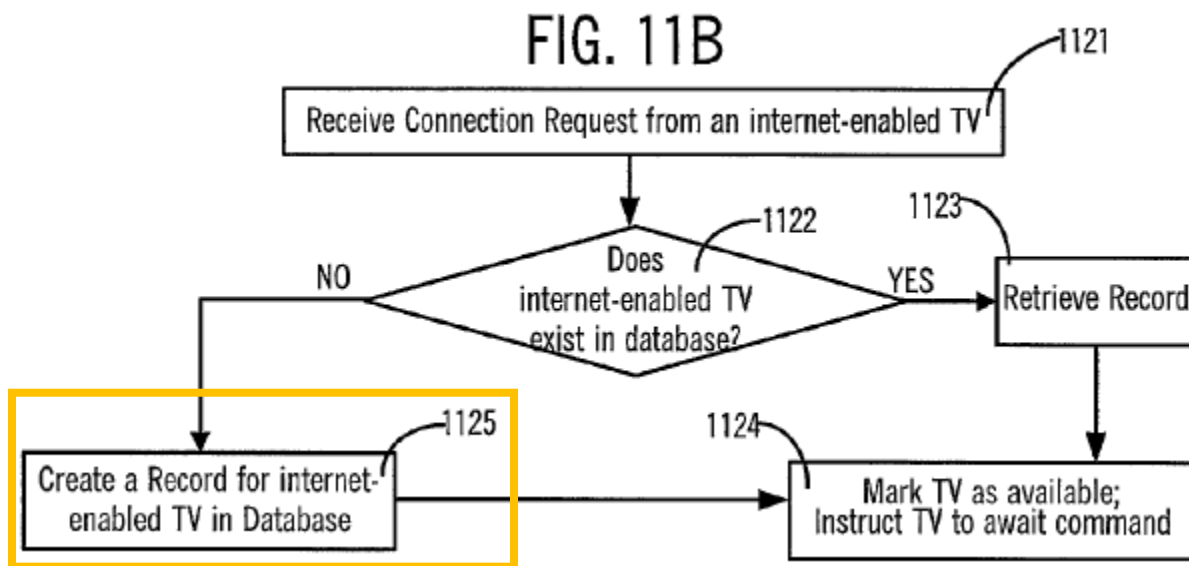
Ex. 1005, FIG. 9A

Therefore, Redford discloses limitation [1A].

**b. [1B]: “providing a unique identifier of the computing device to another computing device;”**

Redford discloses that the authority server 282 of computer system 250 receives, from a television 303 (“computing device”), registration information including an IP address, TV-name, and TV-password (each a “unique identifier”). Ex. 1005, 31:7-14, 44:44-48. The registration process is illustratively shown in Fig. 11B. Ex. 1002, ¶ 132.

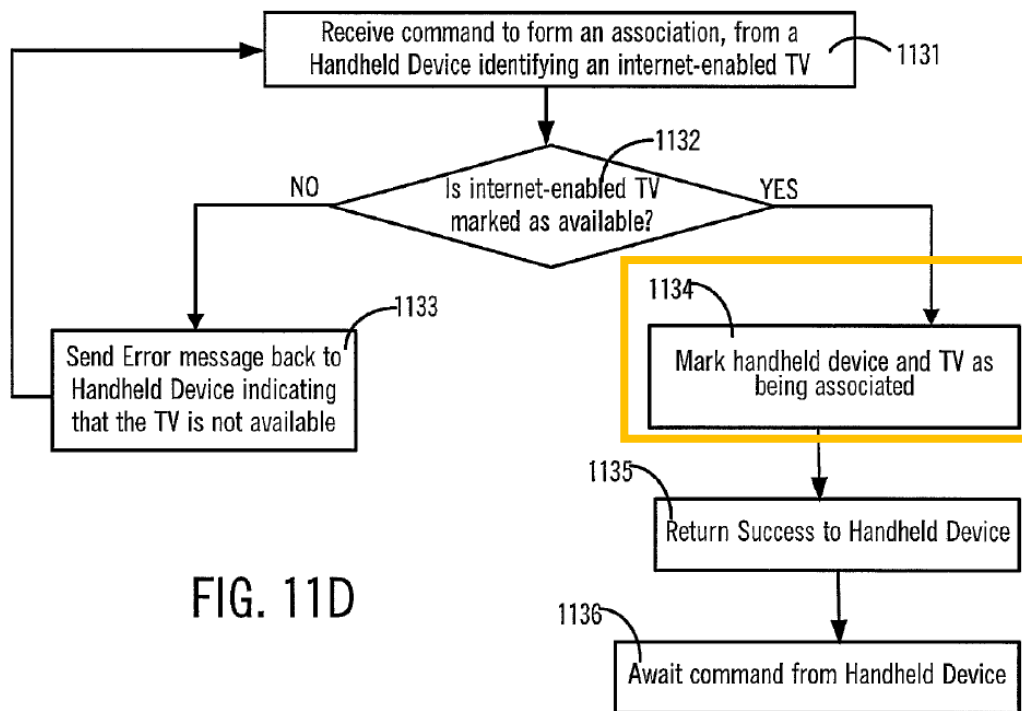
Redford describes that authority server 282 receives a connection request from television 303, checks if a record exists in a database for television 303, and if not, creates a new record in the database using the registration information received from the television, shown in annotated Fig. 11B below. Thereafter, authority server 282 marks television 303 as being available. *Id.*, 35:25-36, Fig. 11B; Ex. 1002, ¶ 133.



Ex. 1005, Fig. 11B (annotated)

Redford discloses that the authority server 282 of computer system 250, after receiving the command to form an association from handheld device 200 (“another computing device”), marks handheld device 200 as being associated with television 303 (“computing device”) as association information in a database.

Ex. 1005, 36:2-3, 43:15-20. The storage of association information is illustrated at 1134 in Fig. 11D; Ex. 1002, ¶ 134.



Ex. 1005, Fig. 11D (annotated)

Redford describes that server 282 “maintains in its database” “[a]ssociation information (also called ‘pairing’)” including “identifier of the handheld device, ... IP address, TV-name and TV-password.” Ex. 1005, 43:15-20. The record for the television 303, created in Fig. 11B and/or the record for the handheld device 200, created in Fig. 11D is marked to associate, or pair, the two in one or both records. As Redford describes, by maintaining the association information in its database, subsequent commands, received by the server, to play a video cause the server to retrieve, from a record in its database, an identifier of the television 303 associated

with the handheld device 200. Ex. 1005, 36:41-45. A POSITA would have understood that Redford's description of "mark"ing the handheld device 200 and television 303 as being associated is an update to the record for the television 303, created in step 1125 in Fig. 11B, maintained in the computer system 250 database. Ex. 1002, ¶¶ 135-138.

To the extent it is determined that Redford does not teach that computer television 303 provides a unique identifier to handheld device 200, a POSITA would have understood that the association disclosed in Redford would be achieved by creating an assigned unique identifier on a television for use by a telephone device of a user as demonstrated by Bartfeld. Ex. 1002, ¶ 139.

As discussed above in Section IV.C, 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 unique identifier, associates the unique identifier with a set-top address, and transmits the unique identifier back to the set-top box. *Id.* The set-top box displays the unique identifier on a television. *Id.*, [0007], [0025]-[0026], Figs. 2, 4. Using a personal computing device ("another computing device") having an address associated therewith, the unique identifier is transmitted by a user, to the server. *Id.* Thus, Bartfeld's displaying of the identifier on television 303 and subsequent entry of the displayed identifier by a user of handheld device 200 in the Redford-Bartfeld systems teaches "providing a unique

identifier of the computing device to another computing device”. *Id.* The server identifies the personal computing device address, and using the unique identifier, associates the device with the set-top box. *Id.* Bartfeld discloses that a synchronization 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]. A POSITA would have understood that in the combined Redford-Bartfeld system, server 282 of computer system 250 receives a unique identifier, which was displayed on television 303 and subsequently entered by a user onto a telephone device, as taught by Bartfeld. Ex. 1005, 31:7-14, 44:44-48; Ex. 1002, ¶ 140.

Using Bartfeld, a POSITA would have understood that a server system, such as computer system 250 of Redford, would beneficially assign a unique identifier to a computing device, such as Redford’s television 303 because Bartfeld describes that a set-top box, to be associated with a handheld computing device, may be embedded within a device capable of displaying video signals, *e.g.*, Redford’s television 303. Ex. 1018, [0005], [0030]. Ex. 1002, ¶ 141. A POSITA would further have understood that Redford-Bartfeld’s computer system 250 generates a unique identifier that is obtained by and displayed on television 303, which in turn is provided to another computing device (“handheld device 200”) upon entry of the

displayed identifier into the handheld device 200. Ex. 1018, Abstract, [0007], [0025]-[0026], Figs. 1; Ex. 1002, ¶ 141. A POSITA would have looked to supplement the association in Redford with the server generated identifier for display on a television and entry by a user on a handheld device as taught by Bartfeld in order to ensure that the user is easily and accurately associating the handheld device with a desired television, e.g., basement television. Ex. 1002, ¶ 141.

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 easily provide more options for playing back content to Redford's users. Ex. 1002, ¶ 142. Redford already uniquely identifies displays, and lets a user play content from a phone on a display via a server, thus recognizing the desirability to users of watching 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; Ex. 1002, ¶ 142. Redford also provides the capability of receiving the unique identifier assigned to the television from a user's handheld device. Ex. 1005, 41:56-67; Ex. 1002, ¶ 142. The identifier in Bartfeld would have been combined with the system in Redford "because it allows the system to synchronize (e.g., pair) a mobile device to a particular display device for ease of use." Ex. 1005, 43:15-20; Ex. 1002, ¶ 142. Thus, the assisted association teachings of Bartfeld would have provided a POSITA with motivation to employ a computer system

generated unique identifier that is provided by the television and subsequently provided by the television to the handheld device in the system of Redford. Ex. 1002, ¶ 142.

Combining Bartfeld with Redford would be merely using 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 (providing a unique identifier associated with a display device). Ex. 1002, ¶ 143. Bartfeld teaches a system similar to Redford where a unique identifier of a television, is obtained by the television, a user on the handheld device selects content for display on the television based on the provided unique identifier, and a server provides information to the television associated with the handheld device regarding how to access and output the content. *Id.*

Additionally, a POSITA would have had the skills and knowledge to implement support for assisted association by a server system generating and providing a unique identifier that is obtained by a television in Redford's system, as taught by Bartfeld, by incorporating into Redford's television 303 the ability to obtain a generated unique identifier from computer system 250 and provide the unique identifier as an output for the handheld device 200. Ex. 1002, ¶ 144. Thus, 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. *Id.*

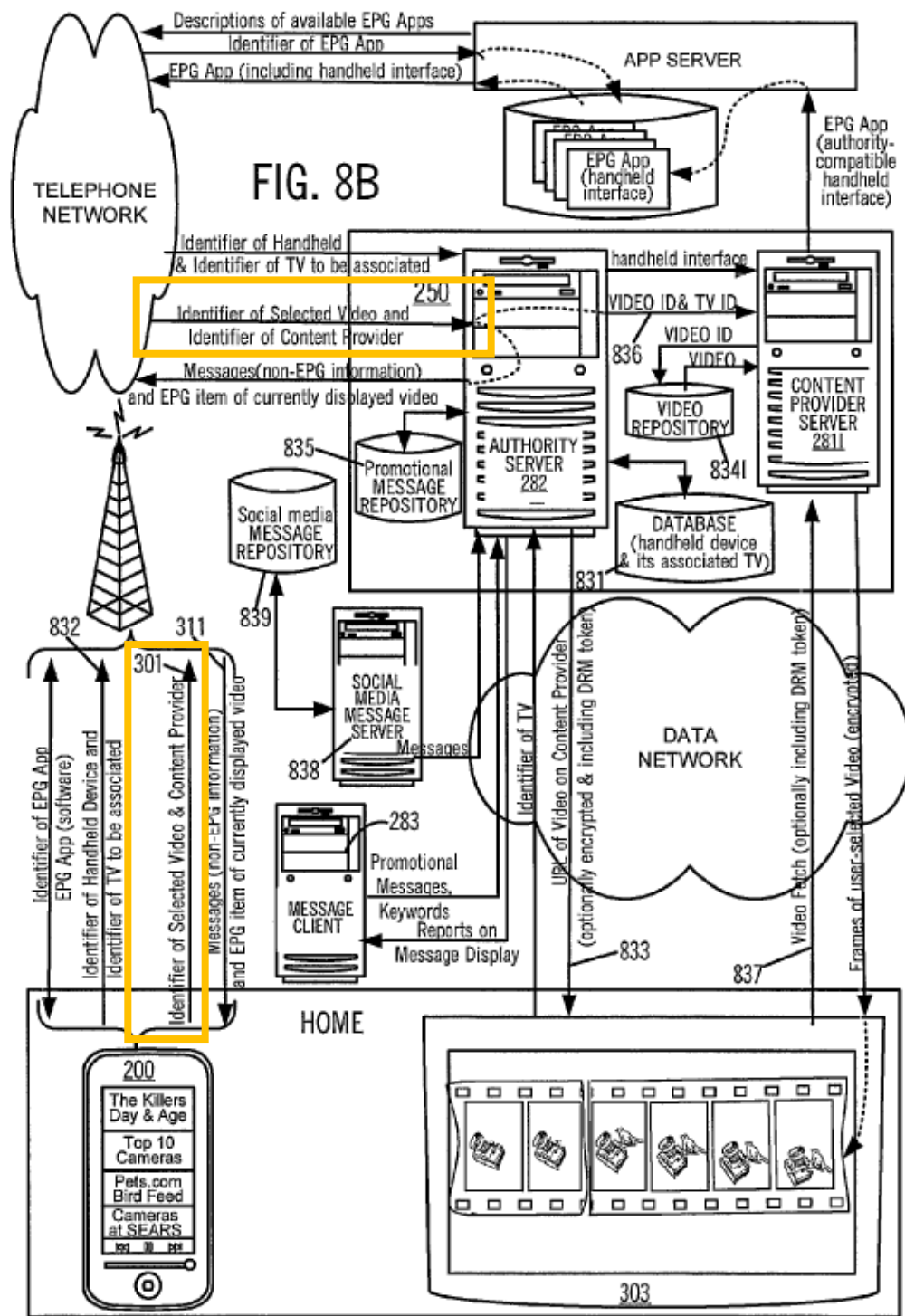
The '934 Patent describes a similar process for associating a mobile phone 20 with a display device 22 by displaying a unique identifier on the screen of the display device, and a user entering the unique identifier into the mobile phone. Ex. 1001, 5:35-40, Fig. 7A-7B. Thus, to the extent the '934 Patent describes display device 22 providing the unique identifier to the mobile phone, Redford-Bartfeld likewise describes television 303 providing the unique identifier to the handheld device 200. Ex. 1002, ¶ 145.

Accordingly, Redford-Bartfeld discloses limitation [1B].

- c. **[1C]: “receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands that corresponds to the first type of media playing application;”**

Redford discloses that, in embodiments that support multiple content providers, such as Netflix 281A and YouTube 281B in Fig. 2B, authority server 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, 26:64-27:3, *see also*, 36:18-43, 43:36-53, 44:6-18, Figs. 2B, 8A-8B. In particular, Redford

describes 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)” (*Id.*, 7:4-6), and “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 2031, 203N).” *Id.*, 7:22-26. Redford discloses the need for video codecs (decoding video for example) to play streaming video content. *Id.*, 40:66-41:2, 41:53-54. A POSITA would understand that different video codecs are needed for the identified particular media playing application to play the video content. Thus, a POSITA would understand that Redford teaches that an identifier of the content provider identifies a particular type of media playing application for playing the video 302. Ex. 1002, ¶¶ 148-151.

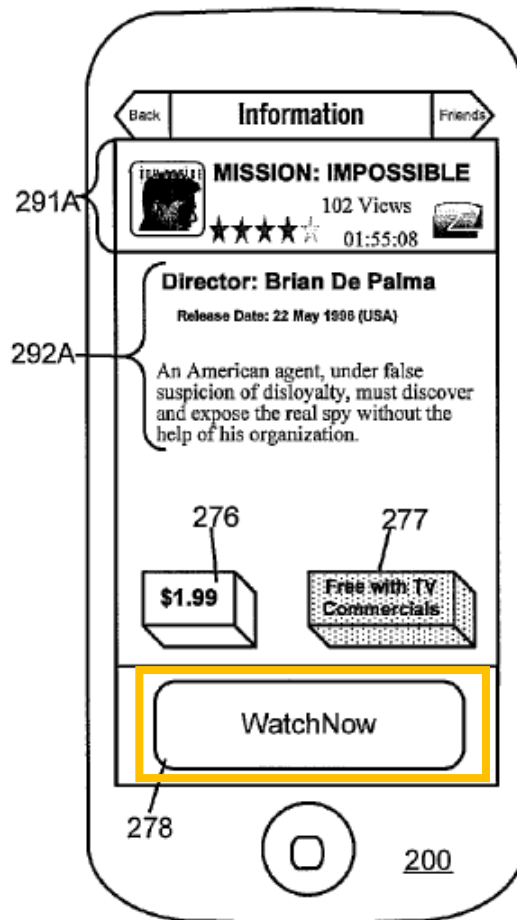


Ex. 1005, Fig. 8B (annotated)

As another example, Redford describes that “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 selection of a particular GUID by a user causes handheld device 200 to send the particular GUID in video request 301 which is received in step 801 by the computer system 250. *Id.*, 27:8-16, *see also*, 36:18-27, 43:36-53, 44:6-18, Figs. 8A-8B; Ex. 1002, ¶ 152.

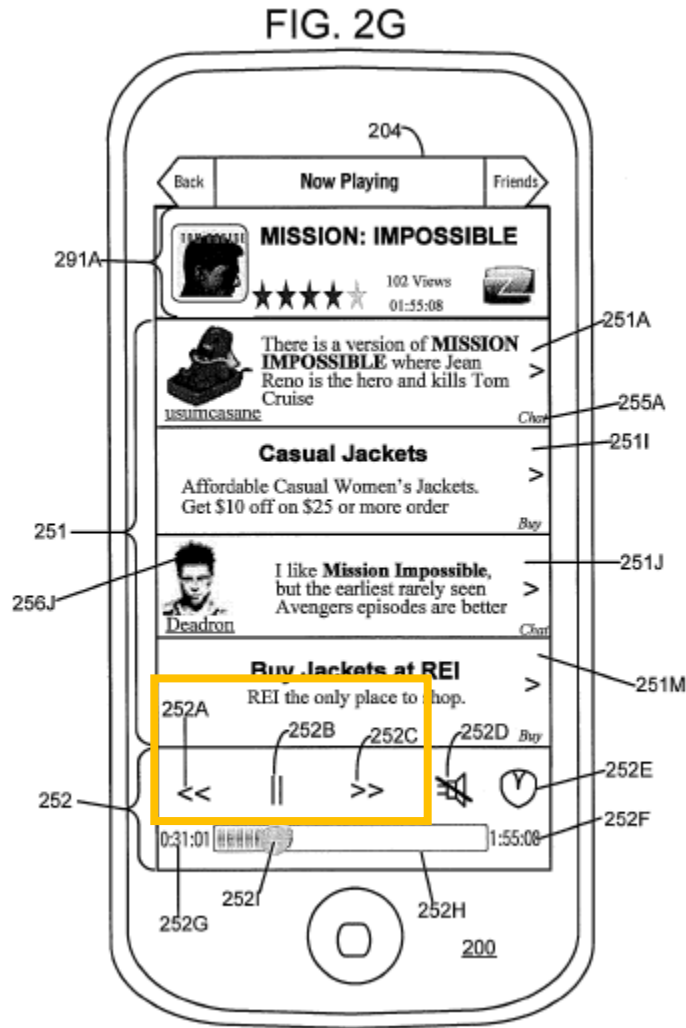
Redford describes how computer system 250 receives, from handheld device 200 (“other computing device”), a command to play a video to be displayed on the television 303 associated with the handheld device 200. For instance, Redford’s “WatchNow” input in Fig. 2F serves as a playback control command. Ex. 1005, 8:1-2, 26:62-27:3, 36:18-27, 43:36-53, 44:6-18, Figs. 2F, 8A-8B, 11H; Ex. 1002, ¶ 153.

FIG. 2F



Ex. 1005, Fig. 2F (annotated)

Redford further discloses that after user selection of video in a request, the selected video begins to play on the television 303 associated with handheld device 200. Ex. 1005, 8:3-5. Fig. 2G shows that, while the selected video is playing, handheld device 200 displays a control panel including rewind, pause, and fast forward buttons to enable navigation of the play of the selected video on the associated television. *Id.*, 8:5-12; Ex. 1001, 4:36-5:35, 5:58-62, 6:12-18; Ex. 1002, ¶ 154.



Ex. 1005, Fig. 2G (annotated)

Redford also describes that television 303 receives commands (“a set of commands”) from computer system 250 and executes any received command. Ex. 1005, 31:16-18. Such a command may be to navigate a currently playing video, including fast forward, rewind, pause, and play. *Id.*, 31:18-23, 44:48-52. Accordingly, a POSITA would understand that Redford teaches handheld device 200 sending at least one command, such as play, pause, rewind, or fast forward, to

computer system 250 and that computer system 250 thereafter sends a corresponding command (“a set of commands that corresponds to the first type of media playing application”) that is received by (“receiving”) television 303 to enable navigation of the play of the selected video on the associated television. *Id.*, 8:5-12; Ex. 1002, ¶ 155.

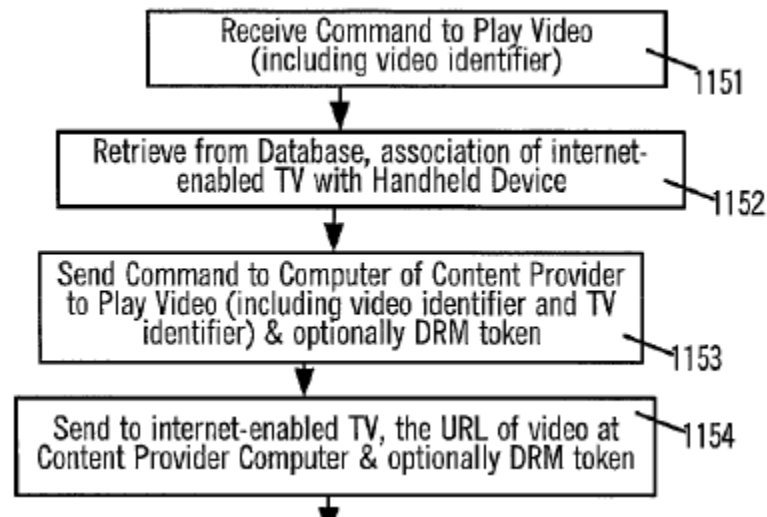
Redford describes illustrative commands sent from a handheld device to the computer system using authority-compatible handheld interface software. On the APPLE iPhone, the implementation library for the authority-compatible handheld interface software is built on top of iPhone SDK which Redford refers to as the iLook iPhone SDK. Ex. 1005, 38:50-63. Redford describes, among others, a SetVideoRate command to set the video rate of play, which is useful for fast forward and rewind, a PlayVideo command to play video on television 303, a PauseStream command to pause the video at the current play time, and a ResumeStream command to resume the video (usually a paused video). *Id.*, 39:3-54, 40:56-41:45; Ex. 1002, ¶ 156.

Redford describes using commands utilizing the iLook iPhone SDK, including play, pause, rewind, and fast forward. 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, 11H; Ex. 1002, ¶¶ 156-159.

Redford’s Fig. 11H provides the actions by the computer system 250 following receipt of a video request 301 specific to a request to play a user specified

video. Ex. 1005, 36:41-37:40. A POSITA would have understood from the teachings of Redford that a similar command, for pause, rewind, or fast forward, among others, would similarly follow steps 1151-1154 included therein. Ex. 1002, ¶ 160. As shown in Fig. 11H, upon receipt of a command to play video, computer system 250 retrieves association information, sends (“a set of messages”) a corresponding play command (“the received set of messages ... including a set of commands”) and sends a URL (“the received set of messages referencing a piece of content”) to the television to allow for fetching and playing of the requested content, from a specific content provider, by the television. Ex. 1005, 29:4-20, 36:41-53, Figs. 8A-8B, 11H; Ex. 1002, ¶¶ 160-161.

FIG. 11H



Ex. 1005, Fig. 11H (cropped)

Redford describes, in the set-top SDK API, a function VideoPlay that allows a video content to be played using protocols such as Real Time Streaming Protocol

(RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP). *Id.*, 40:56-58. Redford teaches that RTSP has varying implementations depending on the content provider and service, therefore several implementations of VideoPlay exist to support various RTSP players. *Id.*, 40:56-41:2, Ex. 1002, ¶¶ 157-158. With this teaching of multiple, different RTSP players being supported, a POSITA would have understood that Redford teaches that television 303 was configured to load any one of the plurality of different RTSP application software for playing back the video content for a particular VideoPlay implementation. *Id.*

Thus, *e.g.*, Redford teaches a “PlayVideo” command, sent from handheld device 200 to computer system 250, to play video on television 303 (Ex. 1005, 39:22-24) and a “VideoPlay” command (“a set of commands that corresponds to the first type of media playing application”) sent from computer system 250 and received by television 303 that allows video content to be played using protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) (*id.*, 40:56-58), including several implementations of VideoPlay existing to support various RTSP players. *Id.*, 40:56-41:2. A POSITA would have known that Redford’s “VideoPlay” command is received, by television 303, based at least in part on the unique identifier of the television due to association between the handheld device 200 and television 303. Ex. 1002, ¶ 159.

Therefore, Redford discloses limitation [1C].

To the extent it is determined that Redford does not expressly disclose “the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands that corresponds to the first type of media playing application,” Redford specifically teaches that video plays on screen 307 as per act 925. Ex. 1005, 31:24-35. A POSITA would understand that information of different types of media playing applications would be received to support the media playing application format for different streaming video providers, “respective content providers A-N”, as shown by example in Figure 2A, Netflix, YouTube, ZillionTV, and Paramount Pictures. Ex. 1005, 2:65, 7:27-43, Fig. 2A; Ex. 1002, ¶ 163.

Further, it would have been obvious to modify television 303 to include the claimed capability in light of Redford’s express teachings and admission that Internet-enabled television 303 was known prior art. Specifically, with the teaching of multiple, different RTSP players being supported in admitted prior art television 303 (Figure 9A), a POSITA would have understood that the function of presenting video content from Netflix (*e.g.*, content provider A, 281A) as opposed to YouTube (content provider B, 281B), ZillionTV (content provider I, 281I), or Paramount Pictures (content provider N, 281N), could be accomplished by a different RTSP

player (“a first type of media playing application of a plurality of media playing application types”) and it would have been an obvious design choice to do so. Ex. 1005, Figs. 2B, 9A; Ex. 1002, ¶ 164.

Therefore, Redford renders obvious limitation [1C].

To the extent it is determined that Redford does not teach “the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands that corresponds to the first type of media playing application,” it was known before the priority date of the ’934 Patent that display devices were enabled with the capability to receive information concerning any one of a plurality of media playing applications as demonstrated by Gonze. Ex. 1002, ¶ 166.

As discussed above in Section IV.B, Gonze discloses a system for making content available from multiple providers such that a playback device can request, receive, and present the content by utilizing a playlist: “The 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.” Ex. 1006, Abstract, [0035], [0010], [0034], [0040], [0049], [0051]. The content in Gonze may be in a variety of media formats (*e.g.*, RealMedia, QuickTime, Windows Media) which may require different media playing applications (*e.g.*, RealPlayer, QuickTime player,

Microsoft Media Player) to properly output the content. Ex. 1006, [0005]-[0006], [0060]; Ex. 1002, ¶ 167.

Gonze describes selecting from this plurality of media playing applications based on instructions in a browser interpretable document playlist. Ex. 1006, [0034]. Specifically, Gonze describes where a playlist “has a plurality of links to content (e.g., the same content at different bitrates or encoded using different media types), [(“the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types”)] the instructions can also select an appropriate content link from those available based on attributes of the device on which the browser is operating.” *Id.*, [0050]. In particular, Gonze describes 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,” 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.” *Id.*, [0058], Fig. 1. “Once 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.**” *Id.*, [0059] (emphasis added), Fig. 1. Accordingly, Gonze’s playback device performs “the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of

media playing application types, and including a set of commands that corresponds to the first type of media playing application.” Ex. 1002, ¶ 168.

Gonze further describes an example in which a playback device may look at a content “file’s extension (i.e. the characters after the right-hand most period in the file name) to determine an appropriate application to be loaded.” Ex. 1006, [0035]. Gonze describes an example file name of “example.mp3” being identified as a media file, thus allowing the operating system of the playback device to cause a locally-installed media playing application to load, and send instructions to the locally-installed media playing application to play the file. *Id.*; Ex. 1002, ¶ 169.

Based on the teachings of Gonze, a POSITA would have understood that a media playback device, such as television 303 of Redford, could include multiple media playing application types and that which type of media playing application to use for a particular item of content could be determined based on information included in a browser interpretable document playlist, *e.g.*, a content file’s extension (“the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands that corresponds to the first type of media playing application”), as taught by Gonze. Ex. 1002, ¶ 170. A POSITA would further have understood that information on what media playing application corresponds to a particular piece of content could be supplied to handheld device 200 before a user

selects the piece of 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. Ex. 1005, 2:59-67, 5:42-58, Figs. 2B, 10A-10C; Ex. 1002, ¶ 171.

A POSITA would have been motivated to implement Redford's system in view of Gonze's teachings to support multiple media playing applications and select between them in order to provide more options for playing back content to Redford's users. Redford already describes video on demand movies where the content is streamed from a server to the user's television, thus recognizing the desirability to users of being able 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. Since Redford already provides the capability of executing additional applications, (Ex. 1005, 41:56-67), a POSITA would have been motivated to apply Gonze's teaching of loading uninstalled media players to a playback device to supplement Redford's system in order to enable the easy loading and selection of various media players to Redford's system. Ex. 1002, ¶¶ 172-174. A POSITA would have appreciated that content from different providers, especially proprietary providers, would require proprietary media formats (*e.g.*, RealMedia, QuickTime, Windows Media) requiring proprietary media player applications (*e.g.*, RealPlayer, QuickTime player, Microsoft Media Player) to properly output the content. Ex. 1006, [0006], [0060].

A POSITA would have sought to combine Redford and Gonze to better support multiple proprietary players to easily play content from different providers. Ex. 1002, ¶ 174.

Combining Gonze with Redford would be merely using known techniques (supporting multiple media playing applications for presenting content) to improve similar devices (the server-based video streaming systems taught in Redford and Gonze) in the same way (selecting between the multiple playing applications based on the format of the content). Gonze teaches a system similar to Redford where information is received indicating what content is available, a user selects from that content, and a server provides information to the playback device regarding how to access and output the content. Ex. 1002, ¶ 175.

Additionally, a POSITA would have had the skills and knowledge to implement support for multiple media playing applications in Redford's system, as taught by Gonze, by incorporating into Redford's Internet-enabled television the ability to select between multiple media playing applications based on information received in messages from the server ("receiving a set of messages"). Ex. 1002, ¶ 176. Thus, a POSITA would have expected success in applying Gonze's teaching for loading different media playing applications as needed to the similar Redford system that supports multiple playing applications, because adding Gonze's information for determining which media playing application to load to Redford's

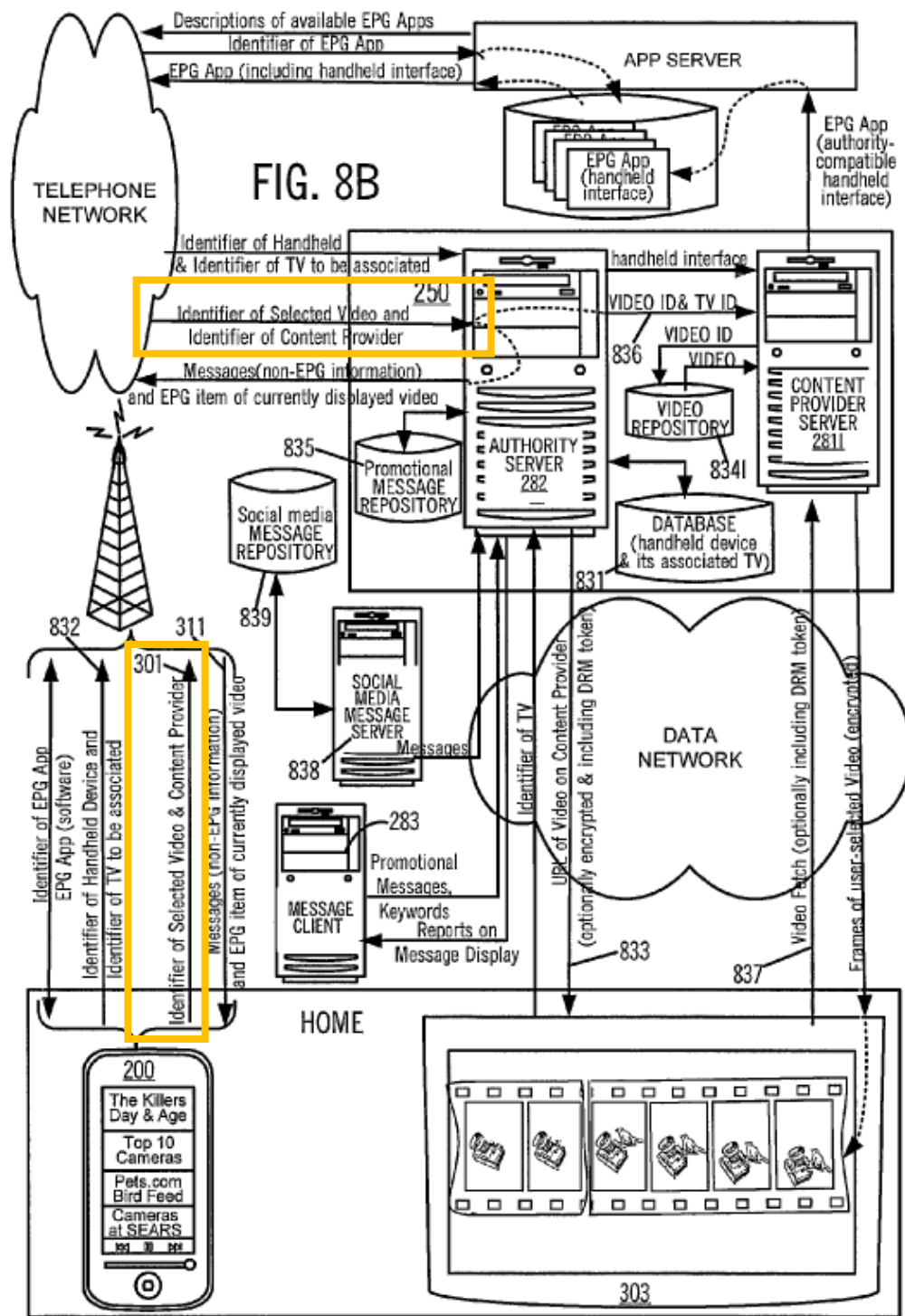
television 303 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA. *Id.*

Therefore, Redford-Bartfeld-Gonze disclose limitation [1C].

- d. **[1D]: “in response to receiving the set of messages, selecting the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages; and”**

Redford discloses that the authority server 282 of computer system 250 receives, from handheld device 200, “an identifier of a video 302 in a video request 301”. Ex. 1005, 26:62-64, Fig. 8B. Redford further discloses that, in embodiments that support multiple content providers, such as Netflix 281A and YouTube 281B in Fig. 2B, authority server 282 also receives “an identifier of the content provider that maintains a repository 834I (FIG. 8B) in which a file containing video 302 is available” (“based at least in part on its association with the piece of content referenced in the received set of messages”). *Id.*, 26:64-27:3, *see also*, 36:18-43, 43:36-53, 44:6-18, Figs. 8A-8B. In particular, Redford describes 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)” (*Id.*, 7:4-6), and “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).” *Id.*,

7:22-26. Redford discloses the need for video codecs (decoding video for example) to play streaming video content. *Id.*, 40:66-41:2, 41:53-54. A POSITA would understand that different video codecs are needed for the identified particular media playing application to play the video content (“based at least in part on its association with the piece of content referenced in the received set of messages”). Thus, a POSITA would understand that Redford teaches that an identifier of the content provider identifies a particular media playing application for playing the video 302. Ex. 1002, ¶¶ 179-182.



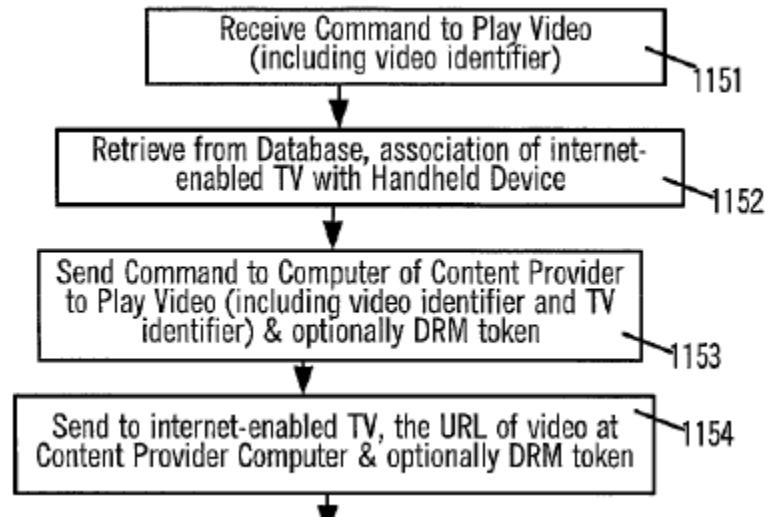
Ex. 1005, Fig. 8B (annotated)

As another example, Redford describes that “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 selection of a particular GUID by a user causes handheld device 200 to send the particular GUID in video request 301 which is received in step 801 by the computer system 250. *Id.*, 27:8-16, *see also*, 36:18-27, 43:36-53, 44:6-18, Figs. 8A-8B; Ex. 1002, ¶ 183.

Redford’s Fig. 11H provides the actions by the computer system 250 following receipt of a video request 301 specific to a request to play a user specified video. Ex. 1005, 36:41-37:40. A POSITA would have understood from the teachings of Redford that a similar command, for pause, rewind, or fast forward, among others, would similarly follow steps 1151-1154 included therein. Ex. 1002, ¶ 184. As shown in Fig. 11H, upon receipt of a command to play video, 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 television to allow for fetching and playing of the requested content, from a specific content provider, by the television (“in response to receiving the set of messages, selecting the first type of media playing application from the plurality of media playing application types

based at least in part on its association with the piece of content referenced in the received set of messages”). Ex. 1005, 29:4-20, 36:41-53, Figs. 8A-8B, 11H.

FIG. 11H



Ex. 1005, portion of Fig. 11H

Redford describes, in the set-top SDK API, a function VideoPlay that allows a video content to be played using protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. *Id.*, 40:56-58. Redford teaches that RTSP has varying implementations depending on the content provider and service, therefore several implementations of VideoPlay exist to support various RTSP players. *Id.*, 40:56- 41:2; Ex. 1002, ¶ 185. With this teaching of multiple, different RTSP players being supported, a POSITA would have understood that Redford teaches that television 303 was configured to load any one of the plurality of different RTSP application software for playing back the video content for a particular VideoPlay implementation. *Id.*

Thus, *e.g.*, Redford teaches a “PlayVideo” command, sent from handheld device 200 to computer system 250, to play video on television 303 (Ex. 1005, 39:22-24) and a “VideoPlay” command sent from computer system 250 and received by television 303 that allows video content to be played using protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming (*id.*, 40:56-58), including several implementations of VideoPlay existing to support various RTSP players. *Id.*, 39:22-24, 40:56-41:2. A “VideoPlay” command is a function that allows video content to be played by a specific player (“based at least in part on its association with the piece of content referenced in the received set of messages”). *Id.* Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, 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 by selecting the applicable “VideoPlay” command for the applicable implementation. *Id.*; Ex. 1002, ¶ 186.

Therefore, Redford discloses limitation [1D].

To the extent it is determined that Redford does not expressly disclose that television 303 may load (“select”) any one of a plurality of different types of media playing applications, Redford specifically teaches that video plays on screen 307 as

per act 925. Ex. 1005, 31:24-35. A POSITA would understand that different types of media playing applications would be loaded to support the media playing application format for different streaming video providers, “respective content providers A-N”, as shown by example in Figure 2A, Netflix, YouTube, ZillionTV, and Paramount Pictures. Ex. 1005, 2:65, 7:27-43, Fig. 2A; Ex. 1002, ¶ 188.

Further, it would have been obvious to modify television 303 to include the claimed capability in light of Redford’s express teachings and admission that Internet-enabled television 303 was known prior art. Specifically, with the teaching of multiple, different RTSP players being supported in admitted prior art television 303 (Figure 9A), a POSITA would have understood that the function of presenting video content from Netflix (*e.g.*, content provider A, 281A) as opposed to YouTube (content provider B, 281B), ZillionTV (content provider I, 281I), or Paramount Pictures (content provider N, 281N), could be accomplished by a different RTSP player and it would have been an obvious design choice to do so. Ex. 1005, Figs. 2B, 9A; Ex. 1002, ¶¶ 189-190.

Therefore, Redford renders obvious limitation [1D].

To the extent it is determined that Redford does not teach that television 303 may load (“select”) any one of a plurality of different types of media playing applications, it was known before the priority date of the ’934 Patent that display

devices were enabled with the capability to load any one of a plurality of types of media playing applications as demonstrated by Gonze. Ex. 1002, ¶ 191.

As discussed above in Section IV.B, Gonze discloses a system for making content available from multiple providers such that a playback device can request, receive, and present the content by utilizing a playlist: “The 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.” Ex. 1006, [0035], Abstract, [0010], [0034], [0040], [0049], [0051]. The content in Gonze may be in a variety of media formats (*e.g.*, RealMedia, QuickTime, Windows Media) which may require different types of media playing applications (*e.g.*, RealPlayer, QuickTime player, Microsoft Media Player) to properly output the content. Ex. 1006, [0005]-[0006], [0060]; Ex. 1002, ¶ 192.

Gonze describes selecting from this plurality of media players based on information in a browser interpretable document playlist. Ex. 1006, [0034]. In particular, Gonze describes 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,” 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.” *Id.*, [0058], Fig. 1. “Once 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.**” *Id.*, [0059] (emphasis added), Fig. 1. Accordingly, Gonze’s playback device performs “in response to receiving the set of messages, selecting the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages.” Ex. 1002, ¶ 193.

Gonze further describes an example in which a playback device may look at a content “file’s extension (i.e. the characters after the right-hand most period in the file name) to determine an appropriate application to be loaded.” Ex. 1006, [0035]. Gonze describes an example file name of “example.mp3” being identified as a media file, thus allowing the operating system of the playback device to cause a locally-installed media player application to load, and send instructions to the locally-installed media player application to play the file. *Id.*; Ex. 1002, ¶ 194.

Based on the teachings of Gonze, a POSITA would have understood that a media playback device, such as television 303 of Redford, could include multiple types of media playing applications and that which type of media playing application to use for a particular item of content could be determined based on information included in a browser interpretable document playlist, *e.g.*, a content file’s extension, as taught by Gonze. Ex. 1002, ¶ 195. A POSITA would further have understood that

information on what media playing application corresponds to a particular piece of content could be supplied to handheld device 200 before a user selects the piece of content, and thus information on the corresponding media playing application 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. Ex. 1005, 2:59-67, 5:42-58, Figs. 2B, 10A-10C; Ex. 1002, ¶ 196.

A POSITA would have been motivated to implement Redford's system in view of Gonze's teachings to support multiple media playing applications and select between them in order to provide more options for playing back content to Redford's users. Redford already describes video on demand movies where the content is streamed from a server to the user's television, thus recognizing the desirability to users of being able 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. Since Redford already provides the capability of executing additional applications, (Ex. 1005, 41:56-67), a POSITA would have been motivated to apply Gonze's teaching of loading uninstalled media players to a playback device to supplement Redford's system in order to enable the easy loading and selection of various media players to Redford's system. Ex. 1002, ¶¶ 197-199. A POSITA would have appreciated that content from different providers, especially proprietary providers, would require proprietary media formats (*e.g.*, RealMedia, QuickTime, Windows Media) requiring

proprietary media player applications (e.g., RealPlayer, QuickTime player, Microsoft Media Player) to properly output the content. Ex. 1006, [0006], [0060]. A POSITA would have sought to combine Redford and Gonze to better support multiple proprietary players to easily play content from different providers. Ex. 1002, ¶ 199.

Combining Gonze with Redford would be merely using known techniques (supporting multiple media playing applications for presenting content) to improve similar devices (the server-based video streaming systems taught in Redford and Gonze) in the same way (selecting between the multiple playing applications based on the format of the content). Gonze teaches a system similar to Redford where information is received indicating what content is available, a user selects from that content, and a server provides information to the playback device regarding how to access and output the content. Ex. 1002, ¶ 200.

Additionally, a POSITA would have had the skills and knowledge to implement support for multiple media playing applications in Redford's system, as taught by Gonze, by incorporating into Redford's Internet-enabled television the ability to select between multiple media playing applications based on information received in messages from the server. Ex. 1002, ¶¶ 201-202. Thus, a POSITA would have expected success in applying Gonze's teaching for loading different media playing applications as needed to the similar Redford system that supports multiple

playing applications, because adding Gonze's information for determining which type of media playing application to select by Redford's television 303 would have required just minor hardware, software, and/or firmware modifications, which would have been well within the skill set of a POSITA. *Id.*

Therefore, Redford-Bartfeld-Gonze disclose limitation [1D].

- e. **[1E]: “controlling how the selected first type of media playing application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.”**

Upon receipt of a command to play video, computer system 250 retrieves association information, sends a corresponding play command (or similarly a pause, rewind, or fast-forward command) to the content provider specified in the user request, and sends a URL to the television to allow for fetching and playing of the requested content, from a specific content provider, by the television. Ex. 1005, 29:4-20, 36:41-53, Figs. 8A-8B, 11H; Ex. 1002, ¶¶ 204-209. Following conversion of the “PlayVideo” command by the computer system 250 to a “VideoPlay” command 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 where 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 command to control playing of the video content on the display device by the particular media player, in accordance with the

command sent from the handheld device 200, 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; Ex. 1002, ¶¶ 204-209. Computer system 250 stores the URL, and associated data, in a database associated with the computer system. Ex. 1005, 43:36-51. A POSITA would have understood that computer system 250 sends information to the television 303. Ex. 1002, ¶ 209. A POSITA would have understood that the sent information, when received by television 303, controls “how the selected first type of media playing application plays the referenced piece of content” 302 in the video request 301 “based on at least one command of the set of commands included in the received set of messages” (Redford’s “VideoPlay”). Ex. 1002, ¶¶ 210-214.

Therefore, Redford discloses limitation [1E].

## **2. Dependent Claim 2**

- a. “The medium of claim 1, wherein the set of commands included in the received set of messages is recognizable by the first type of media playing application.”**

Upon receipt of a command to play video, 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 television to allow for fetching and playing of the requested content, from a specific content provider, by the television. Ex. 1005, 29:4-20, 36:41-53, Figs. 8A-8B, 11H; Ex. 1002, ¶¶ 215-218. Following conversion of the “PlayVideo” command by the computer system

250 to a “VideoPlay” command 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 where 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 command to control playing of the video content on the display device by the particular media playing application, in accordance with the command from handheld device 200, 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; Ex. 1002, ¶¶ 216-219. Computer system 250 stores the URL, and associated data, in a database associated with the computer system. Ex. 1005, 43:36-51. A POSITA would have understood that the information, when received by television 303, controls how the selected type of media playing application plays the referenced first piece of content 302 in the video request 301 based on a command (Redford’s “VideoPlay”) having been included in the received set of messages. Ex. 1002, ¶ 219. A POSITA would have understood that the particular media playing application would have recognized the set of commands in order to act on them. *Id.*

Redford further discloses that after user selection of video in a request, the selected video begins to play on the television 303 associated with handheld device 200. Ex. 1005, 8:3-5. Fig. 2G shows that, while the selected video is playing, handheld device 200 displays a control panel including rewind, pause, and fast

forward buttons to enable navigation of the play of the selected video on the associated television. *Id.*, 8:5-12; Ex. 1001, 4:36-35, 5:58-62, 6:12-18.

Therefore, Redford discloses dependent claim 2.

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

- a. “The medium of claim 2, wherein the set of commands is converted via an API adapter to be recognizable by the first type of media playing application, the set of commands being converted based on a determination that the first type of media playing application is associated with the referenced piece of content.”**

As described above in Section VI.A.1.c, Redford describes that television includes a common set-top API that allows video content to be played, paused, etc., using video-streaming protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP), and Hypertext Transfer Protocol (HTTP) Streaming, including several implementations of VideoPlay existing to support various RTSP players, and media player codecs that decode the content to be displayed. Ex. 1005, 40:56-58, 40:66-41:2, 41:53-54. A “VideoPlay” command is a function that allows specific video content to be played by a specific player (“the set of commands being converted based on a determination that the first type of media playing application is associated with the referenced piece of content”). *Id.* Accordingly, a POSITA would have known that computer system 250 converts the “PlayVideo” command to a particular “VideoPlay” command by selecting the applicable “VideoPlay” command for the applicable implementation. *Id.*; Ex. 1002,

¶¶ 221-223. Implementation of this conversion by the computer system 250 is performed by processor 1101. Ex. 1005, 4:39-40, 29:4-20, 36:41-52, FIGS. 8A-8B, 11H; Ex. 1002, ¶ 223.

Therefore, Redford teaches claim 3.

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

- a. “4. The medium of claim 1, wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first type of media playing application.”**

Redford describes that the application on handheld device 200 may include commands such as play, fast forward, rewind, and pause which are sent to the computer system 250. For instance, Redford’s “WatchNow” input in Fig. 2F serves as a playback control command in a universal format. Ex. 1005, 8:1-12, 26:62-27:3, 31:16-23, 36:18-27, 38:50-63, 39:3-54, 40:56-41:45, 43:36-53, 44:6-18, 44:48-52, Figs. 2F-2G, 8A-8B, 11H; Ex. 1002, ¶¶ 225-228. The ’934 Patent describes how a user of its system uses similar commands:

The message from the mobile phone 20 contains a transmission code that includes data regarding the user information (e.g., user identification or account number), the secondary display it wants to connect to (e.g., television set 22 with display 23), the location and name of the media player for the selected video, **the command (e.g., play, pause, rewind, etc.)**, and the video file to be acted upon.

\*\*\*

Therefore, in the illustrated implementation, a universal adapter 26 is provided to interpret and convert a standard or **universal command (e.g., play, pause, etc.)** into the specific command recognized by the media player.

Ex. 1001, 4:47-53, 6:12-15 (emphasis added); Ex. 1002, ¶ 229. Furthermore, in the Touchstream-Google case, Patent Owner stated that the plain and ordinary meaning of “universal command” is “a standard command used for controlling playback of media content **such as play or pause.**” Ex. 1020, p. 3 (emphasis added).

Further, as described above in Section VI.A.1.d, Redford teaches a “PlayVideo” command (“defined in a universal format”), sent from handheld device 200 to computer system 250, to play video on television 303 (Ex. 1005, 39:22-24) and a “VideoPlay” command sent from computer system 250 and received by television 303 that allows video content to be played using protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming (*id.*, 40:56-58), including several implementations of VideoPlay existing to support various RTSP players. *Id.*, 40:56-41:2. A “VideoPlay” command is a function that allows video content to be played by a specific player (“converted to a particular format recognizable by the first type of media playing application”). *Id.*, 39:22-24, 40:56-41:2. Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, 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 by selecting the applicable “VideoPlay” command for the applicable implementation. *Id.*; Ex. 1002, ¶¶ 227-228.

Therefore, Redford discloses dependent claim 4.

## **5. Dependent Claim 5**

- a. “The medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a synchronization code.”**

As described above in Section VI.A.1.b, 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 unique identifier, referred to in Bartfeld as an identification code, associates the unique identifier with a set-top address, and transmits the unique identifier back to the set-top box. *Id.* Bartfeld discloses that the identification code “may be selected by any convenient manner such as random number generation . . . The [synchronization 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]; Ex. 1002, ¶¶ 231-233.

Therefore, Redford-Bartfeld discloses dependent claim 5.

## 6. Dependent Claim 6

- a. **“The medium of claim 1, wherein the received set of commands includes programming code associated with the first type of media playing application.”**

The '934 Patent recites that “the system loads the appropriate set of protocols or application programming interfaces (APIs) from its library and converts the incoming commands from the mobile device 20 into the correct JavaScript (or other programming) code used by the target device 22 to control the specific player (block 120).” Ex. 1001, 6:18-23. Furthermore, in the Google case, Touchstream stated that the plain and ordinary meaning for “programming code” is “instructions that the media player can recognize and execute.” Ex. 1020, p. 4. Thus, a POSITA would have understood that “programming code” refers at least to computer data, such as API commands, comprising computer instructions appropriate for controlling a specific media player on a device. Ex. 1002, ¶¶ 235-236.

Redford describes using commands utilizing the iLook iPhone SDK, including play, pause, rewind, and fast forward. 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, 11H.

Redford's Fig. 11H provides the actions by the computer system 250 following receipt of a video request 301 specific to a request to play a user specified video. Ex. 1005, 36:41-37:40. A POSITA would have understood from the teachings

of Redford that a similar command, for pause, rewind, or fast forward, among others, would similarly follow steps 1151-1154 included therein. Ex. 1002, ¶¶ 237-245. As shown in Fig. 11H, upon receipt of a command to play video, 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 television to allow for fetching and playing of the requested content, from a specific content provider, by the television. Ex. 1005, 29:4-20, 36:41-52, Figs. 8A-8B, 11H.

Redford describes, in the set-top SDK API, a function VideoPlay that allows a video content to be played using protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. *Id.*, 40:56-58. Redford teaches that RTSP has varying implementations depending on the content provider and service, therefore several implementations of VideoPlay exist to support various RTSP players. *Id.*, 40:56-41:2; Ex. 1002, ¶ 246. With this teaching of multiple, different RTSP players being supported, a POSITA would have understood that Redford teaches that television 303 was configured to load any one of the plurality of different RTSP application software for playing back the video content for a particular VideoPlay implementation. *Id.*

Thus, e.g., Redford teaches a “PlayVideo” command, sent from handheld device 200 to computer system 250, to play video on television 303 (Ex. 1005, 39:22-24) and a “VideoPlay” command sent from computer system 250 and received

by television 303 that allows video content to be played using protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming, *Id.*, 40:56-58, including several implementations of VideoPlay existing to support various RTSP players. *Id.*, 40:56-41:2. A “VideoPlay” command is a function (“programming code associated with the first type of media playing application”) that allows video content to be played by a specific player. *Id.* Accordingly, a POSITA would have known from reading Redford that computer system 250 converts the “PlayVideo” command, 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. *Id.*; Ex. 1002, ¶¶ 247-248.

Therefore, Redford discloses dependent claim 6.

To the extent it is determined that Redford does not teach “wherein the received set of commands includes programming code associated with the first type of media playing application,” Gonze does. Ex. 1002, ¶ 183.

As described in Sections IV.B and VI.1.c, *supra*, Gonze, describes that desired content of a user may be in a variety of media formats (*e.g.*, RealMedia, QuickTime, Windows Media) which may require different media playing applications (*e.g.*, RealPlayer, QuickTime player, Microsoft Media Player) to properly output the

content. Ex. 1006, [0006], [0060]; Ex. 1002, ¶ 184. As previously noted, Gonze describes use of a playlist of desired content chosen by a user that includes instructions that facilitate interaction with one or more media players through application programmer interfaces (“APIs”) for those media players. Ex. 1006, [0049]-[0051]. Gonze further describes that access to such APIs is implemented as a separate module that can be readily updated, thereby permitting support for new media players and new media player versions to be easily added. *Id.*, [0051]. A POSITA would have understood that such APIs are “programming code associated with the first type of media playing application.”

Therefore, Redford-Bartfeld-Gonze discloses claim 6.

## **7. Dependent Claim 7**

- a. “The method of claim 1, wherein each media playing application type of the plurality of media playing application types is operable to play and/or control a corresponding type of media.”**

Redford describes both a command to play the video content (“PlayVideo” command) and a command to pause the video content. Ex. 1005, 8:1-12, 26:62-27:3, 36:18-27, 36:41-52, 39:22-24, 39:48-49, 43:36-53, 44:6-18, Figs. 2F, 8A-8B, 11H.

Redford describes, in the set-top SDK API, a function VideoPlay that allows a video content to be played using protocols such as Real Time Streaming Protocol (RTSP), User Datagram Protocol (UDP) and Hypertext Transfer Protocol (HTTP) Streaming. *Id.*, 40:56-58. Redford teaches that RTSP has varying implementations

depending on the content provider and service, therefore several implementations of VideoPlay exist to support various RTSP players. *Id.*, 40:56-41:2; Ex. 1002, ¶¶ 250-254. With this teaching of multiple, different RTSP players being supported, a POSITA would have understood that Redford teaches that television 303 was configured to load any one of the plurality of different RTSP application software for playing back the video content for a particular VideoPlay implementation. *Id.*

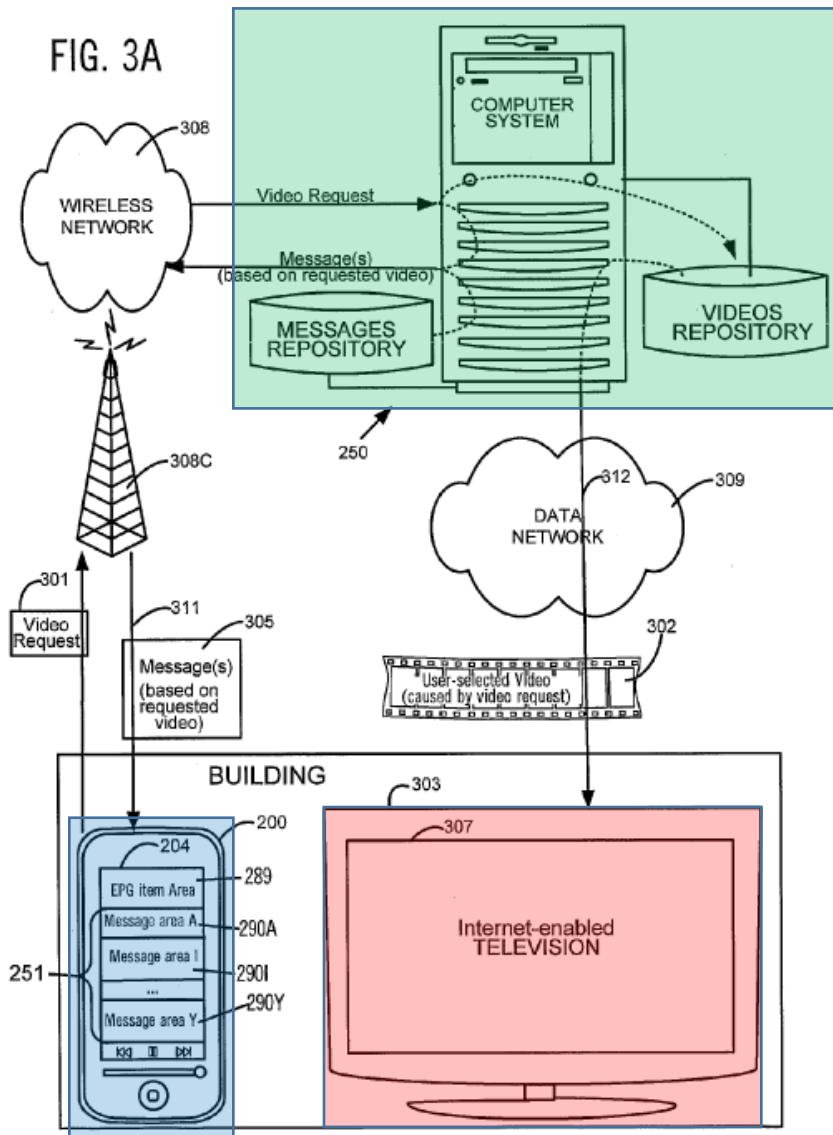
Redford discloses dependent claim 7.

## **8. Independent Claim 8**

### **a. [8A]: “A computerized system comprising:”**

To the extent the preamble is limiting, Redford discloses it. Limitation [8A] is obvious for at least the same reasons as discussed above regarding limitation [1A]. *See* VI.A.1.a; Ex. 1002, ¶¶ 256-260.

Redford discloses a computer system 250 (green) including various video content provider computers 281A-281N and a computer 282 that authorizes transfer of video (“authority server”). Ex. 1005, 2:59-67, Fig. 2B; Ex. 1002, ¶ 257. Computer system 250 responds to requests 301 from a handheld device 200 (blue) by sending a signal carrying user-selected video 302, for presentation, to an internet-enabled television 303 (red) (e.g., “first computing device”). 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. 1002, ¶ 258.

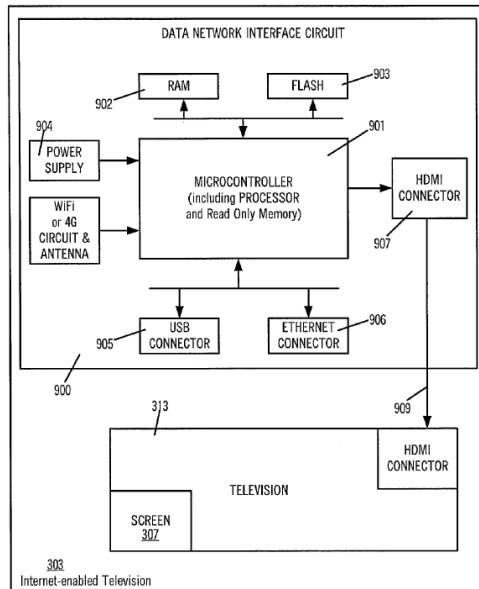


Ex. 1005, Fig. 3A (annotated)

Television 303 is a computing device that includes a microcontroller 901 and processor 911 for executing program instructions stored on a non-transitory storage medium (e.g., ROM, RAM 902 or flash 903) to perform operations. Ex. 1005, 12:5-12, 30:23-61, FIGs. 9A-9B; Ex. 1002, ¶ 259. At least Redford's computer system

250 and television 303 (each of which is a type of computer) together meet the claimed “computerized system.”

FIG. 9A (PRIOR ART)



Ex. 1005, FIG. 9A

Therefore, Redford discloses limitation [8A].

**b. [8B]: “a server; and:”**

Limitation [8B] is obvious for at least the same reasons as discussed above regarding limitation [1A]. *See* VI.A.1.a; Ex. 1002, ¶ 262. Specifically, computer system 250 is the claimed “server.”

**c. [8C]: “a media receiver to—;”**

Limitation [8C] is obvious for at least the same reasons as discussed above regarding limitation [1A]. *See* VI.A.1.a; Ex. 1002, ¶¶ 264-265. Specifically, television 303 is the claimed “media receiver.”

- d. **[8D]: “provide a unique identifier of the media receiver to a computing device, wherein each of the computing device and the media receiver are in communication with the server;”**

Limitation [8D] is obvious for at least the same reasons as discussed above regarding limitation [1B]. *See* VI.A.1.b; Ex. 1002, ¶ 267. Each of handheld device 200 (“computing device”) and television 303 (“media receiver”) are in communication with computer system 250 (“server”).

- e. **[8E]: “based on the provided unique identifier, receive a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands converted from a universal format defined by the computing device to a first format that corresponds to the first type of media playing application;”**

Limitation [8E] is obvious for at least the same reasons as discussed above regarding limitation [1C] and claim 4. *See* VI.A.1.c, VI.A.4; Ex. 1002, ¶ 268.

- f. **[8F]: “in response to the set of messages being received, select the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages; and”**

Limitation [8F] is obvious for at least the same reasons as discussed above regarding limitation [1D]. *See* VI.A.1.d; Ex. 1002, ¶ 269.

- g. [8G]: “control how the selected first type of media playing application plays the referenced piece of content based on at least one command of the converted set of commands included in the received set of messages.”**

Limitation [8G] is obvious for at least the same reasons as discussed above regarding limitation [1E]. *See* VI.A.1.e; Ex. 1002, ¶ 270.

#### **9. Dependent Claim 9**

- a. “The computerized system of claim 8, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.”**

Dependent claim 9 is obvious for at least the same reasons as discussed above regarding limitation [8E] and dependent claim 4. *See* VI.A.1.e, VI.A.4, VI.A.8.e; Ex. 1002, ¶¶ 271-272.

#### **10. Dependent Claim 10**

- a. “The computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages.”**

As discussed above in Sections VI.A.1.c and VI.A.1.e, after the messages from handheld device 200 are converted by computer system 250 into commands that television 303 will accept (“commands in the first format”), the converted commands are included in messages sent to television 303. Ex. 1005, 8:1-12, 26:62-27:3, 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, 11H; Ex. 1002, ¶¶ 274-276.

## **11. Dependent Claim 11**

- a. “The computerized system of claim 8, wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first type of media playing application.”**

Claim 11 is obvious for at least the same reasons as discussed above regarding claim 4. *See* VI.A.4; Ex. 1002, ¶¶ 277-279. As discussed, Redford’s computer system 250 (part of the “computerized system”) is configured to convert universal commands (e.g., play, pause) to an appropriate format based on the content being associated with a particular type of media playing application.

## **12. Dependent Claim 12**

- a. “The computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a unique synchronization code.”**

Claim 12 is obvious for at least the same reasons as discussed above regarding claim 5. *See* VI.A.5; Ex. 1002, ¶¶ 280-281.

## **13. Dependent Claim 13**

- a. “The computerized system of claim 8, wherein the converted set of commands includes programming code associated with the first type of media playing application.”**

Claim 13 is obvious for at least the same reasons as discussed above regarding claim 6. *See* VI.A.6; Ex. 1002, ¶¶ 283-284.

#### **14. Dependent Claim 14**

- a. “The computerized system of claim 8, wherein the set of commands converted to the first format is recognizable to the first type of media playing application.”**

Claim 14 is obvious for at least the same reasons as discussed above regarding claim 4. *See* VI.A.4; Ex. 1002, ¶¶ 286-287.

#### **15. Dependent Claim 15**

- a. “The computerized system of claim 8, wherein each media playing application type of the plurality of media playing application types is operable to play and/or control a corresponding type of media.”**

Claim 15 is obvious for at least the same reasons as discussed above regarding claim 7. *See* VI.A.7; Ex. 1002, ¶¶ 289-290.

#### **16. Dependent Claim 16**

- a. “The computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server.”**

Claim 16 is obvious for at least the same reasons as discussed above regarding limitation [1B] and [8D]. *See* VI.A.1.b, VI.A.8.d; Ex. 1002, ¶¶ 292-293. Redford describes that handheld device 200 and television 303 are both connected via networks to computer system 250. 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. 1002, ¶ 293. Based on handheld device 200 and television 303 both being in communication with computer system

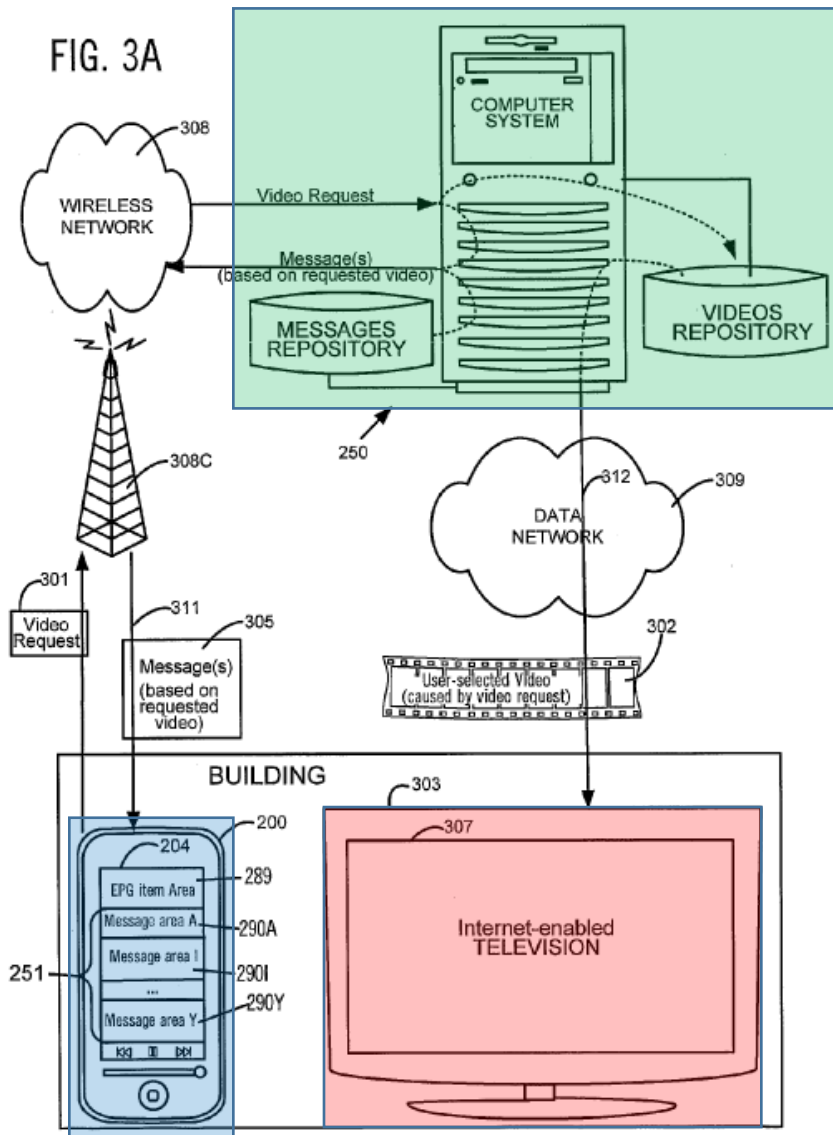
250, the messages (with commands entered using handheld device 200) are received from handheld device 200 by television 303.

## **17. Independent Claim 17**

- a. [17A]: “A computer-implemented method for controlling playback of various types of content, comprising:”**

To the extent the preamble is limiting, Redford discloses it. Limitation [17A] is obvious for at least the same reasons as discussed above regarding limitation [1A]. *See* VI.A.1.a; Ex. 1002, ¶¶ 295-299.

Redford discloses a computer system 250 (green) including various video content provider computers 281A-281N and a computer 282 that authorizes transfer of video (“authority server”). Ex. 1005, 2:59-67, Fig. 2B; Ex. 1002, ¶ 296. Computer system 250 responds to requests 301 from a handheld device 200 (blue) by sending a signal carrying user-selected video 302, for presentation, to an internet-enabled television 303 (red). 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. 1002, ¶ 297.



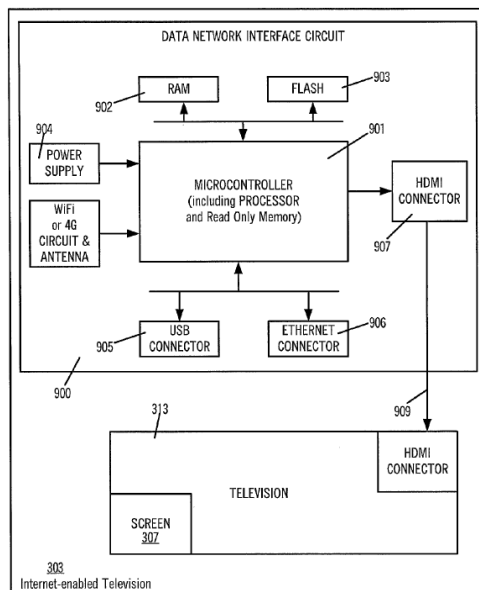
Ex. 1005, Fig. 3A (annotated)

Television 303 is a computer that executes instructions to carry out a method (“computer-implemented method”) for controlling playback of various types of content. Television 303 includes a microcontroller 901 and processor 911 for executing program instructions stored on a non-transitory storage medium (e.g.,

ROM, RAM 902 or flash 903) to perform operations. Ex. 1005, 12:5-12, 30:23-61, FIGs. 9A-9B; Ex. 1002, ¶ 298.

In Redford, the various types of content are content of multiple content providers, such as Netflix 281A and YouTube 281B in Fig. 2B, in which television 303 supports multiple, different RTSP players. In Gonze, the various types of content are content in different formats (e.g., RealMedia, QuickTime, Windows Media) for different media players (e.g., RealPlayer, QuickTime player, Microsoft Media Player). In either Redford-Bartfeld or Redford-Bartfeld-Gonze, Redford's television 303 performs a method with the steps in limitations [17B]-[17E]. *See* VI.A.17.b-e, *infra*; Ex. 1002, ¶ 299.

FIG. 9A (PRIOR ART)



Ex. 1005, FIG. 9A

Therefore, Redford discloses limitation [17A].

- b. [17B]: “providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;”**

Limitation [17B] is obvious for at least the same reasons as discussed above regarding limitation [1B]. *See* VI.A.1.b; Ex. 1002, ¶ 300. In short, Redford-Bartfeld’s television 303 (“media receiver”) provides an identifier (uniquely identifying it) to handheld device 200 (“computing device”) in communication with computer system 250 (“server system”), where the identifier is provided by way of the user entering the identifier, which is displayed by television 303, into handheld device 200.

- c. [17C]: “based on the provided unique identifier, receiving, by the media receiver via the server system, a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands converted from a universal format defined by the computing device to a first format that corresponds to the first type of media playing application;”**

Limitation [17C] is obvious for at least the same reasons as discussed above regarding limitations [1C] and [8E], and claim 4. *See* VI.A.1.c, VI.A.8.e, VI.A.4; Ex. 1002, ¶ 301.

- d. **[17D]: “in response to receiving the set of messages, selecting, by the media receiver, the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages; and”**

Limitation [17D] is obvious for at least the same reasons as discussed above regarding limitations [1D] and [8F]. *See* VI.A.1.d, VI.A.8.f; Ex. 1002, ¶ 302.

- e. **[17E]: “controlling, by the media receiver, how the selected first type of media playing application plays the referenced piece of content based on at least one command of the converted set of commands included in the received set of messages.”**

Limitation [17E] is obvious for at least the same reasons as discussed above regarding limitations [1E] and [8G]. *See* VI.A.1.e, VI.A.8.g; Ex. 1002, ¶ 303.

## **18. Dependent Claim 18**

- a. **“The method of claim 17, wherein the media receiver is coupled to a display, and the media receiver controls how the selected first type of media playing application plays the referenced piece of content via the display.”**

Television 303 is a computing device that includes a microcontroller 901 and processor 911 for executing program instructions stored on a non-transitory storage medium (e.g., ROM, RAM 902 or flash 903) to perform operations. Ex. 1005, 12:5-12, 30:23-61, FIGs. 9A-9B; Ex. 1002, ¶¶ 304-307. As discussed above in Section VI.A.17.e, television 303 controls how content is played on the display. Thus claim 18 is obvious in view of Redford.

## **19. Dependent Claim 19**

- a. **“The method of claim 17, wherein the server system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first type of media playing application.”**

Claim 19 is obvious for at least the same reasons as discussed above regarding claims 4 and 11. *See* VI.A.4, VI.A.11; Ex. 1002, ¶¶ 309-310.

## **20. Dependent Claim 20**

- a. **“The method of claim 17, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device to the server system.”**

Claim 20 is obvious for at least the same reasons as discussed above regarding claim 9. *See* VI.A.9; Ex. 1002, ¶¶ 312-313.

## **VII. GROUNDS FOR STANDING & FEE PAYMENT**

Petitioner hereby certifies that the '934 Patent is available for, and Petitioner is not barred or estopped from requesting, *inter partes* review challenging claims 1-20.

Pursuant to 37 C.F.R. § 42.103, the undersigned authorizes the charge of any required fees to Deposit Account No. 19-0733.

## VIII. CONCLUSION

*Inter partes* review should be instituted and claims 1-20 canceled.

Dated: December 27, 2023

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## **CERTIFICATION UNDER 37 CFR § 42.24(d)**

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for Inter Partes Review totals 13,107, which is less than the 14,000 allowed under 37 CFR § 42.24(a)(1)(i). This total includes 13,107 words as counted by the Word Count feature of Microsoft Word and 0 words used in annotations.

Pursuant to 37 C.F.R. § 42.24(a)(1), this count does not include the table of contents, the table of authorities, mandatory notices under § 42.8, the certificate of service, this certification of word count, the claims listing appendix, or appendix of exhibits.

BANNER & WITCOFF, LTD

Dated: December 27, 2023

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## CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.105, I hereby certify that I caused a true and correct copy of the Petition for *Inter Partes* Review in connection with U.S. Patent No. 11,086,934 and supporting evidence to be served via FedEx Priority Overnight on December 27, 2023, on the following:

SHOOK, HARDY & BACON LLP  
Touchstream Technologies (149550)  
INTELLECTUAL PROPERTY DEPARTMENT  
2555 Grand Blvd.  
Kansas City, MO 64108

Dated: December 27, 2023

By: /Frederic M. Meeker/

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Reg. No. 35,282

## CLAIM LISTING APPENDIX

U.S. Pat. No. 11,086,934

| Designation | Claim Language                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Claim 1     |                                                                                                                                                                                                                                                                                                                                                                                |
| [1A]        | 1. A non-transitory computer storage medium storing computer-useable instructions that, when used by a computing device, cause the computing device to perform operations comprising:                                                                                                                                                                                          |
| [1B]        | providing a unique identifier of the computing device to another computing device;                                                                                                                                                                                                                                                                                             |
| [1C]        | receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands that corresponds to the first type of media playing application; |
| [1D]        | in response to receiving the set of messages, selecting the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages; and                                                                                                  |
| [1E]        | controlling how the selected first type of media playing application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.                                                                                                                                                                      |
| Claim 2     |                                                                                                                                                                                                                                                                                                                                                                                |
| 2           | 2. The medium of claim 1, wherein the set of commands included in the received set of messages is recognizable by the first type of media playing application.                                                                                                                                                                                                                 |
| Claim 3     |                                                                                                                                                                                                                                                                                                                                                                                |
| 3           | 3. The medium of claim 2, wherein the set of commands is converted via an API adapter to be recognizable by the first type of media playing application, the set of commands being converted based on a determination that the first type of media playing application is associated with the referenced piece of content.                                                     |
| Claim 4     |                                                                                                                                                                                                                                                                                                                                                                                |

| Designation | Claim Language                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4           | 4. The medium of claim 1, wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first type of media playing application.                                                                                                                                                                                                                                                                    |
| Claim 5     |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5           | 5. The medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a synchronization code.                                                                                                                                                                                                                                                            |
| Claim 6     |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 6           | 6. The medium of claim 1, wherein the received set of commands includes programming code associated with the first type of media playing application.                                                                                                                                                                                                                                                                                                       |
| Claim 7     |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7           | 7. The medium of claim 1, wherein each media playing application type of the plurality of media playing application types is operable to play and/or control a corresponding type of media.                                                                                                                                                                                                                                                                 |
| Claim 8     |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [8A]        | 8. A computerized system comprising:                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [8B]        | a server; and                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| [8C]        | a media receiver to—                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [8D]        | provide a unique identifier of the media receiver to a computing device, wherein each of the computing device and the media receiver are in communication with the server;                                                                                                                                                                                                                                                                                  |
| [8E]        | based on the provided unique identifier, receive a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands converted from a universal format defined by the computing device to a first format that corresponds to the first type of media playing application; |
| [8F]        | in response to the set of messages being received, select the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages; and                                                                                                                                                                             |

| Designation | Claim Language                                                                                                                                                                                                                                                      |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [8G]        | control how the selected first type of media playing application plays the referenced piece of content based on at least one command of the converted set of commands included in the received set of messages.                                                     |
| Claim 9     |                                                                                                                                                                                                                                                                     |
| 9           | 9. The computerized system of claim 8, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.                                                                                               |
| Claim 10    |                                                                                                                                                                                                                                                                     |
| 10          | 10. The computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages.                                                                                                                      |
| Claim 11    |                                                                                                                                                                                                                                                                     |
| 11          | 11. The computerized system of claim 8, wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first type of media playing application. |
| Claim 12    |                                                                                                                                                                                                                                                                     |
| 12          | 12. The computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a unique synchronization code.                                               |
| Claim 13    |                                                                                                                                                                                                                                                                     |
| 13          | 13. The computerized system of claim 8, wherein the converted set of commands includes programming code associated with the first type of media playing application.                                                                                                |
| Claim 14    |                                                                                                                                                                                                                                                                     |
| 14          | 14. The computerized system of claim 8, wherein the set of commands converted to the first format is recognizable to the first type of media playing application.                                                                                                   |
| Claim 15    |                                                                                                                                                                                                                                                                     |
| 15          | 15. The computerized system of claim 8, wherein each media playing application type of the plurality of media playing application types is operable to play and/or control a corresponding type of media.                                                           |
| Claim 16    |                                                                                                                                                                                                                                                                     |

| Designation | Claim Language                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16          | 16. The computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server.                                                                                                                                                                                                                                                                                      |
| Claim 17    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [17A]       | 17. A computer-implemented method for controlling playback of various types of content, comprising:                                                                                                                                                                                                                                                                                                                                                                                                         |
| [17B]       | providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;                                                                                                                                                                                                                                                                                                                                                                      |
| [17C]       | based on the provided unique identifier, receiving, by the media receiver via the server system, a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands converted from a universal format defined by the computing device to a first format that corresponds to the first type of media playing application; |
| [17D]       | in response to receiving the set of messages, selecting, by the media receiver, the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages; and                                                                                                                                                                                                       |
| [17E]       | controlling, by the media receiver, how the selected first type of media playing application plays the referenced piece of content based on at least one command of the converted set of commands included in the received set of messages.                                                                                                                                                                                                                                                                 |
| Claim 18    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 18          | 18. The method of claim 17, wherein the media receiver is coupled to a display, and the media receiver controls how the selected first type of media playing application plays the referenced piece of content via the display.                                                                                                                                                                                                                                                                             |
| Claim 19    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 19          | 19. The method of claim 17, wherein the server system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first type of media playing application.                                                                                                                                                                                                                                                           |

| Designation | Claim Language                                                                                                                                                                  |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Claim 20    |                                                                                                                                                                                 |
| 20          | 20. The method of claim 17, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device to the server system. |