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

TOUCHSTREAM TECHNOLOGIES, INC., Plaintiff, v. CHARTER COMMUNICATIONS, INC. et al., Defendants.	§ § § § § § § § §	Lead Case No. 2:23-cv-00059-JRG Member Case No. 2:23-cv-00062-JRG
TOUCHSTREAM TECHNOLOGIES, INC., Plaintiff, v. COMCAST CABLE COMMUNICATIONS, LLC, d/b/a XFINITY, et al., Defendants.	§ § § § § § § § §	

DEFENDANTS' THIRD SUPPLEMENTAL DISCLOSURES
PURSUANT TO P.R. 3-3 AND 3-4

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Third Supplemental Disclosure (March 27, 2024):

In response to Touchstream's Supplemental Disclosure of Asserted Claims and Infringement Contentions and Charts to the Comcast and Charter Defendants dated February 26, 2024, Defendants Comcast Cable Communications, LLC, Comcast Cable Communications Management, LLC, and Comcast of Houston, LLC (together, "Comcast"), Defendants Charter Communications, Inc., Charter Communications Operating, LLC, Time Warner Cable Enterprises LLC, Spectrum Management Holding Company, LLC, Spectrum Gulf Coast, LLC, and Charter Communications, LLC (together, "Charter") (all collectively, "Defendants") hereby submit their Third Supplemental Disclosures Pursuant to P.R. 3-3 and 3-4 to Plaintiff Touchstream Technologies, Inc. ("Plaintiff" or "Touchstream"). Defendants reproduce their original disclosures along with their first, second, and third supplemental disclosures below, and incorporate by reference the exhibits and document production that accompanied their August 4, 2023, Disclosures Pursuant to P.R. 3-3 and 3-4 ("Defendants' August 4, 2023 Disclosures") as well as the exhibits and document production that accompanied their December 13, 2023, supplemental Disclosures Pursuant to P.R. 3-3 and 3-4 ("Defendants' December 13, 2023 Disclosures").

The third supplemental disclosures provided herein are based on information reasonably available to Defendants at the present time. Defendants' investigations of their defenses are ongoing, as is discovery in this action. Defendants reserve the right to amend and/or supplement these disclosures periodically as additional information becomes available and/or additional analysis is performed, including without limitation in connection with claim construction proceedings and in accordance with P.R. 3-6. These disclosures are provided without the benefit of the Court's claim construction or knowledge of Touchstream's claim construction positions,

and with the understanding that a range of claim construction positions may potentially be advanced by the parties and adopted by the Court. These third supplemental disclosures and any exhibits attached or incorporated by reference hereto therefore should not be deemed to admit the correctness or incorrectness of any construction of any limitation of any asserted patent claim. Moreover, particular constructions advocated by Touchstream or adopted by the Court may give rise to additional defenses not reflected herein, including, for example, defenses under 35 U.S.C. § 112. Defendants reserve the right to assert such defenses in the future. Furthermore, by making these disclosures, Defendants do not concede the adequacy of Touchstream's infringement contentions or productions made pursuant to P.R. 3-1 and 3-2 or that any assertion or construction inherent in those contentions is correct.

I. Grounds for Invalidity Called for Under P.R. 3-3

Touchstream has asserted claims 1, 2, 5, 7, 8, and 9 of U.S. Patent No. 8,356,251 (the "'251 Patent"); claims 12, 13, 14, and 16 of U.S. Patent No. 11,048,751 (the "'751 Patent"); and claims 17, 18, 19, and 20 of U.S. Patent No. 11,086,934 (the "'934 Patent") against all Defendants. Defendants hereby provide their contentions regarding the invalidity of the asserted claims of the asserted patents pursuant to P.R. 3-3.

A. State of the Art

Before the alleged inventions of the patents-in-suit, a wide variety of devices had proliferated for accessing media content. *See, e.g.*, Nallusamy at 1 ("Data, voice, video, and wireless networks are fast converging with smart phones, IPTVs, VoIP phones, [and] portable multimedia devices . . . for accessing digital content."); U.S. Patent No. 8,327,403 ("Chilvers") at 1:10-13 ("Recent advances in media communications technology have made it possible for users to access interactive media guidance applications implemented on user equipment without being in physical proximity to the user equipment."); U.S. Patent App. No. 2008/0235588

("Gonze") at 0010 ("Many devices, including, without limitation, personal computers ('PC's'), laptops, personal digital assistants ('PDA's'), cellular telephones, gaming consoles, and portable media players ('PMP's') are now capable of playing [audio, video and/or other types of] content."). The concept of a digital home—in which multiple different devices work together to create the user's multimedia environment—catered to this availability of diverse media devices. *See, e.g.*, Fagui at 440 ("With the growing awareness and popularity of the digital home concept, the development of digital multimedia, an important section in digital home, is also in full swing. At present, media applications are mainly applying UPnP technology while part of the applications are supported by IGRS. With the implementation of the standard AV application framework, the media devices can access resources in the home network.").

The different devices typically accessed content through different networks and communicated through different formats. Lee at 1 ("As home multimedia devices become increasingly commonplace, receiving and storing multimedia content through various channels even on a home network becomes possible. . . . Internet Protocol (IP) is a multimedia data streaming service that provides data in various formats to multimedia clients in real time through a home server."); Chilvers at 1:66-2:5 ("The general remote access service may maintain a lookup table that cross-references user requests with action requests in a plurality of formats, each compatible with a different user equipment device. A particular format may be selected based on characteristics of the user equipment device, such as its vendor and/or model."); Gonze at 0005 ("The rapid growth in digitally-available content has also spurred the creation of a variety of media players . . . To facilitate the user's access to digital content, many media players can play content encoded using a variety of media types.").

The devices within the environment could share content in numerous ways, including screen casting and mirroring. *See, e.g.*, Fan at 0016 ("The display mode can be selected from one of three available modes. First, display screen only, in which case the user interface is displayed only on the display screen of the IRC. Second, television display only, in which case the user interface is displayed only on the television or similar display device. Third, dual display, in which case the user interface is displayed on both screens."). Alternatively, a user could switch from viewing content on one device to resuming the content on another device. *See, e.g.*, McCoy at Abstract ("In this way, the user is able to retrieve the asset on all their content playback devices, not only on the content playback device on which the asset was originally played.").

In order to facilitate communications between the various devices and to ensure that devices interacted only with authorized devices and users, it was standard practice to implement some form of identifier (such as a synchronization code) for each device and/or a pairing code between the devices to set up communications between the devices. *See, e.g.*, Cho at 0008 ("In order to configure a home network, a security system must be built to prevent a device from being manipulated by an external intruder. The UPnP technology provides an UPnP security console standard and an UPnP device security standard so as to present a security function between a CP and the device. The standards provide security functions such as discrimination of an UPnP control message, integrity, and authentication."); Cho at 0023 ("[T]ransmitting authentication information to the control device or the controlled device via an SAC generated by using a Transport Layer Security Pre-Shared Key ciphersuites (TLS-PSK) protocol implemented by using the PIN information, wherein the authentication information is necessary for a user to control the controlled device via the control device."); Christopher at 0050 ("[I]f a service provider system (such as one of the computing devices 130 of Fig. 1) detects that the

subscriber has a mobile device server 504, or a mobile device server 504 is offered to and accepted by the subscriber, the service provider system can proceed to step 608 where it generates a pairing key which can be used to identify the service grade(s) of the subscriber.”). The identifiers could further allow for customization between the user and devices. *See, e.g.*, Fan at Abstract (“The remote control further includes a storage medium that may include a unique identifier of the user and a user profile indicative of the user’s channel preferences and viewing permissions.”).

One well-established framework for managing the interoperability of media devices within a user environment was UPnP (Universal Plug and Play). *See, e.g.*, Fagui at 440 (“At present, media applications in digital home network are mainly applying UPnP technology.”); Sung at 1 (“Demand of multimedia content in home network is growing rapidly and UPnP is expected to bring better multimedia experience with various A/V devices.”). UPnP addressed the growth of the home media environment. *See, e.g.*, Cho at 0005 (“Due to the development of home networks, an existing personal computer (PC)—centered network environment in the home has expanded into a network environment which includes electronic devices using various lower network technologies. In this regard, there was a necessity to develop a technology that can network the electronic devices with a unified system by using Internet Protocol (IP) protocol, thus, a home network middleware technology such as Universal Plug and Play (UPnP) technology has been presented.”). UPnP “provides a network architecture that facilitates adding and removing devices from a network. For instance, the UPnP architecture allows a user to simply ‘plug’ a new device into a network coupling, and thereafter the network will automatically determine the characteristics of the new device and subsequently coordinate interaction between this new device and others in the network based on the determined

characteristics." Kuehnel at 1:12-20. UPnP "is particularly well suited for networks associated with a local setting, such as a home, a business, a school, etc." Kuehnel at 1:20-23. UPnP architecture "may interconnect a collection of media source devices and a collection of media rendering devices"—"an exemplary media source device might comprise a personal computer that stores a collection of music, video, pictures, etc." and "an exemplary media rendering device might comprise a TV, stereo, personal computer, and so on." Kuehnel at 1:35-39. A control point "can then be used to route resource information from one of the media source devices to a selected media rendering device." Kuehnel at 1:39-42.

The growth in diversity of media devices within the user environment promoted the delivery of different types of media content to a display device. For example, video-on-demand, live TV, IPTV, and user-created content were available for viewing on different devices. De at 575 ("In this paper, we build on the model presented by TiVo by designing a general Multimedia Distribution System where the end users can use their personal computers to watch programs aired through diverse media, such as, cable TV, close circuit televisions, VCRs, even handheld cameras.").

Those of skill in the art developed tools to accommodate the variety of file formats and media players suitable for playing the content. *See, e.g.*, Sung at 1 ("In this paper, we propose an intelligent multimedia service framework which enables A/V contents to be adopted and shared according to user multimedia environments."); Robbin at 5:4-18 ("It is noted that multimedia data files may be encoded in accordance with any one of a number of different formats. For example, MPEG-1 (Moving Pictures Experts Group), MPEG-2, MPEG-4, MP3® (Motion Picture Expert's Group Layer 3), A3 (Advanced Audio Coding, a/k/a/ MPEG-4 audio), Quicktime®, AVI (Audio Video Interleave), RI6 (Resource Interchange File Format), WMA

(Windows Media Audio), Ogg, etc. (MP3 is a registered trademark of Thomson Multimedia. QUICKTIME is a registered trademark of Apple computer.) The claimed invention may be used to obtain, store and transmit (to a multimedia playback device) data files using any of these, or other, data formats. It will be recognized by one of ordinary skill in the art that multimedia device **115** will incorporate decoder capability for each file format it is configured to process (e.g., software routines)."); Flynn at 0061 ("Format component 525 can include an adaptation component 605 that adjusts format of multimedia content exchanged. . . . Format of transacted content 116 can be adjusted to one of a specific set of native formats of a destination device . . . ."); Flynn at 0062 ("Analysis component 608 can receive a data stream and determine a specific format utilized for the received content(s) (e.g., MPEG-4, Rec. 601, MP3, and so on) . . . ."); Chilvers at 28:67-29:7 ("In particular, the user and action requests may indicate the same instructions for the user equipment while having different formats that are compatible with different application program interfaces. In some embodiments, a lookup table is maintained which cross-references user requests with action requests in a plurality of formats including the user equipment format described above with respect to step 1306."); Gonze at 0005 ("To facilitate the user's access to digital content, many media players can play content encoded using a variety of media types. By way of example, the Windows Media Player software distributed by Microsoft, Inc. of Redmond, Wash., can play content encoded using a variety of media types, including Windows Media Audio ('WMA'), Windows Media Video ('WMV'), Motion Picture Entertainment Group ('MPEG'), MP3, WAVE, and Musical Instrument Digital Interface ('MIDI'). Windows Media Player also allows users to add support for new and alternative media types by simply installing an appropriate Coder/Decoder ('CODEC').")

To facilitate the display of content on different devices, it was known that a centralized server could be used to adapt instructions from a sending device to be understandable by the receiving device. *See, e.g.*, Gold at 13:49-64 ("In one embodiment, remote computer **3** *a* is a computer, server or other electronic information processing technology, possibly including or being associated with a database, that is i) capable of receiving information from mobile device **2** *c*, ii) possibly manipulating, converting or interpreting the received information, and then iii) further communicating the same or new information to object controller **4** *a* to ultimately facilitate some action to be performed at object **1** *a*, for example. In another embodiment of the present invention, remote computer **3** *a* is 'in the cloud,' meaning that remote computer **3** *a* is an information processing system (e.g., computer) that is physically remote and distinct from object **1** *a*, and may be distributed in nature. As a result, remote computer **3** *a* may communicate with object **1** *a* over the Internet or other network. Other embodiments of remote computer **3** *a* are within the scope of the present invention."); Sung at 2 ("Since we added home server into standard UPnP A/V architecture, the contents transfer path should be changed to go through home server so that home server can participate in requested A/V service. Home server is located logically between media server and media renderer and acts as an intermediate which receives the contents from media server and passes adapted contents to media renderer."). This central server could enhance the ability of heterogeneous devices to communicate with one another by converting a universal playback command from the sending device into a format compatible with the receiving device. *See, e.g.*, Gold at 20:14-26 ("As another example of benefits of the present invention, embodiments of the present invention enable mobile device users to remotely control objects by means of wireless communication with a remote server, rather than directly (meaning direct communication between a device and an object, such as

would be the case with a current television remote control). This has many benefits, including the ability to use information other than that which would be available in a direct interaction between a mobile device and an object. Embodiments of the present invention allow a mobile device user to possess and use different remote control user interfaces for each of many different objects, providing remote control user interfaces that are most relevant to each target object.”).

Within the multi-device media environment, it was well known that it could be beneficial for a single device to control the plurality of devices. Marriott at 1:33-44 (“The hand-held consumer electronic market is exploding, and an increasing number of these products including for example PDAs . . . [and] cellular phones . . . have increased their functionality to distance themselves from their competitors . . . In the future, it is foreseeable that the functionality of all these devices will continue to merge into a single device.”). In particular, a user’s personal device, such as a mobile phone, could serve as the controller for other devices within the environment. Chen at 1 (“As more and more smart phone users carry their phones with them wherever they go, including the time when they watch TV, it is natural to consider using a smart phone as an alternative remote control for the HDTV set.”); Sung at 4 (“User always wants to operate the A/V service with his/her near personal device like a PDA or cellular phone.”); Christopher at 0002 (“In interactive media communication systems, users can also request services on demand. Portable media devices such as mobile phones (e.g., Apple’s iPhone) or media players (e.g., Apple’s iPod) can be adapted to communicate with media processors over a wireless medium. The combined services of portable and fixed media devices can provide users with a rich environment for utilizing multimedia services.”). Many such mobile controllers had been introduced into the market prior to the development of the alleged inventions of the patents-in-suit, including: Clicker IPTV Remote Control system developed by AT&T Labs Research;

Snapstick system developed by SnapStick Inc.; YouTube Leanback, YouTube Remote, and Google TV developed by Google LLC/YouTube; Apple AirPlay system developed by Apple Inc.; Xfinity TV Remote App system developed by Comcast; PlayTo system developed by Microsoft Corp.; YahooTV system developed by Yahoo Inc.; Verizon FiOS Mobile Remote developed by Verizon Communications Inc.; DVPRemote developed by Phil Irey; Rokumote developed by Roku, Inc.; pocketBLU developed by Deluxe Digital Studios; Fetchit developed by Fetch Interactive; Vizbee developed by Vizbee Inc.; Boxee developed by Boxee, Inc.; TwonkyMedia and TwonkyManager developed by Lynx Technology; and Zelfy Peel developed by Zelfy and Peel Technologies.

Such a remote device could identify the media player needed to play the selected content on the display device. *See, e.g.*, Brown at 0042 ("The illustrative URL can include a domain name of the remote server 612 and instructions to launch a specific software application executable by the web server application in the mobile device server 604 which can be used to launch the software application.").

Defendants also incorporate herein their Section 3-3(b)-(c) disclosures, which further evidence the state of the art and subject matter known in the field at the time of the alleged inventions of the patents-in-suit.

B. Invalidity under 35 U.S.C. § 101

The asserted claims of the asserted patents claim unpatentable subject matter and are invalid under 35 U.S.C. § 101. Pursuant to the Court's Standing Order Regarding Subject Matter Eligibility Contentions, Defendants served Eligibility Contentions concerning each of the asserted patents as Exhibits D, E, and F to Defendants' August 4, 2023 Disclosures. Defendants incorporate those contentions herein.

C. Invalidity under 35 U.S.C. §§ 102 and 103[1]

1. U.S. Patent No. 8,356,251

In addition to the prior art disclosed on the face of the ’251 Patent, pursuant to P.R. 3-3(a), Defendants hereby identify the following patents, patent applications, and/or printed publications as prior art rendering the asserted claims of the ’251 Patent invalid under 35 U.S.C. §§ 102 and 103:

Ex. Nos.	Priority Date	Country of Origin	Prior Art Reference
A-1	11/10/2010	U.S.	U.S. Patent Application Publication No. 2012/0117590 entitled, “Device Registration Process from Second Display,” to Agnihotri et al., (May 10, 2012) (“Agnihotri”)
A-2	12/28/2007	U.S.	U.S. Patent Application Publication No. 2009/0172757 entitled, “Method and Apparatus for Remote Set-Top Box Management,” to Aldrey et al. (July 2, 2009) (“Aldrey”)
A-3	8/31/2010	U.S.	U.S. Patent No. 8,614,625 entitled, “Adaptive Media Content Scrubbing on a Remote Device,” to Alsina et al. (Dec. 24, 2013) (“Alsina”)
A-4	3/31/2011	U.S.	U.S. Patent No. 9,276,921 entitled, “System and Method for Establishing a Communication Session,” to Birkler et al. (Mar. 1, 2016) (“Birkler”)
A-5	7/2/2007	China	Jana et al., “Clicker – An IPTV Remote Control in Your Cell Phone,” ICME (2007) (“Clicker”)

[1] For each asserted patent, Touchstream claims priority to applications filed before March 16, 2013. *See* Touchstream’s May 19, 2023 Disclosure Under P.R. 3-1 at 15. Therefore, pre-AIA 35 U.S.C. §§ 102 and 103 apply. Defendants reserve the right to challenge the April 21, 2011 priority date asserted by Touchstream for each of the asserted patents in the May 19 Disclosure, Touchstream’s First Supplemental Disclosure of Asserted Claims and Infringement Contentions, served on May 26, 2023, Touchstream’s First Supplemental Disclosure of Asserted Claims and Infringement Contentions to Comcast Defendants, served on September 5, 2023, Touchstream’s First Supplemental Disclosure of Asserted Claims and Infringement Contentions to Defendants Altice USA, Inc., Cequel Communications, LLC, CSC Holdings, LLC, and Friendship Cable of Texas, Inc., served on November 15, 2023, and Touchstream’s Third Supplemental Disclosure of Asserted Claims and Infringement Contentions to Comcast and Charter Defendants, served on February 26, 2024.

Ex. Nos.	Priority Date	Country of Origin	Prior Art Reference
A-6	11/8/2010	U.S.	U.S. Patent No. 9,490,998 entitled, "Network-Based Remote Control," to Danciu et al. (Nov. 8, 2016) ("Danciu")
A-7	4/11/2011	U.S.	U.S. Patent Application Publication No. 2012/0260282 entitled, "Controlling Delivery of Video Programs Using User Defined Identifiers for Video Receiver Devices," to Dasher et al. (Oct. 11, 2012) ("Dasher")
A-8	2/26/2009	U.S.	U.S. Patent Application Publication No. 2010/0218214 entitled, "Intelligent Remote Control," to Fan et al. (Aug. 26, 2010) ("Fan")
A-9	1/8/2011	U.S.	U.S. Patent No. 8,655,345 entitled, "Proximity-Enabled Remote Control," to Gold (Feb. 18, 2014) ("Gold")
A-10	10/24/2000	U.S.	U.S. Patent No. 8,918,812 entitled, "Method of Sizing an Embedded Media Player Page," to Hayward (Dec. 23, 2014) ("Hayward")
A-11	11/30/2006	U.S.	U.S. Patent Application Publication No. 2007/0136488 entitled, "Method and Device for Switching Media Renderers During Streaming Playback of Content," to Cho et al. (June 14, 2007) ("Cho")
A-12	6/2/2008	U.S.	U.S. Patent Application Publication No. 2009/0298535 entitled, "Smart Phone as Remote Control Device," to Klein et al. (Dec. 3, 2009) ("Klein")
A-13	12/21/2009	U.S.	U.S. Patent No. 10,785,027 entitled, "System and Methods for Accessing and Controlling Media Stored Remotely," to Livingston et al. (Sept. 22, 2020) ("Livingston")
A-14	7/9/2010	U.S.	U.S. Patent No. 8,661,494 entitled, "Method and System for Presenting Media Via a Set-Top Box," to Maddali et al. (Feb. 25, 2014) ("Maddali")
A-15	5/10/2010	U.S.	U.S. Patent Application No. 61/333,066 entitled, "Intelligent Remote Control," to McMahon et al. (May 10, 2010) ("McMahon App.")
A-16	5/10/2010	U.S.	U.S. Patent No. 9,294,800 entitled, "Intelligent Remote Control," to McMahon et al. (Mar. 22, 2016) ("McMahon")

Ex. Nos.	Priority Date	Country of Origin	Prior Art Reference
A-17	10/6/2000	U.S.	U.S. Patent No. 7,437,150 entitled, "Method for Wireless Data Exchange for Control of Structural Appliances Such as Heating, Ventilation, Refrigeration, and Air Conditioning Systems," to Morelli et al. (Oct. 14, 2008) ("Morelli")
A-18	11/19/2010	U.S.	U.S. Patent No. 8,880,491 entitled, "Systems and Methods to Play Media Content Selected Using a Portable Computing Device on a Display Device External to the Portable Computing Device," to Morris (Nov. 4, 2014) ("Morris '491")
A-19	1/29/2010	U.S.	U.S. Patent Application Publication No. 2011/0191677 entitled, "Methods, Systems, and Computer Program Products for Controlling Play of Media Streams," to Morris (Aug. 4, 2011) ("Morris '677")
A-20	3/20/2009	U.S.	U.S. Patent Application Publication No. 2010/0241699 entitled, "Device-Based Control System," to Muthukumarasamy et al. (Sept. 23, 2010) ("Muthukumarasamy")
A-21	10/20/2009	U.S.	U.S. Patent No. 8,396,055 entitled, "Methods and Apparatus for Enabling Media Functionality in a Content-Based Network," to Patel et al. (Mar. 12, 2013) ("Patel")
A-22	11/12/2010	U.S.	U.S. Patent No. 8,892,634 entitled, "Extensible Video Player Selection Via Server-Side Detection of Client Application," to Pierce et al. (Nov. 18, 2014) ("Pierce")
A-23	1/6/2010	U.S.	U.S. Patent No. 8,660,545 entitled, "Responding to a Video Request by Displaying Information on a TV Remote and Video on the TV," to Redford et al. (Feb. 25, 2014) ("Redford")
A-24	6/27/2001	U.S.	U.S. Patent Application Publication No. 2003/0014630 entitled, "Secure Music Delivery," to Spencer et al. (Jan. 16, 2003) ("Spencer")
A-25	12/18/2008	U.S.	U.S. Patent Application Publication No. 2009/0172780 entitled, "Server for Displaying Contents," to Sukeda et al. (July 2, 2009) ("Sukeda")
A-26	4/27-28 /2006	Korea	Sung et al., "UPnP Based Intelligent Multimedia Service Architecture for Digital Home Network," IEEE (2006) ("Sung")

Ex. Nos.	Priority Date	Country of Origin	Prior Art Reference
A-27	12/19/2008	U.S.	U.S. Patent Application Publication No. 2010/0162294 entitled, "Methods, Systems and Computer Program Products for Remote DVR Interface Provisioning," to Yin et al. (June 24, 2010) ("Yin")
A-29	4/22/2004	U.S.	U.S. Patent Application Publication No. 2004/0078812 entitled, "Method and Apparatus for Acquiring Media Services Available from Content Aggregators," to Calvert (Apr. 22, 2004) ("Calvert")

Defendants hereby identify the following systems that were in public use prior to the invention date of the '251 Patent as prior art under §§ 102(a), 102(b), and/or 102(g)(2):[2]

Ex. Nos.	System	Relevant Dates	Persons/Entities Involved
	Clicker	2007	AT&T Labs Research
A-28 (as amended March 27, 2024)	Xfinity TV Remote Mobile Application	2010-2011	Comcast
	Apple AirPlay	2010	Apple Inc.
	Snapstick	2010-2011	SnapStick, Inc.
	YouTube Leanback, YouTube Remote, and/or Google TV	2010-2011	Google LLC
	PlayTo	2009-2011	Microsoft Corp.
	YahooTV	2009-2010	Yahoo Inc.
	Verizon FiOS Mobile Remote	2009-2010	Verizon Communications, Inc.
	Fetchit	2009-2011	Fetch Interactive
	Vizbee	2014	Vizbee Inc.

[2] As noted in their August 4, 2023 Disclosures, Defendants have served discovery on third parties and will supplement their invalidity contentions when additional information is received.

Ex. Nos.	System	Relevant Dates	Persons/Entities Involved
	Boxee	2009-2010	Boxee, Inc., Samsung Electronics America, Inc.
	TwonkyMedia and/or TwonkyManager and related products and systems	2007-2011	Lynx Technology
	Zelfy Peel	2010-2011	Zelfy, Peel Technologies
	Rokumote	2008-2011	Roku, Inc.
	DVPRemote	2010	Phil Irey
	pocketBLU	2010	Deluxe Digital Studios, Inc.

Attached to Defendants' August 4, 2023 Disclosures as Exhibits A-1 through A-28, attached to the Second Supplemental Disclosures as Exhibit A-29, and attached to these Third Supplemental Disclosures as Exhibit A-28 (amended) are exemplary invalidity charts describing where each element of the asserted claims of the '251 Patent may be found in certain prior art references and demonstrating how those references anticipate and/or render obvious (alone or in combination) the asserted claims. These charts contain only representative examples of where each element may be found in a particular prior art reference and are not intended to be an exhaustive list of every instance of where that element is disclosed.

To the extent it is determined that any limitation of the asserted claims is not disclosed by any one of the references charted in Exhibits A-1 through A-29 on its own, the asserted claims are nevertheless invalid as obvious in view of each reference by itself or in combination with other prior art references. The Supreme Court in *KSR* emphasized that inventions arising from ordinary innovation, ordinary skill, or common sense are not patentable. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007). Rationales that may support a conclusion of obviousness include:

- Combining various claimed elements known in the prior art according to known methods to yield a predictable result;

- Making a simple substitution of one or more known elements for another to obtain a predictable result;

- Using a known technique to improve a similar device or method in the same way;

- Applying a known technique to a known device or method ready for improvement to yield a predictable result;

- Choosing from a finite number of identified, predictable solutions with a reasonable expectation of success, such that the solution was one which was "obvious to try";

- A known work in one field of endeavor prompting variations of it for use either in the same field or a different field based on design incentives or other market forces in which the variations were predictable to one of ordinary skill in the art; and

- A teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine the teachings of various prior art references to arrive at the claimed invention.

Id. at 416-18.

A person of ordinary skill in the art would have relied on any of the above rationales to conclude that each of the prior art references charted in Exhibits A-1 through A-29 render the asserted claims of the '251 Patent obvious by itself.

In addition, a person of ordinary skill in the art would have relied on any of the above rationales to conclude that each of the prior art references charted in Exhibits A-1 through A-29 render the asserted claims of the '251 Patent obvious in combination with other references.

One of skill in the art would have had many reasons to combine any of the references cited above. The references are all in the same field of art, namely, controlling media content. *See, e.g.*, McMahon at 1:42-61; Birkler at 8:66-9:1; Clicker at p. 1055; Morris '677 at 0008; Patel at 2:36-48; Danciu at 3:13-28; Klein at 0009; Redford at 2:24-48; Livingston at 1:45-61;

Hayward at 1:11-25; Muthukumarasamy at 0026; Sukeda at 0015; Cho at 0003; Pierce at 1:39-2:29; Morelli at 1:42-52; 2:32-49; Spencer at 0016; Alsina at 1:28-32; Maddali at 2:52-3:6; Morris ’491 at 1:15-28.

The cited references also share common objectives and teach similar types of equipment and approaches for obtaining those objectives. For example, many of the cited references disclose using a mobile phone to control media. *See, e.g.*, McMahon at 4:57-64; Birkler at 6:47-60; Clicker at p. 1055; Danciu at 3:13-28; Klein at 0006; Redford at 2:53-58; Livingston at 6:27-48; Hayward at 3:20-29; Muthukumarasamy at 0026; Hayward at 3:25-27; Sukeda at 0015; Cho at 0006; Pierce at Abstract; 18:33-50; Morelli at 1:42-52; 2:32-49; Morris ’491 at 1:15-28; Maddali at 2:52-3:6; Alsina at 1:28-32. Many of the cited references disclose controlling media playing through a set-top box or television. *See, e.g.*, McMahon at 1:42-61; Clicker at p. 1055; Patel at 5:20-25; Danciu at claim 11; Klein at 0005; Redford at 24:27-50; Muthukumarasamy at 0145; Sukeda at 0010; Cho at 0006; Spencer at 0035; Maddali at 7:54-56; Morris ’491 at 1:15-28. Many of the cited references disclose media players. *See, e.g.*, McMahon at 5:23-49; Birkler at 8:66-9:16; Clicker at p. 1057; Morris ’677 at 0007; Patel at 18:42-54; Danciu at 11:29-35; Klein at 0032; Redford at 40:40-55; Muthukumarasamy at Fig. 19; Hayward at 3:30-32; Sukeda at 0059; Cho at 0083; Pierce at 6:26-56; Morris ’491 at 2:15-27; Maddali at 7:16-53; Alsina at 6:14-56; Spencer at 0078. Many of the cited references disclose using a server to facilitate the control of media. *See, e.g.*, McMahon at 1:42-61; Birkler at 2:9-24; Clicker at p. 1055; Morris ’677 at 0021; Patel at 2:49-61; Danciu at 4:58-67; Klein at 0018; Redford at 26:11-34; Livingston at 1:62-2:6; Hayward at 10:14-44; Muthukumarasamy at 0045; Sukeda at 0010; Cho at 0008; Pierce at Abstract; Morelli at 1:42-52; 2:32-49; Spencer at 0006; Alsina at 6:14-56; Maddali at 4:31-43; Morris ’491 at 11:20-30. Many of the cited references disclose converting

messages sent between a user device, server, and/or display device. McMahon at 5:9-21; Birkler at 8:66-9:16; Clicker at p. 1056; Patel at 17:18-28; Danciu at 17:21-43; Klein at 0046; Redford at 27:35-55; Muthukumarasamy at 0057; Sukeda at 0010; Cho at 0078; Morelli at 1:42-52; Morris '491 at 7:56-8:29; Alsina at 5:65-13; Spencer at 0033. Many of the cited references disclose using unique identifiers to pair two devices. *See, e.g.*, McMahon at 7:65-8:21; Birkler at 6:35-46; Clicker at p. 1056; Patel at 35:52-36:2; Danciu at 4:21-45; Klein at 0040; Redford at 32:12-30; Livingston at 7:54-8:2; Muthukumarasamy at 0056-0058; Sukeda at 0048; Cho at 0020; Spencer at 0007; Alsina at 1:58-2:4; Maddali at 5:62-6:28; Morris '491 at 18:18-29.

A person of ordinary skill in the art would have had reason to apply the techniques and methods of the cited references or combine various elements or make simple substitutions of equipment such as mobile phones, set-top boxes, display devices, media players, and servers to yield predictable results and would have had a reasonable expectation of success in doing so.

Although not required at this stage, Defendants further describe the following exemplary and non-exhaustive combinations of references and reasons to combine. Defendants note that they have yet to receive Touchstream's final infringement contentions or final validity contentions, and Defendants reserve the right to rely on additional or different combinations and motivations in view of those contentions and any additional rulings or interpretations by the Court. Defendants reserve the right to use any of the listed references to support an argument based on a disclosed prior-art system.

a. McMahon Alone or in view of Morris '677, Patel, or Hayward

To the extent McMahon by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of McMahon and Morris '677, McMahon and Patel, or McMahon and Hayward in the fashion claimed by the '251 Patent.

McMahon, Morris ’677, Patel, and Hayward are in the same field of art. Specifically, McMahon discloses a system that “allow[s] network-based remote control of a user’s device to access content,” where “a user may use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control options for a user’s controlled device, such as a set-top box (STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content.” McMahon at 1:41-50. Similarly, Morris ’677 discloses: “Methods and systems are described for controlling play of media streams. In one aspect, the method includes presenting a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device.” Morris ’677 at 0007. Patel similarly discloses “a method of operating a content based network so as to provide a substantially unified user interface environment for a plurality of different applications and services.” Patel at 2:36-39. Patel further discloses converting messages between two formats to enable communication between the devices running the different applications and services. Patel at 16:41-58. Hayward discloses an “embedded media player page [that] includes video display area 202 (when the embedded player plays video files) and control 204 for controlling the output of a media file. Exemplary control 204 includes a play button, pause button, stop button, slider bar, forward and rewind buttons, and a status window for displaying buffer status information relevant to streamed files.” Hayward at 5:61-6:2. A person of ordinary skill in the art would have been motivated to combine the ability to use a device to interact with a web server that offers control options for a user’s controlled device, as taught by McMahon, with the media control user interfaces, media players, and other media applications and services, as taught by Morris ’677, Patel, or Hayward. Combining these systems would have been a straightforward application of known techniques

and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, McMahon discloses that its "user interface 501 may offer other options as well. For example, applications may be loaded to allow access to other servers on the network . . . and other information resources (e.g., YouTube, Facebook) . . . Since the application server 107 may be connected to these resources through the network . . . , a wide variety of functionality can be supported." McMahon at 12:41-54. Morris '677 discloses that its system is compatible with various types of media players, including "[a]n audio player, video player, and/or [] other media player type [that] may process and play audio data, video data, and/or other media data." Morris '677 at 0048. Patel discloses that its system uses various "media application[s]," including "any application or service which delivers or transmits one or more types of media such as voice, video, audio, SMS/text, data files, or other data types to or from a user." Patel at 6:32-36. And Hayward discloses that "[v]arious modifications will become apparent to one skilled in the art." Hayward at 12:43-45.

In addition, McMahon, Morris '677, Patel, and Hayward attempt to solve problems in the same field. McMahon notes that the "introduction of the digital video recorder (DVR) added a new level of functionality to the remote control, and viewers are now able to record, pause, and rewind television programs at their whim." McMahon at 1:31-34. And "[d]espite the usefulness and convenience of conventional remote controls, there remains an ever-present need for even more convenience and even more usefulness." McMahon at 1:35-37. McMahon attempts to solve this need by providing a system that allows "a user [to] use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control

options for a user's controlled device, such as a set-top box (STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content." McMahon at 1:42-50. Morris '677 describes problems arising when a device attempts to play more than one media stream. Specifically, "[w]atching a video or listening to [a] song with interference from other audio streams and video streams is a common experience." Morris '677 at 0002. Morris '677 addresses this problem by providing "a system for controlling play of media streams" that "present[s] a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device." Morris '677 at 0007. Patel discloses that existing "two-screen solutions . . . may not enable a user to effect live programming" or "present a user with one single unified interface for interaction with content." Patel at 1:66-2:1. And "what is needed is a user-friendly mechanism for viewing television content and simultaneously interacting with one or more media features or applications." Patel at 2:20-23. Patel addresses this problem by "providing a plurality of media applications" and "rendering user interfaces associated with the plurality of applications on a user premises display device." Patel at 2:39-44. Hayward similarly discloses that: "Known embedded media player pages that embed media players, however, suffer from several drawbacks. . . . [P]articularly with respect to streamed video content, prior embedded media player pages generally display all video data at one size, causing the image composition to be cropped by the fixed size of the video display area." Hayward at 1:29-34. Hayward attempts to solve these drawbacks by disclosing "a method of displaying video data using an embedded media player page" that "displays the video data in an uncropped manner, providing more viewable video, minimizing picture distortion." Hayward at 1:66-2:12. A person of ordinary skill in the art would have been motivated to combine the networked remote device of McMahon that

offers control options for a user's controlled device with the media player and application user interfaces of Morris '677, Patel, or Hayward to provide a richer viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

McMahon, Morris '677, Patel, and Hayward teach similar techniques and similar types of equipment. For example, McMahon explains that its system can utilize "wireless laptops and netbooks, mobile phones, mobile televisions, personal digital assistants (PDA), etc." McMahon at 4:11-13. Morris '677 similarly explains that its system can utilize "personal computers, servers, hand-held and other mobile devices, multiprocessor systems, consumer electronic devices, and network-enabled devices such as devices with routing and/or switching capabilities." Morris '677 at 0021. Patel discloses similar devices: "set-top boxes (e.g., DSTBs), personal computers (PCs), and minicomputers, whether desktop, laptop, or otherwise, and mobile devices such as handheld computers, PDAs, personal media devices (PMDs), and smartphones." Patel at 5:20-25. Hayward discloses "Client 110 may be a computer terminal, a pager that can communicate through the Internet using the Internet Protocol (IP), a Kiosk with Internet access, a connected electronic planner (e.g., a PALM device manufactured by Palm, Inc.) or other device capable of interactive Internet communication, such as an Internet enabled television. Client 110 may also be a wireless device, such as a hand held unit (e.g., cellular telephone) that connects to and communicates through the Internet using the wireless access protocol (WAP) or a third generation (3G) compatible protocol." Hayward at 3:20-29. In addition, each reference describes the use of a server to facilitate the control of media content. McMahon at 1:42-61; Morris '677 at 0021; Patel at 2:49-61; Hayward at 10:14-44. And each reference discloses controlling different types of audio and video media streams. McMahon at

1:42-61; Morris ’677 at 0072; Patel at 13:29-56; Hayward at 3:41-52. The close correspondence between the techniques and equipment used in McMahon and Morris ’677, McMahon and Patel, and McMahon and Hayward make the references particularly apt for combination. At most, combining McMahon and Morris ’677, McMahon and Patel, and McMahon and Hayward would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

b. The Xfinity TV Remote Mobile Application alone or in view of McMahon

To the extent the Xfinity TV Remote Mobile Application by itself does not render obvious the asserted claims of the ’251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of the Xfinity TV Remote Mobile Application and McMahon in the fashion claimed by the ’251 Patent.

McMahon and the Xfinity TV Remote Mobile Application are in the same field of art. Indeed, McMahon describes a system that became the Xfinity TV Remote Application. Comcast filed McMahon and implemented the Xfinity TV Remote Mobile Application, and the named inventors of McMahon developed a prototype application which was subsequently converted into the commercialized TV Remote Mobile Application. Specifically, McMahon discloses a system that “allow[s] network-based remote control of a user’s device to access content,” where “a user may use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control options for a user’s controlled device, such as a

set-top box (STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content." McMahon at 1:41-50. Similarly, the Xfinity TV Remote Mobile Application was "a web-based remote control" that allowed a user "to search for your favorite shows and movies on television and video on demand, change the channel on your cable box right from your iPad, and set your DVR remotely." COM_00008408 at -8408. A person of ordinary skill in the art would thus have been motivated to combine any of the disclosures of McMahon with the system as implemented as the Xfinity TV Remote Mobile Application. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In addition, McMahon, and the Xfinity TV Remote Mobile Application attempt to solve problems in the same field. McMahon notes that the "introduction of the digital video recorder (DVR) added a new level of functionality to the remote control, and viewers are now able to record, pause, and rewind television programs at their whim." McMahon at 1:31-34. And "[d]espite the usefulness and convenience of conventional remote controls, there remains an ever-present need for even more convenience and even more usefulness." McMahon at 1:35-37. McMahon attempts to solve this need by providing a system that allows "a user [to] use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control options for a user's controlled device, such as a set-top box (STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content." McMahon at 1:42-50. The Xfinity TV Remote Mobile Application "brings PCs and a variety of tablets and smartphones into an immersive video experience together with the TV, finding content in very convenient ways. It will bring a new level of

personal interactivity to watching TV." COM_00008408 at -8408-09. A person of ordinary skill in the art would have been motivated to combine the networked remote device of McMahon that offers control options for a user's controlled device with the networked remote device in the TV Remote Mobile Application to provide a richer viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

McMahon and the TV Remote Mobile Application teach similar techniques and similar types of equipment. For example, McMahon explains that its system can utilize "wireless laptops and netbooks, mobile phones, mobile televisions, personal digital assistants (PDA), etc." McMahon at 4:11-13. The TV Remote Mobile Application similarly is utilized on an iPad or mobile phone and connects to a cable box to change channels. COM_00008408 at -8408. In addition, the McMahon patent and the TV Remote Mobile Application both describe the use of a server or internet to facilitate the control of media content. McMahon at 1:42-61; COM_00011012. The close correspondence between the techniques and equipment used in McMahon and the TV Remote Mobile Application make the references particularly apt for combination. At most, combining McMahon and the TV Remote Mobile Application would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

c. Redford Alone or in view of Morris '677, Patel, or Hayward

To the extent Redford by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and

combine the elements of Redford and Morris ’677, Redford and Patel, or Redford and Hayward in the fashion claimed by the ’251 Patent.

Redford, Morris ’677, Patel, and Hayward are in the same field of art. Specifically, Redford discloses: “In response to the user selection, video 208A begins to play on an internet-enabled television associated with handheld device 200. While video 208A is playing on a television screen, handheld device 200 displays . . . a control panel 252 at the bottom of handheld screen 204, as shown in FIG. 2G. Specifically, control panel 252 includes . . . a rewind button 252A, a pause button 252B and a fast forward button 252C, to enable navigation of the play of video 208A on the television screen.” Redford at 8:5-17. Similarly, Morris ’677 discloses: “Methods and systems are described for controlling play of media streams. In one aspect, the method includes presenting a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device.” Morris ’677 at 0007. Patel similarly discloses “a method of operating a content based network so as to provide a substantially unified user interface environment for a plurality of different applications and services is disclosed.” Patel at 2:36-39. Patel further discloses converting messages between two formats to enable communication between the devices running the different applications and services. Patel at 16:41-58. Hayward discloses: “The embedded media player page includes video display area 202 (when the embedded player plays video files) and control 204 for controlling the output of a media file. Exemplary control 204 includes a play button, pause button, stop button, slider bar, forward and rewind buttons, and a status window for displaying buffer status information relevant to streamed files.” Hayward at 5:61-6:2. A person of ordinary skill in the art would have been motivated to combine the ability to play content on an internet-enabled television associated with a handheld device using a

control panel, as taught by Redford, with the media control user interfaces, media players, and other media applications and services, as taught by Morris ’677, Patel, or Hayward. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Redford discloses that its system supports various video streaming protocols including RTSP (Real-Time Streaming Protocol) and that its system can “support various RTSP players.” Redford at 40:56-41:2. Similarly, Morris ’677 discloses that its system is compatible with various types of media players, including “[a]n audio player, video player, and/or [] other media player type [that] may process and play audio data, video data, and/or other media data.” Morris ’677 at 0048. And Patel discloses that its system uses various “media application[s]” including “any application or service which delivers or transmits one or more types of media such as voice, video, audio, SMS/text, data files, or other data types to or from a user.” Patel at 6:32-36. And Hayward discloses that “[v]arious modifications will become apparent to one skilled in the art.” Hayward at 12:43-45.

In addition, Redford, Morris ’677, Patel, and Hayward attempt to solve problems in the same field. Redford describes the need to provide a “richer viewing experience” when viewing video on a TV and addresses this need by disclosing a system where video is displayed on a TV and supplementary information, including playback controls, are displayed on a handheld device. Redford at 1:65-2:48. Morris ’677 describes problems arising when a device attempts to play more than one media stream. Specifically, “[w]atching a video or listening to [a] song with interference from other audio streams and video streams is a common experience.” Morris ’677

at 0002. Morris ’677 addresses this problem by providing “a system for controlling play of media streams” that “present[s] a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device.” Morris ’677 at 0007. Patel discloses that existing “two-screen solutions . . . may not enable a user to effect live programming” or “present a user with one single unified interface for interaction with content.” Patel at 1:66-2:1. And “what is needed is a user-friendly mechanism for viewing television content and simultaneously interacting with one or more media features or applications.” Patel at 2:20-23. Patel address this problem by “providing a plurality of media applications” and “rendering user interfaces associated with the plurality of applications on a user premises display device.” Patel at 2:39-44. Hayward discloses: “Known embedded media player pages that embed media players, however, suffer from several drawbacks. . . . [P]articularly with respect to streamed video content, prior embedded media player pages generally display all video data at one size, causing the image composition to be cropped by the fixed size of the video display area.” Hayward at 1:29-34. Hayward attempts to solve these drawbacks by disclosing “a method of displaying video data using an embedded media player page” that “displays the video data in an uncropped manner, providing more viewable video, minimizing picture distortion.” Hayward at 1:66-2:12. A person of ordinary skill in the art would have been motivated to combine Redford’s system utilizing a handheld device to control media playing on a TV with the media player and application user interfaces of Morris ’677, Patel, or Hayward to provide a richer viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Redford, Morris ’677, Patel, and Hayward teach similar techniques and similar types of equipment. For example, Morris ’677 explains that its system can utilize “personal computers,

servers, hand-held and other mobile devices, multiprocessor systems, consumer electronic devices, and network-enabled devices such as devices with routing and/or switching capabilities." Morris '677 at 0021. Redford discloses specific devices that fall into these categories, including an iPhone, PDAs, e-books, tablet PCs, Intel computers, etc. Redford at 4:57-5:25, 11:49-59. Patel discloses similar devices: "set-top boxes (e.g., DSTBs), personal computers (PCs), and minicomputers, whether desktop, laptop, or otherwise, and mobile devices such as handheld computers, PDAs, personal media devices (PMDs), and smartphones." Patel at 5:20-25. Hayward discloses "Client 110 may be a computer terminal, a pager that can communicate through the Internet using the Internet Protocol (IP), a Kiosk with Internet access, a connected electronic planner (e.g., a PALM device manufactured by Palm, Inc.) or other device capable of interactive Internet communication, such as an Internet enabled television. Client 110 may also be a wireless device, such as a hand held unit (e.g., cellular telephone) that connects to and communicates through the Internet using the wireless access protocol (WAP) or a third generation (3G) compatible protocol." Hayward at 3:20-29. In addition, each reference describes the use of a server to facilitate the control of media content. Redford at 26:11-34; Morris '677 at 0021; Patel at 2:49-61; Hayward at 10:14-44. And each reference discloses controlling different types of audio and video media streams. Redford at 30:46-61; Morris '677 at 0072; Patel at 13:29-56; Hayward at 3:41-52. The close correspondence between the techniques and equipment used in Redford and Morris '677, Redford and Patel, and Redford and Hayward make the references particularly apt for combination. At most, combining Redford and Morris '677, Redford and Patel, and Redford and Hayward would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

d. Clicker Alone or in view of Morris '677, Patel, or Hayward

To the extent Clicker by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Clicker and Morris '677, Clicker and Patel, or Clicker and Hayward in the fashion claimed by the '251 Patent.

Clicker, Morris '677, Patel, and Hayward are in the same field of art. Specifically, Clicker discloses: "In this paper, we are interested in providing to the mobile user the capability of controlling an IPTV session from his mobile device, a concept that we define as 'out-of-band' remote control – 'clicker'. The solution relies on a mobile device acting as a remote control, a secure token [4] to authenticate user and move IPTV sessions, and a middleware server acting as an intermediary or proxy between the user and the IPTV server." Clicker at p. 1055. Similarly, Morris '677 discloses: "Methods and systems are described for controlling play of media streams. In one aspect, the method includes presenting a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device." Morris '677 at 0007. Patel similarly discloses "a method of operating a content based network so as to provide a substantially unified user interface environment for a plurality of different applications and services is disclosed." Patel at 2:36-39. Patel further discloses converting messages between two formats to enable communication between the devices running the different applications and services. Patel at 16:41-58. Hayward discloses: "The embedded media player page includes video display area 202 (when the

embedded player plays video files) and control 204 for controlling the output of a media file. Exemplary control 204 includes a play button, pause button, stop button, slider bar, forward and rewind buttons, and a status window for displaying buffer status information relevant to streamed files." Hayward at 5:61-6:2. A person of ordinary skill in the art would have been motivated to combine the ability to control an IPTV session using a mobile device as a remote control, as taught by Clicker, with the media control user interfaces, media players, and other media applications and services, as taught by Morris '677, Patel, or Hayward. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Clicker discloses that "content is adapted using a middleware system that best matches the user's device," and "[v]arious protocols are supported by the middleware server and serve as an intermediary between the user and the IPTV." Clicker at pp. 1055-56. Similarly, Morris '677 discloses that its system is compatible with various types of media players, including "[a]n audio player, video player, and/or [] other media player type [that] may process and play audio data, video data, and/or other media data." Morris '677 at 0048. And Patel discloses that its system uses various "media application[s]" including "any application or service which delivers or transmits one or more types of media such as voice, video, audio, SMS/text, data files, or other data types to or from a user." Patel at 6:32-36. And Hayward discloses that "[v]arious modifications will become apparent to one skilled in the art." Hayward at 12:43-45.

In addition, Clicker, Morris ’677, Patel, and Hayward attempt to solve problems in the same field. Clicker “investigates a novel concept of providing seamless control and portability of an IPTV viewing session” in view of “Internet TV and DVR capabilities [becoming] very popular.” Clicker at p. 1055. Clicker discloses a system comprised of a set-top box, viewing station, e-token, and various servers, which addresses “shortcomings” of prior IPTV systems “by moving the identity and authentication management beyond the set-top box to a . . . mobile phone.” Clicker at pp. 1055, 1057. Morris ’677 describes problems arising when a device attempts to play more than one media stream. Specifically, “[w]atching a video or listening to [a] song with interference from other audio streams and video streams is a common experience.” Morris ’677 at 0002. Morris ’677 addresses this problem by providing “a system for controlling play of media streams” that “present[s] a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device.” Morris ’677 at 0007. Patel discloses that existing “two-screen solutions . . . may not enable a user to effect live programming” or “present a user with one single unified interface for interaction with content.” Patel at 1:66-2:1. And “what is needed is a user-friendly mechanism for viewing television content and simultaneously interacting with one or more media features or applications.” Patel at 2:20-23. Patel address this problem by “providing a plurality of media applications” and “rendering user interfaces associated with the plurality of applications on a user premises display device.” Patel at 2:39-44. Hayward discloses: “Known embedded media player pages that embed media players, however, suffer from several drawbacks. . . . [P]articularly with respect to streamed video content, prior embedded media player pages generally display all video data at one size, causing the image composition to be cropped by the fixed size of the video display area.” Hayward at 1:29-34. Hayward attempts to

solve these drawbacks by disclosing "a method of displaying video data using an embedded media player page" that "displays the video data in an uncropped manner, providing more viewable video, minimizing picture distortion." Hayward at 1:66-2:12. A person of ordinary skill in the art would have been motivated to combine the system of Clicker, which includes a set-top box, viewing station, e-token, and various servers to provide seamless control and portability for viewing IPTV, with the media player and application user interfaces of Morris '677, Patel, or Hayward to provide a richer viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Clicker, Morris '677, Patel, and Hayward teach similar techniques and similar types of equipment. For example, clicker discloses that its system can utilize set-top boxes, TVs, laptops, PCs, smartphones, and PDAs. Clicker at pp. 1055-56. Morris '677 similarly explains that its system can utilize "personal computers, servers, hand-held and other mobile devices, multiprocessor systems, consumer electronic devices, and network-enabled devices such as devices with routing and/or switching capabilities." Morris '677 at 0021. Patel also discloses similar devices: "set-top boxes (e.g., DSTBs), personal computers (PCs), and minicomputers, whether desktop, laptop, or otherwise, and mobile devices such as handheld computers, PDAs, personal media devices (PMDs), and smartphones." Patel at 5:20-25. Hayward discloses "Client 110 may be a computer terminal, a pager that can communicate through the Internet using the Internet Protocol (IP), a Kiosk with Internet access, a connected electronic planner (e.g., a PALM device manufactured by Palm, Inc.) or other device capable of interactive Internet communication, such as an Internet enabled television. Client 110 may also be a wireless device, such as a hand held unit (e.g., cellular telephone) that connects to and communicates through the Internet using the wireless access protocol (WAP) or a third generation (3G) compatible

protocol." Hayward at 3:20-29. In addition, each reference describes the use of a server to facilitate the control of media content. Clicker at 1055; Morris '677 at 0021; Patel at 2:49-61; Hayward at 10:14-44. And each reference discloses controlling different types of audio and video media streams. Clicker at p. 1058; Morris '677 at 0072; Patel at 13:29-56; Hayward at 3:41-52. The close correspondence between the techniques and equipment used in Clicker and Morris '677, Clicker and Patel, and Clicker and Hayward make the references particularly apt for combination. At most, combining Clicker and Morris '677, Clicker and Patel, and Clicker and Hayward would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

e. Danciu Alone or in view of Morris '677, Patel, or Hayward

To the extent Danciu by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Danciu and Morris '677, Danciu and Patel, or Danciu and Hayward in the fashion claimed by the '251 Patent.

Danciu, Morris '677, Patel, and Hayward are in the same field of art. Specifically, Danciu discloses: "[T]he web-enabled device can transmit control information via the network service to the networked device to control playback of media content (e.g., audio and/or video content) on the networked device." Danciu at 1:43-46. Similarly, Morris '677 discloses: "Methods and systems are described for controlling play of media streams. In one aspect, the method includes presenting a media control user interface including selectable representations identifying a

plurality of operating media players configured for accessing a first presentation device." Morris '677 at 0007. Patel similarly discloses "a method of operating a content based network so as to provide a substantially unified user interface environment for a plurality of different applications and services is disclosed." Patel at 2:36-39. Patel further discloses converting messages between two formats to enable communication between the devices running the different applications and services. Patel at 16:41-58. Hayward discloses: "The embedded media player page includes video display area 202 (when the embedded player plays video files) and control 204 for controlling the output of a media file. Exemplary control 204 includes a play button, pause button, stop button, slider bar, forward and rewind buttons, and a status window for displaying buffer status information relevant to streamed files." Hayward at 5:61-6:2. A person of ordinary skill in the art would have been motivated to combine the ability to transmit control information via a network service to a networked device to control playback of media content, as taught by Danciu, with the media control user interfaces, media players, and other media applications and services, as taught by Morris '677, Patel or Hayward. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Danciu discloses in multiple instances that "various other systems and/or devices may be utilized to implement or perform the method[s] shown." *E.g.*, Danciu at 18:60-62. Similarly, Morris '677 discloses that its system is compatible with various types of media players, including "[a]n audio player, video player, and/or [] other media player type [that] may process and play audio data, video data, and/or other media data." Morris '677 at 0048. And

Patel discloses that its system uses various "media application[s]" including "any application or service which delivers or transmits one or more types of media such as voice, video, audio, SMS/text, data files, or other data types to or from a user." Patel at 6:32-36. And Hayward discloses that "[v]arious modifications will become apparent to one skilled in the art." Hayward at 12:43-45.

In addition, Danciu, Morris '677, Patel, and Hayward attempt to solve problems in the same field. Danciu seeks to improve upon "conventional solution[s]" for controlling the playback of video on a television, including "pair[ing] a device that acts as a remote control directly with the device outputting the audio and video." Danciu does so by teaching "techniques for exchanging information between a networked device, such a network-enabled television, and a web-enabled device, such as a remote control, via a network service, (e.g., a 'cloud service.'). Danciu at 1:26-43. Morris '677 describes problems arising when a device attempts to play more than one media stream. Specifically, "[w]atching a video or listening to [a] song with interference from other audio streams and video streams is a common experience." Morris '677 at 0002. Morris '677 addresses this problem by providing "a system for controlling play of media streams" that "present[s] a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device." Morris '677 at 0007. Patel discloses that existing "two-screen solutions . . . may not enable a user to effect live programming" or "present a user with one single unified interface for interaction with content." Patel at 1:66-2:1. And "what is needed is a user-friendly mechanism for viewing television content and simultaneously interacting with one or more media features or applications." Patel at 2:20-23. Patel address this problem by "providing a plurality of media applications" and "rendering user interfaces associated with the plurality of applications on a

user premises display device." Patel at 2:39-44. Hayward discloses: "Known embedded media player pages that embed media players, however, suffer from several drawbacks. . . . [P]articularly with respect to streamed video content, prior embedded media player pages generally display all video data at one size, causing the image composition to be cropped by the fixed size of the video display area." Hayward at 1:29-34. Hayward attempts to solve these drawbacks by disclosing "a method of displaying video data using an embedded media player page" that "displays the video data in an uncropped manner, providing more viewable video, minimizing picture distortion." Hayward at 1:66-2:12. A person of ordinary skill in the art would have been motivated to combine the techniques of Danciu for exchanging information and controlling media content using a "cloud service" with the media player and application user interfaces of Morris '677, Patel, or Hayward to provide a richer viewing experience and user-friendly mechanism for controlling media content.

Danciu, Morris '677, Patel, and Hayward teach similar techniques and similar types of equipment. For example, Danciu discloses that its system can be used with "cellular phones or other wireless communication devices, personal digital assistants (PDAs), laptop computers, tablets, portable gaming devices, portable media players, e-book readers, watches, as well as non-portable devices such as desktop computers." Danciu at 5:4-8. Morris '677 explains that its system can utilize "personal computers, servers, hand-held and other mobile devices, multiprocessor systems, consumer electronic devices, and network-enabled devices such as devices with routing and/or switching capabilities." Morris '677 at 0021. Patel discloses similar devices: "set-top boxes (e.g., DSTBs), personal computers (PCs), and minicomputers, whether desktop, laptop, or otherwise, and mobile devices such as handheld computers, PDAs, personal media devices (PMDs), and smartphones." Patel at 5:20-25. Hayward discloses "Client 110 may

be a computer terminal, a pager that can communicate through the Internet using the Internet Protocol (IP), a Kiosk with Internet access, a connected electronic planner (e.g., a PALM device manufactured by Palm, Inc.) or other device capable of interactive Internet communication, such as an Internet enabled television. Client 110 may also be a wireless device, such as a hand held unit (e.g., cellular telephone) that connects to and communicates through the Internet using the wireless access protocol (WAP) or a third generation (3G) compatible protocol." Hayward at 3:20-29. In addition, each reference describes the use of a server to facilitate the control of media content. Danciu at 3:13-21; Morris '677 at 0021; Patel at 2:49-61; Hayward at 10:14-44. And each reference discloses controlling different types of audio and video media streams. Danciu at 11:29-35; Morris '677 at 0072; Patel at 13:29-56; Hayward at 3:41-52. The close correspondence between the techniques and equipment used in Danciu and Morris '677, Danciu and Patel, and Danciu and Hayward make the references particularly apt for combination. At most, combining Danciu and Morris '677, Danciu and Patel, and Danciu and Hayward would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

f. Klein Alone or in view of Morris '677, Patel, or Hayward

To the extent Klein by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Klein and Morris '677, Klein and Patel, or Klein and Hayward in the fashion claimed by the '251 Patent.

Klein, Morris ’677, Patel, and Hayward are in the same field of art. Specifically, Klein discloses: “[A] hand-held communication device is disclosed that includes a user agent for controlling multimedia content (e.g., digital television content) sent to an STB over a multimedia content distribution network (e.g., a digital television network).” Klein at 0009. Similarly, Morris ’677 discloses: “Methods and systems are described for controlling play of media streams. In one aspect, the method includes presenting a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device.” Morris ’677 at 0007. Patel similarly discloses “a method of operating a content based network so as to provide a substantially unified user interface environment for a plurality of different applications and services is disclosed.” Patel at 2:36-39. Patel further discloses converting messages between two formats to enable communication between the devices running the different applications and services. Patel at 16:41-58. Hayward discloses: “The embedded media player page includes video display area 202 (when the embedded player plays video files) and control 204 for controlling the output of a media file. Exemplary control 204 includes a play button, pause button, stop button, slider bar, forward and rewind buttons, and a status window for displaying buffer status information relevant to streamed files.” Hayward at 5:61-6:2. A person of ordinary skill in the art would have been motivated to combine the user agent for controlling multimedia content sent to an STB over a multimedia content distribution network, as taught by Klein, with the media control user interfaces, media players, and other media applications and services, as taught by Morris ’677, Patel, or Hayward. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Klein discloses that "[b]ecause clients 120 are operable to process multimedia content streams while simultaneously supporting more traditional web-like communications, clients 120 may support or comply with a variety of different types of network protocols including streaming protocols such as reliable datagram protocol (RDP) over user datagram protocol/internet protocol (UDP/IP) as well as web protocols such as hypertext transport protocol (HTTP) over transport control protocol (TCP/IP)." Klein at 0027. Similarly, Morris '677 discloses that its system is compatible with various types of media players, including "[a]n audio player, video player, and/or [] other media player type [that] may process and play audio data, video data, and/or other media data." Morris '677 at 0048. And Patel discloses that its system uses various "media application[s]" including "any application or service which delivers or transmits one or more types of media such as voice, video, audio, SMS/text, data files, or other data types to or from a user." Patel at 6:32-36. And Hayward discloses that "[v]arious modifications will become apparent to one skilled in the art." Hayward at 12:43-45.

In addition, Klein, Morris '677, Patel, and Hayward attempt to solve problems in the same field. Klein seeks to improve upon traditional coaxial-based cable networks that require distinct tuners for each desired multimedia content channel. Klein at 0014. Klein does so by disclosing an IPTV network that supports bidirectional communication, which allows a service provider to deploy advanced VOD, customizable EPGs, and preference based features to the user. Klein at 0017. Morris '677 describes problems arising when a device attempts to play more than one media stream. Specifically, "[w]atching a video or listening to [a] song with interference from other audio streams and video streams is a common experience." Morris '677 at 0002. Morris '677 addresses this problem by providing "a system for controlling play of media

streams" that "present[s] a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device." Morris '677 at 0007. Patel discloses that existing "two-screen solutions . . . may not enable a user to effect live programming" or "present a user with one single unified interface for interaction with content." Patel at 1:66-2:1. And "what is needed is a user-friendly mechanism for viewing television content and simultaneously interacting with one or more media features or applications." Patel at 2:20-23. Patel address this problem by "providing a plurality of media applications" and "rendering user interfaces associated with the plurality of applications on a user premises display device." Patel at 2:39-44. Hayward discloses: "Known embedded media player pages that embed media players, however, suffer from several drawbacks. . . . [P]articularly with respect to streamed video content, prior embedded media player pages generally display all video data at one size, causing the image composition to be cropped by the fixed size of the video display area." Hayward at 1:29-34. Hayward attempts to solve these drawbacks by disclosing "a method of displaying video data using an embedded media player page" that "displays the video data in an uncropped manner, providing more viewable video, minimizing picture distortion." Hayward at 1:66-2:12. A person of ordinary skill in the art would have been motivated to combine the IPTV network of Klein, which allows a service provider to deploy advanced VOD features, customizable EPGs, and preference based features to the user, with the media player and application user interfaces of Morris '677, Patel, or Hayward to provide even more advanced features and a user-friendly mechanism for controlling media content.

Klein, Morris '677, Patel, and Hayward teach similar techniques and similar types of equipment. For example, Klein discloses that its system can be used with "a smart phone,

personal digital assistant, or other or other current or future device that allows for managing content received by STBs." Klein at 0044. Morris '677 explains that its system can utilize "personal computers, servers, hand-held and other mobile devices, multiprocessor systems, consumer electronic devices, and network-enabled devices such as devices with routing and/or switching capabilities." Morris '677 at 0021. Patel discloses similar devices: "set-top boxes (e.g., DSTBs), personal computers (PCs), and minicomputers, whether desktop, laptop, or otherwise, and mobile devices such as handheld computers, PDAs, personal media devices (PMDs), and smartphones." Patel at 5:20-25. Hayward discloses "Client 110 may be a computer terminal, a pager that can communicate through the Internet using the Internet Protocol (IP), a Kiosk with Internet access, a connected electronic planner (e.g., a PALM device manufactured by Palm, Inc.) or other device capable of interactive Internet communication, such as an Internet enabled television. Client 110 may also be a wireless device, such as a hand held unit (e.g., cellular telephone) that connects to and communicates through the Internet using the wireless access protocol (WAP) or a third generation (3G) compatible protocol." Hayward at 3:20-29. In addition, each reference describes the use of a server to facilitate the control of media content. Klein at 0018-19; Morris '677 at 0021; Patel at 2:49-61; Hayward at 10:14-44. And each reference discloses controlling different types of audio and video media streams. Klein at 0027; Morris '677 at 0072; Patel at 13:29-56; Hayward at 3:41-52. The close correspondence between the techniques and equipment used in Klein and Morris '677, Klein and Patel, and Klein and Hayward make the references particularly apt for combination. At most, combining Klein and Morris '677, Klein and Patel, and Klein and Hayward would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references

g. Livingston Alone or in view of Morris '677, Patel, or Hayward

To the extent Livingston by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Livingston and Morris '677, Livingston and Patel, and Livingston and Hayward in the fashion claimed by the '251 Patent.

Livingston, Morris '677, Patel, and Hayward are in the same field of art. Specifically, Livingston discloses "systems and methods for accessing media stored remotely from a user and for controlling the presentation, display, playback and/or other access to that media." Livingston at 1:17-21. Similarly, Morris '677 discloses: "Methods and systems are described for controlling play of media streams. In one aspect, the method includes presenting a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device." Morris '677 at 0007. Patel similarly discloses "a method of operating a content based network so as to provide a substantially unified user interface environment for a plurality of different applications and services." Patel at 2:36-39. Patel further discloses converting messages between two formats to enable communication between the devices running the different applications and services. Patel at 16:41-58. Hayward discloses: "The embedded media player page includes video display area 202 (when the embedded player plays video files) and control 204 for controlling the output of a media file. Exemplary control 204 includes a play button, pause button, stop button, slider bar, forward and rewind buttons, and a status window for displaying buffer status information relevant to streamed

files." Hayward at 5:61-6:2. A person of ordinary skill in the art would have been motivated to combine the systems and methods for accessing media stored remotely from a user and for controlling the presentation, display, playback and/or other access to that media, as taught by Livingston, with the media control user interfaces, media players, and other media applications and services, as taught by Morris '677, Patel, or Hayward. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Livington discloses that "[a]ny portion of the apparatus and/or methods described herein may be combined in any combination." Livingston at 12:64-13:3. Morris '677 discloses that its system is compatible with various types of media players, including "[a]n audio player, video player, and/or [] other media player type [that] may process and play audio data, video data, and/or other media data." Morris '677 at 0048. And Patel discloses that its system uses various "media application[s]" including "any application or service which delivers or transmits one or more types of media such as voice, video, audio, SMS/text, data files, or other data types to or from a user." Patel at 6:32-36. And Hayward discloses that "[v]arious modifications will become apparent to one skilled in the art." Hayward at 12:43-45.

In addition, Livingston, Morris '677, Patel, and Hayward attempt to solve problems in the same field. Livingston describes disadvantages with respect to systems known in the art. Specifically, Livingston states: "accessing a user's stored media may require the user to go through an onerous login process or may limit the user to accessing the data from a particular location and/or from a particular device (such as a personal computer). Further, a variety of

devices exist, such as advanced gaming systems like the Sony Play Station 3 (PS3)® or Microsoft Xbox 360®, which can access media remotely stored. Such known advanced gaming systems, however, have user interfaces that make displaying and/or playing such media awkward." Livingston at 1:29-38. Livingston solves this problem by disclosing "systems and methods that provide easy access to remotely stored media" and "that simplify presentation of media." Livingston at 1:39-43. Morris '677 describes problems arising when a device attempts to play more than one media stream. Specifically, "[w]atching a video or listening to [a] song with interference from other audio streams and video streams is a common experience." Morris '677 at 0002. Morris '677 addresses this problem by providing "a system for controlling play of media streams" that "present[s] a media control user interface including selectable representations identifying a plurality of operating media players configured for accessing a first presentation device." Morris '677 at 0008. Patel discloses that existing "two-screen solutions . . . may not enable a user to effect live programming" or "present a user with one single unified interface for interaction with content." Patel at 1:66-2:1. And "what is needed is a user-friendly mechanism for viewing television content and simultaneously interacting with one or more media features or applications." Patel at 2:20-23. Patel addresses this problem by "providing a plurality of media applications" and "rendering user interfaces associated with the plurality of applications on a user premises display device." Patel at 2:39-44. Hayward discloses: "Known embedded media player pages that embed media players, however, suffer from several drawbacks. . . . [P]articularly with respect to streamed video content, prior embedded media player pages generally display all video data at one size, causing the image composition to be cropped by the fixed size of the video display area." Hayward at 1:66-67, 2:9-12. Hayward attempts to solve these drawbacks by disclosing "a method of displaying video data using an embedded media

player page" that "displays the video data in an uncropped manner, providing more viewable video, minimizing picture distortion." Hayward at 1:66-2:12. A person of ordinary skill in the art would have been motivated to combine the systems and methods that provide easy access to remotely stored media and that simplify presentation of media, as taught by Livingston, with the media player and application user interfaces of Morris '677, Patel, or Hayward to provide even easier access to remotely stored media and to also provide a richer viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Livingston, Morris '677, Patel, and Hayward teach similar techniques and similar types of equipment. For example, Livingston discloses that its system can utilize a "computing entity (e.g., a personal computing device such as a desktop computer, a laptop computer, etc.), a mobile phone, a personal digital assistant (PDA), a tablet personal computer (PC), an iPod®, an iPad®, a Netbook, and/or the like." Livingston at 6:27-48. Morris '677 similarly explains that its system can utilize "personal computers, servers, hand-held and other mobile devices, multiprocessor systems, consumer electronic devices, and network-enabled devices such as devices with routing and/or switching capabilities." Morris '677 at 0021. Patel discloses similar devices: "set-top boxes (e.g., DSTBs), personal computers (PCs), and minicomputers, whether desktop, laptop, or otherwise, and mobile devices such as handheld computers, PDAs, personal media devices (PMDs), and smartphones." Patel at 5:20-25. Hayward discloses "Client 110 may be a computer terminal, a pager that can communicate through the Internet using the Internet Protocol (IP), a Kiosk with Internet access, a connected electronic planner (e.g., a PALM device manufactured by Palm, Inc.) or other device capable of interactive Internet communication, such as an Internet enabled television. Client 110 may also be a wireless device, such as a hand held unit (e.g.,

cellular telephone) that connects to and communicates through the Internet using the wireless access protocol (WAP) or a third generation (3G) compatible protocol." Hayward at 3:20-29. In addition, each reference describes the use of a server to facilitate the control of media content. Livingston at 8:62-9:9; Morris '677 at 0021; Patel at 2:49-61; Hayward at 10:14-44. And each reference discloses controlling different types of audio and video media streams. Livingston at 9:32-36; Morris '677 at 0072; Patel at 13:29-56; Hayward at 3:41-52. The close correspondence between the techniques and equipment used in Livingston and Morris '677, Livingston and Patel, and Livingston and Hayward make the references particularly apt for combination. At most, combining Livingston and Morris '677, Livingston and Patel, and Livingston and Hayward would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

h. McMahon Alone or in view of Birkler[3]

To the extent McMahon by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of McMahon and Birkler in the fashion claimed by the '251 Patent.

McMahon and Birkler are in the same field of art. Specifically, McMahon discloses a system that "allow[s] network-based remote control of a user's device to access content," where

[3] The combinations including Birkler are merely exemplary. A person of skill in the art would have had numerous reasons to utilize and combine the elements of Birkler with any of the combinations disclosed in these contentions for the same or similar reasons as discussed here.

“a user may use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control options for a user’s controlled device, such as a set-top box (STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content.” McMahon at 1:41-50. Similarly, Birkler discloses “[S]erver 150 establishes at least two communications channels to allow the transfer of data between the device 110 and the device 130. One channel is a data channel over which the device 110 sends the media data (e.g., images, video, audio, etc.) to device 130. The other channel is a control channel over which device 110 sends control commands to device 130. Device 110 may send control commands such as PLAY, PAUSE, STOP, REWIND, and FAST FORWARD to control how device 130 renders the media it receives from device 110. Device 110 may also send commands to identify specific servers, user devices, identify specific content, or cause server 150 to translate data into a format understood by device 130.” Birkler at 8:66-9:11. Birkler further discloses: “If needed, server 150 can convert the commands received from device 110 into commands understood by device 130 before sending them to device 130 (and vice versa). Thus, device 130 and device 110 can be wholly independent of the other.” Birkler at 9:17-32. A person of ordinary skill in the art would have been motivated to combine the ability to use a device to interact with a web server that offers control options for a user’s controlled device, as taught by McMahon, with the techniques for synchronization, data transfer, data conversion, and control, as taught by Birkler. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, McMahon discloses that its "user interface 501 may offer other options as well. For example, applications may be loaded to allow access to other servers on the network . . . and other information resources (e.g., YouTube, Facebook) . . . Since the application server 107 may be connected to these resources through the network . . . , a wide variety of functionality can be supported." McMahon at 12:41-54. Birkler discloses that its system "may be used to perform many different functions that require a username and a password. One such function, which is used here to illustrate the present invention, is the sharing of data between devices." Birkler at 6:47-51. The devices can be any "electronic devices capable of communicating data over a communications network." Birkler at 5:45-53. "[T]he user device communicates data and other signals with server 150 and device 130 via network 12 using one or more of any of a variety of well-known protocols." Birkler at 5:54-58.

In addition, McMahon and Birkler attempt to solve problems in the same field. McMahon notes that the "introduction of the digital video recorder (DVR) added a new level of functionality to the remote control, and viewers are now able to record, pause, and rewind television programs at their whim." McMahon at 1:31-34. And "[d]espite the usefulness and convenience of conventional remote controls, there remains an ever-present need for even more convenience and even more usefulness." McMahon at 1:35-37. McMahon attempts to solve this need by providing a system that allows "a user [to] use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control options for a user's controlled device, such as a set-top box (STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content." McMahon at 1:42-50. Birkler discloses that "the methods by which communication sessions are

established can be, at times, cumbersome for the user" and cites disadvantages of prior art methods for pairing two devices. Birkler at 1:22-59. Birkler attempts to address these disadvantages by "provid[ing] a method for establishing a communications session between first and second devices. The method, which is performed at a network server, comprises generating a coded image for display at a first device connected to the network server. The coded image is generated to include embedded data that will be utilized by the network server to authenticate a second device." Birkler at 2:9-16. A person of ordinary skill in the art would have been motivated to combine the networked remote device of McMahon that offers control options for a user's controlled device with the methods for establishing a communications sessions between devices as taught by Birkler to quickly and securely pair a user's device with a controlled device for playing media content.

McMahon and Birkler teach similar techniques and similar types of equipment. For example, McMahon explains that its system can utilize "wireless laptops and netbooks, mobile phones, mobile televisions, personal digital assistants (PDA), etc." McMahon at 4:11-13. Birkler similarly explains that its system can utilize any "consumer electronic device having a display screen, such as a computer or web-enabled television," "a camera-equipped cellular telephone," or any "other electronic devices capable of communicating data over a communications network, . . . including, but not limited to, satellite telephones, Personal Digital Assistants (PDAs), and computing devices such as laptop and notebook computers, and tablet computing devices." Birkler at 5:26-30; 5:45-53; 12:1-9. The close correspondence between the techniques and equipment used in McMahon and Birkler make the references particularly apt for combination. At most, combining McMahon and Birkler would have entailed simply combining

or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

i. Redford Alone or in view of Birkler

To the extent Redford by itself does not render obvious the asserted claims of the ’251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Redford and Birkler in the fashion claimed by the ’251 Patent.

Redford and Birkler are in the same field of art. Specifically, Redford discloses: “In response to the user selection, video 208A begins to play on an internet-enabled television associated with handheld device 200. While video 208A is playing on a television screen, handheld device 200 displays . . . a control panel 252 at the bottom of handheld screen 204, as shown in FIG. 2G. Specifically, control panel 252 includes . . . a rewind button 252A, a pause button 252B and a fast forward button 252C, to enable navigation of the play of video 208A on the television screen.” Redford at 8:5-17. Similarly, Birkler discloses “[S]erver 150 establishes at least two communications channels to allow the transfer of data between the device 110 and the device 130. One channel is a data channel over which the device 110 sends the media data (e.g., images, video, audio, etc.) to device 130. The other channel is a control channel over which device 110 sends control commands to device 130. Device 110 may send control commands such as PLAY, PAUSE, STOP, REWIND, and FAST FORWARD to control how device 130 renders the media it receives from device 110. Device 110 may also send commands to identify specific servers, user devices, identify specific content, or cause server 150

to translate data into a format understood by device 130." Birkler at 8:66-9:11. Birkler further discloses: "If needed, server 150 can convert the commands received from device 110 into commands understood by device 130 before sending them to device 130 (and vice versa). Thus, device 130 and device 110 can be wholly independent of the other." Birkler at 9:17-32. A person of ordinary skill in the art would have been motivated to combine the ability to play content on an internet-enabled television associated with a handheld device using a control panel, as taught by Redford, with the techniques for synchronization, data transfer, data conversion, and control, as taught by Birkler. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Redford discloses that its system supports various video streaming protocols including RTSP (Real-Time Streaming Protocol) and that its system can "support various RTSP players." Redford at 40:56-41:2. Birkler similarly discloses that its system utilizes a "user device [that] communicates data and other signals with server 150 and device 130 via network 12 using one or more of any of a variety of well-known protocols." Birkler at 5:54-58.

In addition, Redford and Birkler attempt to solve problems in the same field. Redford describes the need to provide a "richer viewing experience" when viewing video on a TV and addresses this need by disclosing a system where video is displayed on a TV and supplementary information, including playback controls, are displayed on a handheld device. Redford at 1:65-2:48. Birkler discloses that "the methods by which communication sessions are established can be, at times, cumbersome for the user" and cites disadvantages of prior art methods for pairing two devices. Birkler at 1:22-59. Birkler attempts to address these disadvantages by "provid[ing]

a method for establishing a communications session between first and second devices. The method, which is performed at a network server, comprises generating a coded image for display at a first device connected to the network server. The coded image is generated to include embedded data that will be utilized by the network server to authenticate a second device." Birkler at 2:9-16. A person of ordinary skill in the art would have been motivated to combine Redford's system utilizing a handheld device to control media playing on a TV with the methods for establishing a communications sessions between devices as taught by Birkler to quickly and securely pair a user's device with a controlled device for playing media content.

Redford and Birkler teach similar techniques and similar types of equipment. For example, Redford discloses specific devices that fall into these categories, including an iPhone, PDAs, e-books, tablet PCs, Intel computers, etc. Redford at 4:57-5:25, 11:49-59. Birkler similarly explains that its system can utilize any "consumer electronic device having a display screen, such as a computer or web-enabled television," "a camera-equipped cellular telephone," or any "other electronic devices capable of communicating data over a communications network, . . . including, but not limited to, satellite telephones, Personal Digital Assistants (PDAs), and computing devices such as laptop and notebook computers, and tablet computing devices." Birkler at 5:26-30, 5:45-53, 12:1-9. The close correspondence between the techniques and equipment used in Redford and Birkler make the references particularly apt for combination. At most, combining Redford and Birkler would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references

above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

j. Danciu Alone or in view of Birkler

To the extent Danciu by itself does not render obvious the asserted claims of the ’251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Danciu and Birkler in the fashion claimed by the ’251 Patent.

Danciu and Birkler are in the same field of art. Specifically, Danciu discloses: “[T]he web-enabled device can transmit control information via the network service to the networked device to control playback of media content (e.g., audio and/or video content) on the networked device.” Danciu at 1:43-46. Similarly, Birkler discloses “[S]erver 150 establishes at least two communications channels to allow the transfer of data between the device 110 and the device 130. One channel is a data channel over which the device 110 sends the media data (e.g., images, video, audio, etc.) to device 130. The other channel is a control channel over which device 110 sends control commands to device 130. Device 110 may send control commands such as PLAY, PAUSE, STOP, REWIND, and FAST FORWARD to control how device 130 renders the media it receives from device 110. Device 110 may also send commands to identify specific servers, user devices, identify specific content, or cause server 150 to translate data into a format understood by device 130.” Birkler at 8:66-9:11. Birkler further discloses: “If needed, server 150 can convert the commands received from device 110 into commands understood by device 130 before sending them to device 130 (and vice versa). Thus, device 130 and device 110 can be wholly independent of the other.” Birkler at 9:17-32. A person of ordinary skill in the art would have been motivated to combine the ability to transmit control information via a network service to a networked device to control playback of media content, as taught by Danciu, with the techniques for synchronization, data transfer, data conversion, and control, as taught by Birkler.

Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Danciu discloses in multiple instances that "various other systems and/or devices may be utilized to implement or perform the method[s] shown." Danciu at 18:60-62. Birkler similarly discloses that its system utilizes devices that can be any "electronic devices capable of communicating data over a communications network." Birkler at 5:45-53. "[T]he user device communicates data and other signals with server 150 and device 130 via network 12 using one or more of any of a variety of well-known protocols." Birkler at 5:54-58.

In addition, Danciu and Birkler attempt to solve problems in the same field. Danciu seeks to improve upon "conventional solution[s]" for controlling the playback of video on a television, including "pair[ing] a device that acts as a remote control directly with the device outputting the audio and video." Danciu does so by teaching "techniques for exchanging information between a networked device, such a network-enabled television, and a web-enabled device, such as a remote control, via a network service, (e.g., a 'cloud service.'). Danciu at 1:26-43. Birkler discloses that "the methods by which communication sessions are established can be, at times, cumbersome for the user" and cites disadvantages of prior art methods for pairing two devices. Birkler at 1:22-59. Birkler attempts to address these disadvantages by "provid[ing] a method for establishing a communications session between first and second devices. The method, which is performed at a network server, comprises generating a coded image for display at a first device connected to the network server. The coded image is generated to include embedded data that will be utilized by the network server to authenticate a second device." Birkler at 2:9-16. A

person of ordinary skill in the art would have been motivated to combine the techniques of Danciu for exchanging information and controlling media content using a "cloud service" with the methods for establishing a communications sessions between devices as taught by Birkler to quickly and securely pair a user's device with a controlled device for playing media content.

Danciu and Birkler teach similar techniques and similar types of equipment. For example, Danciu discloses that its system can be used with "cellular phones or other wireless communication devices, personal digital assistants (PDAs), laptop computers, tablets, portable gaming devices, portable media players, e-book readers, watches, as well as non-portable devices such as desktop computers." Danciu at 5:4-8. Birkler similarly explains that its system can utilize any "consumer electronic device having a display screen, such as a computer or web-enabled television," "a camera-equipped cellular telephone," or any "other electronic devices capable of communicating data over a communications network, . . . including, but not limited to, satellite telephones, Personal Digital Assistants (PDAs), and computing devices such as laptop and notebook computers, and tablet computing devices." Birkler at 5:26-30, 5:45-53, 12:1-9. The close correspondence between the techniques and equipment used in Danciu and Birkler make the references particularly apt for combination. At most, combining Danciu and Birkler would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

k. Livingston Alone or in view of Birkler

To the extent Livingston by itself does not render obvious the asserted claims of the ’251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Livingston and Birkler in the fashion claimed by the ’251 Patent.

Livingston and Birkler are in the same field of art. Specifically, Livingston discloses “systems and methods for accessing media stored remotely from a user and for controlling the presentation, display, playback and/or other access to that media.” Livingston at 1:16-21. Similarly, Birkler discloses “[S]erver 150 establishes at least two communications channels to allow the transfer of data between the device 110 and the device 130. One channel is a data channel over which the device 110 sends the media data (e.g., images, video, audio, etc.) to device 130. The other channel is a control channel over which device 110 sends control commands to device 130. Device 110 may send control commands such as PLAY, PAUSE, STOP, REWIND, and FAST FORWARD to control how device 130 renders the media it receives from device 110. Device 110 may also send commands to identify specific servers, user devices, identify specific content, or cause server 150 to translate data into a format understood by device 130.” Birkler at 8:66-9:11. Birkler further discloses: “If needed, server 150 can convert the commands received from device 110 into commands understood by device 130 before sending them to device 130 (and vice versa). Thus, device 130 and device 110 can be wholly independent of the other.” Birkler at 9:17-32. A person of ordinary skill in the art would have been motivated to combine the systems and methods for accessing media stored remotely from a user and for controlling the presentation, display, playback and/or other access to that media, as taught by Livingston, with the techniques for synchronization, data transfer, data conversion, and control, as taught by Birkler. Combining these systems would have been a straightforward

application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Livington discloses that "[a]ny portion of the apparatus and/or methods described herein may be combined in any combination." Livingston at 12:64-13:3. Birkler similarly discloses that its system utilizes devices that can be any "electronic devices capable of communicating data over a communications network." Birkler at 5:45-53. "[T]he user device communicates data and other signals with server 150 and device 130 via network 12 using one or more of any of a variety of well-known protocols." Birkler at 5:54-58.

In addition, Livingston and Birkler attempt to solve problems in the same field. Specifically, Livingston states: "accessing a user's stored media may require the user to go through an onerous login process or may limit the user to accessing the data from a particular location and/or from a particular device (such as a personal computer). Further, a variety of devices exist, such as advanced gaming systems like the Sony Play Station 3 (PS3)® or Microsoft Xbox 360®, which can access media remotely stored. Such known advanced gaming systems, however, have user interfaces that make displaying and/or playing such media awkward." Livingston at 1:33-38. Livingston solves this problem by disclosing "systems and methods that provide easy access to remotely stored media" and "that simplify presentation of media." Livingston at 1:39-43. Birkler discloses that "the methods by which communication sessions are established can be, at times, cumbersome for the user" and cites disadvantages of prior art methods for pairing two devices. Birkler at 1:22-59. Birkler attempts to address these disadvantages by "provid[ing] a method for establishing a communications session between first and second devices. The method, which is performed at a network server, comprises generating a

coded image for display at a first device connected to the network server. The coded image is generated to include embedded data that will be utilized by the network server to authenticate a second device." Birkler at 2:9-16. A person of ordinary skill in the art would have been motivated to combine the systems and methods that provide easy access to remotely stored media and that simplify presentation of media, as taught by Livingston, with the methods for establishing a communications sessions between devices as taught by Birkler to quickly and securely pair a user's device with a controlled device for playing media content.

Livingston and Birkler teach similar techniques and similar types of equipment. For example, Livingston discloses that its system can utilize a "computing entity (e.g., a personal computing device such as a desktop computer, a laptop computer, etc.), a mobile phone, a personal digital assistant (PDA), a tablet personal computer (PC), an iPod®, an iPad®, a Netbook, and/or the like." Livingston at 6:27-48. Birkler similarly explains that its system can utilize any "consumer electronic device having a display screen, such as a computer or web-enabled television," "a camera-equipped cellular telephone," or any "other electronic devices capable of communicating data over a communications network, ... including, but not limited to, satellite telephones, Personal Digital Assistants (PDAs), and computing devices such as laptop and notebook computers, and tablet computing devices." Birkler at 5:26-30, 5:45-53, 12:1-9. The close correspondence between the techniques and equipment used in Livingston and Birkler make the references particularly apt for combination. At most, combining Livingston and Birkler would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references

above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

l. Calvert in view of McMahon, Redford, Danciu, Klein, or Livingston

A person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Calvert and McMahon, Calvert and Redford, Calvert and Danciu, Calvert and Klein, or Calvert and Livingston in the fashion claimed by the ’251 Patent.

Calvert, McMahon, Redford, Danciu, Klein, and Livingston are in the same field of art. Specifically, Calvert discloses: “This invention is related to the field of indexing, acquiring, and playing media services, particularly media services in the form of streaming media available from a plurality of content aggregators.” Calvert at 0001. Similarly, McMahon discloses a system that “allow[s] network-based remote control of a user’s device to access content,” where “a user may use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control options for a user’s controlled device, such as a set-top box (STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content.” McMahon at 1:41-50. Redford similarly discloses: “In response to the user selection, video 208A begins to play on an internet-enabled television associated with handheld device 200. While video 208A is playing on a television screen, handheld device 200 displays . . . a control panel 252 at the bottom of handheld screen 204, as shown in FIG. 2G. Specifically, control panel 252 includes . . . a rewind button 252A, a pause button 252B and a fast forward button 252C, to enable navigation of the play of video 208A on the television screen.” Redford at 8:5-17. Danciu discloses: “[T]he web-enabled device can transmit control information via the network service to the networked device to control playback of media content (e.g., audio and/or video content) on the networked device.”

Danciu at 1:43-46. Klein discloses: "[A] hand-held communication device is disclosed that includes a user agent for controlling multimedia content (e.g., digital television content) sent to an STB over a multimedia content distribution network (e.g., a digital television network)." Klein at 0009. Livingston discloses "systems and methods for accessing media stored remotely from a user and for controlling the presentation, display, playback and/or other access to that media." Livingston at 1:17-21. A person of ordinary skill in the art would have been motivated to combine the invention related to playing media services, particularly streaming media, as taught by Calvert, with the media control user interfaces, media players, and other media applications and services, as taught by McMahon, Redford, Danciu, Klein, or Livingston. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Calvert discloses that "The player application is a media complaint [sic] decoder" such as "REALPLAYER, MPEG-1 Layer-3, MICROSOFT MEDIA PLAYER, QUICKTIME, MPEG-4, DivX" but "forms of other delivery systems delivering media services available from content aggregators may benefit from the present invention." Calvert at 0043, 0068. McMahon discloses that its "user interface 501 may offer other options as well. For example, applications may be loaded to allow access to other servers on the network . . . and other information resources (e.g., YouTube, Facebook) . . . Since the application server 107 may be connected to these resources through the network . . . , a wide variety of functionality can be supported." McMahon at 12:41-54. Redford discloses that its system supports various video streaming protocols including RTSP (Real-Time Streaming Protocol) and that its system can "support

various RTSP players." Redford at 40:56-41:2. Similarly, Danciu discloses in multiple instances that "various other systems and/or devices may be utilized to implement or perform the method[s] shown." *E.g.*, Danciu at 18:60-62. Klein discloses that "[b]ecause clients 120 are operable to process multimedia content streams while simultaneously supporting more traditional web-like communications, clients 120 may support or comply with a variety of different types of network protocols including streaming protocols such as reliable datagram protocol (RDP) over user datagram protocol/internet protocol (UDP/IP) as well as web protocols such as hypertext transport protocol (HTTP) over transport control protocol (TCP/IP)." Klein at 0027. Livington discloses that "[a]ny portion of the apparatus and/or methods described herein may be combined in any combination." Livingston at 12:64-13:3.

In addition, Calvert, McMahon, Redford, Danciu, Klein, and Livingston attempt to solve problems in the same field. Calvert explains that, with the advent of the Internet, "it is difficult for a user to find all of the media services available because the content on the Internet is chaotically organized." Calvert at 0006. To address this problem, Calvert proposes "a method and apparatus . . . that enable the indexing and acquisition of media services from a plurality of content aggregators. Calvert at 0008. Similarly, McMahon notes that the "introduction of the digital video recorder (DVR) added a new level of functionality to the remote control, and viewers are now able to record, pause, and rewind television programs at their whim." McMahon at 1:31-34. And "[d]espite the usefulness and convenience of conventional remote controls, there remains an ever-present need for even more convenience and even more usefulness." McMahon at 1:35-37. McMahon attempts to solve this need by providing a system that allows "a user [to] use a networked remote device, such as an Internet Protocol-enabled mobile device, to interact with a web server that offers control options for a user's controlled device, such as a set-top box

(STB), digital video recorder (DVR), display device, television, or any other computing device used by the user to consume content." McMahon at 1:42-50. Redford describes the need to provide a "richer viewing experience" when viewing video on a TV and addresses this need by disclosing a system where video is displayed on a TV and supplementary information, including playback controls, are displayed on a handheld device. Redford at 1:65-2:48. Danciu seeks to improve upon "conventional solution[s]" for controlling the playback of video on a television, including "pair[ing] a device that acts as a remote control directly with the device outputting the audio and video." Danciu does so by teaching "techniques for exchanging information between a networked device, such a network-enabled television, and a web-enabled device, such as a remote control, via a network service, (e.g., a 'cloud service.'). Danciu at 1:26-43. Klein seeks to improve upon traditional coaxial-based cable networks that require distinct tuners for each desired multimedia content channel. Klein at 0014. Klein does so by disclosing an IPTV network that supports bidirectional communication, which allows a service provider to deploy advanced VOD, customizable EPGs, and preference based features to the user. Klein at 0017. Livingston describes disadvantages with respect to systems known in the art. Specifically, Livingston states: "accessing a user's stored media may require the user to go through an onerous login process or may limit the user to accessing the data from a particular location and/or from a particular device (such as a personal computer). Further, a variety of devices exist, such as advanced gaming systems like the Sony Play Station 3 (PS3)® or Microsoft Xbox 360®, which can access media remotely stored. Such known advanced gaming systems, however, have user interfaces that make displaying and/or playing such media awkward." Livingston at 1:29-38. A person of ordinary skill in the art would have been motivated to combine Calvert's system of indexing content from content aggregators with the media player and application user interfaces of McMahon, Redford,

Danciu, Klein, or Livingston to provide a richer and more organized viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Calvert, McMahon, Redford, Danciu, Klein and Livingston teach similar techniques and similar types of equipment. For example, Calvert explains that its system can utilize "Internet enabled devices" such as a "cable set top box," "computer," "cellular phone, "MP3 player," or "video game system." Calvert at 0024. McMahon explains that its system can utilize "wireless laptops and netbooks, mobile phones, mobile televisions, personal digital assistants (PDA), etc." McMahon at 4:11-13. Redford discloses similar devices, including an iPhone, PDAs, e-books, tablet PCs, Intel computers, etc. Redford at 4:57-5:25, 11:49-59. Danciu discloses that its system can be used with "cellular phones or other wireless communication devices, personal digital assistants (PDAs), laptop computers, tablets, portable gaming devices, portable media players, e-book readers, watches, as well as non-portable devices such as desktop computers." Danciu at 5:4-8. Klein discloses that its system can be used with "a smart phone, personal digital assistant, or other or other current or future device that allows for managing content received by STBs." Klein at 0044. Livingston discloses that its system can utilize a "computing entity (e.g., a personal computing device such as a desktop computer, a laptop computer, etc.), a mobile phone, a personal digital assistant (PDA), a tablet personal computer (PC), an iPod®, an iPad®, a Netbook, and/or the like." Livingston at 6:27-48. The close correspondence between the techniques and equipment used in Calvert and McMahon, Calvert and Redford, Calvert and Danciu, Calvert and Klein, and Calvert and Livingston make the references particularly apt for combination. At most, combining Calvert and McMahon, Calvert and Redford, Calvert and Danciu, Calvert and Klein, and Calvert and Livingston would have entailed simply combining or

substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

m. McMahon, Redford, Danciu, Klein, Livingston

A person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of any two of the following references in the fashion claimed by the '251 Patent: McMahon, Redford, Danciu, Klein, Livingston. The following are exemplary combinations:

- McMahon in view of Redford: A person of ordinary skill would have had numerous reasons to combine the features and functionalities of McMahon's system that enables a "user [to] pair his/her remote device with [a] controlled device that is to be controlled, and then enter control commands via [a] web server," McMahon at 1:41-61, with the features and functionalities of Redford's system that similarly enables a user to play video on an internet-enabled device associated with a handheld device, where the handheld device displays a control panel with various control options, such as rewind, pause, and play. Redford at 8:5-17.

- Danciu in view of Redford: A person of ordinary skill would have had numerous reasons to combine the features and functionalities of Danciu's system that utilizes "techniques for exchanging information between a networked device, such as a network-enabled television, and web-enabled device, such as a remote control, via a network service," Danciu at 1:39-50, with the features and functionalities of Redford's system that similarly enables a user to play video on an internet-enabled device associated with a handheld device, where the handheld device displays a control panel with various control options, such as rewind, pause, and play. Redford at 8:5-17.

- Livingston in view of Redford: A person of ordinary skill would have had numerous reasons to combine the features and functionalities of Livingston's system that includes a "communication device capable of establishing a web browser session with [a] server," where the "server can provide an authentication code to the . . . communication device to be displayed in the web browser session and a user can input the displayed authentication code" into a remote control device," Livingston at 1:62-2:6, with the features and

functionalities of Redford's system that similarly enables a user to play video on an internet-enabled device associated with a handheld device, where the handheld device displays a control panel with various control options, such as rewind, pause, and play. Redford at 8:5-17.

- McMahon in view of Danciu: A person of ordinary skill would have had numerous reasons to combine the features and functionalities of McMahon's system that enables a "user [to] pair his/her remote device with [a] controlled device that is to be controlled, and then enter control commands via [a] web server," McMahon at 1:41-61, with the features and functionalities of Danciu's system that utilizes "techniques for exchanging information between a networked device, such as a network-enabled television, and web-enabled device, such as a remote control, via a network service." Danciu at 1:39-50.

- Livingston in view of Danciu: A person of ordinary skill would have had numerous reasons to combine the features and functionalities of Livingston's system that includes a "communication device capable of establishing a web browser session with [a] server," where the "server can provide an authentication code to the . . . communication device to be displayed in the web browser session and a user can input the displayed authentication code" into a remote control device," Livingston at 1:62-2:6, with the features and functionalities of Danciu's system that utilizes "techniques for exchanging information between a networked device, such as a network-enabled television, and web-enabled device, such as a remote control, via a network service." Danciu at 1:39-50.

- McMahon in view of Livingston: A person of ordinary skill would have had numerous reasons to combine the features and functionalities of McMahon's system that enables a "user [to] pair his/her remote device with [a] controlled device that is to be controlled, and then enter control commands via [a] web server," McMahon at 1:41-61, with the features and functionalities of Livingston's system that includes a "communication device capable of establishing a web browser session with [a] server," where the "server can provide an authentication code to the . . . communication device to be displayed in the web browser session and a user can input the displayed authentication code" into a remote control device." Livingston at 1:62-2:6.

As discussed in prior sections, each of McMahon, Redford, Danciu, Klein, and Livingston are in the same field of art, teach that its system is flexible and can operate in various ways, attempt to solve problems in the same field, and teach similar techniques and similar types of equipment. Defendants incorporate by reference those discussions here.

There are additional reasons a person of skill in the art would have combined the elements of these references. For example, many of the references describe techniques for controlling content specifically provided by YouTube. McMahon at 12:41-54; Redford at 7:36-

42; Danciu at 11:31-35. Many of the references also describe techniques for controlling media content playing through a web browser. McMahon at 12:55-13:3; Redford at 1:29-46; Klein at 0049; Danciu 12:33-49. Controlling content on social media websites is also a focus of these references. McMahon at 12:41-54; Redford at 7:40-42, 12:49-63; Danciu at 12:33-49. In addition, many of the references are assigned to major technology companies. A person of skill in the art interested in designing a system for controlling media would have naturally looked to prior art authored by companies such as Google Inc. (Danciu), Comcast Cable Communications, LLC (McMahon), and AT&T (Klein). In fact, the references themselves cite work developed by these companies. For example, Danciu lists Comcast's work related to an internet mobile TV app in its References Cited section. Redford cites Comcast technology as an example of a data network of a cable TV service provider that can be used with Redford's invention. Redford at 26:2-10. McMahon discloses that different "modifications may be made as desired for different implementations" and specifically cites the GoogleTV communications protocol as being compatible with its inventions. McMahon at 17:26-33.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

n. Muthukumarasamy Alone or in view of Hayward

To the extent Muthukumarasamy by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Muthukumarasamy and Hayward in the fashion claimed by the '251 Patent.

Muthukumarasamy and Hayward are in the same field of art. Specifically, Muthukumarasamy discloses a "Device-Based Control System (DBCS) [that] enables a device-agnostic and source-agnostic entertainment experience through use of an internet-enabled device (IED). The IED includes a media management application for navigating through media or entertainment content, controlling media devices according to a type of media content selected by the user, and sharing media experiences via social networks." Muthukumarasamy at Abstract. Similarly, Hayward discloses that "[t]his invention relates to media players for playing media files, such as audio and video files, and more particularly to embedded or wrapped media players." Hayward at 1:8-10. Hayward further discloses: "the embedded media player page is shown in a pop-up window 200 generated by a browser, such as Microsoft Internet Explorer, of a client 110. The embedded media player page includes video display area 202 (when the embedded player plays video files) and control 204 for controlling the output of a media file. Exemplary control 204 includes a play button, pause button, stop button, slider bar, forward and rewind buttons, and a status window for displaying buffer status information relevant to streamed files. An autosizing feature of an exemplary embedded media player page is described hereafter in connection with FIGS. 2 and 3." Hayward at 5:61-6:4. A person of ordinary skill in the art would have been motivated to combine the systems and methods for the device-agnostic media system where a user controlled media through an internet-enabled device, as taught by Muthukumarasamy, with the techniques for controlling media players, as taught by Hayward. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Muthukumarasamy discloses that "[t]he elements and acts of the various embodiments described above can be combined to provide further embodiments. These and other changes can be made to the DBCS and corresponding systems and methods in light of the above detailed description." Muthukumarasamy at 0153. Hayward similarly discloses that, for its system, "[a]lthough various embodiments have been illustrated, this is for the purpose of describing, and not limiting the invention. Various modifications will become apparent to one skilled in the art and are within the scope of this invention described in the attached claims." Hayward at 12:41-45.

In addition, Muthukumarasamy and Hayward attempt to solve problems in the same field. Specifically, Muthukumarasamy states: "[c]onsumers have two levels of complexity to deal with in their premises (e.g., homes, offices, etc.). A first complexity deals with managing and controlling various electronic components or equipment in the premises (e.g., audio components, video components, digital video recorders (DVRs), digital video players, etc.). . . A second complexity is that the consumer currently has no way to interactively research/browse through the plethora of content choices that are available for them to watch and/or listen to from numerous sources at any particular moment." Muthukumarasamy at 0004-05. Muthukumarasamy solves this problem by disclosing a "Device-Based Control System . . . that enables consumers, through the use of an internet-enabled device (IED), to navigate through media or entertainment content, control media components or equipment to watch and/or listen to media content, and share their media experiences with an internet community or social network. The internet-enabled devices of an embodiment include any processor-based device with internet connectivity, a screen, and a means to navigate controls on the screen, for example,

smartphones, tablet computers, touch-enabled devices (e.g., iPhone®, iPod®, iPad®, etc.), personal computers (PCs), digital photo frames, and other internet-enabled processor-based client or remote devices. . . . The DBCS overcomes the complexities described above to provide consumers with direct access to media content choices that are available for them in a user-friendly way on IEDs." Muthukumarasamy at 0026-27. Hayward discloses: "Known embedded media player pages that embed media players, however, suffer from several drawbacks. . . . [P]articularly with respect to streamed video content, prior embedded media player pages generally display all video data at one size, causing the image composition to be cropped by the fixed size of the video display area." Hayward at 1:29-34. Hayward attempts to solve these drawbacks by disclosing "a method of displaying video data using an embedded media player page" that "displays the video data in an uncropped manner, providing more viewable video, minimizing picture distortion." Hayward at 1:66-2:12. A person of ordinary skill in the art would have been motivated to combine the systems and methods that provide an ability to control multiple media sources, as taught by Muthukumarasamy, with the media player and application user interfaces of Hayward to control and display media content with different media players.

Muthukumarasamy and Hayward teach similar techniques and similar types of equipment. For example, Muthukumarasamy discloses that its system can utilize a "any processor-based device with internet connectivity, a screen, and a means to navigate controls on the screen, for example, smartphones, tablet computers, touch-enabled devices (e.g., iPhone®, iPod®, iPad®, etc.), personal computers (PCs), digital photo frames, and other internet-enabled processor-based client or remote devices." Muthukumarasamy at 0026. Hayward similarly explains that, in its system, "Client 110 may be a computer terminal, a pager that can communicate through the Internet using the Internet Protocol (IP), a Kiosk with Internet access, a

connected electronic planner (e.g., a PALM device manufactured by Palm, Inc.) or other device capable of interactive Internet communication, such as an Internet enabled television. Client 110 may also be a wireless device, such as a hand held unit (e.g., cellular telephone) that connects to and communicates through the Internet using the wireless access protocol (WAP) or a third generation (3G) compatible protocol." Hayward at 3:20-29. In addition, Muthukumarasamy and Hayward also describe the use of a server to facilitate the control of media content. Muthukumarasamy at 0045; Hayward at 10:14-44. The close correspondence between the techniques and equipment used in Muthukumarasamy and Hayward make the references particularly apt for combination. At most, combining Muthukumarasamy and Hayward would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

Additionally, the disclosure of embedded media player pages was implemented widely in the field and used well-known technologies at the time of the '251 Patent. Hayward discloses the use of Flash as a media player: "Millions of media files already exist and are available from media file sources 116 through the World Wide Web. Many of these media files comporting to a streaming media file format. While a variety of streaming media file formats exist, the vast majority of streaming media files have been encoded as either REALAUDIO™, REALVIDEO#, MICROSOFT WINDOWS MEDIA FORMAT™, FLASH™, APPLE QUICKTIME™, MPEG-2 Layer III Audio, and MP3. Certain files, such as MP3 files and QUICKTIME™, can be used as both streaming (not completely received) and downloaded (completely received) files." Hayward at 3:53-63. Muthukumarasamy similarly discloses the use of Flash at Figure 19. This similar disclosure would mean that a person of ordinary skill in the art would have a reasonable expectation of success in combining the references.

Finally, a person of ordinary skill in the art would have been motivated to combine Muthukumarasamy and Hayward because Hayward's embedded media player pages would help improve upon the stated goals in Muthukumarasamy of enabling "the dynamic presentation of advertisements on the IED." Muthukumarasamy at 0139; *see also* Muthukumarasamy at 0091, 0142. Hayward notes that embedded media player pages are helpful for "advertising and branding space as a means to monetize the media experience." Hayward at 1:26-28; *see also* Hayward at 1:52-54, 7:3-7, 8:12-14, 10:4-6, 12:10-13.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

o. Sung Alone or in view of Dasher

To the extent Sung by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Sung and Dasher in the fashion claimed by the '251 Patent.

Sung and Dasher are directed to the same field of art. Sung proposes a "multimedia service architecture, which enables A/V contents adaptation between home A/V devices." Sung at 1. Sung relates to UPnP design, which provides architecture "to support multimedia sharing regardless of diversity of device type." Sung at 1. Similarly, Dasher "relates to video distribution, and more particularly to video distribution equipment and methods for controlling the delivery of video programming to set-top boxes." Dasher at 0001.

Furthermore, Sung and Dasher both teach that their systems are flexible and suitable for modification to operate in various ways. Sung contemplates "a plan to define the interfaces between intelligent service module and A/V controller so that our framework can integrate with

various intelligent multimedia algorithms such as A/V adaptation or location based multimedia mobility." Sung at 4; *see also* Sung at 4 ("The other reasons for choosing MPEG-21 is that UPnP media server uses MPEG-21 DIDL-Light to describe multimedia content, so our system can be integrated into UPnP framework without loss of generality. . . . Especially in home network environment, the communication should be established in a common way in order for different home network devices to participate. In this sense, our framework communicates MPEG-21 DIA on top of most promising UPnP home network middleware."). Dasher's functional controller is designed to be used in different configurations to permit flexible control of user devices. Dasher at 0024 ("The functional controller 112 may, for example, be configured to provide video on-demand services in response to commands received from the set-top boxes 120 and/or from a separate mobile terminal 150 operated by a user. The functional controller 112 may additionally or alternatively be configured to reroute/transfer a video flow that is presently directed to one of the set-top boxes 120 to instead being directed to another one of the set-top boxes."); *see also* Dasher at 0020 ("This invention may, however, be embodied in many different forms and is not to be construed as limited to the embodiments set forth herein.").

Sung and Dasher employ similar architecture and devices for the inventions. For example, both systems use remote devices to control the video display device. Dasher at 0005 ("Delivery of video programs from the video distribution equipment to the video receiver devices is controlled in response to commands received from the mobile terminal which request delivery of identified programs to the video receiver devices."); Sung at 2 ("Home server is located logically between media server and media renderer and acts as an intermediate which receives the contents from media server and passes adapted contents to media renderer."). Sung and Dasher each utilize a personal mobile device as the remote control. Dasher at Fig. 1; Sung at

Fig. 2; Sung at 4 ("User always wants to operate the A/V service with his/her near personal device like a PDA or cellular phone."). Both teach the application of their systems to TV displays. *E.g.*, Dasher at 0023; Sung at Fig. 2.

Sung and Dasher are both directed to solutions to enhance the flexible management of multiple devices within a home through a common controller. Sung at 4 ("We adopt remote I/O service into our home server framework to provide interaction with remote user. This framework frees the user interaction from the home server system and user always connects home server first to use intelligent multimedia service. Thus, a client who desires to support A/V function, needs to only support remote I/O function to connect home server rather than implementing their own intelligence with A/V functions."); *see also* Sung at 1 ("The home network has multiple heterogeneous devices with different capabilities, and they communicate with other home network devices using home network middleware such as UPnP."); Dasher at 0003-0004 ("It is becoming increasingly common for users to have set-top boxes in many different rooms of a house. . . . It is desirable to improve the user's ability to control all set-top boxes that are registered to the user, including enabling a user to operate a single remote control device anywhere in the user's house to control each of the set-top boxes . . . ."). Indeed, both references seek to enhance the compatibility between a user's various devices. Sung at 1 ("In this paper, we propose an intelligent multimedia service framework which enables A/V contents to be adopted and shared according to user multimedia environments."); Sung at 1 ("In this paper, we propose an intelligent multimedia service architecture, which enables A/V contents adaptation between home A/V devices."); Sung at 4 ("In the proposed system, home server adapts multimedia content to user's multimedia environment."); Sung at 4 ("But it is a way far from the goal of this intelligent A/V service which is supposed to give more freedom to user. User always wants to

operate the A/V service with his/her near personal device like a PDA or cellular phone."); Dasher at 0030 ("The user may control delivery of a video program to one of the set-top boxes 120 by selecting the corresponding textual label ('living room,' 'home theater,' 'bedroom 1,' or 'bedroom 2.'").

Thus, a person of skill would have been motivated to combine the teachings of Sung and Dasher. A person of skill would have been motivated to combine the system of Sung—which teaches "add[ing a] home server into standard UPnP A/V architecture" to "enable[] A/V contents to be adopted and shared according to user multimedia environments"—with the teachings of Dasher—including "user defined identifiers that are associated with equipment identifiers." This combined system would enable the remote management of content delivery to a display device that tailors content delivery according to a specified user's account, which permits the system to readily link device commands to a particular display device. *See* Dasher at Abstract ("The user defined identifiers are stored associated with the equipment identifiers in a subscriber account."); Dasher at 0029 ("The functional controller 112 stores the determined associations between the user defined textual identifiers and the corresponding equipment identifiers in the repository 118 for subsequent use in controlling delivery of video programs to the set-top boxes 120.'").

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

p. Sung Alone or in view of Agnihotri

To the extent Sung by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Sung and Agnihotri in the fashion claimed by the '251 Patent.

Sung and Agnihotri are directed to the same field of art. Sung proposes a "multimedia service architecture, which enables A/V contents adaptation between home A/V devices." Sung at 1. Sung relates to UPnP design, which provides architecture "to support multimedia sharing regardless of diversity of device type." Sung at 1. Similarly, Agnihotri relates to the "manage[ment of] content playback devices such as IPTVs directly from a second display." Agnihotri at 0076.

Furthermore, Sung and Agnihotri both teach that their systems are flexible and suitable for modification to operate in various ways. Sung at 4 ("We adopt remote I/O service into our home server framework to provide interaction with remote user. This framework frees the user interaction from the home server system and user always connects home server first to use intelligent multimedia service. Thus, a client who desires to support A/V function, needs to only support remote I/O function to connect home server rather than implementing their own intelligence with A/V functions."); *see also* Agnihotri at ("The system and method may further include a proxy server communicating with the management server and the second displays. In some cases, the proxy server may be merged with the management server, or in other cases a separate proxy server may be provided for each content server or service provider.").

Sung and Agnihotri employ similar architecture and devices for the inventions. For example, both systems use remote devices to control a video display device. Agnihotri at 0003; Sung at 2 ("Home server is located logically between media server and media renderer and acts as an intermediate which receives the contents from media server and passes adapted contents to media renderer."). Sung and Agnihotri each utilize a personal mobile device as the remote control. Agnihotri at 0005; Sung at Fig. 2; Sung at 4 ("User always wants to operate the A/V

service with his/her near personal device like a PDA or cellular phone."). Both teach the application of their systems to TV displays. *E.g.*, Agnihotri at 0004; Sung at Fig. 2.

Sung and Agnihotri are both directed to solutions to enhance the flexible management of multiple devices within a home through a common controller. Sung at 1 ("The home network has multiple heterogeneous devices with different capabilities, and they communicate with other home network devices using home network middleware such as UPnP."); Agnihotri at 0010 ("Once a content playback device has been chosen, a list of services may be displayed (if more than one is available). The list of services may be customized to those that have content playable on the chosen content playback device . . . ."). Both references seek to enhance the compatibility between a user's various devices. Sung at 1 ("In this paper, we propose an intelligent multimedia service framework which enables A/V contents to be adopted and shared according to user multimedia environments."); Sung at 1 ("In this paper, we propose an intelligent multimedia service architecture, which enables A/V contents adaptation between home A/V devices."); Sung at 4 ("In the proposed system, home server adapts multimedia content to user's multimedia environment."); Sung at 4 ("But it is a way far from the goal of this intelligent A/V service which is supposed to give more freedom to user. User always wants to operate the A/V service with his/her near personal device like a PDA or cellular phone."); Agnihotri at 0008 ("The content playback device can take many forms, and multiple content playback devices can be coupled to and selected within a given local network.").

Thus, a person of skill would have been motivated to combine the teachings of Sung and Agnihotri. A person of skill would have been motivated to combine the system of Sung—which teaches "add[ing a] home server into standard UPnP A/V architecture" to "enable[] A/V contents to be adopted and shared according to user multimedia environments"—with the teachings of

Agnihotri —including application of remote mobile controls for the delivery of various video content types, including "video-on-demand services for movies and other video content" and the use of a "a playlist id or reference identifier indicating the [content] selection." This combined system would enable the remote management of content delivery to a display device that tailors content delivery according to a specifier user's account, permitting the system to readily link device content control commands to a particular display device. *See* Agnihotri at 0004 ("Upon successful registration, the second display may automatically select the device for browsing and content selection.").

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

q. Sukeda Alone or in view of Morelli and Pierce

To the extent Sukeda by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Sukeda, Morelli, and Pierce in the fashion claimed by the '251 Patent.

Sukeda, Morelli, and Pierce are directed to the same field of art. Sukeda teaches "[a] display terminal (television, large screen display, etc.) and an operation terminal (mobile phone terminal) are connected to a server through a network. The server manages association and operation of both the terminals." Sukeda at Abstract. Morelli teaches that "a method for remote control of structural appliances is provided, which method comprises the steps of communicating a structural appliance with a server programmed to accept mobile device commands." Morelli at 1:42-45. Pierce teaches that a "server computer may receive an HTTP request for a particular

webpage or a particular portion of a webpage from a client computer" where "video content is to be embedded in the webpage." Pierce at 9:38-40; 10:14-16.

Furthermore, Sukeda, Morelli, and Pierce teach that their systems are flexible and suitable for modification to operate in various ways. Sukeda teaches that the system can be implemented by a family at home or at a public place where the user is unknown. *See* Sukeda at 0015 ("[W]hen a mobile phone of each family member is registered for a set of television, the mobile phone can be used as a pseudo remote controller customized for each family member."); Sukeda at 0016 ("Further, according to the present invention, a general user can use an operation terminal such as a mobile phone to operate switching of a display or the like on a display terminal such as a large screen display mainly installed in a public place."). Morelli, in addition to teaching a system that provides for remote control of an appliance by a mobile device, further teaches that the system can be monitored for performance. Morelli at 2:37-42 ("[A]ppliances can be rendered 'intelligent', or be provided with capability to collect useful data related to past performance and the like which can be of interest to users, technicians and/or intermediate entities such as utility providers and the like, to enhance the benefits and useful life of the appliance"). Pierce teaches that the video selector is adaptive to various client computers and web browsers to meet compatibility needs. Pierce at 10:35-39 ("[V]ideo player selector may select a video player based on the experience to which the description of the requested webpage belongs and the server-side identification of the client application").

In fact, Sukeda, Morelli, and Pierce teach similar architecture and devices. For example, each reference teaches the use of a server to distribute content from a mobile device to a separate device or the use of a server to deliver content back to the mobile device. *See* Sukeda at 0046 ("The server plays a role in connecting an operation PC or a mobile phone carried by a user to

the TV screen, the recorder or a display PC through a communication network such as the Internet."); Morelli at 1:42-49 ("[A] method for remote control of structural appliances is provided, which method comprises the steps of communicating a structural appliance with a server programmed to accept mobile device commands; communicating a mobile device with said server, issuing said mobile device commands from said mobile device to said server . . . "); Pierce at 3:62-67 ("A client application creates an HTTP request for a webpage or a portion of a webpage, and the HTTP request is sent by a client computer to a server computer. An HTTP response to the HTTP request is sent from the server computer to the client computer, where it is handled by the client application that created the HTTP request.").

In addition, Sukeda, Morelli, and Pierce attempt to solve problems in the same field. Sukeda identifies the problem of using a remote device to control a display terminal, such as a television, through a server. Sukeda explains that a remote controller is "required to perform complicated operations for selecting one of recorded programs and broadcasting programs to be watched, and for selecting a channel from among many channels with reference to program information." Sukeda at 0005. To address the problem, Sukeda proposes that "[t]he display terminal (televisions, large screen displays, etc.) and the operation terminal (mobile phone terminal) are connected to a server via a network." Sukeda at 0010. Morelli identifies the problem of controlling and maintaining appliances from a remote location via a mobile device. *See* Morelli at 1:14-24. To address the problem, Morelli proposes that "structural appliances can be controlled and serviced from a remote location" such that "a user, technicians and the like can access and control such structural appliances utilizing a wireless mobile device." Morelli at 1:25-31. Pierce explains that "[a] webpage that embeds video may specify a single video player for playback of the video" where "the video will be played back only if the web browser that

retrieves the webpage supports the specified video player." Pierce at 1:50-53. Pierce identifies the problem that "[i]f the web browser that retrieves the webpage does not support the specified video player, the video will not be played back." Pierce at 1:53-55. Pierce further notes that "[t]his situation will occur frequently because no one video player is ubiquitous." Pierce at 1:55-57. To address the problem, Pierce proposed that in response to a webpage HTTP Request for a video, "[t]he single video player was selected by the server computer from a list of one or more video players associated in advance with the webpage." Pierce at 2:49-53.

Thus, a person of skill would have been motivated to combine the teachings of Sukeda, Morelli, and Pierce. The close correspondence between the techniques and equipment used in Sukeda, Morelli and Pierce make the references particularly apt for combination. At most, combining Sukeda, Morelli, and Pierce would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

r. Cho in view of Morelli and Pierce

To the extent Cho by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Cho, Morelli, and Pierce in the fashion claimed by the '251 Patent.

Cho, Morelli, and Pierce are directed to the same field of art. Cho teaches "a method and device for switching a media renderer to another media renderer while a client performs streaming playback of the content of a server." Cho at 0003. Morelli teaches "a method for

remote control of structural appliances is provided, which method comprises the steps of communicating a structural appliance with a server programmed to accept mobile device commands." Morelli at 1:42-45. Pierce teaches that a "server computer may receive an HTTP request for a particular webpage or a particular portion of a webpage from a client computer" where "video content is to be embedded in the webpage." Pierce at 9:38-40; 10:14-16.

Furthermore, Cho, Morelli, and Pierce teach that their systems are flexible and suitable for modification to operate in various ways. Cho teaches that the server receives information from the second media render, such as a television, and "transmits the optimized streaming data to the DTV by using the information about the features of the DTV." Cho at 0039. Specifically, "[t]he information about the features of the client may include information about screen size, resolution, supported colors, and the like." Cho at 0043. Morelli, in addition to teaching a system that provides for remote control of an appliance by mobile device, further teaches that the system can be monitored for performance. Morelli at 2:37-42 ("[A]ppliances can be rendered 'intelligent', or be provided with capability to collect useful data related to past performance and the like which can be of interest to users, technicians and/or intermediate entities such as utility providers and the like, to enhance the benefits and useful life of the appliance."). Pierce teaches that the video selector is adaptive to various client computers and web browsers to meet compatibility needs. Pierce at 10:35-39 ("[V]ideo player selector may select a video player based on the experience to which the description of the requested webpage belongs and the server-side identification of the client application . . . ").

In fact, Cho, Morelli, and Pierce teach similar architecture and devices. For example, each reference teaches the use of a server to distribute content from a mobile device to a separate device or the use of a server to deliver content back to the mobile device. *See* Cho at 0073

("[T]he first renderer that performs streaming playback of the content transmits information needed for switching playback devices to the server. The server performs streaming transmission of the corresponding content to the second renderer, in a push manner, by referring to the information received from the first renderer."); Morelli at 1:42-49 ("[A] method for remote control of structural appliances is provided, which method comprises the steps of communicating a structural appliance with a server programmed to accept mobile device commands; communicating a mobile device with said server, issuing said mobile device commands from said mobile device to said server"); Pierce at 3:62-67 ("A client application creates an HTTP request for a webpage or a portion of a webpage, and the HTTP request is sent by a client computer to a server computer. An HTTP response to the HTTP request is sent from the server computer to the client computer, where it is handled by the client application that created the HTTP request.").

In addition, Cho, Morelli, and Pierce attempt to solve problems in the same field. Cho identifies that "[a]s users travel over a wide distance, they may wish to switch renderers during playback of media or content," such as where a "user terminates a streaming connection for the motion picture that is viewed through the mobile phone after arriving at home." Cho at 0006, 0008. To address the problem, Cho teaches "a method in which a client that performs streaming playback of content of a server switches media renderers." Cho at 0023. The method taught by Cho preserves the "playback environment information," including "playback position information, caption setting information, information for access to the content, and volume information." Cho at 0013, 0023. As taught by Cho, "when the user wants to continue to watch streaming media content through a new media renderer, the user can continue to watch the media content through the new media renderer in an existing playback environment setting without

additional manipulation and can switch media renderers without having to stop watching the media." Cho at 0085. Morelli identifies the problem of controlling and maintaining appliances from a remote location via a mobile device. *See* Morelli at 1:14-24. To address the problem, Morelli proposes that "structural appliances can be controlled and serviced from a remote location" such that "a user, technicians and the like can access and control such structural appliances utilizing a wireless mobile device." Morelli at 1:25-31. Pierce explains that "[a] webpage that embeds video may specify a single video player for playback of the video" where "the video will be played back only if the web browser that retrieves the webpage supports the specified video player." Pierce at 1:50-53. Pierce identifies that the problem that "[i]f the web browser that retrieves the webpage does not support the specified video player, the video will not be played back." Pierce at 1:53-55. Pierce further notes that "[t]his situation will occur frequently because no one video player is ubiquitous." Pierce at 1:55-57. To address the problem, Pierce proposed that in response to a webpage HTTP Request for a video, "[t]he single video player was selected by the server computer from a list of one or more video players associated in advance with the webpage." Pierce at 2:49-53.

Thus, a person of skill would have been motivated to combine the teachings of Cho, Morelli, and Pierce. The close correspondence between the techniques and equipment used in Cho, Morelli and Pierce make the references particularly apt for combination. At most, combining Cho, Morelli, and Pierce would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references

above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

s. Spencer Alone or in view of Morelli and/or Pierce

To the extent Spencer by itself does not render obvious the asserted claims of the ’251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Spencer and Morelli, Spencer and Pierce, or Spencer and Morelli and Pierce in the fashion claimed by the ’251 Patent.

Spencer, Morelli and Pierce are in the same field of art. Specifically, Spencer discloses a system that “provides a method for controlling a designated device from a remote server, in accordance with user instructions” and “provides methods for remote control of the playback device's functions such as control for streaming audio playback,” where such methods are applicable to both audio and video files. Spencer at 0016, 0022, 0017. Similarly, Morelli discloses a method “for allowing remote control of structural appliances, which method comprises the steps of communicating a structural appliance with a server; programming said server to accept mobile device commands; converting said mobile device commands into structural appliance commands, and issuing said structural appliance commands to said structural appliance.” Morelli at 1:54-60. Pierce similarly discloses a method for delivery of media content via webpage wherein a compatible video player is selected from a plurality of available video players. Pierce at 3:62-4:50. A person of ordinary skill in the art would have been motivated to combine the ability to use a client device to interact with a remote server that offers control options for a user’s controlled device, as taught by Spencer and Morelli, with the media control user interfaces, media players, and other media applications and services, as taught by Spencer and Pierce. Combining these systems would have been a straightforward application of known

techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Spencer discloses that its "invention will be described below by way of example of audio files and audio content and a digital audio playback device. However, the invention is applicable to other types of media files, such as video files, and corresponding media playback devices for playing back files of this type." Spencer at 0022. Morelli discloses a method "for remote, preferably wireless, control of such appliances and operating settings or parameters, and remote, preferably wireless, access to such data," where such appliances could be any control systems in a building. Morelli at 2:32-45. And Pierce discloses multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4.

In addition, Spencer, Morelli and Pierce attempt to solve problems in the same field. Spencer notes that "there is a desire on the consumer side for having a wide variety of music accessible for downloading over the Internet, as well as a need on the producer side to control the distribution of music files to the end users." Spencer at 0005. Spencer attempts to solve this need by providing "a delivery mechanism capable of providing digital music in a format that can be correctly rendered only on a designated device" and "a method for controlling a designated device from a remote server, in accordance with user instructions or predetermined business rules." Spencer at 0016. Morelli notes that "[i]t is desirable to make control, maintenance and service of such appliances easier so as to enhance the benefit of such appliances to the user … therefore the primary object of the present invention [is] to provide a method whereby structural appliances can be controlled and serviced from a remote location… utilizing a wireless mobile device." Morelli at 1:21-31. Pierce notes that "[a] webpage that embeds video may specify a

single video player for playback of the video. In this case, the video will be played back only if the web browser that retrieves the webpage supports the specified video player. . . . This situation will occur frequently because no one video player is ubiquitous." Pierce at 1:50-57. Pierce addresses this problem by providing multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4. A person of ordinary skill in the art would have been motivated to combine the networked remote device of Spencer and Morelli that offers control options for a user's controlled device with the media player selection methods of Pierce to provide a better viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Spencer, Morelli and Pierce teach similar techniques and similar types of equipment. *See* Spencer Fig. 1; *see* Morelli Fig. 1; *see* Pierce Fig. 1. For example, Spencer explains that its system can utilize servers, such as a "content server (160) [which] includes a web server (135), an application server (140), a user database (145), a content database (150), a device database (165) and a license server (170) with an associated usage rights database (155)," playback devices, "such as a home stereo or a personal digital assistant (PDA)," "any type of computer network ranging in size from a local area network to the Internet." Spencer at 0023, 0025, 0034. Morelli similarly explains that its system can utilize "a plurality of appliances 10 [which] are illustrated and communicated with a gateway 12 which is communicated with server 14," and "mobile device 16 is utilized to communicate with server 14 and appliances 10 through gateway 12, all through GSM network 18." Morelli at 2:27-31. Pierce discloses similar devices used in a "client-server computer system": "the described technology may be practiced in network computing environments using virtually any computer system configuration," where "computer systems include desktop computers, laptop computers, notebook computers, tablet computers,

pocket computers, Personal Digital Assistants 'PDAs', smartphones, telephones (both wired and mobile), wireless access points, gateways, firewalls, proxies, routers, switches, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, embedded computing devices (e.g. computing devices built into a car or ATM 'automated teller machine') or any other system or device that has processing capability." Pierce at 3:35-36, 18:39-54. The close correspondence between the techniques and equipment used in Spencer, Morelli and Pierce make the references particularly apt for combination. At most, combining Spencer, Morelli and Pierce would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

t. Alsina Alone or in view of Morelli and/or Pierce

To the extent Alsina by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Alsina and Morelli, Alsina and Pierce, or Alsina and Morelli and Pierce in the fashion claimed by the '251 Patent.

Alsina, Morelli and Pierce are in the same field of art. Specifically, Alsina discloses a system and methods "for controlling, from a mobile device, media content stored on the mobile device to a media client for presentation on a display device." Alsina at Abstract. Similarly, Morelli discloses a method "for allowing remote control of structural appliances, which method comprises the steps of communicating a structural appliance with a server; programming said

server to accept mobile device commands; converting said mobile device commands into structural appliance commands, and issuing said structural appliance commands to said structural appliance." Morelli at 1:54-60. Pierce similarly discloses a method for delivery of media content via webpage wherein a compatible video player is selected from a plurality of available video players. Pierce at 3:62-4:50. A person of ordinary skill in the art would have been motivated to combine the ability to use a client device to interact with a remote server that offers control options for a user's controlled device, as taught by Alsina and Morelli, with the media control user interfaces, media players, and other media applications and services, as taught by Alsina and Pierce. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Alsina discloses that "various modifications may be made. For example, . . . multiple media presentations or multiple types of media content can be simultaneously provided to the media client for simultaneous presentation. . . . As yet another example, the logic flows depicted in the figures do not require the particular order shown, or sequential order, to achieve desirable results. In addition, other steps may be provided, or steps may be eliminated, from the described flows, and other components may be added to, or removed from, the described systems." Alsina at 16:1-17. Morelli discloses a method "for remote, preferably wireless, control of such appliances and operating settings or parameters, and remote, preferably wireless, access to such data," where such appliances could be any control systems in a building. Morelli at 2:32-45. And Pierce discloses multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4.

In addition, Alsina, Morelli and Pierce attempt to improve and solve problems in the same field. Alsina notes that "[m]anufacturers of media devices strive to present this vast array of available media choices to a viewer in a meaningful way." Alsina at 1:16-18. Alsina attempts to solve this need by providing "for controlling, from a mobile device, media content stored on the mobile device to a media client for presentation on a display 30 device coupled to, or integrated with, the media client" in a way that the "media client can continue to transmit requests and buffer media content so that the media content can be seamlessly presented on the display device." Alsina at 1:28-31, 2:1-4. Morelli notes that "[i]t is desirable to make control, maintenance and service of such appliances easier so as to enhance the benefit of such appliances to the user . . . therefore the primary object of the present invention [is] to provide a method whereby structural appliances can be controlled and serviced from a remote location . . . utilizing a wireless mobile device." Morelli at 1:21-31. Pierce notes that "[a] webpage that embeds video may specify a single video player for playback of the video. In this case, the video will be played back only if the web browser that retrieves the webpage supports the specified video player. . . . This situation will occur frequently because no one video player is ubiquitous." Pierce at 1:50-57. Pierce addresses this problem by providing multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4. A person of ordinary skill in the art would have been motivated to combine the networked remote device of Alsina and Morelli that offers control options for a user's controlled device with the media player selection methods of Pierce to provide a better viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Alsina, Morelli and Pierce teach similar techniques and similar types of equipment. *See* Alsina Figs. 2,7; *see* Morelli Fig. 1; *see* Pierce Fig. 1. For example, Alsina explains that its media

system can utilize a mobile device, such as a "portable computer, electronic tablet, electronic book reader, cellular phone, PDA, gaming device or any other mobile device that can present media content," a media client, where the "media client can be linked to the mobile device over a communications link, such as over a local area network (LAN) or over a wireless peer-to-peer communications link," and a display device coupled to the media client. Alsina at 1:36-38, 3:11-13, 4:2-3. Morelli similarly explains that its system can utilize "a plurality of appliances 10 [which] are illustrated and communicated with a gateway 12 which is communicated with server 14," and "mobile device 16 is utilized to communicate with server 14 and appliances 10 through gateway 12, all through GSM network 18." Morelli at 2:27-31. Pierce discloses similar devices used in a "client-server computer system": "the described technology may be practiced in network computing environments using virtually any computer system configuration," where "computer systems include desktop computers, laptop computers, notebook computers, tablet computers, pocket computers, Personal Digital Assistants 'PDAs', smartphones, telephones (both wired and mobile), wireless access points, gateways, firewalls, proxies, routers, switches, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, embedded computing devices (e.g. computing devices built into a car or ATM 'automated teller machine') or any other system or device that has processing capability." Pierce at 3:35-36, 18:39-54. The close correspondence between the techniques and equipment used in Alsina, Morelli and Pierce make the references particularly apt for combination. At most, combining Alsina, Morelli and Pierce would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

u. Maddali Alone or in view of Morelli and/or Pierce

To the extent Maddali by itself does not render obvious the asserted claims of the ’251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Maddali and Morelli, Maddali and Pierce, or Maddali and Morelli and Pierce in the fashion claimed by the ’251 Patent.

Maddali, Morelli and Pierce are in the same field of art. Specifically, Maddali discloses a system that “enables the presentation, via a set-top box, of media resident on a user device” or that “can be configured to present media (as a slideshow, which can be part of a digital frame mode of operations) via a set-top box that is managed by a service provider over network 101,” where “[t]his arrangement can enable use of a mobile phone, for example, as a remote control device for the computer 407 and set-top box 401.” Maddali at 2:52-54, 3:3-6, 10:64-66. Similarly, Morelli discloses a method “for allowing remote control of structural appliances, which method comprises the steps of communicating a structural appliance with a server; programming said server to accept mobile device commands; converting said mobile device commands into structural appliance commands, and issuing said structural appliance commands to said structural appliance.” Morelli at 1:54-60. Pierce similarly discloses a method for delivery of media content via webpage wherein a compatible video player is selected from a plurality of available video players. Pierce at 3:62-4:50. A person of ordinary skill in the art would have been motivated to combine the ability to use a client device to interact with a remote server that offers control options for a user’s controlled device, as taught by Maddali and Morelli, with the media

control user interfaces, media players, and other media applications and services, as taught by Maddali and Pierce. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Maddali discloses that "[a]lthough various exemplary embodiments are described with respect to a set-top box (STB), it is contemplated that these embodiments have applicability to any device capable of processing audio-video (AV) signals for presentation to a user, such as a home communication terminal (HCT), a digital home communication terminal (DHCT), a stand-alone personal video recorder (PVR), a television set, a digital video disc (DVD) player, a video-enabled phone, an AV-enabled personal digital assistant (PDA), and/or a personal computer (PC), as well as other like technologies and customer premises equipment (CPE)." Maddali at 2:18-29. Maddali further discloses that the "service provider network 101 integrates the television medium with that of the telecommunications, computing, and media environments, thereby broadening the scope of devices and sources available to individuals for obtaining programming content or other media." Maddali at 3:19-24. Morelli discloses a method "for remote, preferably wireless, control of such appliances and operating settings or parameters, and remote, preferably wireless, access to such data," where such appliances could be any control systems in a building. Morelli at 2:32-45. And Pierce discloses multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4.

In addition, Maddali, Morelli and Pierce attempt to solve problems in the same field. Maddali notes that "little or no attention has been paid to the integration of the various mediums to support the seamless sharing and experience of media. Traditionally, television service

providers has offered limited user interaction with set-top boxes, other than through a conventional infrared remote controller to control selection of programs. Therefore, there is a need for an approach to conveniently present media from one device to another device." Maddali at 1:19-26. Maddali further notes that "there have not been any development regarding the protocol mechanisms to facilitate the convenient and efficient transfer of data." Maddali at 2:49-51. Maddali attempts to solve this need by providing a system that "enables the presentation, via a set-top box, of media resident on a user device." Maddali at 2:52-54. Morelli notes that "[i]t is desirable to make control, maintenance and service of such appliances easier so as to enhance the benefit of such appliances to the user . . . therefore the primary object of the present invention [is] to provide a method whereby structural appliances can be controlled and serviced from a remote location . . . utilizing a wireless mobile device." Morelli at 1:21-31. Pierce notes that "[a] webpage that embeds video may specify a single video player for playback of the video. In this case, the video will be played back only if the web browser that retrieves the webpage supports the specified video player…. This situation will occur frequently because no one video player is ubiquitous." Pierce at 1:50-57. Pierce addresses this problem by providing multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4. A person of ordinary skill in the art would have been motivated to combine the networked remote device of Maddali and Morelli that offers control options for a user's controlled device with the media player selection methods of Pierce to provide a better viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Maddali, Morelli and Pierce teach similar techniques and similar types of equipment. *See* Maddali Fig. 1; Morelli Fig. 1; Pierce Fig. 1. For example, Maddali explains that its system can utilize a set top box, or "any device capable of processing audio-video (AV) signals for

presentation to a user, such as a home communication terminal (HCT), a digital home communication terminal (DHCT), a stand-alone personal video recorder (PVR), a television set, a digital video disc (DVD) player, a video-enabled phone, an AV-enabled personal digital assistant (PDA), and/or a personal computer (PC), as well as other like technologies and customer premises equipment (CPE)," a user device, which "may be any type of computer device or mobile device," where "[c]omputer devices may include desktop computers, notebook computers, servers, terminal workstations, gaming systems, customized hardware, or other equivalent apparatus," and "[m]obile devices may include wireless telephones, cellular telephones, satellite telephones, personal digital assistants (PDA), pocket personal computers, smart phones, tablets, handsets, portable gaming systems, and customized hardware, as well as other mobile technologies capable transmitting data," and a communications network, such as "a public data network (e.g., the Internet), various intranets, local area networks (LAN), wide area networks (WAN), the public switched telephony network (PSTN), integrated services digital networks (ISDN), other private packet switched networks or telephony networks." Maddali at 2:21-29, 2:60-3:2, 3:36-41. Morelli similarly explains that its system can utilize "a plurality of appliances 10 [which] are illustrated and communicated with a gateway 12 which is communicated with server 14," and "mobile device 16 is utilized to communicate with server 14 and appliances 10 through gateway 12, all through GSM network 18." Morelli at 2:27-31. Pierce discloses similar devices used in a "client-server computer system": "the described technology may be practiced in network computing environments using virtually any computer system configuration," where "computer systems include desktop computers, laptop computers, notebook computers, tablet computers, pocket computers, Personal Digital Assistants 'PDAs', smartphones, telephones (both wired and mobile), wireless access points, gateways, firewalls,

proxies, routers, switches, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, embedded computing devices (e.g. computing devices built into a car or ATM 'automated teller machine') or any other system or device that has processing capability." Pierce at 3:35-36, 18:39-54. The close correspondence between the techniques and equipment used in Maddali, Morelli and Pierce make the references particularly apt for combination. At most, combining Maddali, Morelli and Pierce would have entailed simply combining or substituting certain elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

v. Morris '491 Alone or in view of Morelli and/or Pierce

To the extent Morris '491 by itself does not render obvious the asserted claims of the '251 Patent, a person of ordinary skill in the art would have had numerous reasons to utilize and combine the elements of Morris '491 and Morelli, Morris '491 and Pierce, or Morris '491 and Morelli '491 and Pierce in the fashion claimed by the '251 Patent.

Morris '491, Morelli and Pierce are in the same field of art. Specifically, Morris '491 discloses an application running on a portable computing device which "allow[s] the portable computing device to function as a remote control for an electronic device, such as a set top box device," where "[t]he portable computing device running the remote control application may send a command to the set top box device to control what the set top box device sends to a display device (e.g., a television)." Morris '491 at 1:15-23. Similarly, Morelli discloses a method

"for allowing remote control of structural appliances, which method comprises the steps of communicating a structural appliance with a server; programming said server to accept mobile device commands; converting said mobile device commands into structural appliance commands, and issuing said structural appliance commands to said structural appliance." Morelli at 1:54-60. Pierce similarly discloses a method for delivery of media content via webpage wherein a compatible video player is selected from a plurality of available video players. Pierce at 3:62-4:50. A person of ordinary skill in the art would have been motivated to combine the ability to use a client device to interact with a remote server that offers control options for a user's controlled device, as taught by Morris '491 and Morelli, with the media control user interfaces, media players, and other media applications and services, as taught by Morris '491 and Pierce. Combining these systems would have been a straightforward application of known techniques and methods to known devices to yield a predictable result, and there would not have been any technological challenges to combining the systems.

In fact, each reference teaches that its system is flexible and can operate in various ways. For example, Morris '491 discloses that its invention allows for various modifications, combinations, choice of hardware, choice of software, and choice of network architecture. *See* Morris '491 at 17:30-18:53. Morelli discloses a method "for remote, preferably wireless, control of such appliances and operating settings or parameters, and remote, preferably wireless, access to such data," where such appliances could be any control systems in a building. Morelli at 2:32-45. And Pierce discloses multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4.

In addition, Morris '491, Morelli and Pierce attempt to solve problems in the same field. Morris '491 notes that "[w]hen a user wants to share particular media content with others, the

viewers may have to crowd around a small screen of the portable computing device or pass the portable computing device around and display the media content on the portable computing device multiple times." Morris '491 at 1:30-35. Morris attempts to solve this need by providing "a system 100 to send media content selected using a portable computing device 102 to a display device 104 external to the portable computing device 102." Morris '491 at 2:58-61. Morelli '491 notes that "[i]t is desirable to make control, maintenance and service of such appliances easier so as to enhance the benefit of such appliances to the user . . . therefore the primary object of the present invention [is] to provide a method whereby structural appliances can be controlled and serviced from a remote location . . . utilizing a wireless mobile device." Morelli at 1:21-31. Pierce notes that "[a] webpage that embeds video may specify a single video player for playback of the video. In this case, the video will be played back only if the web browser that retrieves the webpage supports the specified video player. . . . This situation will occur frequently because no one video player is ubiquitous." Pierce at 1:50-57. Pierce addresses this problem by providing multiple methods for efficiently selecting the best media player. *See* Pierce at Figs. 2-4. A person of ordinary skill in the art would have been motivated to combine the networked remote device of Morris '491 and Morelli that offers control options for a user's controlled device with the media player selection methods of Pierce to provide a better viewing experience and user-friendly mechanism for simultaneously interacting with one or more media features or applications.

Morris '491, Morelli and Pierce teach similar techniques and similar types of equipment. *See* Morris '491 Figs. 1, 5; *see* Morelli Fig. 1; *see* Pierce Fig. 1. For example, Morris '491 explains that its system can utilize a portable computing device which "may be a mobile communication device, a tablet computer, a personal digital assistant, a lap top computer, or

another type of communication device," a media device which "may be a set top box device or another device that receives media content 110 from one or more content providers 112 via a network 114", a display device, such as a television, and servers, such as data servers, terminal servers, video servers and application servers, all connected via a communication network, "via a mobile communication network 124, via a local area network (LAN) 126 established by customer premises equipment (CPE) 128, or combinations thereof." Morris '491 1:22-23, 3:8-10, 3:26-29, 3:34-36, 13:10-57. Morelli similarly explains that its system can utilize "a plurality of appliances 10 [which] are illustrated and communicated with a gateway 12 which is communicated with server 14," and "mobile device 16 is utilized to communicate with server 14 and appliances 10 through gateway 12, all through GSM network 18." Morelli at 2:27-31. Pierce discloses similar devices used in a "client-server computer system": "the described technology may be practiced in network computing environments using virtually any computer system configuration," where "computer systems include desktop computers, laptop computers, notebook computers, tablet computers, pocket computers, Personal Digital Assistants 'PDAs', smartphones, telephones (both wired and mobile), wireless access points, gateways, firewalls, proxies, routers, switches, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, embedded computing devices (e.g. computing devices built into a car or ATM 'automated teller machine') or any other system or device that has processing capability." Pierce at 3:35-36, 18:39-54. The close correspondence between the techniques and equipment used in Morris '491, Morelli and Pierce make the references particularly apt for combination. At most, combining Morris '491, Morelli and Pierce would have entailed simply combining or substituting certain

elements or applying known techniques to the known devices and methods to yield predictable results.

The above explanation is exemplary only. To the extent Touchstream challenges the fact that it would have been obvious for a person of ordinary skill in the art to combine the references above, Defendants may supplement these contentions to further explain why it would have been obvious to combine these references.

2. U.S. Patent No. 11,048,751

In addition to the prior art disclosed on the face of the ’751 Patent, pursuant to P.R. 3-3(a), Defendants incorporate by reference the patents, patent applications, and/or printed publications identified above for the ’251 Patent as prior art rendering the asserted claims of the ’751 Patent invalid under 35 U.S.C. §§ 102 and 103. *Supra* Section I.C.1. Defendants further incorporate by reference the systems identified above for the ’251 Patent that were in public use prior to the invention date of the ’751 Patent as prior art under §§ 102(a), 102(b), and/or 102(g)(2). *Id*.

Attached to Defendants’ August 4, 2023 Disclosures as Exhibits B-1 through B-28, attached to the Second Supplemental Disclosures as Exhibit B-29, and attached to these Third Supplemental Disclosures as Exhibit B-28 (amended) are exemplary invalidity charts describing where each element of the asserted claims of the ’751 Patent may be found in certain prior art references and demonstrating how those references anticipate and/or render obvious (alone or in combination) the asserted claims. These charts contain only representative examples of where each element may be found in a particular prior art reference and are not intended to be an exhaustive list of every instance of where that element is disclosed.

To the extent it is determined that any limitation of the asserted claims is not disclosed by any one of the references charted in Exhibits B-1 through B-29 on its own, the asserted claims

are nevertheless invalid as obvious in view of each reference by itself or in combination with other prior art references. The Supreme Court in *KSR* emphasized that inventions arising from ordinary innovation, ordinary skill, or common sense are not patentable. *See KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 427 (2007). Rationales that may support a conclusion of obviousness include:

- Combining various claimed elements known in the prior art according to known methods to yield a predictable result;
- Making a simple substitution of one or more known elements for another to obtain a predictable result;
- Using a known technique to improve a similar device or method in the same way;
- Applying a known technique to a known device or method ready for improvement to yield a predictable result;
- Choosing from a finite number of identified, predictable solutions with a reasonable expectation of success, such that the solution was one which was "obvious to try";
- A known work in one field of endeavor prompting variations of it for use either in the same field or a different field based on design incentives or other market forces in which the variations were predictable to one of ordinary skill in the art; and
- A teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine the teachings of various prior art references to arrive at the claimed invention.

Id. at 416-18.

A person of ordinary skill in the art would have relied on any of the above rationales to conclude that each of the prior art references charted in Exhibits B-1 through B-29 render the asserted claims of the '751 Patent obvious by itself.

In addition, a person of ordinary skill in the art would have relied on any of the above rationales to conclude that each of the prior art references charted in Exhibits B-1 through B-29 render the asserted claims of the ’751 Patent obvious in combination with other references.

One of skill in the art would have had many reasons to combine any of the references cited, and Defendants hereby incorporate by reference the reasons to combine described above in connection with the ’251 Patent. *Supra* Section 1.C.1.a-v. Defendants further incorporate by reference the exemplary and non-exhaustive combinations of references and reasons to combine described above in connection with the ’251 Patent. *Id*. Those exemplary and non-exhaustive combinations of references and reasons to combine include:

- McMahon Alone or in view of Morris, Patel, or Hayward
- The Xfinity TV Remote Mobile Application alone or in view of McMahon
- Redford Alone or in view of Morris, Patel, or Hayward
- Clicker Alone or in view of Morris, Patel, or Hayward
- Danciu Alone or in view of Morris, Patel, or Hayward
- Klein Alone or in view of Morris, Patel, or Hayward
- Livingston Alone or in view of Morris, Patel, or Hayward
- McMahon Alone or in view of Birkler
- Redford Alone or in view of Birkler
- Danciu Alone or in view of Birkler
- Livingston Alone or in view of Birkler
- Calvert in view of McMahon, Redford, Danciu, Klein, or Livingston
- McMahon, Redford, Danciu, Klein, Livingston
- Muthukumarasamy Alone or in view of Hayward

- Sung Alone or in view of Dasher
- Sung Alone or in view of Agnihotri
- Sukeda Alone or in view of Morelli and Pierce
- Cho in view of Morelli and Pierce
- Spencer Alone or in view of Morelli and/or Pierce
- Alsina Alone or in view of Morelli and/or Pierce
- Maddali Alone or in view of Morelli and/or Pierce
- Morris Alone or in view of Morelli and/or Pierce

Defendants note that they have yet to receive Touchstream's final infringement contentions or final validity contentions, and Defendants reserve the right to rely on additional or different combinations and motivations in view of those contentions and any additional rulings or interpretations by the Court. Defendants reserve the right to use any of the listed references to support an argument based on a disclosed prior-art system.

3. U.S. Patent No. 11,086,934

In addition to the prior art disclosed on the face of the '934 Patent, pursuant to P.R. 3-3(a), Defendants incorporate by reference the patents, patent applications, and/or printed publications identified above for the '251 Patent as prior art rendering the asserted claims of the '934 Patent invalid under 35 U.S.C. §§ 102 and 103. *Supra* I.C.1. Defendants further incorporate by reference the systems identified above for the '251 Patent that were in public use prior to the invention date of the '934 Patent as prior art under §§ 102(a), 102(b), and/or 102(g)(2). *Id*.

Attached to Defendants' August 4, 2023 Disclosures as Exhibits C-1 through C-28,attached to the Second Supplemental Disclosures as Exhibit C-29, and attached to these Third

Supplemental Disclosures as Exhibit C-28 (amended) are exemplary invalidity charts describing where each element of the asserted claims of the '934 Patent may be found in certain prior art references and demonstrating how those references anticipate and/or render obvious (alone or in combination) the asserted claims. These charts contain only representative examples of where each element may be found in a particular prior art reference and are not intended to be an exhaustive list of every instance of where that element is disclosed.

To the extent it is determined that any limitation of the asserted claims is not disclosed by any one of the references charted in Exhibits C-1 through C-29 on its own, the asserted claims are nevertheless invalid as obvious in view of each reference by itself or in combination with other prior art references. The Supreme Court in *KSR* emphasized that inventions arising from ordinary innovation, ordinary skill, or common sense are not patentable. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007). Rationales that may support a conclusion of obviousness include:

- Combining various claimed elements known in the prior art according to known methods to yield a predictable result;
- Making a simple substitution of one or more known elements for another to obtain a predictable result;
- Using a known technique to improve a similar device or method in the same way
- Applying a known technique to a known device or method ready for improvement to yield a predictable result;
- Choosing from a finite number of identified, predictable solutions with a reasonable expectation of success, such that the solution was one which was "obvious to try";
- A known work in one field of endeavor prompting variations of it for use either in the same field or a different field based on design incentives or other market forces in which the variations were predictable to one of ordinary skill in the art; and

- A teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine the teachings of various prior art references to arrive at the claimed invention.

Id. at 416-18.

A person of ordinary skill in the art would have relied on any of the above rationales to conclude that each of the prior art references charted in Exhibits C-1 through C-29 render the asserted claims of the ’934 Patent obvious by itself.

In addition, a person of ordinary skill in the art would have relied on any of the above rationales to conclude that each of the prior art references charted in Exhibits C-1 through C-29 render the asserted claims of the ’934 Patent obvious in combination with other references.

One of skill in the art would have had many reasons to combine any of the references cited, and Defendants hereby incorporate by reference the reasons to combine described above in connection with the ’251 Patent. *Supra* I.C.1.a-v. Defendants further incorporate by reference the exemplary and non-exhaustive combinations of references and reasons to combine described above in connection with the ’251 Patent. *Id*. Those exemplary and non-exhaustive combinations of references and reasons to combine include:

- McMahon Alone or in view of Morris, Patel, or Hayward
- The Xfinity TV Remote Mobile Application alone or in view of McMahon
- Redford Alone or in view of Morris, Patel, or Hayward
- Clicker Alone or in view of Morris, Patel, or Hayward
- Danciu Alone or in view of Morris, Patel, or Hayward
- Klein Alone or in view of Morris, Patel, or Hayward
- Livingston Alone or in view of Morris, Patel, or Hayward
- McMahon Alone or in view of Birkler

- Redford Alone or in view of Birkler
- Danciu Alone or in view of Birkler
- Livingston Alone or in view of Birkler
- Calvert in view of McMahon, Redford, Danciu, Klein, or Livingston
- McMahon, Redford, Danciu, Klein, Livingston
- Muthukumarasamy Alone or in view of Hayward
- Sung Alone or in view of Dasher
- Sung Alone or in view of Agnihotri
- Sukeda Alone or in view of Morelli and Pierce
- Cho in view of Morelli and Pierce
- Spencer Alone or in view of Morelli and/or Pierce
- Alsina Alone or in view of Morelli and/or Pierce
- Maddali Alone or in view of Morelli and/or Pierce
- Morris Alone or in view of Morelli and/or Pierce

Defendants note that they have yet to receive Touchstream's final infringement contentions or final validity contentions, and Defendants reserve the right to rely on additional or different combinations and motivations in view of those contentions and any additional rulings or interpretations by the Court. Defendants reserve the right to use any of the listed references to support an argument based on a disclosed prior-art system.

D. Invalidity Under 35 U.S.C. § 112

1. U.S. Patent No. 8,356,251

Defendants hereby identify grounds of invalidity for the '251 Patent under 35 U.S.C. § 112 based on (1) lack of written description; (2) lack of enablement; and (3) indefiniteness.

These contentions shall not be construed as an admission that any claim construction advanced by Defendants in this case is in any way inconsistent, flawed, or erroneous. Nor should these contentions prevent Defendants from advancing non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of, or acquiescence to, any claim construction position or other position advanced by Touchstream during the course of this litigation. Defendants' Invalidity Contentions under 35 U.S.C. § 112 depend, in part, on Defendants' present understanding of Touchstream's asserted scope of the claims of the '251 Patent, to the extent such positions can be understood from Touchstream's Infringement Contentions.

Claims 1, 2, 5, 7, 8, and 9 of the '251 Patent are invalid for lack of written description because the specification does not reasonably convey to those skilled in the art that the named inventors were in possession of the claimed subject matter. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The required written description under 35 U.S.C. § 112 "'must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed,' such that 'the disclosure of the application relied upon reasonably conveys to [a person of ordinary skill in the art] that the inventor had possession of the claimed subject matter as of the filing date.'" *D Three Enterprises, LLC v. SunModo Corp.*, 890 F.3d 1042, 1047 (Fed. Cir. 2018) (emphasis in original) (quoting *Ariad*, 598 F.3d at 1351). "The hallmark of written description is disclosure" and this inquiry "requires an objective inquiry into the four corners of the specification from the perspective of a [person of ordinary skill in the art]." *Id*. (quoting *Ariad*, 598 F.3d at 1351). "Demonstrating adequate written description 'requires a precise definition' of the invention." *Id*. (quoting *Ariad*, 598 F.3d at 1350); *see also Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U.S. 47, 57 (1938) ("[T]he

patent monopoly does not extend beyond the invention described and explained as the statute requires . . . it cannot be enlarged by claims in the patent not supported by the description.”).

Claims 1, 2, 5, 7, 8, and 9 of the ’251 Patent are also invalid for lack of enablement because the specification does not enable one of ordinary skill in the art to make and use the full scope of the claimed subject matter without undue experimentation. *See MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1380 (Fed. Cir. 2012); *Ariad*, 598 F.3d at 1361 (Gajarsa, J. concurring) (citing *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1378 (Fed. Cir. 2009)). The enablement requirement is separate and distinct from the written description requirement. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991). “To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’” *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). “Enablement serves the dual function in the patent system of ensuring adequate disclosure of the claimed invention and of preventing claims broader than the disclosed invention.” *MagSil*, 687 F.3d at 1380-81 (citing *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003)). “This important doctrine prevents both inadequate disclosure of an invention and overbroad claiming that might otherwise attempt to cover more than was actually invented. Thus, a patentee chooses broad claim language at the peril of losing any claim that cannot be enabled across its full scope of coverage.” *MagSil*, 687 F.3d at 1381. To the extent Touchstream contends that the features of its claims were not already known (e.g., enabled in the prior art) and therefore not anticipated or made obvious by the prior art, these features are not enabled by the disclosure in the ’251 Patent. *See Auto. Tech. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1283 (Fed. Cir. 2007) (“Although the knowledge of one skilled in the art is indeed relevant, the

novel aspect of an invention must be enabled in the patent. . . . Given that the novel aspect of the invention is side impact sensors, it is insufficient to merely state that known technologies can be used to create an electronic sensor.”).

Claims 1, 2, 5, 7, 8, and 9 of the ’251 Patent are also indefinite for failing to inform, with reasonable certainty, those skilled in the art about the scope of the invention. To meet this requirement, a claim, when viewed in light of the intrinsic evidence, must “inform those skilled in the art about the scope of the invention with reasonable certainty.” *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). A claim that fails to inform those skilled in the art about the scope of the invention with reasonable certainty is invalid as indefinite. *Id.* at 901.

The following grounds of invalidity for the ’251 Patent under 35 U.S.C. § 112 are exemplary and non-exhaustive explanations.

The ’251 Patent seeks to claim a method for controlling the presentation of video content on a display device using a personal computing device and requires that the devices are connected to a server. The specification, however, discloses only the use of the general “Internet” as the network to connect the devices. *See, e.g.*, ’251 Patent at 2:14-15, 3:14-15, 3:54-56, 4:40-41. It does not disclose any other network or technology that may connect the devices to a server. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’251 Patent.

The ’251 Patent seeks to claim that the server system receives signals from the personal computing device “identifying a particular media player” and that the server system checks “the identity of the media player” a display device. *See* ’251 Patent at 11:35-42 (claim 1), 11:62-64 (claim 2). The specification, however, discloses only that “the display device 22 requests and obtains a copy of the appropriate media player 40 . . . from a content provider 30.” ’251 Patent at

6:37-40. The specification does not disclose any other mode of obtaining or loading the media player to the display device. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’251 Patent.

The ’251 Patent seeks to claim any type of display device. *See, e.g.*, ’251 Patent at 11:28-31 (claim 1). The specification, however, discloses only “television displays used by consumers in their home,” “a television set,” and “personal computer with display monitor.” ’251 Patent at 1:15-18, 2:13-14, 7:19. The specification does not disclose whether the “display device” includes any other type of “display device,” such as a Smart TV, a television with separate set-top box, a television with a streaming stick (e.g., a Roku device or Amazon Fire stick), or a projector. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’251 Patent.

In addition, the following non-exhaustive chart provides the specific claim limitations which lack sufficiently detailed written description, lack enablement, and are indefinite:

The ’251 Patent		
Claim	**Limitation**	**Bases**
1.	A machine-implemented method of controlling presentation of video content on a display device that loads any one of a plurality of different media player players, the method comprising:	The specification does not adequately describe or enable the full scope of the preamble
1.A.	assigning, by a server system, a synchronization code to the display device;	The specification does not adequately describe or enable the full scope of “assigning, by a server system, a synchronization code to the display device.” In addition, the specification does not adequately disclose or enable at least the following terms: “assigning, by a server system, a synchronization code;” “a server

The ’251 Patent		
Claim	**Limitation**	**Bases**
		system;” “a synchronization code;” and “the display device.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “synchronization code.”
1.B.	receiving, in the server system, a message from a personal computing device that is separate from the server system and separate from the display device, wherein the message includes the synchronization code;	The specification does not adequately describe or enable the full scope of “receiving, in the server system, a message from a personal computing device that is separate from the server system and separate from the display device, wherein the message includes the synchronization code.” In addition, the specification does not adequately disclose or enable at least the following terms: “receiving, in the server system, a message from a personal computing device;” “the server system;” “a personal computing device that is separate from the server system and separate from the display device;” “the display device;” and “synchronization code.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “separate from the server system and separate from the display device” and “synchronization code.”
1.C.	storing, by the server system, a record establishing an association between the personal computing device and the display device based on the synchronization code;	The specification does not adequately describe or enable the full scope of “storing, by the server system, a record establishing an association between the personal computing device and the display device based on the synchronization code.” In addition, the specification does not adequately disclose or enable at least the

The ’251 Patent		
Claim	**Limitation**	**Bases**
		following terms: “storing, by the server system, a record establishing an association;” “the server system;” “an association between the personal computing device and the display device;” “the display device;” and “the synchronization code.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “an association between the personal computing device and the display device” and “synchronization code.”
1.D.	receiving, in the server system, one or more signals from the personal computing device, the one or more signals specifying a video file to be acted upon and identifying a particular media player for playing the video content, the one or more signals further including a universal playback control command for controlling playing of the video content on the display device by the particular media player,	The specification does not adequately describe or enable the full scope of “receiving, in the server system, one or more signals from the personal computing device, the one or more signals specifying a video file to be acted upon and identifying a particular media player for playing the video content, the one or more signals further including a universal playback control command for controlling playing of the video content on the display device by the particular media player.” In addition, the specification does not adequately disclose or enable at least the following terms: “receiving, in the server system, one or more signals from the personal computing device;” “the server system;” “the one or more signals specifying a video file to be acted upon;” “a video file;” “a video file to be acted upon;” “identifying a particular media player for playing the video content;” “a particular media player;” “the video content;” “a universal playback control command for controlling playing of the video content;” “a universal playback control command;” and “the display device.” In addition, at least the following terms are indefinite to the extent they do not inform a

The ’251 Patent		
Claim	**Limitation**	**Bases**
		person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “a video file;” “a video file to be acted upon;” “a universal playback control command;” “a particular media player” and “the video content.”
1.E.	converting, by the server system, the universal playback control command into corresponding programming code to control playing of the video content on the display device by the particular media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player; and	The specification does not adequately describe or enable the full scope of “converting, by the server system, the universal playback control command into corresponding programming code to control playing of the video content on the display device by the particular media player, wherein converting the universal playback control command includes selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player.” In addition, the specification does not adequately disclose or enable at least the following terms: “converting, by the server system, the universal playback control command into corresponding programming code;” “the server system;” “the universal playback control command;” “control playing of the video content on the display device by the particular media player;” “the video content;” “the display device;” “the particular media player” and “selecting from among a plurality of specific commands, each of which represents a corresponding playback control command for a respective media player.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the video content;” “the particular media player” and “the universal playback control command.”

The ’251 Patent		
Claim	**Limitation**	**Bases**
1.F.	storing, in a database associated with the server system, information for transmission to or retrieval by the display device, wherein the information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command.	The specification does not adequately describe or enable the full scope of “storing, in a database associated with the server system, information for transmission to or retrieval by the display device, wherein the information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device by the particular media player in accordance with the universal playback control command.” In addition, the specification does not adequately disclose or enable at least the following terms: “storing, in a database associated with the server system, information for transmission to or retrieval by the display device;” “the server system;” “information for transmission to or retrieval by the display device;” “the display device;” “the information specifies the video file to be acted upon, identifies the particular media player for playing the video content, and includes the corresponding programming code to control playing of the video content on the display device;” “the video file to be acted upon;” “the particular media player;” “the video file;” “the video content;” “the particular media player” and “the universal playback control command.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the video file to be acted upon;” “the video file;” “the video content;” “the particular media player” and “the universal playback control command.”
2.A.	The method of claim 1 including:	The specification does not adequately describe or enable the full scope of “checking, in the

The ’251 Patent		
Claim	**Limitation**	**Bases**
	checking, in the server system, the identity of the media player identified in the one or more signals from the personal computing device;	server system, the identity of the media player identified in the one or more signals from the personal computing device.” In addition, the specification does not adequately disclose or enable at least the following terms: “checking, in the server system, the identity of the media player;” “the server system;” “the media player” and “the media player identified in the one or more signals from the personal computing device.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the media player.”
2.B.	loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the media player; and	The specification does not adequately describe or enable the full scope of “loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the media player.” In addition, the specification does not adequately disclose or enable at least the following terms: “an appropriate set of protocols or application programming interfaces;” “a library based on the identity of the media player;” “the identity of the media player” and “the media player.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “an appropriate set of protocols or application programming interfaces” and “the media player.”
2.C.	converting the command from the personal computing device into	The specification does not adequately describe or enable the full scope of “converting the command from the personal computing device

The ’251 Patent		
Claim	**Limitation**	**Bases**
	corresponding code to control the media player.	into corresponding code to control the media player.” In addition, the specification does not adequately disclose or enable at least the following terms: “converting the command from the personal computing device into corresponding code;” “the command;” “corresponding code to control the media player” and “the media player.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the command;” “control the media player” and “the media player.”
5.	The method of claim 1 wherein the universal command represents an instruction to play the video content, to stop playing the video content or to pause playing the video content.	The specification does not adequately describe or enable the full scope of “the universal command represents an instruction to play the video content, to stop playing the video content or to pause playing the video content.” In addition, the specification does not adequately disclose or enable at least the following terms: “the universal command represents an instruction to play the video content;” “an instruction;” “to play the video content, to stop playing the video content or to pause playing the video content” and “the video content.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the universal command;” “an instruction” and “the video content.”
7.	The method of claim 1 wherein the video content is streaming media.	The specification does not adequately describe or enable the full scope of “the video content is streaming media.”

The ’251 Patent		
Claim	**Limitation**	**Bases**
		In addition, the specification does not adequately disclose or enable at least the following terms: “the video content” and streaming media.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the video content” and streaming media.”
8.	The method of claim 1 wherein the synchronization code is uniquely associated with the display device on which the video content is to be played.	The specification does not adequately describe or enable the full scope of “the synchronization code is uniquely associated with the display device on which the video content is to be played.” In addition, the specification does not adequately disclose or enable at least the following terms: “the synchronization code is uniquely associated with the display device;” “the synchronization code;” “the display device” and “the video content.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the synchronization code is uniquely associated with the display device;” “the synchronization code” and “the video content.”
9.	The method of claim 8 wherein the synchronization code is different from an IP address associated with the display device and is different from a MAC address associated with the display device.	The specification does not adequately describe or enable the full scope of “the synchronization code is different from an IP address associated with the display device and is different from a MAC address associated with the display device.” In addition, the specification does not adequately disclose or enable at least the following terms: “the synchronization code is

The ’251 Patent		
Claim	**Limitation**	**Bases**
		different from an IP address;” “the synchronization code;” “an IP address associated with the display device;” “a MAC address associated with the display device” and “the display device.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the synchronization code;” “an IP address associated with the display device” and “a MAC address associated with the display device.”

2. U.S. Patent No. 11,048,751

Defendants hereby identify grounds of invalidity for the ’751 Patent under 35 U.S.C. § 112 based on (1) lack of written description; (2) lack of enablement; and (3) indefiniteness. These contentions shall not be construed as an admission that any claim construction advanced by Defendants in this case is in any way inconsistent, flawed, or erroneous. Nor should these contentions prevent Defendants from advancing non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of, or acquiescence to, any claim construction position or other position advanced by Touchstream during the course of this litigation. Touchstream’s Invalidity Contentions under 35 U.S.C. § 112 depend, in part, on Defendants’ present understanding of Touchstream’s asserted scope of the claims of the ’751 Patent, to the extent such positions can be understood from Touchstream’s Infringement Contentions.

Claims 12, 13, 14, and 16 of the ’751 Patent are invalid for lack of written description because the specification does not reasonably convey to those skilled in the art that the named

inventors were in possession of the claimed subject matter. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The required written description under 35 U.S.C. § 112 "'must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed,' such that 'the disclosure of the application relied upon reasonably conveys to [a person of ordinary skill in the art] that the inventor had possession of the claimed subject matter as of the filing date.'" *D Three Enterprises, LLC v. SunModo Corp.*, 890 F.3d 1042, 1047 (Fed. Cir. 2018) (emphasis in original) (quoting *Ariad*, 598 F.3d at 1351). "[T]he hallmark of written description is disclosure" and this inquiry "requires an objective inquiry into the four corners of the specification from the perspective of a [person of ordinary skill in the art]." *Id*. (quoting *Ariad*, 598 F.3d at 1351). "Demonstrating adequate written description 'requires a precise definition' of the invention." *Id*. (quoting *Ariad*, 598 F.3d at 1350); *see also Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U.S. 47, 57 (1938) ("[T]he patent monopoly does not extend beyond the invention described and explained as the statute requires . . . it cannot be enlarged by claims in the patent not supported by the description.").

Claims 12, 13, 14, and 16 of the '751 Patent are also invalid for lack of enablement because the specification does not enable one of ordinary skill in the art to make and use the full scope of the claimed subject matter without undue experimentation. *See MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1380 (Fed. Cir. 2012); *Ariad*, 598 F.3d at 1361 (Gajarsa, J. concurring) (citing *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1378 (Fed. Cir. 2009)). The enablement requirement is separate and distinct from the written description requirement. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991). "To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v.*

Novo Nordisk, A/S, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). "Enablement serves the dual function in the patent system of ensuring adequate disclosure of the claimed invention and of preventing claims broader than the disclosed invention." *MagSil*, 687 F.3d at 1380-81 (citing *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003)). "This important doctrine prevents both inadequate disclosure of an invention and overbroad claiming that might otherwise attempt to cover more than was actually invented. Thus, a patentee chooses broad claim language at the peril of losing any claim that cannot be enabled across its full scope of coverage." *MagSil*, 687 F.3d at 1380-81. To the extent Touchstream contends that the features of its claims were not already known (e.g., enabled in the prior art) and therefore not anticipated or made obvious by the prior art, these features are not enabled by the disclosure in the '751 Patent. *See Auto. Tech. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1283 (Fed. Cir. 2007) ("Although the knowledge of one skilled in the art is indeed relevant, the novel aspect of an invention must be enabled in the patent. . . . . Given that the novel aspect of the invention is side impact sensors, it is insufficient to merely state that known technologies can be used to create an electronic sensor.").

Claims 12, 13, 14, and 16 of the '751 Patent are also indefinite for failing to inform, with reasonable certainty, those skilled in the art about the scope of the invention. To meet this requirement, a claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). A claim that fails to inform those skilled in the art about the scope of the invention with reasonable certainty is invalid as indefinite. *Id*. at 901.

The following grounds of invalidity for the '751 Patent under 35 U.S.C. § 112 are exemplary and non-exhaustive explanations.

The ’751 Patent seeks to claim a method for remotely presenting content on a content presentation device using a remote computing device and requires that the devices are connected to a server. The specification, however, discloses only the use of the general “Internet” as the network to connect the devices. *See, e.g.*, ’751 Patent at 2:22-23, 3:13-15, 3:21-24, 4:2-4. It does not disclose any other network or technology that may connect the devices to a server. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’751 Patent.

The ’751 patent seeks to claim that the content presentation device “select[s] a first media player application from a plurality of media player applications.” *See* ’751 Patent, 13:17-24 (claim 1). The specification, however, discloses only that “the display device 22 requests and obtains a copy of the appropriate media player 40 . . . from a content provider 30.” ’751 Patent at 6:55-59. The specification does not disclose any other mode of obtaining or loading the media player to the display device. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’751 Patent.

The ’751 Patent seeks to claim any type of content presentation device. *See, e.g.*, ’751 Patent at 12:66-13:2 (claim 1). The specification, however, discloses only “television displays used by consumers in their home,” “a television set,” and “a laptop or personal computer.” ’751 Patent at 1:20-21, 2:20-21, 7:28-31. The specification does not disclose whether the “content presentation device” includes any other type of “display device,” such as a Smart TV, a television with separate set-top box, a television with a streaming stick (e.g., a Roku device or Amazon Fire stick), or a projector. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’751 Patent.

In addition, the following non-exhaustive chart provides the specific claim limitations which lack sufficiently detailed written description, lack enablement, and are indefinite:

The ’751 Patent		
Claim	**Limitation**	**Bases**
12.	A computer-implemented method for remotely presenting various types of content, comprising:	The specification does not adequately describe or enable the full scope of “a computer-implemented method for remotely presenting various types of content, comprising.” In addition, the specification does not adequately disclose or enable at least the following terms: “remotely presenting,” “various types of content,” “remotely presenting various types of content.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “remotely,” “content.”
12.A.	obtaining, by a content presentation device, a synchronization code associated with the content presentation device, wherein the associated synchronization code is stored on a remote server device;	The specification does not adequately describe or enable the full scope of “obtaining, by a content presentation device, a synchronization code associated with the content presentation device, wherein the associated synchronization code is stored on a remote server device.” In addition, the specification does not adequately disclose or enable at least the following terms: “content presentation device,” “synchronization code,” “remote server device,” “obtaining, by a content presentation device, a synchronization code,” “a synchronization code associated with the content presentation device,” “wherein the associated synchronization code is stored on a remote server device.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “synchronization code,” “associated,” “remote.”
12.B.	providing, by the content presentation device, the synchronization code to	The specification does not adequately describe or enable the full scope of “providing, by the content presentation device, the synchronization code to a

The ’751 Patent		
Claim	**Limitation**	**Bases**
	a remote computing device in communication with the remote server device, wherein the provided synchronization code causes the remote server device to store an association between the content presentation device and the remote computing device;	remote computing device in communication with the remote server device, wherein the provided synchronization code causes the remote server device to store an association between the content presentation device and the remote computing device.” In addition, the specification does not adequately disclose or enable at least the following terms: “content presentation device,” “synchronization code,” “remote computing device,” “remote server device,” “providing, by the content presentation device, the synchronization code to a remote computing device in communication with the remote server device,” “wherein the provided synchronization code causes the remote server device to store an association between the content presentation device and the remote computing device.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “synchronization code,” “association,” “remote.”
12.C.	receiving, by the content presentation device and from the remote server device, a first message that includes at least one command in a first format, the first message being received based at least in part on the stored association and on a second message including at least one command in a second format having been sent from the associated remote computing device;	The specification does not adequately describe or enable the full scope of “receiving, by the content presentation device and from the remote server device, a first message that includes at least one command in a first format, the first message being received based at least in part on the stored association and on a second message including at least one command in a second format having been sent from the associated remote computing device.” In addition, the specification does not adequately disclose or enable at least the following terms: “content presentation device,” “first format,” “second format,” “remote computing device,” “remote server device,” “the first message being received based at least in part on the stored association and on a second message including at least one command in a second format having been sent from the associated remote computing device,” “receiving, by the content presentation device

The ’751 Patent		
Claim	**Limitation**	**Bases**
		and from the remote server device, a first message that includes at least one command in a first format.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “a first message that includes at least one command in a first format,” “remote,” “format.”
12.D.	selecting, by the content presentation device while a connection between the content presentation device and the remote server device is maintained, a first media player application from a plurality of media player applications based at least in part on the first format of the first message, the first media player application being selected to play a first piece of content referenced in the received first message; and	The specification does not adequately describe or enable the full scope of “selecting, by the content presentation device while a connection between the content presentation device and the remote server device is maintained, a first media player application from a plurality of media player applications based at least in part on the first format of the first message, the first media player application being selected to play a first piece of content referenced in the received first message.” In addition, the specification does not adequately disclose or enable at least the following terms: “content presentation device,” “remote server device,” “media player application,” “a first media player application,” “a first media player application from a plurality of media player applications,” “a first media player application from a plurality of media player applications based at least in part on the first format of the first message,” “selecting, by the content presentation device while a connection between the content presentation device and the remote server device is maintained,” “while a connection between the content presentation device and the remote server device is maintained,” “the first media player application being selected to play a first piece of content referenced in the received first message,” “first piece of content” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “format,” “the first format of the

The ’751 Patent		
Claim	**Limitation**	**Bases**
		first message”, “piece of content,” “referenced in the received first message.”
12.E.	controlling, by the content presentation device, how the selected first media player application plays the referenced first piece of content based on a first command of the at least one command in the first format having been included in the received first message.	The specification does not adequately describe or enable the full scope of “controlling, by the content presentation device, how the selected first media player application plays the referenced first piece of content based on a first command of the at least one command in the first format having been included in the received first message.” In addition, the specification does not adequately disclose or enable at least the following terms: “selected first media player application,” “first media player application,” “media player application,” “first piece of content,” “a first command of the at least one command in the first format,” “a first command of the at least one command in the first format having been included in the received first message.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “format,” “a first command of the at least one command in the first format,” “the referenced first piece of content,” “piece of content.”
13.	The computer-implemented method of claim 12, wherein the first media player application is selected based further in part on the received first message including therein a reference to the first media player application.	The specification does not adequately describe or enable the full scope of “the computer-implemented method of claim 12, wherein the first media player application is selected based further in part on the received first message including therein a reference to the first media player application.” In addition, the specification does not adequately disclose or enable at least the following terms: “first media player application,” “media player application,” “the received first message including therein a reference to the first media player application,” “the first media player application is selected based further in part on the received first message.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill

The ’751 Patent		
Claim	**Limitation**	**Bases**
		in the art as to the scope of the invention with reasonable certainty: “a reference to the first media player application.”
14.	The computer-implemented method of claim 12, the operations further comprising: selecting the first media player application based on a determination that a second media player application is currently selected.	The specification does not adequately describe or enable the full scope of “the computer-implemented method of claim 12, the operations further comprising: selecting the first media player application based on a determination that a second media player application is currently selected.” In addition, the specification does not adequately disclose or enable at least the following terms: “the operations further comprising ,” “first media player application,” “second media player application,” “media player application,” “selecting the first media player application,” “a second media player application is currently selected,” “currently selected.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “operations.”
16.	The computer-implemented method of claim 12, wherein the remote server device is configured to convert the at least one command in the second format into the at least one command in the first format based at least in part on a reference to the first media player application having been included in the second message, and wherein the first media player application is selected based further on the at least one command in the first format having	The specification does not adequately describe or enable the full scope of “the computer-implemented method of claim 12, wherein the remote server device is configured to convert the at least one command in the second format into the at least one command in the first format based at least in part on a reference to the first media player application having been included in the second message, and wherein the first media player application is selected based further on the at least one command in the first format having been converted from the second format.” In addition, the specification does not adequately disclose or enable at least the following terms: “remote server device,” “first media player application,” “media player application,” “the remote server device is configured to convert,” “configured to convert,” “the remote server device is configured to convert the at least one command in the second format into the at least one command in the first format,” “convert the at least

The ’751 Patent		
Claim	**Limitation**	**Bases**
	been converted from the second format.	one command in the second format into the at least one command in the first format based at least in part on a reference to the first media player application having been included in the second message,” “a reference to the first media player application having been included in the second message,” “wherein the first media player application is selected based further on the at least one command in the first format having been converted from the second format,” “at least one command in the first format having been converted from the second format.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “a reference to the first media player application,” “remote,” “format,” and “the at least one command in the first format.”

3. U.S. Patent No. 11,086,934

Defendants hereby identify grounds of invalidity for the ’934 Patent under 35 U.S.C. § 112 based on (1) lack of written description; (2) lack of enablement; and (3) indefiniteness. These contentions shall not be construed as an admission that any claim construction advanced by Defendants in this case is in any way inconsistent, flawed, or erroneous. Nor should these contentions prevent Defendants from advancing non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of, or acquiescence to, any claim construction position or other position advanced by Touchstream during the course of this litigation. Defendants’ Invalidity Contentions under 35 U.S.C. § 112 depend, in part, on Defendants’ present understanding of Touchstream’s asserted scope of the claims of the ’934 Patent, to the extent such positions can be understood from Touchstream’s Infringement Contentions.

Claims 17, 18, 19, and 20 of the ’934 Patent are invalid for lack of written description because the specification does not reasonably convey to those skilled in the art that the named inventors were in possession of the claimed subject matter. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The required written description under 35 U.S.C. § 112 “‘must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed,’ such that ‘the disclosure of the application relied upon reasonably conveys to [a person of ordinary skill in the art] that the inventor had possession of the claimed subject matter as of the filing date.’” *D Three Enterprises, LLC v. SunModo Corp.*, 890 F.3d 1042, 1047 (Fed. Cir. 2018) (emphasis in original) (quoting *Ariad*, 598 F.3d at 1351). “[T]he hallmark of written description is disclosure” and this inquiry “requires an objective inquiry into the four corners of the specification from the perspective of a [person of ordinary skill in the art].” *Id*. (quoting *Ariad*, 598 F.3d at 1351). “Demonstrating adequate written description ‘requires a precise definition’ of the invention.” *Id*. (quoting *Ariad*, 598 F.3d at 1350); *see also Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U.S. 47, 57 (1938) (“[T]he patent monopoly does not extend beyond the invention described and explained as the statute requires . . . it cannot be enlarged by claims in the patent not supported by the description.”).

Claims 17, 18, 19, and 20 of the ’934 Patent are also invalid for lack of enablement because the specification does not enable one of ordinary skill in the art to make and use the full scope of the claimed subject matter without undue experimentation. *See MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1380 (Fed. Cir. 2012); *Ariad*, 598 F.3d at 1361 (Gajarsa, J. concurring) (citing *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1378 (Fed. Cir. 2009)). The enablement requirement is separate and distinct from the written description requirement. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991). “To

be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). "Enablement serves the dual function in the patent system of ensuring adequate disclosure of the claimed invention and of preventing claims broader than the disclosed invention." *MagSil*, 687 F.3d at 1380-81 (citing *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003)). "This important doctrine prevents both inadequate disclosure of an invention and overbroad claiming that might otherwise attempt to cover more than was actually invented. Thus, a patentee chooses broad claim language at the peril of losing any claim that cannot be enabled across its full scope of coverage." *MagSil*, 687 F.3d at 1381. To the extent that Touchstream contends that the features of its claims were not already known (e.g., enabled in the prior art) and therefore not anticipated or made obvious by the prior art, these features are not enabled by the disclosure in the '934 Patent. *See Auto. Tech. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1283 (Fed. Cir. 2007) ("Although the knowledge of one skilled in the art is indeed relevant, the novel aspect of an invention must be enabled in the patent. . . . Given that the novel aspect of the invention is side impact sensors, it is insufficient to merely state that known technologies can be used to create an electronic sensor.").

Claims 17, 18, 19, and 20 of the '934 Patent are also indefinite for failing to inform, with reasonable certainty, those skilled in the art about the scope of the invention. To meet this requirement, a claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). A claim that fails to inform those skilled in the art about the scope of the invention with reasonable certainty is invalid as indefinite. *Id*. at 901.

The following grounds of invalidity for the ’934 Patent under 35 U.S.C. § 112 are exemplary and non-exhaustive explanations.

The ’934 Patent seeks to claim a method for controlling playback of content on a media receiver using a computing device and requires that the devices are connected to a server. The specification, however, discloses only the use of the general “Internet” as the network to connect the devices. *See e.g.*, ’934 patent, 2:24-25; 3:15-17; 3:23-26; 4:4-6. It does not disclose any other network or technology that may connect the devices to a server. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’934 patent.

The ’934 Patent seeks to claim that the media receiver “select[s] . . . the first type of media playing application from the plurality of media player application types.” *See* ’934 Patent at 14:4-9 (claim 1). The specification, however, discloses only that “the display device 22 requests and obtains a copy of the appropriate media player 40 . . . from a content provider 30.” ’934 Patent at 6:56-60. The specification does not disclose any other mode of obtaining or loading the media player to the display device. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’934 Patent.

The ’934 Patent seeks to claim any type of media receiver. *See, e.g.*, ’934 Patent at 13:21-23 (claim 1). The specification, however, discloses only “television displays used by consumers in their home,” “a television set with a display screen,” and “a laptop or personal computer.” ’934 patent at 1:22-23, 2:22-23, 7:29-32. The specification does not disclose whether the “media receiver” includes any other type of “display device,” such as a Smart TV, a television with separate set-top box, a television with a streaming stick (e.g., a Roku device or Amazon Fire stick), or a projector. Thus, the specification does not adequately describe or enable the full scope of the claims of the ’934 Patent.

In addition, the following non-exhaustive chart provides the specific claim limitations which lack sufficiently detailed written description, lack enablement, and are indefinite:

The ’934 Patent		
Claim	**Limitation**	**Bases**
17.	A computer-implemented method for controlling playback of various types of content, comprising:	The specification does not adequately describe or enable the full scope of “a computer-implemented method for controlling playback of various types of content, comprising.” In addition, the specification does not adequately disclose or enable at least the following terms: “controlling playback of various types of content,” “controlling playback,” “various types of content.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “controlling,” “content.”
17.A.	providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;	The specification does not adequately describe or enable the full scope of “providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system.” In addition, the specification does not adequately disclose or enable at least the following terms: “media receiver,” “providing, by a media receiver, a unique identifier,” “a unique identifier of the media receiver,” “to a computing device in communication with a server system.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “unique identifier.”
17.B.	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	The specification does not adequately describe or enable the full scope of “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

The ’934 Patent		
Claim	**Limitation**	**Bases**
	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.	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.” In addition, the specification does not adequately disclose or enable at least the following terms: “media receiver,” “set of messages,” “media playing application types,” “media playing application,” “first type of media playing application,” “plurality of media playing application types,” “a first type of media playing application of a plurality of media playing application types,” “a universal format defined by the computing device,” “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,” “a piece of content associated with a first type of media playing application,” “a set of commands converted from a universal format defined by the computing device to a first format,” “a first format that corresponds to the first type of media playing application.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “piece of content,” “content,” “unique identifier,” “a universal format,” “type,” “types.”
17.C.	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 specification does not adequately describe or enable the full scope of “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.” In addition, the specification does not adequately disclose or enable at least the following terms: “media receiver,” “set of messages,” “media playing application types,” “media playing application,” “first

The ’934 Patent		
Claim	**Limitation**	**Bases**
	the received set of messages; and	type of media playing application,” “plurality of media playing application types,” “a first type of media playing application of a plurality of media playing application types,” “in response to receiving the set of messages, selecting, by the media receiver, the first type of media playing application,” “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,” “its association with the piece of content referenced in the received set of messages,” “the piece of content referenced in the received set of messages.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “piece of content,” “content,” “type,” “types,” “referenced in the received set of messages”
17.D.	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.	The specification does not adequately describe or enable the full scope of “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.” In addition, the specification does not adequately disclose or enable at least the following terms: “media receiver,” “set of messages,” “media playing application,” “set of commands,” “first type of media playing application,” “selected first type of media playing application,” “controlling, by the media receiver, how the selected first type of media playing application plays the referenced piece of content,” “at least one command of the converted set of commands included in the received set of messages.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with

The ’934 Patent		
Claim	**Limitation**	**Bases**
		reasonable certainty: “piece of content,” “content,” “type,” “the referenced piece of content.”
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.	The specification does not adequately describe or enable the full scope of “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.” In addition, the specification does not adequately disclose or enable at least the following terms: “media receiver” “a display,” “wherein the media receiver is coupled to a display,” “the media receiver controls how the selected first type of media playing application plays the referenced piece of content via the display,” “first type of media playing application,” “media playing application,” “the referenced piece of content,” “plays the referenced piece of content via the display.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “coupled,” “the referenced piece of content,” “piece of content,” “content.”
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.	The specification does not adequately describe or enable the full scope of “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.” In addition, the specification does not adequately disclose or enable at least the following terms: “the server system is configured to convert the set of commands from the universal format to the first format,” “convert the set of commands from the universal format to the first format based on the piece of content,” “the piece of content being associated with the first type of media playing application,”

The ’934 Patent		
Claim	**Limitation**	**Bases**
		“first type of media playing application,” “media playing application.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the universal format,” “piece of content,” “content,” “type.”
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.	The specification does not adequately describe or enable the full scope of “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.” In addition, the specification does not adequately disclose or enable at least the following terms: “the set of commands in the universal format is included in the set of messages,” “set of commands,” “set of messages,” “the set of messages communicated from the computing device to the server system.” In addition, at least the following terms are indefinite to the extent they do not inform a person of ordinary skill in the art as to the scope of the invention with reasonable certainty: “the universal format.”

II. P.R. 3-4

Pursuant to P.R. 3-4(b) Defendants have produced copies of the prior art documents identified above as COM_00000581 through COM_00011373, COM_00027466 through COM_00027490, COM_00034381 through COM_00034467, and COM_00036042 through COM_00036064, and COM_00083704 through COM_00083722.

Pursuant to P.R. 3-4(a), Comcast has produced documentation sufficient to show the operation of any aspects or elements of an Accused Instrumentality identified by Touchstream in

its P.R. 3-1(c) chart. In addition, Comcast has made available to Touchstream the source code for the Accused Instrumentalities in the manner provided for in the Protective Order.

Dated: March 27, 2024

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CERTIFICATE OF SERVICE

I hereby certify that on March 27, 2024 true and correct copies of the foregoing DEFENDANTS' THIRD SUPPLEMENTAL DISCLOSURES PURSUANT TO PR. 3-3 AND 3-4 were served upon the following as indicated:

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