

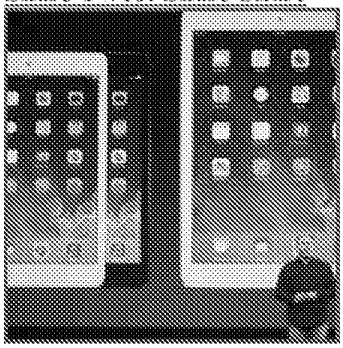
Tech

Analysts: Bigger, Powerful 'iPad Pro' Is on the H

TabTimes

It's been just 48 hours since Apple launched the iPad Air, and analysts are now claiming that the name c

774 shares
Oct 24, 2013
Share Tweet Share Share



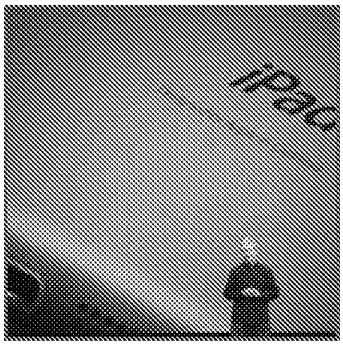
Tech

Stop Whining About What Apple Didn't Deliver

Lance Ulanoff

No, Apple didn't make our dreams come true with that one, special, new thing, but does that really matt

829 shares
Oct 22, 2013
Share Tweet Share Share



Tech

Watch Apple's iPad Air Event in Full

Adario Strange

If you were not among the select few to receive an invite to Apple's exclusive event on Tuesday, the co

587 shares
Oct 22, 2013
Share Tweet Share Share



Tech

Analysts: PC Shipments to Drop in 2013 Amid 5

Samantha Murphy Kelly

As more consumers flock to low-cost tablets, the desktop and notebook computer world is taking a hit.

768 shares
Oct 21, 2013
Share Tweet Share Share



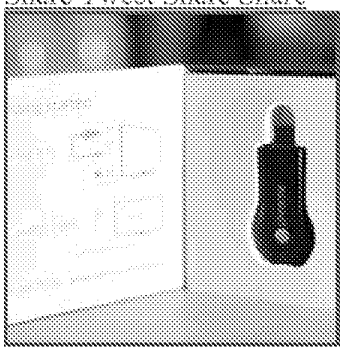
Tech

Microsoft Fixes High-Profile Windows RT 8.1 G

Adario Strange

Microsoft released an update to address the technical hiccups some users experienced when attempting

725 shares
Oct 21, 2013
Share Tweet Share Share



Tech

Hulu Plus iPhone App Adds Support for Google

Samantha Murphy Kelly

Hulu Plus has added iOS support for Google Chromecast, which plugs into any HDTV to let you watch

687 shares
Oct 21, 2013
Share Tweet Share Share





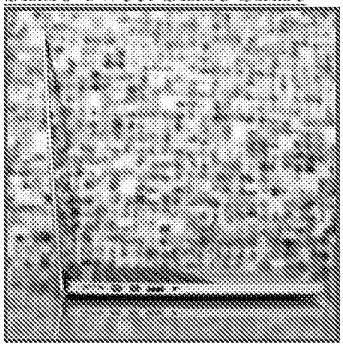
Tech

Gumstick Stand Bends Over Backward for Your

Eva Recinos

These days, watching that viral cat video or using FaceTime with a friend requires a smartphone stand. .

937 shares
Oct 20, 2013
Share Tweet Share Share



Tech

Inventory Levels Suggest New iPad and Retina M

Christina Warren

Purported inventory data from Apple resellers gives us some insight into the products that the Cupertinc

982 shares
Oct 20, 2013
Share Tweet Share Share



Tech

NASA Engineer Builds Halloween Costume That

Businessweek

Two years ago, Mark Rober was an engineer at NASA's Jet Propulsion Laboratory in Pasadena, Calif.,

3k shares
Oct 19, 2013
Share Tweet Share Share



Tech

Top 10 Tech This Week

Sara Roncero-Menendez

Science-fiction technology often seems too fantastical to be real, like gadgets from a future so distant w

9.7k shares
Oct 19, 2013
Share Tweet Share Share



Tech

Alleged Creator of Blackhole Exploit Kit Arreste

Eva Recinos

The world of cybercrime may have been dealt a huge blow last week as various outlets continue to conf

542 shares
Oct 18, 2013
Share Tweet Share Share



Tech

AT&T to Offer $5-a-Day Wireless Access to Tab

TabTimes

AT&T announced a new a-la-carte option for mobile users -- a $5 day pass aimed at tablet users who ne

793 shares
Oct 18, 2013
Share Tweet Share Share



Tech

These Glasses Let You Play in 3D Virtual World

Adario Strange

Despite the endless gaming and interactive potential of augmented reality, the technology has been mov

1k shares
Oct 14, 2013
Share Tweet Share Share



Tech

B&W P7 Headphones Will Turn Heads, Delight

Matt Schneiderman

There's something slightly daring about wearing the Bowers & Wilkins P7 headphones during a commu

1.6k shares
Oct 14, 2013
Share Tweet Share Share



Tech

Sonos' Play:1 Is Its Smallest and Most Affordabl

Emily Price

Sonos expanded its line of wireless speakers Monday with the introduction of the Sonos Play:1, a pint-s

783 shares
Oct 14, 2013
Share Tweet Share Share



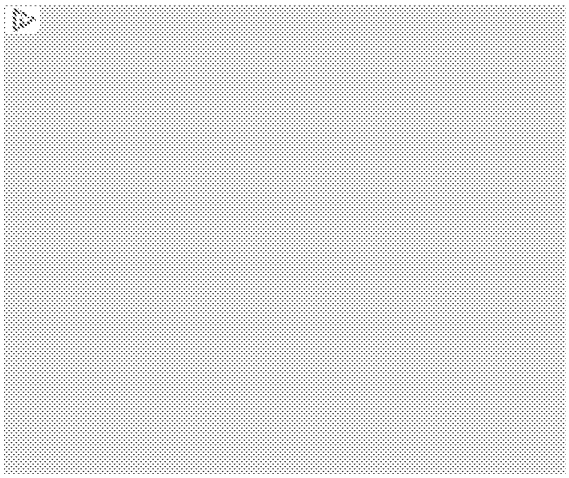
Tech

New Twitter App for Android Tablets Launches

Kurt Wagner

Twitter announced an app specifically built for Android tablets on Thursday. The microblogging site ha

1.1k shares
Oct 10, 2013
Share Tweet Share Share





Tech

Twitter's Event Parrot and Other News You Nee

Stan Schroeder

Welcome to this morning's edition of "First To Know," a series in which we keep you in the know on w

669 shares
Oct 10, 2013
Share Tweet Share Share



Tech

Samsung ATIV Book 9 Lite Is Your Galaxy Phoı

James Pikover

There are two kinds of people: those who plug their phones into their computers, and the other 79.5% of

560 shares
Oct 08, 2013
Share Tweet Share Share



Tech

Amazon Tosses More Treats at Kindle Fire Deve

Emily Price

Amazon launched Appstore Developer Select on Tuesday, a new program for developers that makes ap

535 shares
Oct 08, 2013
Share Tweet Share Share



Tech

Future LG Batteries Will Bend and Twist

Laptop Magazine

Your next smartphone may very well be able to bend in half -- if LG's technology ever comes to marke

612 shares
Oct 08, 2013
Share Tweet Share Share



Tech

Leaked LG Nexus 5 Manual Reveals New Phone

Samantha Murphy Kelly

A leaked LG manual for the Google Nexus 5 smartphone has surfaced online, detailing everything from

845 shares
Oct 07, 2013
Share Tweet Share Share



US & World

10 Powerful Lessons From the 2013 Social Good

Meg Wagner

It may only be 2013, but luminaries like Al Gore, Melinda Gates and J.J. Abrams are thinking like it's 2

858 shares
Oct 01, 2013
Share Tweet Share Share



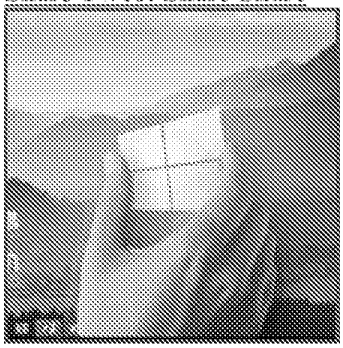
Tech

Sol Republic Brings Studio Headphones to the M

Pete Pachal

Call it the Beats effect: Over-the-ear headphones today are obsessed with bass. While that's great for the

2.3k shares
Oct 01, 2013
Share Tweet Share Share



Tech

Microsoft's New Windows 8.1 Ad and Other Nev

Stan Schroeder

Welcome to this morning's edition of "First To Know," a series in which we keep you in the know on w

1.1k shares
Sep 30, 2013
Share Tweet Share Share



Tech

Don't Miss These 25 Digital Media Resources

Taylor Casti

If this week's tech news was off your radar because you were catching up on Breaking Bad to prep for S

1.4k shares
Sep 29, 2013
Share Tweet Share Share



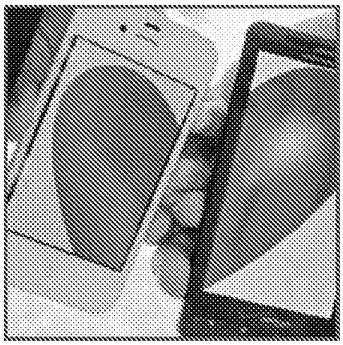
Tech

Philips Fidelio Soundbar: Pain-Free Surround S

Pete Pachal

For fans of surround sound, the rise of the soundbar has been a scourge. The idea of consolidating all of

1.1k shares
Sep 28, 2013
Share Tweet Share Share



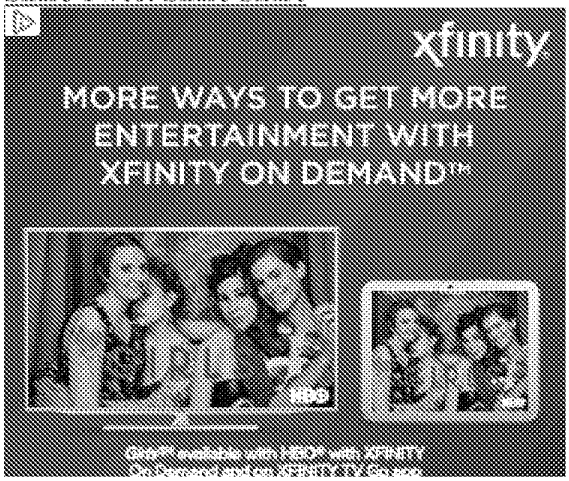
Tech

The 6 Best Launchers to Turn Your Android Int

Rebecca Hiscott

If you're bored with your Android phone's default design, downloading a launcher is a great (and usuall

1.2k shares
Sep 27, 2013
Share Tweet Share Share





Tech

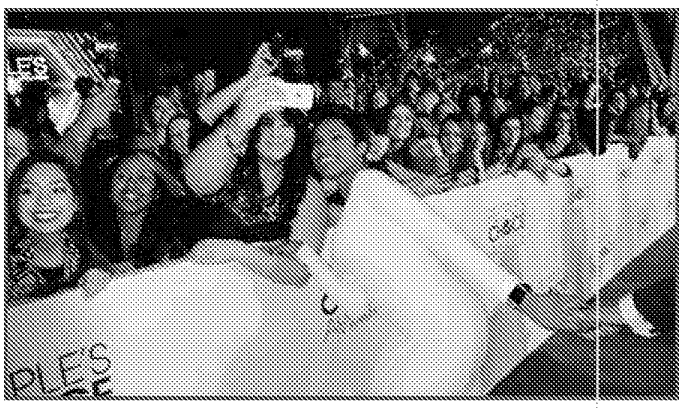
Evernote Begins Selling Branded Bags, Scanners

Emily Price

Now you can own an Evernote-branded stylus, book bag, scanner and even a pair of socks. The note-tak

536 shares
Sep 26, 2013
Share Tweet Share Share

The Next Big Thing

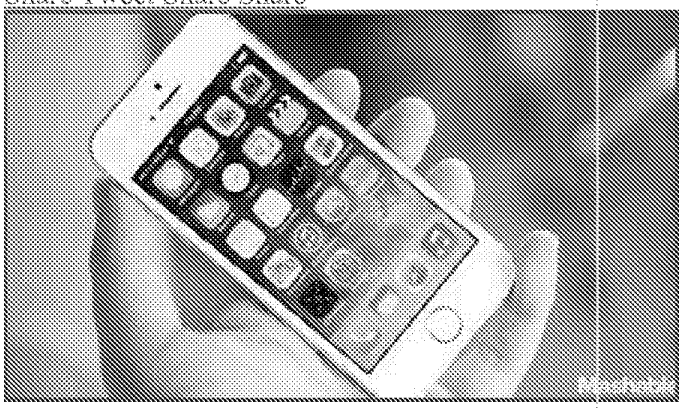


Tech

Is Wearable Tech Ready for the Red Carpet?

Armand Valdes

695 shares
1 hour ago
Share Tweet Share Share



Tech

5 Things You Should Know About Your Preciou

Matt Silverman

1.3k shares
6 hours ago
Share Tweet Share Share



Tech

12 Apps to Make This Valentine's Day Your Best

Yohana Desta

1k shares
7 hours ago
Share Tweet Share Share



Tech

Mozilla's Firefox Launcher Is Coming to Androi

Karissa Bell

2.6k shares

15 hours ago
Share Tweet Share Share



PRESENTED BY ADOBE MARKETING CLOUD
What Industry Experts Have to Say About the Super Bowl Ads
1.7k shares
Share Tweet Share Share

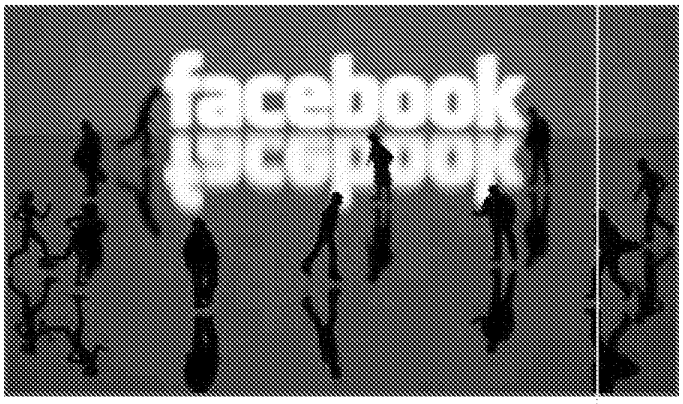


Tech

Kik Updates App With Built-In Browser

Karissa Bell

647 shares
17 hours ago
Share Tweet Share Share



Tech

Your Facebook ID Number May Not Mean Wha

Samantha Murphy Kelly

2.3k shares
21 hours ago
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Tech

The FBI Wants to Buy Some Malware

Nextgov

818 shares
1 day ago
Share Tweet Share Share

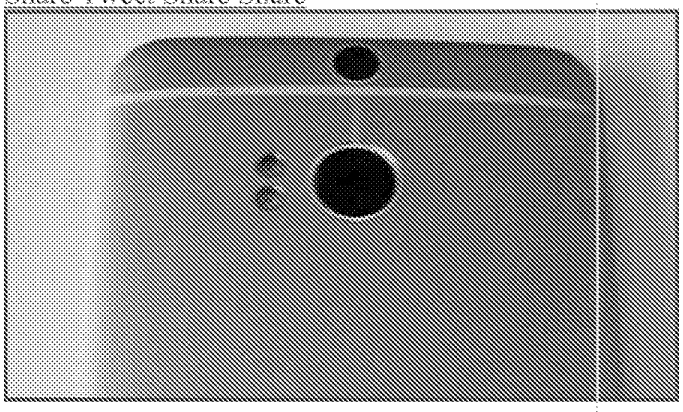


Tech

Love Bytes: How 8 Tech Titans Romanced Their

Yohana Desta

870 shares
1 day ago
Share Tweet Share Share



Tech

Is This the New HTC Flagship?

Stan Schroeder

827 shares
1 day ago
Share Tweet Share Share

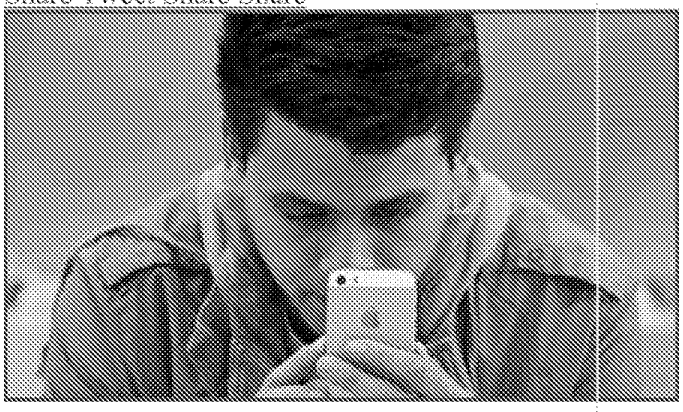


Tech

5 Ways Asia Saved the Giants of American Tech

Tech in Asia

1.6k shares
1 day ago
Share Tweet Share Share

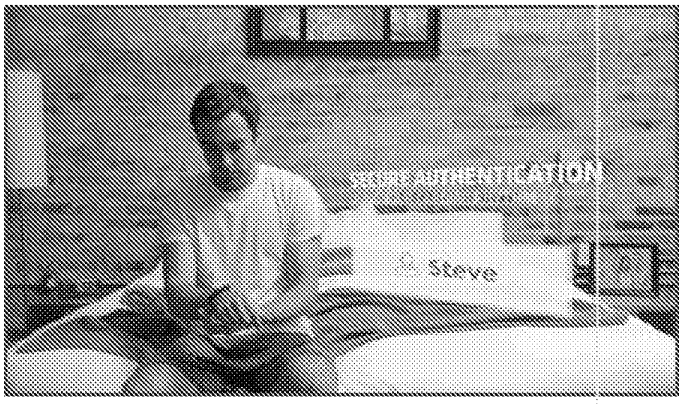


Tech

Report: Apple iPhone Still Top U.S. Smartphone

Adario Strange

2.4k shares
1 day ago
Share Tweet Share Share



Tech

This Wristband Will Use Your Heartbeat to Unl

Karissa Bell

1.3k shares
1 day ago
Share Tweet Share Share

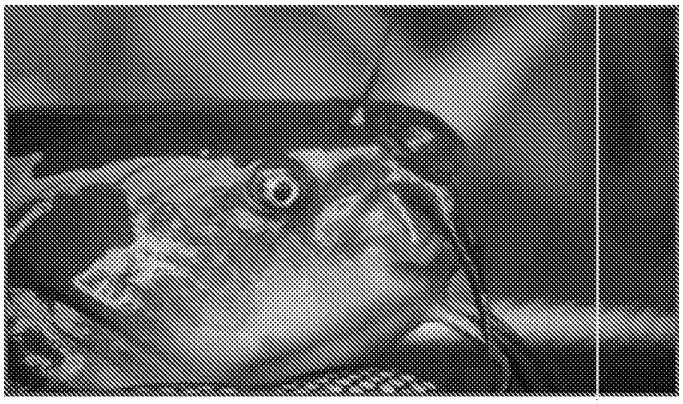


Tech

The New Link for the Mobile Ad Era

MIT Technology Review

1.3k shares
1 day ago
Share Tweet Share Share



Tech

Aquaponics: Are Fish the Future of Organic Far

Kenny Suleimanagich

1k shares
1 day ago
Share Tweet Share Share



Tech

Google Doodle Competition for Kids Comes Wit

Samantha Murphy Kelly

961 shares
1 day ago
Share Tweet Share Share



Tech

13.6 Billion Chinese New Year Messages Sent in

Tech in Asia

1.6k shares
1 day ago
Share Tweet Share Share

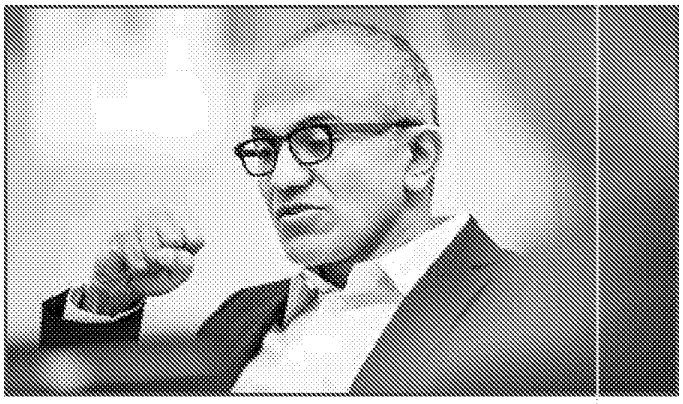


Tech

FiftyThree Challenges Facebook, Trademarks 'P

Karissa Bell

796 shares
2 days ago
Share Tweet Share Share

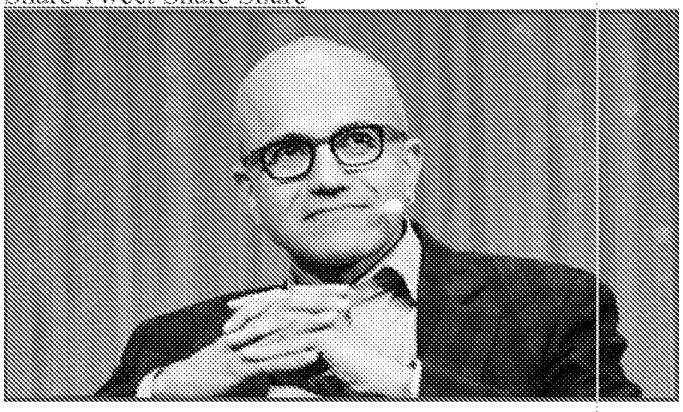


Tech

Why Satya Nadella Is Too Safe a Choice for Mic

Pete Pachal

1.3k shares
2 days ago
Share Tweet Share Share



Tech

Now Tech Leaders Are Really Sucking Up to Sat

Jason Abbruzzese

846 shares
2 days ago
Share Tweet Share Share



Tech

See the Whole Room With Polycom's 360-Degre

Pete Pachal

1.3k shares
2 days ago
Share Tweet Share Share

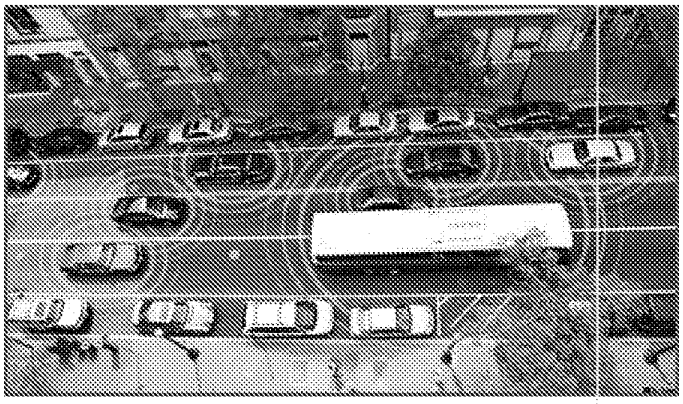


Tech

Samsung's Humongous Galaxy Pro Tablets Get

Pete Pachal

1.3k shares
2 days ago
Share Tweet Share Share

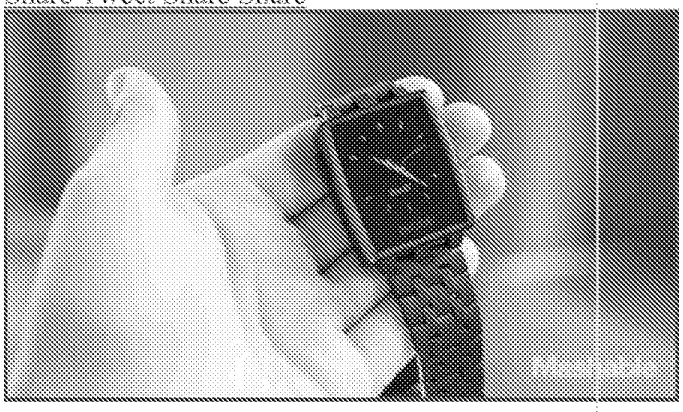


Tech

U.S. Government Aims for 'Talking' Cars by 201

Adario Strange

2.1k shares
2 days ago
Share Tweet Share Share

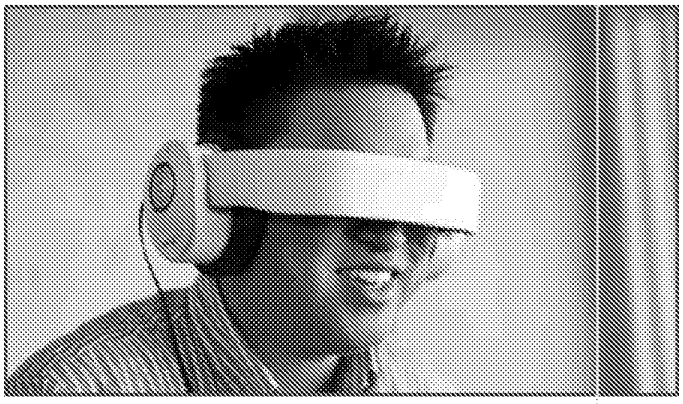


Tech

The Pebble Smartwatch Now Has Its Own App S

AppAdvice

963 shares
2 days ago
Share Tweet Share Share

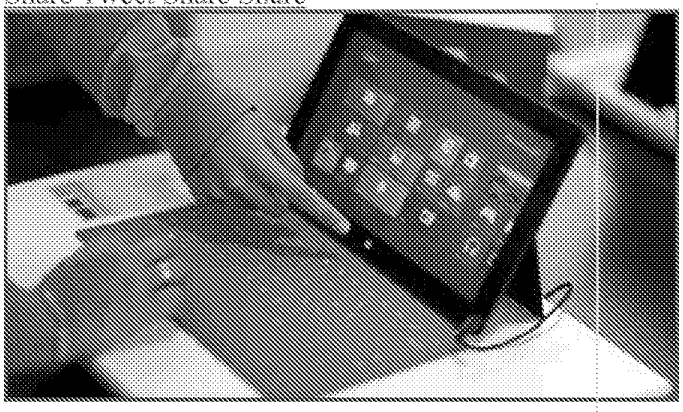


Tech

A Virtual Reality Headset Takes You to the Mov

Alex Magdaleno

8.3k shares
3 days ago
Share Tweet Share Share

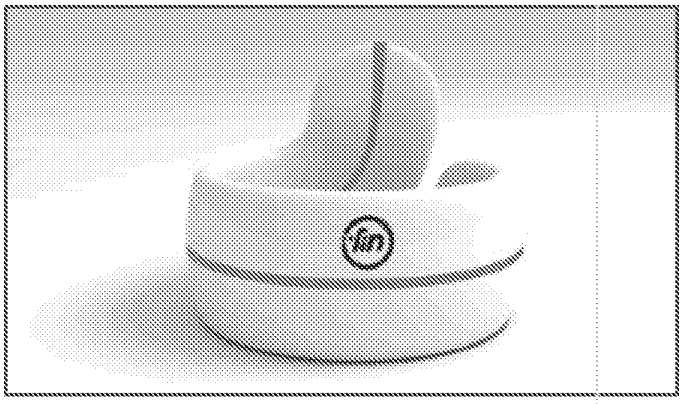


Tech

Windows 8.1 Update Leaks and Other News You

Stan Schroeder

1k shares
3 days ago
Share Tweet Share Share

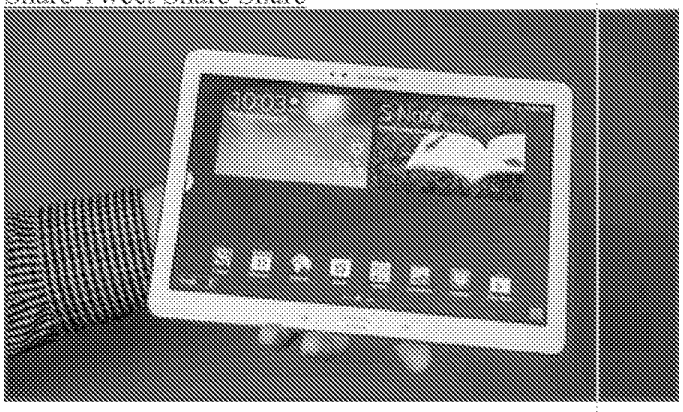


Tech

Wearable Transmitter Turns Your Palm Into a T

Melissa Goldin

2.8k shares
3 days ago
Share Tweet Share Share

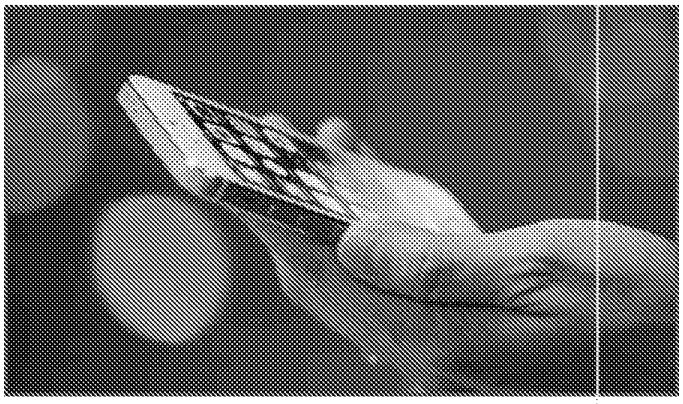


Tech

4 Android Tablet Apps to Make Life Simpler

TabTimes

1.6k shares
4 days ago
Share Tweet Share Share



Tech

Report: Apple to Dip Into Fitness Tracking With

Samantha Murphy Kelly

4.1k shares
5 days ago
Share Tweet Share Share

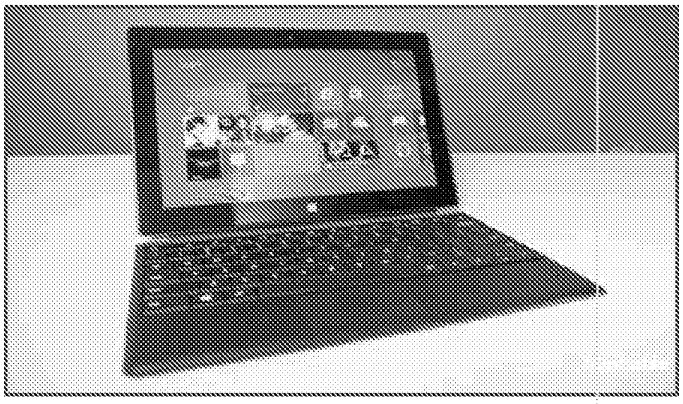


Tech

The State of Android in 2014

Ryan Lytle

3.7k shares
Jan 31, 2014
Share Tweet Share Share



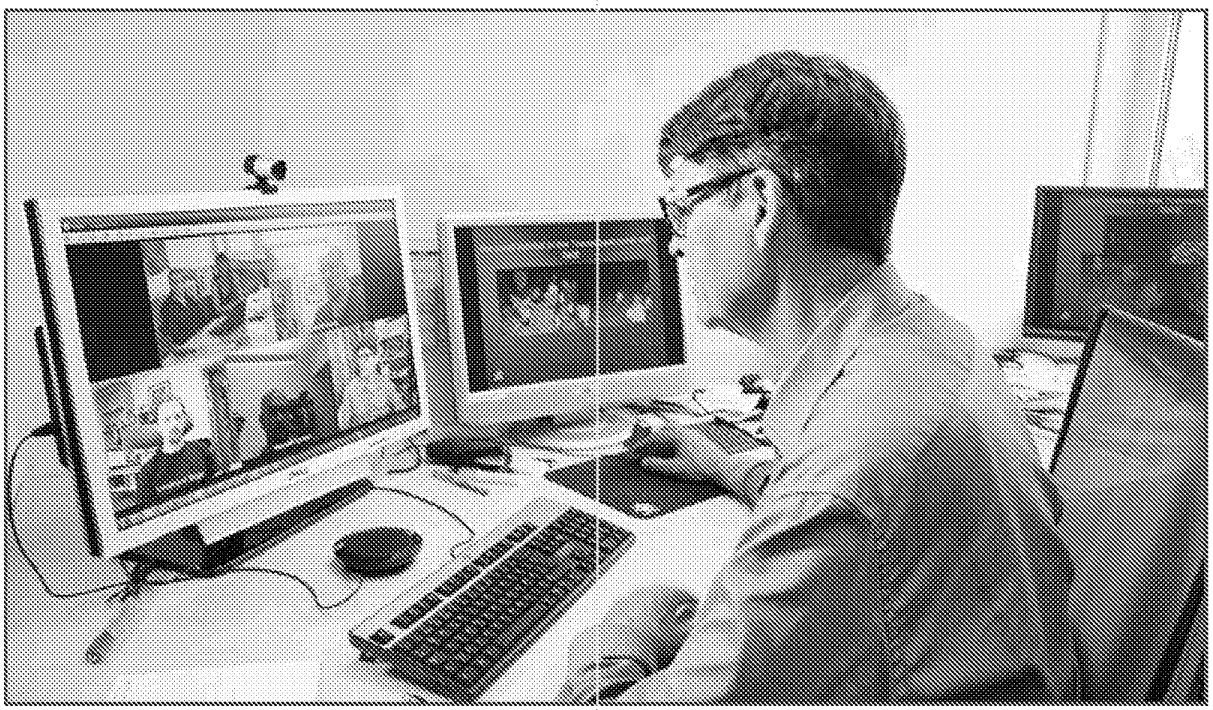
Tech

Best Buy Slashes $400 Off Microsoft Surface Pro

Stan Schroeder

1.2k shares
Jan 31, 2014
Share Tweet Share Share

What's Hot



Tech

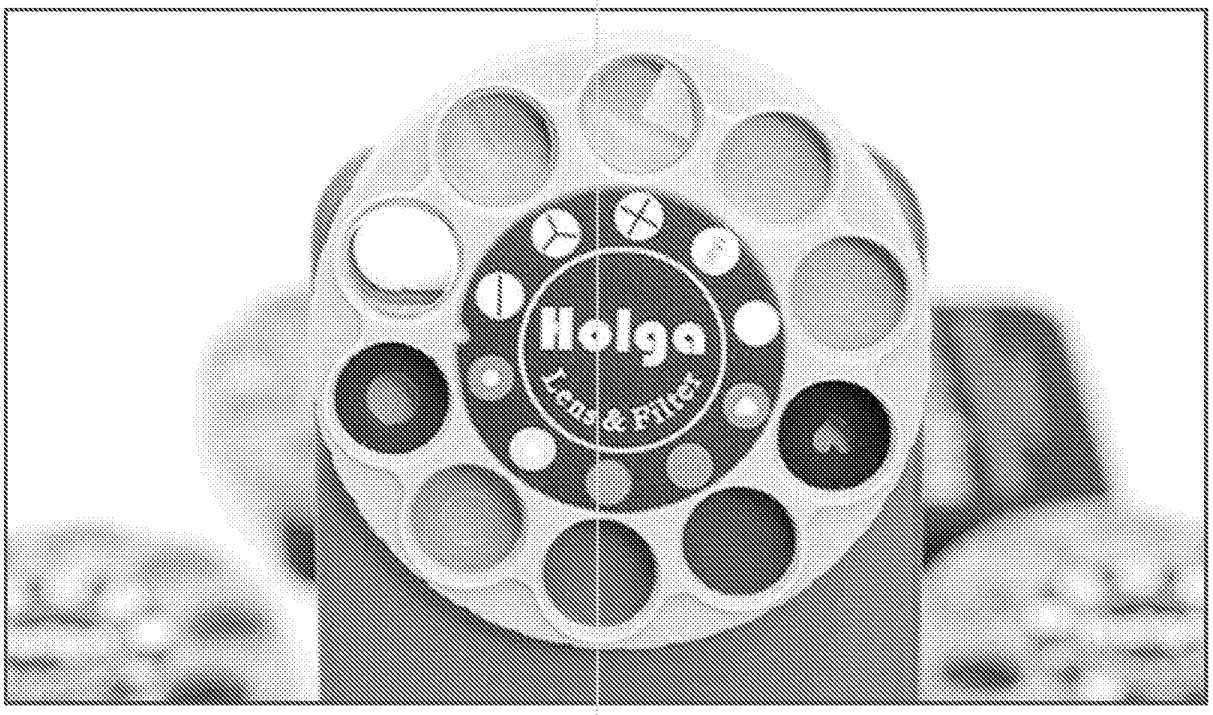
Google+ Hangouts for Business Just Got Real

Pete Pachal

When Google+ first debuted in summer 2011, the feature most lauded was its free, multi-person video c

1.7k shares
6 hours ago
Share Tweet Share Share





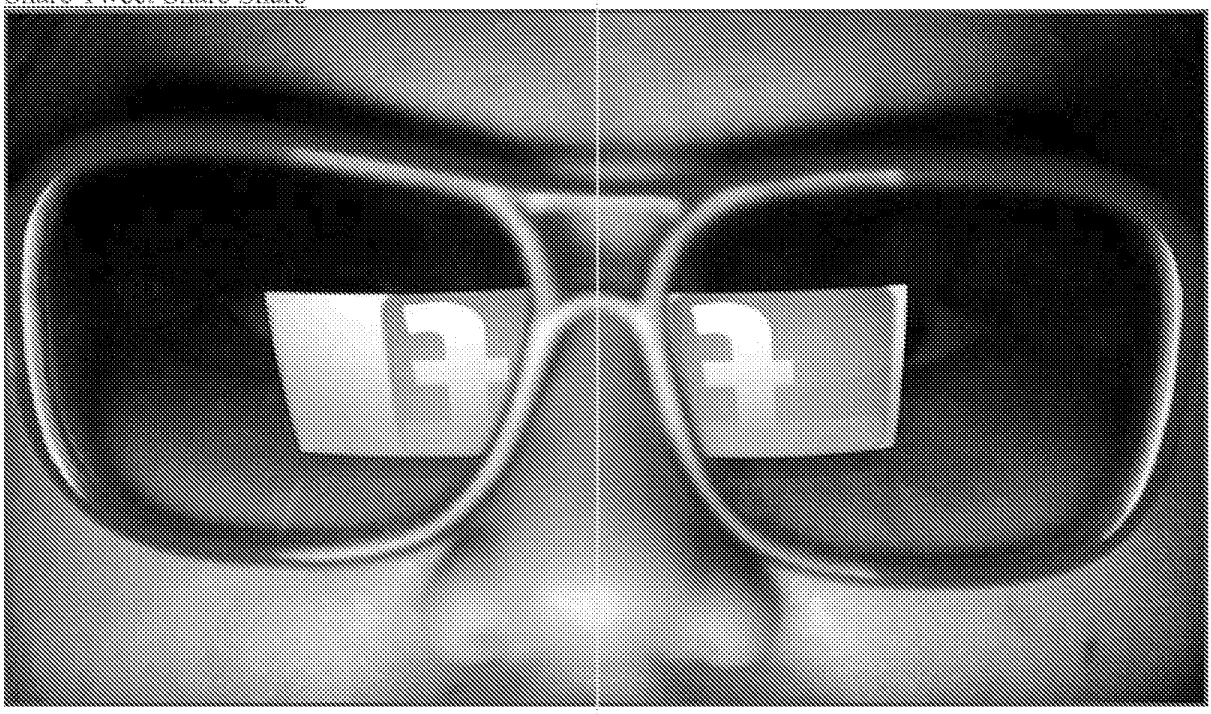
Tech

11 Valentine's Day Gifts for Your Techie True L

Yohana Desta

Money can't buy happiness, but it can buy cool technology. Once again, it's that time of year to show th

1.1k shares
10 hours ago
Share Tweet Share Share



Tech

Syrian Electronic Army Hacks Facebook's Doma

Adario Strange

Just days after the widely acknowledged 10th anniversary of Facebook, the Syrian Electronic Army (SE

1.3k shares
19 hours ago
Share Tweet Share Share



Tech

Tesla Becomes Fifth-Best Automaker for U.S. Cc

Adario Strange

Already a hit with geeks and technology moguls, electric car manufacturer Tesla reached a new milesto

7.2k shares
15 hours ago
Share Tweet Share Share



Tech

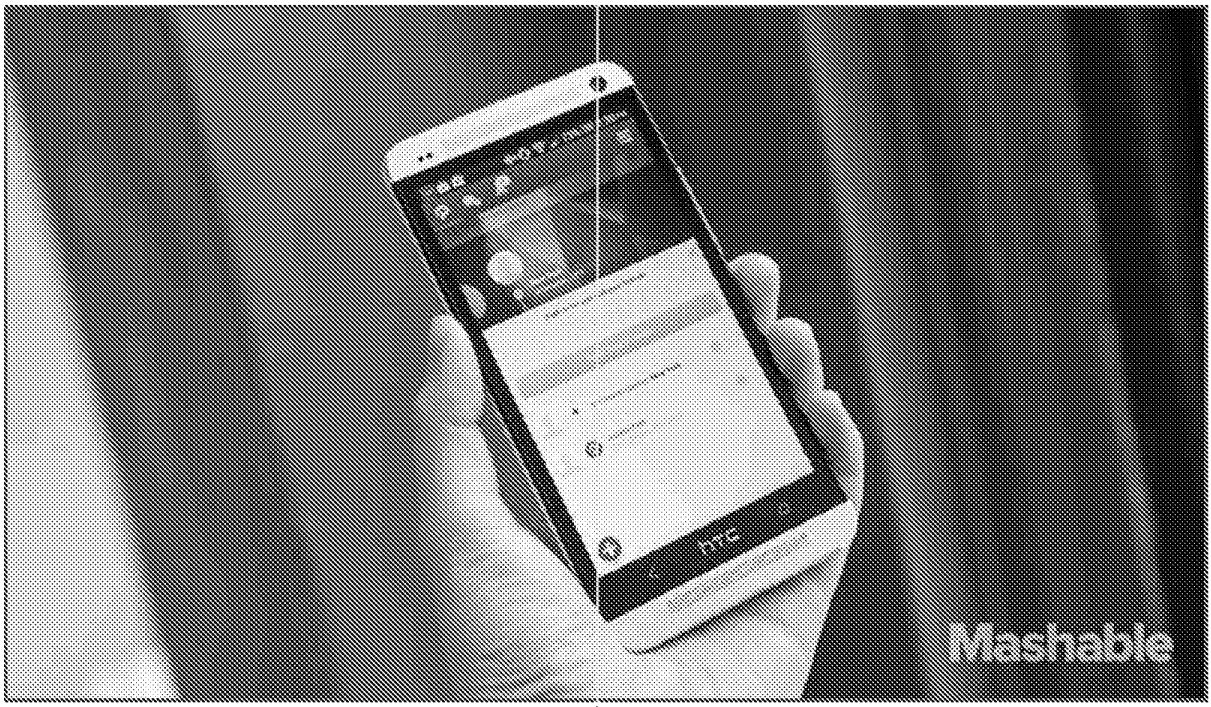
VidCast Bookmarklet Sends Web Video to Chro

Christina Warren

Google's Chromecast SDK has only been open to the public for a couple of days, but developers are alr

1k shares
18 hours ago
Share Tweet Share Share





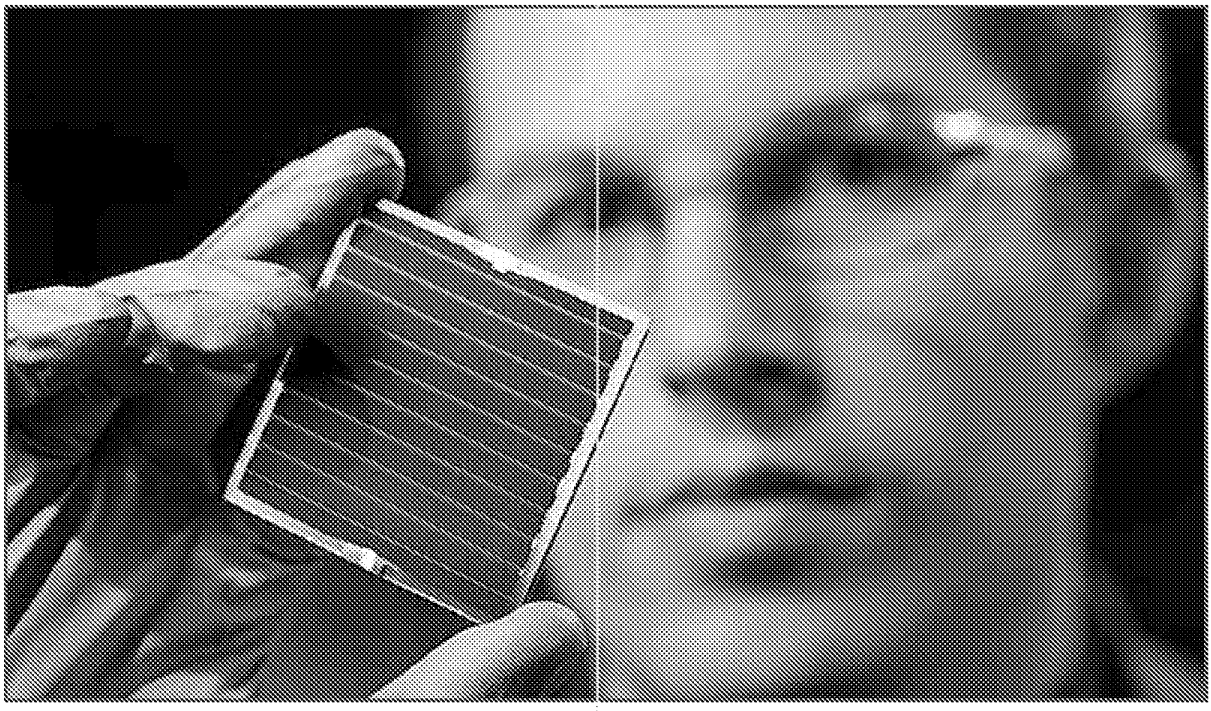
Tech

Path Finally Adds Video to Android App

Karissa Bell

Path updated its Android app with video-sharing on Wednesday. Users of the social-network app, whicl

1.1k shares
20 hours ago
Share Tweet Share Share



Tech

New Apple Patents Hint at Solar-Powered Devic

Ann-Marie Alcantara

Apple may be going green in the next few years, based on the latest patents given to the company, whic

3.9k shares
1 day ago
Share Tweet Share Share





Tech

Report: Samsung to Unveil Galaxy S5 on Feb. 24

Samantha Murphy Kelly

From a full-screen fingerprint sensor to an ultra high-definition display, here's a look at the rumors circu

3.5k shares
1 day ago
Share Tweet Share Share



Tech

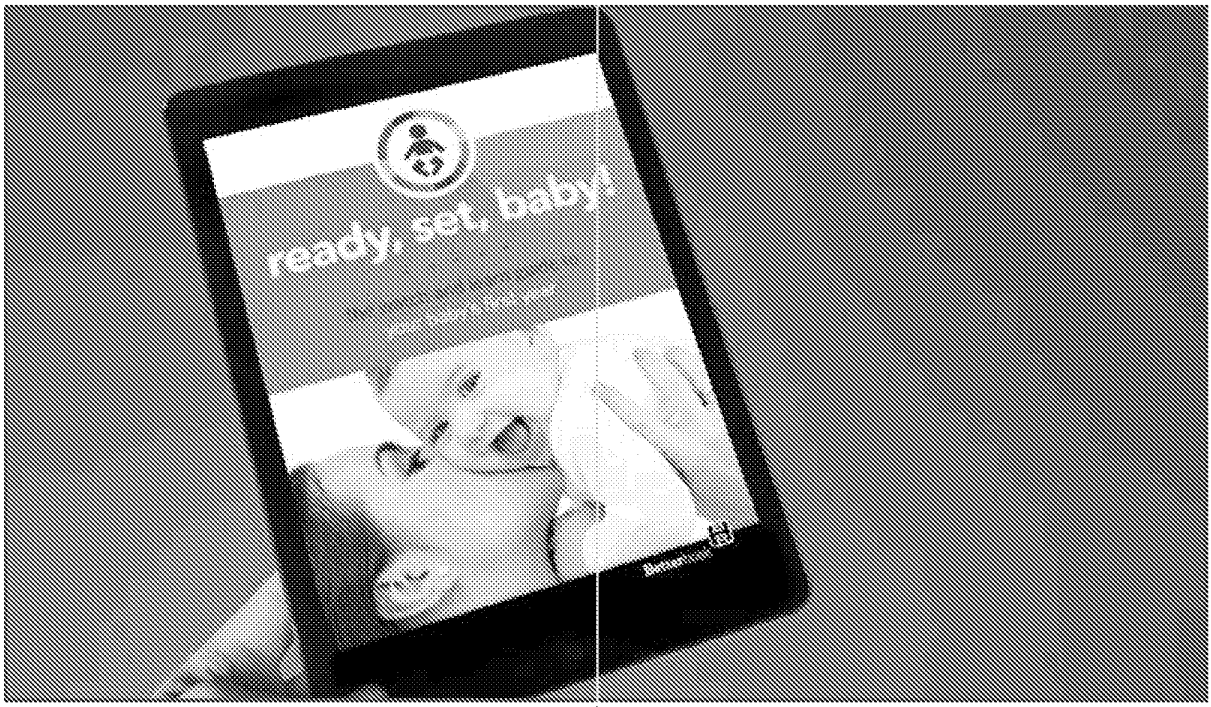
7 Tools for Creating an Optimized Mobile Websi

ClickZ

Come on, be honest with yourself. Is your website really giving your visitors an optimized, intuitive exp

2.9k shares
1 day ago
Share Tweet Share Share





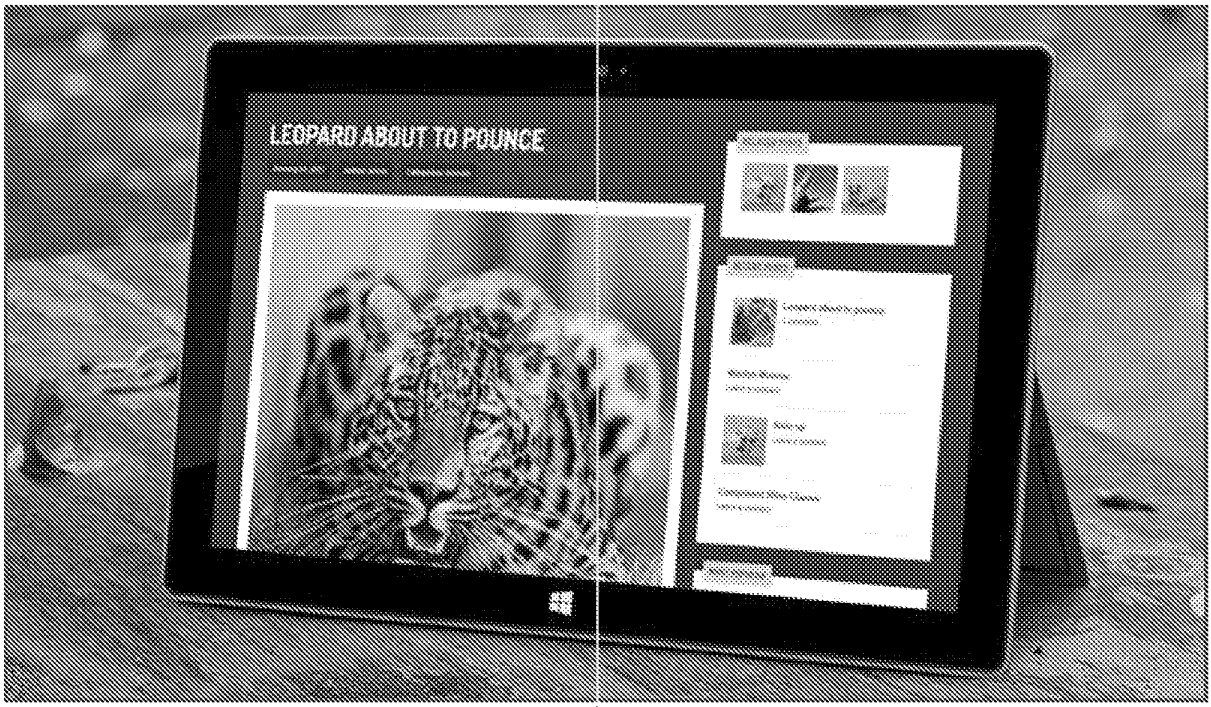
Lifestyle

10 Apps to Help You Through Baby's First Year

Jeana Lee Tahnk

The first months of having a baby are rough, regardless of whether you are a repeat parent, like me, or a

1.3k shares
1 day ago
Share Tweet Share Share



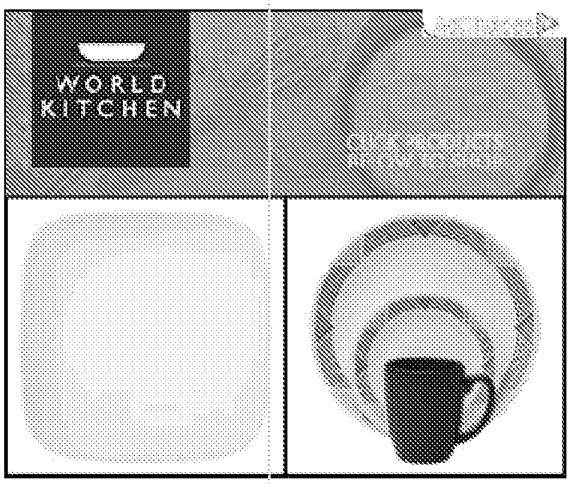
Tech

12 Premium Responsive Landing Page Template

Grace Smith

As mobile growth continues to soar, the need for responsive landing pages increases, so you can succes

1.2k shares
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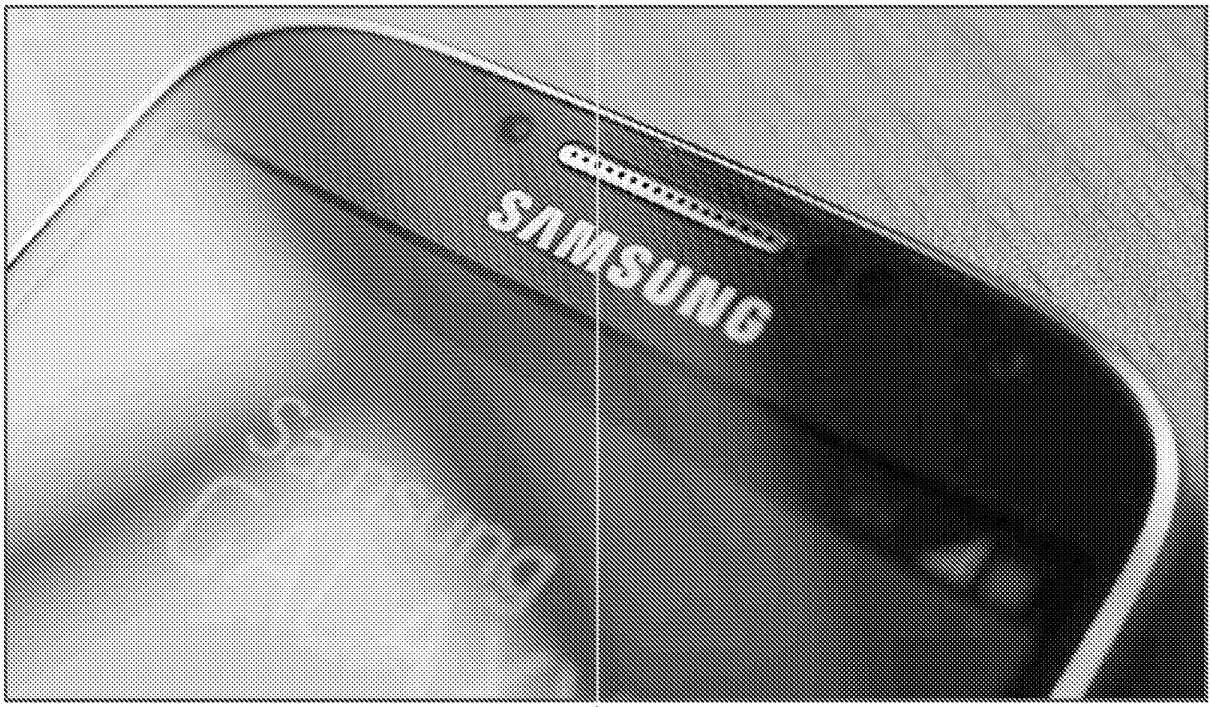
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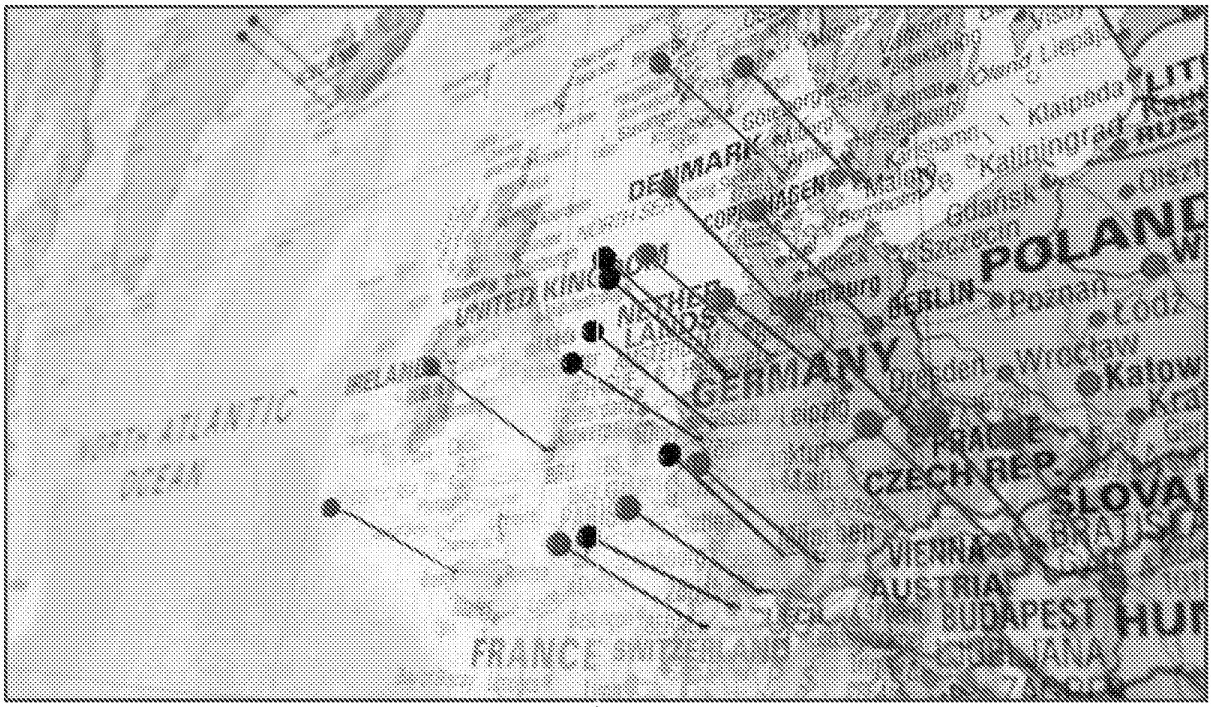
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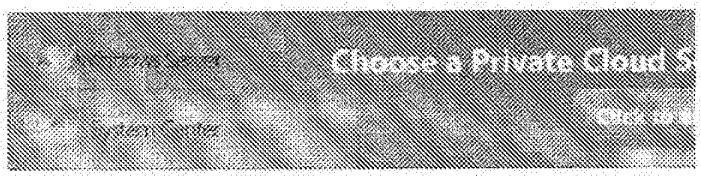
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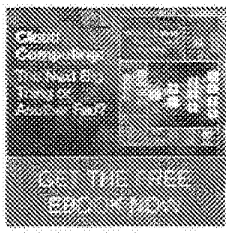
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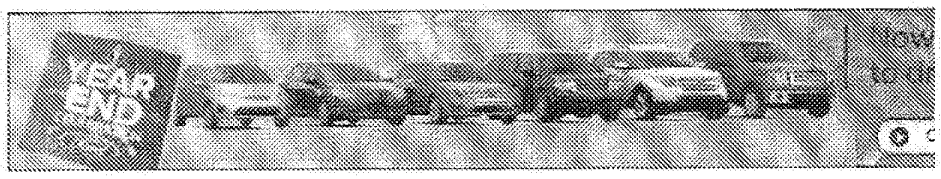
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High praise for Snapstick

"The Best of CES 2011...the best media-streaming device I saw at the show was Snapstick." -PC Magazine

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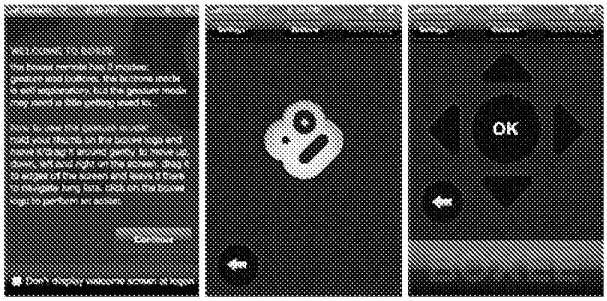
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Knowledge Base / Installation and Setup

Boxee Docs
posted this on December 11, 2011 08:56 PM

Smartphone Remote Control Apps

Boxee iPhone/iPad Remote App



The Boxee remote app turns your iPhone/iPad into a Boxee remote control and is available for free at the iTunes App Store.

Setup

- Make sure that the web server is enabled and the port is set to 8800 (default) on Boxee under Settings > Network > Servers.
- Make sure your iPhone/iPad is connecting to the same wireless network that the Boxee Box is on. Note: If your smartphone is connected over 3G or 4G instead of to your home wireless network, it will not be able to connect to Boxee.

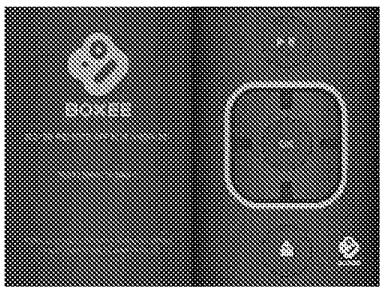
Troubleshooting

- Use Safari on your iPhone/iPad to call up the Boxee's web-based remote interface by typing the IP address of the Boxee Box and port number (e.g http://192.168.2.1:8800). If that doesn't work, then your iPhone/iPad may not be on the same network as the Boxee Box.
- Make sure the web server password is empty under Settings > Network > Servers.

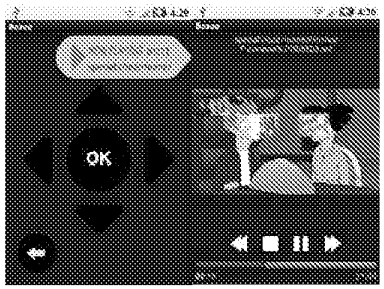
Android Remote Apps

There are a number of Android remote apps available in the Android Market including.

- Boxee WiFi Remote



- Boxee Remote

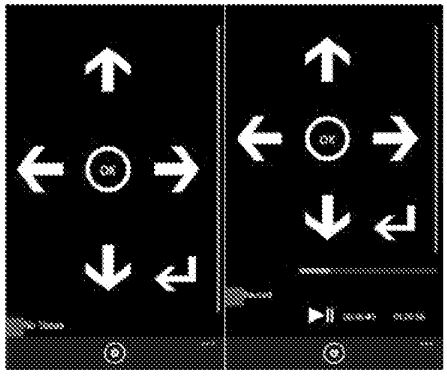


- Boxee Thumb Remote



Windows Phone Remote App

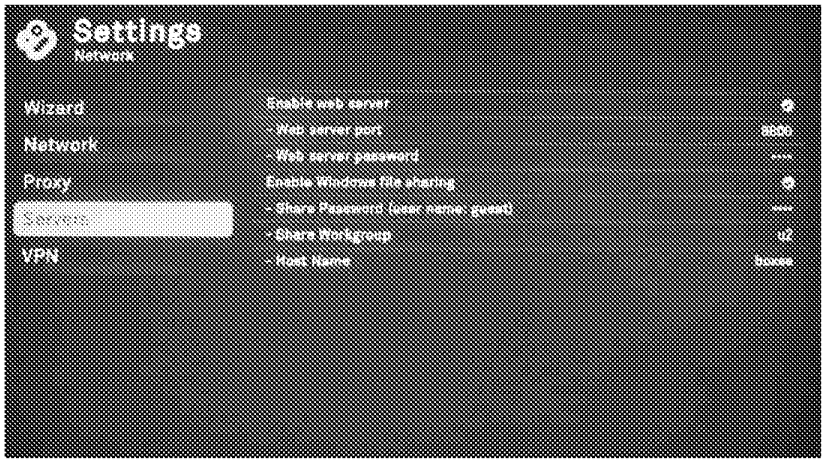
- BoxeePhone



Setting Up Boxee for a smartphone remote

Using your smartphone as a remote is a great way to control Boxee. To use one of the many apps available there are just a few settings to set on Boxee.

- These settings can be found under **Settings > Network > Servers**.
- Check the circle next to **Enable web server** and remember the value of the **Web server port (default is 8800)**. The web server port may be needed to set up some of the remote apps.



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iOS: Using AirPlay

Last Modified: November 23, 2010
Article: HT4437

Summary

With AirPlay, you can wirelessly stream videos, music, and photos from your iPhone, iPad, or iPod touch to Apple TV (2nd generation) and stream music to AirPlay speakers or receivers, including AirPort Express. You can also wirelessly stream videos and music from your computer to Apple TV (2nd generation) and stream music to AirPlay speakers or receivers, including AirPort Express.

Products Affected

iPod touch (2nd generation), iPad, iPod touch (3rd generation), iPhone 4, iPod touch (4th generation), iPhone 3GS

After you've upgraded to the latest software on your iOS device and Apple TV (and AirPort Express if you are using one), you can stream your videos, music, and photos by simply tapping the Stream icon icon on your iOS device and selecting a recipient from the list of available devices. You will see this menu:

Device menu

Notice the images of a TV screen TV icon or speaker Speaker icon next to each AirPlay device in the AirPlay menu. Those images indicate the type of media content you can stream to that device.

To stream music from your computer to an AirPort Express, or to stream videos and music from your computer to Apple TV, click the icon in the bottom right corner of the iTunes application (make sure that you have iTunes 10.1 or later).

AirPlay requirements and capabilities

To get full AirPlay functionality, make sure your AirPlay-enabled devices are running the latest software updates. The table below identifies minimum AirPlay requirements and capabilities:

Stream content from	Requirement	Notes
iPad iPhone (3GS or later) iPod touch (2nd generation or later)	iOS 4.2 or later.	From the Videos, iPod, Photos, Music, and YouTube apps on iOS devices, stream videos, music, and photos to an Apple TV (2nd generation), or stream music to an AirPort Express or compatible third-party device.
Computer	iTunes 10.1 or later.	Stream videos and music from your iTunes library to an Apple TV (2nd generation), or music to an AirPort Express, or compatible third-party device.
Stream content to	**Requirement**	**Notes**
Apple TV (2nd generation)	Apple TV software version 4.1 or later.	Play streamed videos, music, and photos from an AirPlay-enabled device.
Apple TV (1st generation)	Apple TV software version 3.0.2 or later.	Play streamed audio from an AirPlay-enabled device.
AirPort Express (all models)	AirPort firmware 7.4.2 or later.	

Troubleshooting AirPlay

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2. Verify that all your AirPlay-enabled devices are on the same network.
3. Verify that your iOS device has Wi-Fi turned on and is associated with the same network as your AirPlay-enabled device.
4. Ensure that AirPlay is enabled on the device to which you are trying to stream content (for example, you can disable or enable AirPlay on Apple TV in the AirPlay menu: **Settings > AirPlay**).
5. Check Internet or network connectivity on all affected devices.
6. Ensure that other devices are not trying to stream to the same AirPlay-enabled device at the same time.
7. Turn off Bluetooth on your iOS device by tapping **Settings > General > Bluetooth**.
8. Temporarily disable firewalls (both network and local) and security software (security software and firewalls may block ports that AirPlay uses to stream content).

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Using the Play To feature to stream media

Applies to these editions of Windows 7:

- Home Premium
- Professional
- Ultimate
- Enterprise

Compare editions

You can use the Play To feature to stream video, music, or picture files stored on your computer to a separate playback device on your home network. That device could be another computer, TV, or stereo connected to your network. You can use the Play To feature in Windows Media Player or anywhere you store media files on your computer.

Watch a demo: Windows 7 Play To demo.



Play To dialog box

Although it's easy to use Play To—you manage what you stream in a single dialog—you must already have a network set up, the correct hardware, and media streaming turned on before you can play media on other devices.

In this topic

- Set up your network and media devices
- Turn on streaming
- Use Play To in Windows Media Player
- Use Play To elsewhere in Windows
- Manage items in the Play To dialog box

Set up your network and media devices

Before you can use Play To, you need the following hardware and software:

- A wired or wireless private network.
- Either another computer on your network running Windows 7 or a device known as a *digital media receiver* (sometimes called a *networked digital media player*). Digital media receivers are hardware devices connected to your wired or wireless network that you can control using your computer.

Notes

- You must allow remote control on another computer before you can stream media to it. For more information on allowing remote control and other streaming settings, see Change settings for streaming

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control that came with the device.

For more information about setting up devices on your network, see Add a device or computer to a network.

Top of page

Turn on streaming

Your computer needs to detect suitable playback devices on your network before you can use Play To to stream media. That means media streaming must be turned on, if you haven't already done so. To turn on media streaming on your home network in Windows Media Player, follow these steps:

1. Click the **Start** button, click **All Programs**, and then click **Windows Media Player**.

   If the Player is currently open and you're in Now Playing mode, click the **Switch to Library** button in the upper-right corner of the Player.

2. Click **Stream**, and then click **Turn on home media streaming**.

   Turn on home media streaming won't be available on the **Stream** menu if streaming is already turned on.

3. In **Media streaming options**, click **Turn on media streaming**. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

4. Click **OK**.

For more information about how to use media streaming, see Stream your media to devices and computers using Windows Media Player.

Top of page

Use Play To in Windows Media Player

Windows Media Player makes it easy to manage your media, find items that you want to play, and open Play To. To select items that you want to play, follow these steps:

1. Click the **Start** button, click **All Programs**, and then click **Windows Media Player**.

   If the Player is currently open and you're in Now Playing mode, click the **Switch to Library** button in the upper-right corner of the Player.

2. If the list pane is closed or if the **Burn** or **Sync** tabs are exposed, click the **Play** tab.

3. Find the items that you want to play in the Player Library, and then drag those items from the details pane into the list pane.

4. Click the **Play to** button at the top of the list pane, click the device on your network that will receive the media.

5. In the **Play To** dialog box, use the playback controls to play, pause, or stop the

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Use Play To elsewhere in Windows

Outside of Windows Media Player, you can stream media with Play To by right-clicking files. To select media files and stream them to another device, follow these steps:

1. Click the files you want to stream to another playback device.
2. Right-click the selected files, point to Play to, and then click the device on the network that will receive the media.
3. In the **Play To** dialog box, use the playback controls to play, pause, or stop the media stream, and to change to the next or previous item in the list.

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Manage items in the Play To dialog box

You can add or remove items from the list in the **Play To** dialog box and change the order in which items play.

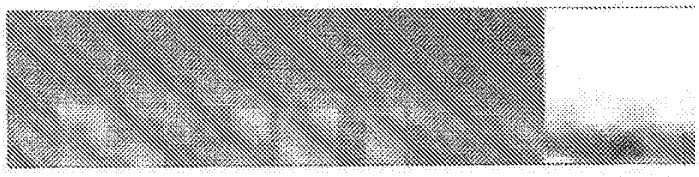
- To add an item, drag it into the **Play To** dialog box.
- To remove an item, right-click the item, and then click **Remove from list**.
- To shift an item in the list, drag the item up or down in the list.
- To clear the list of all items, click **Clear List**.

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Windows

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user session

Like 1 0 0

(1) The session of activity that a user with a unique IP address spends on a Web site during a specified period of time. The number of user sessions on a site is used in measuring the amount of traffic a Web site gets. The site administrator determines what the time frame of a user session will be (e.g., 30 minutes). If the visitor comes back to the site within that time period, it is still considered one user session because any number of visits within that 30 minutes will only count as one session. If the visitor returns to the site after the allotted time period has expired, say an hour from the initial visit, then it is counted as a separate user session.

Contrast with unique visitor, hit, click-through and page view, which are all other ways that site administrators measure the amount of traffic a Web site gets.

(2) The period of time a user interfaces with an application. The user session begins when the user accesses the application and ends when the user quits the application.

Previous Term Next Term

Related Terms

user »
session hijacking »
session cookie »
returning sessions »
session controller »
WSP »
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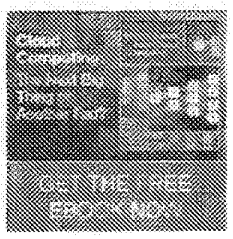
Pronounced as separate letters, CPU is the abbreviation for central processing unit. The CPU is the brains of the computer.

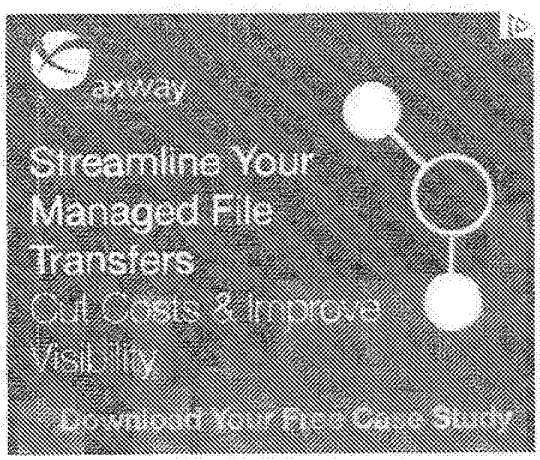
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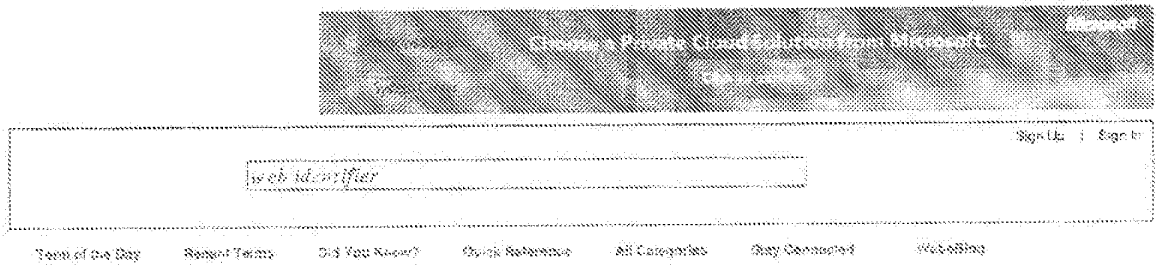
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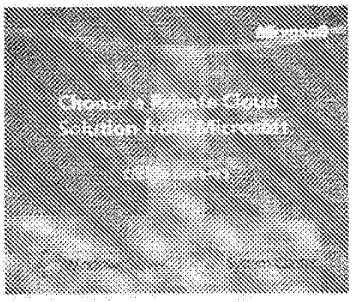
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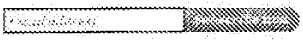
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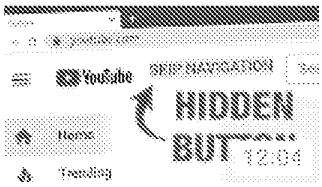
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Seller: Yahoo!
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Rated 4+

Requirements: Compatible with iPhone, iPod touch and iPad. Requires iOS 3.0 or later.

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Current Version:
77 Ratings

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What's New In Version 1.1.8

- With improved video quality and loading speed
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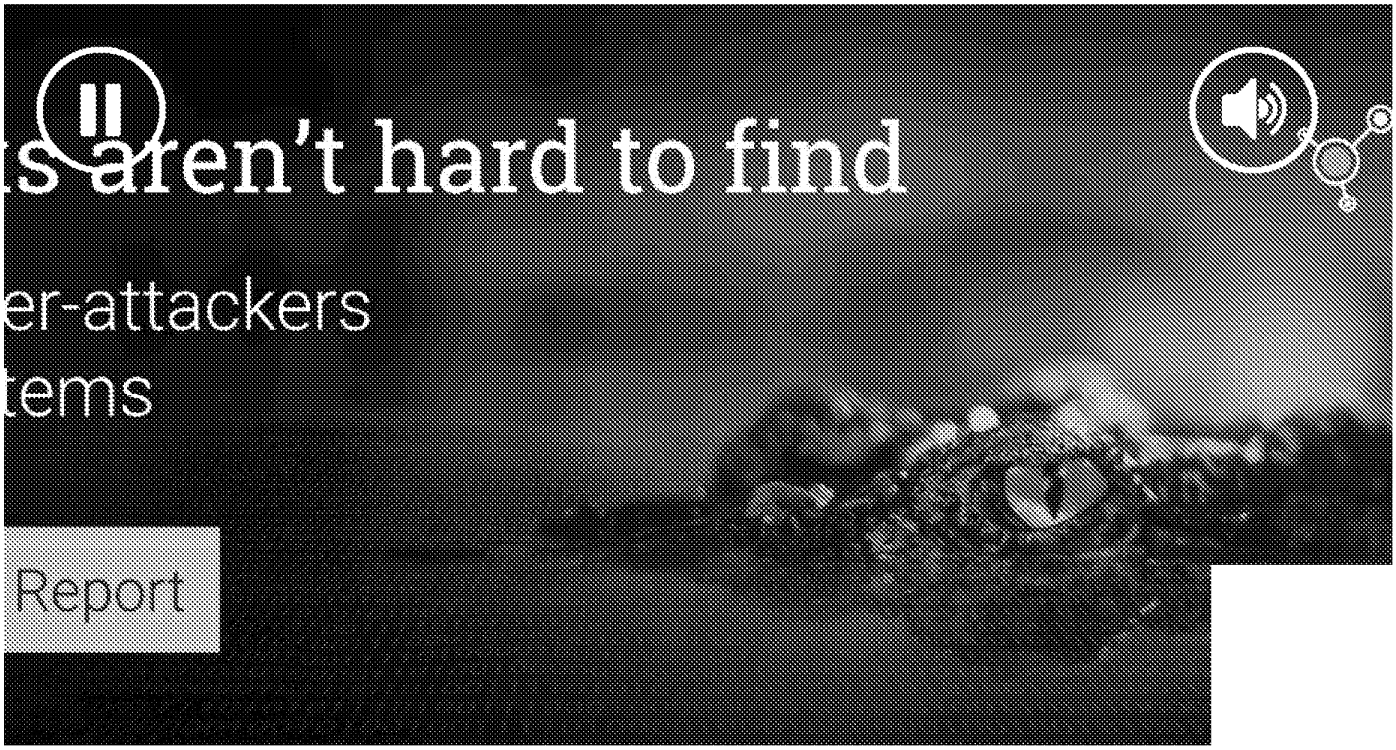
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TECH —

Stream AirPlay video to a regular TV?

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Apple may get into the TV market after all, but not like previous rumors have ...

JACQUI CHENG - 3/23/2011, 3:22 PM

Apple may be preparing to license its AirPlay technology to allow third-party TVs to receive video streams from iOS devices. *Bloomberg* outlined a plan supposedly in the works at Apple on Wednesday, saying that video devices that could play streamed video via AirPlay could hit the market as early as this year, citing two unnamed sources familiar with the project.

AirPlay is Apple's recently reintroduced technology (previously called AirTunes) that allows a computer's iTunes library or an iOS device to stream photos, video, and music to a compatible device. Currently, Apple offers licenses to a number of audio system manufacturers so that users can stream music to a set of speakers, but the only device available that can receive AirPlay *video* streams is the second-generation Apple TV.

According to *Bloomberg*'s sources, Apple is considering adding video licensing to the mix so that third-party devices can receive streams of TV shows, movies, and other A/V clips. Companies selling

AirPlay-compatible audio equipment would reportedly pay Apple $4 per device sold, so a Web-enabled TV might cost a bit more if manufacturers want to add AirPlay to their feature lists. The sources also said that Apple's AirPlay chip vendor, BridgeCo, is "working with several TV makers to build its products into Web-connected TVs," though they didn't specify whether those plans involved AirPlay or some other technology.

There have been long-running rumors that Apple might one day roll out its own Internet-connected TV—thanks mostly to buzz created from analysts—but such an idea has largely been panned by most observers. However, an AirPlay video licensing deal would move the risk of getting into the TV market from Apple to manufacturers, while still allowing the company to make money from it (not to mention the potential for extra iPhone, iPod touch, and iPad sales).

Apple declined to comment on the rumor.

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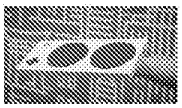

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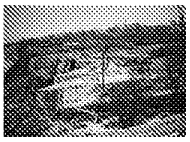
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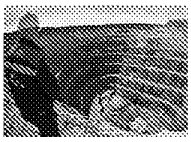
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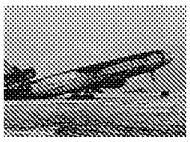
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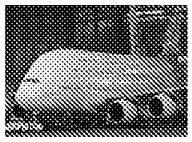
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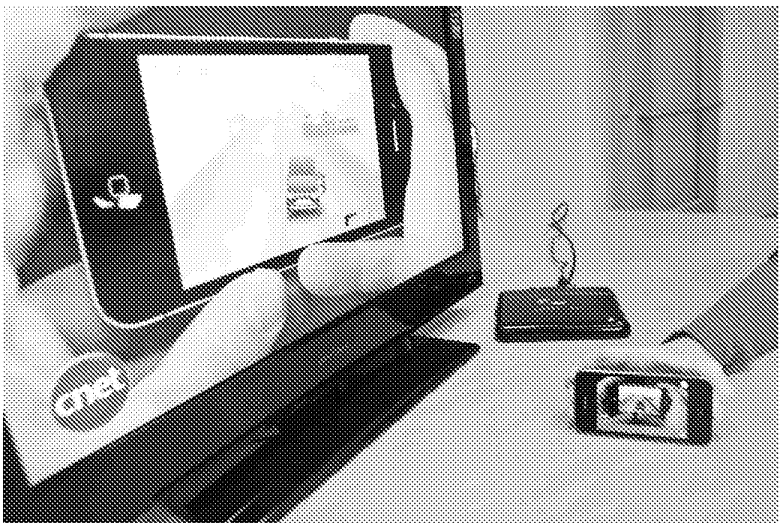
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Snapstick takes on Apple TV, Google TV

A young startup is about to shop around for takers to its alternative to getting Web content onto TVs.

Jessica Dolcourt Dec. 9, 2010 6:00 a.m. PT



Snapstick in action in CNET headquarters on an iPhone 4 and TV monitor.
James Martin/CNET

A startup called Snapstick is introducing its spin on Internet TV today that it hopes will compete heavily with Apple TV, Google TV, and other set-top boxes.

If you believe the demo video, a person holding an iPhone can "flick" the content toward a TV screen, which will suddenly begins playing the same content.

But how? Snapstick doesn't miraculously siphon videos from the iPhone to the TV. At this early, private beta stage, it's a software platform that can help your TV display streaming Web content--like those jealously protected Hulu videos--on its screen. Although that iPhone--or any other Web-enabled device--is important in the equation, it's only in the role of

a convenient, familiar controller for browsing and selecting the Web content you want to see on the big screen. The iPhone, or Android phone, or laptop takes the place of a remote or keyboard necessary to control Roku set-top boxes and Google TV for example.

Snapstick's real argument is the software. One portion is responsible for streaming Web content to the hardware component that then pushes the content to the TV screen. A second portion communicates over a Wi-Fi network with whichever device or devices you deem the controller.

Although you can control the Snapstick software from any Web site, the team showed us an iPhone app that simplifies the process. Thanks to the accelerometer, you can also trigger the Snapstick software to start streaming Web content with a firm flick or snap of the iPhone, the motion that gives the company its name.

If it's not a set-top box, what is it?

Screenshot by Jessica Dolcourt/CNET

Since Snapstick isn't a product yet on sale to the consumers, it's hard to name the form it will take. The company is only now starting to show the product to potential partners. After that, it could become embedded within existing devices like Blue-Ray players, TVs, or possibly even a set-top box.

Snapstick also hopes to license its software to existing set-top box manufacturers. At present, Snapstick created a separate box for demonstration purposes. It contains a router, which handles the actual Web streaming, then pushes content to the TV screen through an HDMI cable.

Cables and cords have long turned TV monitors into passive second screens, and Snapstick is no different. Its Internet engine accesses public Internet content and simply displays it on your TV screen--that goes for Hulu, and Skype. You better believe we tested CNET videos, too.

Of course, unlike Google TV, which attempts to seamlessly intersperse the experience of viewing Web content alongside standard and cable TV channels, Snapstick's only aim is to offer potential customers the Internet portion of the solution. We'll be keeping our eye on this and other competing solutions.

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Dual Device User Interface Design for Ubiquitous Language Learning: Mobile Phone and Interactive Television (iTV)

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Abstract

In this paper we describe the design and development of a system that facilitates language learning from a combination of two devices, interactive television (iTV) and mobile phone. We present a number of requirements for technologies to support informal language learning based on theories of language learning, theories of formal and informal learning, our own studies of adult language learners and the affordances of iTV as a medium to support learning. We describe TAMALLE (Television and Mobile phone Assisted Language Learning Environment), , a prototype system based on these requirements and discuss some of the user interface design issues that arise in the context of cross platform dual device systems for ubiquitous learning.

1. Introduction

The possibility of using "non-desktop" technologies for supporting learning opens up a wide variety of activities and interactions for learners. The potential for technologies such as mobile devices (m-learning) and interactive television (t-learning) for learning has provided a new direction for research in the field of educational technology. In particular, designing for these new technologies has thrown up a number of design challenges associated not only with the physical and functional limitations of these devices, but also with the effective implementation of new learning paradigms - situated, collaborative, life-long, personalized and contextual [1,2,3].

"Beyond the desktop" technologies are currently being harnessed to support these learning paradigms. However each technology has distinct characteristics that facilitate some types of use and hamper others. For example, whilst mobile device afford a wide variety of personal activities and learning on move, they are less powerful for enabling learning from authentic and immersive content. In contrast, television provides rich multimedia presentation of authentic and immersive content that is constantly renewed. Programmes such as news, soap-operas and documentaries have the potential to enhance language learners' experience by showing the target language, culture and context of use. However, iTV does not naturally provide facilities for personalised learning or learning on the move in the way that mobile devices do. Designing in order to take advantage of what each device does best is the primary focus to the TAMALLE project.

Despite Robertson et al's pioneering CHI paper discussing coordinated iTV and PDA interaction [4], little is known about dual device interaction in general or about such interaction in the context of educational technology applications in particular. In this paper we concentrate on the design and development of the interfaces for a dual device system for informal language learning. The system aims to capitalise on the strengths of two specialised technologies, iTV and mobile phones, which tend to be used in different settings and at different times. We first briefly overview the existing literature on mobile and iTV technologies for language learning. We then discuss briefly the first stage of the project, learner-centred negotiation of requirements, for developing ubiquitous language learning, which led us to the design and development of the TAMALLE system, whose technical architecture is sketched. The interfaces for the two devices are then described.

2. Mobile technologies for language learning

The potential value of learning via mobile devices or m-learning has been widely realised [5, 6]. Mobile devices enhance learning experiences by enabling communications, learning on the move, and on an "anytime and anywhere" basis [7]. For language learning in particular this realisation also holds true. Second Language learners currently are often to be found with a pocket dictionary or a personal vocabulary book. As a result several researchers have

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begun to investigate the potential of mobile devices for language teaching [8, 9, 10, 11].

Godwin-Jones points out how mobile and wireless technologies could provide an opportunity for language and cultural learning. He describes a project to develop wireless system called RAFT that can be used on student's field trip. RAFT helps an individual to store and retrieve information regarding their field trip on their handheld mobile device and to share it with other learners. Although RAFT was not specifically designed for language learning, its developers suggest that it could be used for cultural and language learning by learners who are on a trip abroad, e.g. to conduct interviews with native speakers, and to share it with other learners [10].

The AD-HOC project aims to develop mobile language learning environment to facilitate 'learning on demand' for European travellers who want to acquire language skill in order to communicate with local people. The AD-HOC system acts as a tutor to teach linguistic and cultural knowledge through the use of multiple media presentations (e.g. text, sound, picture and video). The language learning environment offers representations of contextualised, authentic, real life situations for different level of competency and within different thematic fields (e.g. business travel, travelling of young people, etc.).The underpinning pedagogical principle of the AD-HOC project is self-directed learning [8].

The M-learn project is concerned to develop a mobile learning system for young adults (16-24) in order to teach some aspects of literacy and numeracy, and to involve them in the development of their lifelong learning [12].

The mobile language learning system, designed in Finland [9], delivers lessons using sound and text to teach grammar and vocabulary. It tracks the learner's progress and integrates voice technology for user interaction.

BBC Worldwide provides an English language teaching service via mobile phone in China. Learners receive a daily text message on their mobile containing a phrase in English together with the Chinese translation. A range of topics are covered (e.g. sport, business, lifestyle, etc.). The idea behind the system is to provide an opportunity for busy learners on the move to learn authentic spoken English [13].

A project conducted in Taiwan developed a mobile-based (PDA) interactive language learning environment for elementary school children learning English as a second language. The activities aimed to help students to learn listening, reading and writing skills. For example, a scenario to teach words related to images showing a body parts provides a word's pronunciations and spelling when the image is clicked by the user. Evaluation showed a positive response from learners and indicates that the use of mobile devices can significantly increase student motivation and interest [11].

The Speak My Speak project is investigating the use of SMS (Short Messaging Service) as a communication tool between adult English language learners and native English tutors. They conclude that using SMS in language learning is feasible and promising students did reflect on texts sent and received, and were active in constructing the content of communication [14].

MobiLearn software provides a mobile phrase book in different languages for pocket PC. The main aims of the software are to provide a list of common words and phrases, to enable learners to bookmark their required words and phrases for easy access, to hear pronunciations and to test their knowledge through a number of quizzes provided.

The INLET project (Lingua) developed an innovative mobile phone support system to encourage tourists to learn Greek language at the Athens Olympic Games 2004 [15]. The system provided a number of facilities for learning useful Greek phrases in a just-in-time manner. Language categories judged most beneficial for tourists were developed as follows: "basic" (e.g. greeting, numbers, basic words), "where" (e.g. phrases for asking direction, going by bus, taxi and trains), "when" (e.g. asking times, today, now, tomorrow), "Olympic Sport" (games name, athletics, fencing, etc.) and "buying" (asking price, money, expressions like expensive, cheap, etc.). Users, recruited at the airport in many cases, were able to register for SMS messages to be sent to their mobile phones freely and regularly containing useful phrases. They also could request SMS translations of other languages into Greek.

3. (I) TV for language learning

ITV is a new media technology that has great promise for language learning [16, 17, 18]. Before turning to interactive TV it is worth considering television which itself is *already* a powerful learning environment for language learners. Television offers a rich multimedia experience, where learners can immerse themselves in authentic materials from the target language and culture. This material may well be engaging in itself, with up-to-date ever-changing content displaying a range of speakers and contexts. Many television shows constitute important cultural events in their own right providing a shared reference for people sharing or aspiring to share a culture. In its non-interactive state, it clearly affords watching, reading and listening, making it an excellent medium for learners to practice comprehension skills and also to acquire background cultural knowledge.

Comprehension of spoken material is strongly supported. Sherrington [19], exploring the potential of conventional television for language teaching, notes that a number of listening skills can easily be practised via television, including recognising and understanding:

- Segmental and supra-segmental features
- Vocabulary items, short phrases and longer segments of speech
- Syntactic structures
- Varieties of speech, such as registers and dialects
- Discourse patterns
- Pragmatically determined features

Lonergan points out the benefits of viewing TV programmes in the target language, particularly TV's multimedia aspect: "the suitability of television as a medium for bringing a living language to learners is undoubted. The dynamic combination of sound and vision can bring an air of reality into the classroom. The wealth of visual information available can convey the atmosphere of another culture, can show paralinguistic aspect of communication; the techniques of television can present material to learners in ways quite beyond the resources of the language teacher" [20].

One disadvantage of TV broadcast over video or DVD is its "non-interruptible quality" where it restricts learners from replaying the information available [21, p.3]. Broady points out that one of the problems associated with target language TV is that the foreign language learners are not aware of the required background knowledge – something she refers to as "cultural knowledge" - that needs to be acquired in order to understand the programme. She discusses the notion that a situation can be misunderstood by non-French viewers when the accompanying image does not support interpretations of the "verbal input" in watching a French News channel. She further argues: "because it [television] conveys 'real' language used by 'real' people in 'real' situation, it is generally perceived as motivating and interesting by learners. Yet this very cultural authenticity can render it frustratingly obscure. But is this a 'real' problem?". She latter mentions that "non-native viewers are not the only ones whose understanding is impaired when picture and commentary do not correspond closely: it happens to native viewers too." [21, p.4]. One problem that non-native speakers sometimes have is that they "often lack the confidence…and assume that they need to understand every word. With such strategy, the richness of authentic television are likely to remain buried." [21, p.5]. For this reason, a number of researchers attempt to develop "viewing strategies" that could be used by learners when watching authentic television. These strategies explain how to maximize comprehension of foreign TV viewing [22].

Several projects [23, 24, 25] have analyzed the use of TV with first language subtitles (L1 subtitling) and second language subtitles (L2 subtitling), as an aid to comprehension, retention of second language vocabulary and improving reading skills. One such study suggests that even TV with an L2 audio track and L1 subtitling could lead to incidental second language learning [22]. Fridman argues for closed captioned videos as powerful tools for improving vocabulary and reading comprehension skills for EFL learners. Bean & Wilson report the motivating influence of captioned television, and positive attitudes on the part of learners toward this medium [26]. Neuman and Koskinen suggest [27] that captioned television can be used as an effective instructional tool in learning vocabulary and concepts. Koskinen et al. studied the effect of captioned television on incidental vocabulary acquisition by adult ESL learners. They assessed vocabulary knowledge of viewers who watched TV with and without captions, identifying "a statistically significant difference in favour of captioned TV" and "a positive relationship between oral English language competency and vocabulary learning". The participants with higher levels of oral proficiency learned more than less proficient subjects [24, p.368].

Borras and Lafayette investigated the effect of L2 subtitles on comprehension and reading skills. They compared the performance of learners who had used video with and without subtitles. The result clearly favoured the subtitle option and they conclude that "when learning from 'authentic video' in a multimedia environment, having the opportunity to see and control subtitles, as opposed to not having that opportunity, result in both better comprehension and subsequent better use of the foreign language" [28, p.82].

Digital television adds a new dimension to learning from the TV by multiplying available channels [22, 29]. However, this is an increase in the quantity of available material rather than a change in the type of affordance provided by the medium. It is essentially more of the same. Digital interactive television (iTV) offers genuinely new ways of using the television set. Interactivity adds new facilities for information retrieval and communications [30]. With interactivity viewers could:

I. Select from alternative audio/ video streams
II. Make their own choice amongst subtitling or captioning options
III. View supplementary information on screen – to access before, during or after a broadcast
IV. Use communication tools such as chat /email.

The functionality provided by iTV is similar to that provided by the Internet, but it is displayed on the

familiar TV screen. Despite the fact that current levels of interactivity are relatively limited, constrained by the components of the iTV set up, i.e. the set-top box and its software, the on-screen display and the remote control, the potential is clearly vast.

4. Learners' requirements

To inform the design of the iTV language learning system, we conducted three focus group studies to investigate the approaches that a number of independent adult language learners have adopted towards their language learning and their attitudes towards a range of technologies including iTV and mobile phones [1, 2, 36]. A set of general requirements emerged:

- Support informal learning rather than formal
- Support learning in context
- Support learning while immersing into the environment
- Support learning from engaging and authentic materials
- Support learning on move (anytime and anywhere basis)
- Support learners understanding by scaffolding
- Support learners in creating and managing their own personal knowledge and sphere
- Provide a support for just-in-time learning
- Support learning in an unobtrusive fashion (by not introducing a new device or imposing educational materials on fellow viewers)

5. Prototype description

The prototype of dual device language learning support system via iTV and mobile phones (TAMALLE) was designed based on the requirements outlined in Section 4. TAMALLE is an informal language learning environment that has dual interfaces across iTV and mobile phones and can support learning from authentic television programmes such as news, soap-opera, documentaries, etc. A dual language learning sphere on both iTV and mobile phone devices allows learners to incorporate edutainment with their language learning experiences. To this end, the system provides support for comprehension of specific language items for viewers as they watch a foreign language television programme that is pitched at a level slightly above their current level of language competence. These language items can be incorporated by learners into their learning sphere, which is also accessible via their mobile phone.

TAMALLE is also a context aware system, in that the mobile sphere supports learning in the context of the TV programme. The television provides authentic materials and a context for learning. The mobile can scaffold learners' understanding of the programme by enabling them to access the summary of programme as well as difficult language items, such as vocabulary, phrases, etc that may appear inside a programme. These language items can be accessed prior to, during and after the show. Learners are also enabled to add, search and remove these language items from/into their personal spheres. Even without television, the mobile is still useful as tool for learning a new language items and as a tool for managing personal knowledge.

Annotation based support is provided to scaffold difficult language items and culturally specific knowledge that helps learners in understanding the programme while watching. If more unknown terms were found, the TAMALLE dictionary could help to check meaning and giving examples. Section 5.1 discusses the technical architecture of TAMALLE and section 5.2 describes TAMALLE dual interfaces.

5.1. Dual device architecture

We have investigated two possible end-to-end solutions based on a multi-tier client/server architecture consisting of the broadcast-end tier, the back-end tier and front-end tier for developing the language learning service.

One solution is to develop a learning management system that can be located in the broadcast-end or back-end tier. This learning management system provides content to both set top box and mobile devices and also holds learning content or learning objects in a database on the back-end tier (MySQL). In the front-end tier we have the set top box and WAP enabled mobile devices. Two way communications can be established between set top box and back-end tier through telephone modem, ADSL or broadband cable, while mobile phone devices communicate with the back-end tier through the WAP protocol. For interactive SMS messaging, we can use SMS gateway providers; the one that we are using in UK is SMS2mail provider. This architecture is illustrated in Figure 1 and for TAMALLE development we used this architecture.

An alternative solution is to use Digital Video Broadcasting (DVB), Java enterprise solution and Bluetooth [31]. The language learning content and mainstream television programme can be encoded and multiplexed before being broadcast via the DVB stream. The learning content will be retrieved by a client based Java application located in an MHP based set top box that also provides the API required for content retrieval and presentation to the mobile devices.

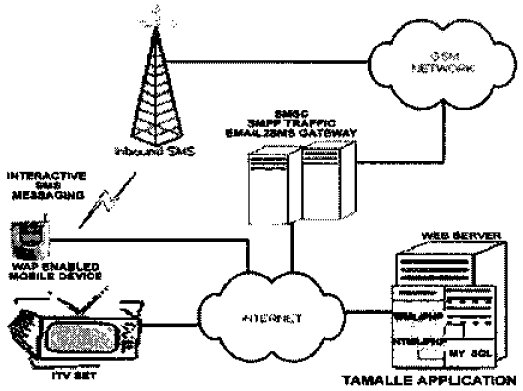


Figure 1: TAMALLE dual device architecture

5.2. Dual device interface

Our design of the prototype interface had five aims:

I. to use the specialised device most suitable for the learning task in question;
II. to use the appropriate physical characteristics and learning affordances of each device both alone and in combination;
III. to support individuals as well as group of learners who may or may not be interested in learning;
IV. to allocate learning content to a device that will be most suitable for providing a particular mode of presentation;
V. to provide consistency in terms of look (navigations, icons, words) and feel (learning tasks, activities and contents) across dual devices to ease the learnability of the overall system.

ITV was combined with mobile phones rather than other portable devices, such as laptops or PDA. Viewers are already using mobile device to interact with iTV applications, i.e. SMS voting, playing along a quiz show. Mobile phones could play the role of a companion device that has some specialised features [32], which may offer more personalised learning materials for people who are sharing the television.

Technically both iTV and the mobile are capable of displaying and manipulating learning materials, which in this case are television programmes and accompanying textual annotations or other information. However, each device is different in terms of their strength. It becomes clear that we need to study the capability of each device for supporting a learning task. For example, television is more appropriate for delivering picture, videos and audio materials, especially in combination. Mobile phones are suitable for displaying text and some graphics. Thus in our dual device scenario, iTV is preferred for taking care of presentation of videos, photos, spoken and textual materials where the mobile phones augment that with more textual information and annotations.

There are other issues concerning the physical characteristics and limitations of each device, such as screen size, resolution and memory capabilities, which constrain the user interactions possible. ITV users are limited to a menu-style interface with navigation and action carried out via the remote control or in some cases with an infrared keyboard. The remote control offers interaction via coloured key (red, green, yellow and blue); numbered keys (0-9), arrow keys (up/down, right/left) and an OK action button. The screen interface is similarly constrained. We followed guidelines developed by the BBC to decide about factors such as font style, size, contrast and positioning [33, 30].

Interaction styles with mobile phones are also limited in various ways: small screens (i.e. amount of data that can be displayed on one screen, as well as the size and placement of graphical, textual elements and navigations), soft key use (soft keys for selection and navigations are different in many phones) and memory constraints [37]. In designing TAMALLE, these constraints are tackled mainly by simplifying navigation, making navigation controls very salient and minimising the navigation depth. This is in keeping with the "simple and shallow" notion that requires minimizing the number of screens while keeping an appropriate amount of scrolling, balancing breadth and depth, therefore improving the usability and learnability of overall system [34].

In the following section we describe the main functionalities of TAMALLE and show how these are displayed and used on iTV and mobile phones. Four types of functionality are described: 1) scaffolding difficult language items, 2) scaffolding overall understanding, 3) just-in-time scaffolding and 4) managing personal learning sphere.

The TAMALLE application on the iTV side is activated by using the conventional "call to action", i.e. pressing the red button on the remote control, while watching a programme. From this point the viewer sees the news streamed into the TAMALLE application. Login is offered but not obligatory for non-personalised services. The broadcast programme appears reduced on the right side of the screen with interactivity on the left. For mobile use, learners are required to use a WAP enabled mobile phones to connect to the TAMALLE mobile application. Both interfaces are illustrated in Figure 2.

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Figure 2: TAMALLE main menu

5.2.1. Just-in-time scaffolding. The system provides just-in-time help for difficult cultural or language items as they appear in the programme. By pressing "Words in Action" from the TAMALLE main menu the just-in-time support will be activated providing textual annotation similar to subtitles on the television screen. The individual items may explicate a word (e.g. Tory = Conservative) or identify a scene or individual (This is 10 Downing St – the Prime Minister's residence). The reason that our design locates the call-to-action dialogue on the iTV side rather than the phone is due to the fact that this just-in-time scaffolding will be only beneficial during the programme show time and not before and after. However, a mobile can augment just-in-time support while watching with other fellow viewers who may not be interested in learning a language. The learner may not want to impose annotations on everyone in the room. In this case, they can send a text message to service whose number is displayed briefly on the television screen to get just-in-time scaffolding on their mobile phone (see Figure 3).



Figure 3: Just-in-time scaffolding

5.2.2. Scaffolding difficult language items. Difficult or unusual language items from the dialogue or commentary will be transcribed for TAMALLE viewers. Viewers who are logged in may select "Recommended Words" to see a list of language items with explanation that can also be added to their personal learning sphere (My TAMALLE), which is also accessible via mobile phone (see Figure 4). The main interaction with the TAMALLE application on the iTV side is by remote control, with the red key taking them to the home page, the yellow key leading to the previous page, and the blue key to exit the application. The arrow keys move the selection up and down the list, while the Select key allows adding a chosen word to a learner's personal sphere. On the mobile interface, a selected word is highlighted and could be added by pressing the handset's select key.

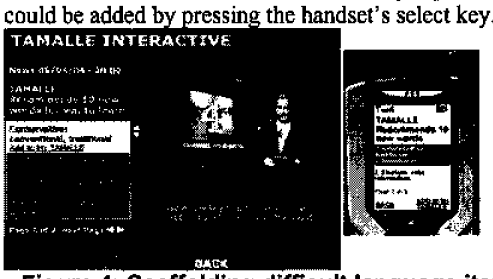


Figure 4: Scaffolding difficult language item

5.2.3. Scaffolding overall understanding. The viewer's overall understanding will be improved by providing a summary of programme content. This will differ according to genre, with the news being summarised as headlines, a drama as a brief plot summary and so on. This is accessed via "Summary/Digest" on the main menu.

This is augmented by an on-screen dictionary. In the following screenshot, a news digest is provided on the left hand side of TAMALLE iTV application, activated by the green button on the remote control. The mobile phone version also provides a link to a programme summary that can be accessible before, during or after the show and on move. Again this is augmented by a dictionary.

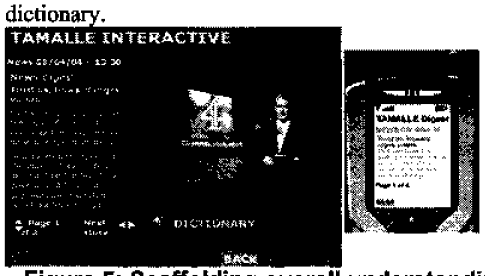


Figure 5: Scaffolding overall understanding

5.2.4. Managing personal learning sphere. The system enables learners to manage their personal "learning sphere," accessible via iTV and mobile interface. The recommended words can be added to a personal vocabulary list for later practice. Learners can view all their saved language items from the main menu. They can also search for specific language items and remove those no longer wanted. Figure 6 shows "My TAMALLE" on both iTV and mobile device.

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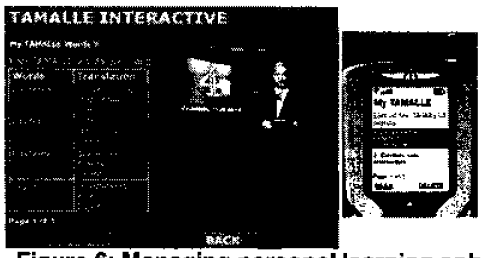


Figure 6: Managing personal learning sphere

6. Discussion

In this section we explain some of the reasoning behind the design decisions. Simplicity and consistency were our ultimate criteria in designing TAMALLE. Simplicity is imposed by the constraints of the two devices, while consistency, both internal and external, will make for ease of use and learnability. To this end, the mobile phone version of the system can follow the conventions of the phone on which it is viewed.

This design solution is not the only one possible: another team could start with similar requirements and ends up with quite a different set of choices for functionality and interaction design. The chosen design was very much influenced by the research of Al-Seghayer [35] who demonstrates significant improvements in language comprehension and incidental learning where a combination of media - audio, annotated text and video - were used.

For navigation and function activation, the iTV system has been designed to make user interactions as simple as possible using appropriate coloured and numbered keys of the remote control. Each menu item also has a numerical label allocated to it, giving an alternative selection mechanism. The navigation throughout the system is also consistent using coloured controls at the bottom of each page: Home (red), Back (yellow), Exit (blue). From the mobile phone interface the learners can move up and down the list of menu options using the direction keys and use the right and left soft key to choose a required option. The back button in mobile interface is consistent throughout the pages and always takes the learner to the previous page.

Media choice may also be worth commenting on. The justification for providing text annotations for just-in-time support was research by Koskinen et al. showing that combined video and textual annotation of spoken language in a from of subtitle or closed caption could aid learning vocabulary, improving listening, comprehension and reading skills [27, 24].

The decision of whether to display video on the mobile phone, on the other hand, was based on our understanding of the affordances of the device. Despite the fact that, with the advent of the DVB-H standard, television can also be viewed on mobile phone screens, the physical limitations make this a much less attractive option for providing all the TAMALLE functionalities required for language learning. Television clearly affords watching more than the mobile phone. People already have a very well established relationship with their television set, which we have chosen not to disrupt. Television is the device of choice for viewing broadcast video, while the mobile phone, on the other plays the role of a companion device that is also functional as a stand-alone to support learning on the move.

7. Conclusions and further work

The TAMALLE design responds to the requirements we derived from multiple sources. Learning from engaging, up-to-date and authentic materials that are of intrinsic interest to language learners is enabled. Learning in context is made possible, with rich multimedia content providing a comprehensible setting for the new language. Learning on the move is supported, while the leisure use of television is respected. Learners can also choose to take advantage of one device without the other. The scaffolding learning opportunities can aid in acquiring lexicon items and to improve learner's comprehension and listening skills. The textual annotations can facilitate just-in-time support for learning cultural specific knowledge and difficult language items. Finally, TAMALLE supports learners in creating and managing their own personal language knowledge accessible in anytime and anywhere basis.

However, the design of TAMALLE as a dual device learning service raises a number of questions to be addressed in further research. A first question regards the source and nature of the support material. Ideally we would have liked to find guidance in the language teaching literature on selecting individual words or phrases for attention. However, little practical guidance is available to help us make a reasoned choice. Without such rules or guidelines, automating the functionality of TAMALLE, which would be necessary if it is to be widely used and sustainable, will not be possible. In addition, it may well be useful to tailor this support material to the learner's level of competence, motivation, experience and so on. We are currently conducting experiments with language learners to try to derive guidelines in this area.

A second set of issue is concern with the methodology to evaluate the dual interface devices such as TAMALLE and its implications for learning. At the moment we are considering evaluating the system in terms of its usability but will need to develop new techniques tailored to the dual device scenario.

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Mobile Media Content Sharing in UPnP-Based Home Network Environment

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Many modern handheld devices feature functions of taking pictures, shooting video clips, or recording audio sounds. However, such devices are usually equipped with small display panels and poor acoustic equipments. In order to achieve better user experience with high quality panel or audio stereo, users often need to transfer or copy digital media contents to external powerful devices, like personal computers and home theater devices. Nevertheless, it can be awkward or difficult for users to follow up a series of operations of connection setup and media content transfer. In this paper, we present a mobile media content sharing mechanism based the UPnP framework and wireless communication technology in home network environments. As a result, users could conveniently share media contents stored in mobile devices and play them by other home networked player devices. The demonstration result shows that the developed mechanism is attractive and of practicability and ease of use.

Keywords: content sharing, mobile application, multimedia service, handheld device, Universal Plug and Play (UPnP), home network, mobile computing

1. INTRODUCTION

More and more mobile handheld devices, such as mobile phone and personal digital assistant (PDA), are equipped with digital still camera (DSC), audio recording and audio video (AV) processing modules, with that users can take pictures, shoot video clips, or record audio sounds conveniently and effectively. Notwithstanding, due to intrinsic dimensional limitation and power consumption concerns, such devices have smaller display panels and powerless AV playing functions. To enjoy media contents with high performance and quality, users often need to copy or transfer media contents to other external, powerful and professional player devices instead, through complicated manual setup steps with various data cables or connectors – ordinary content transfer operations which are troublesome and unfriendly for end users, empirically.

To mitigate such a circumstance, many research and industrial communities have contributed to realize the digital home vision. Among others are the Digital Living Home Alliance (DLNA)[1] and the Universal Plug and Play (UPnP) Forum[2]. The DLNA interoperability guideline [1] recognizes the UPnP device architecture [2] as the core network-

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[1] Digital Living Home Alliance (DLNA) website: http://www.dlna.org/.
[2] Universal Plug and Play (UPnP) Form website: http://www.upnp.org/.

ing framework used to develop interoperable home networked platforms and devices in home network environments. Particularly, the UPnP framework defines a base set of services for all home networked devices to follow, and conventions for describing devices and services. It is established on the top of IP layer, and leverages existing Internet standards, including TCP/IP, HTTP and Web technologies, to enable peer-to-peer proximity networking, device discovery, event notification, control action, and data transfer functions. Namely, it is independent of operating systems (OS) and hardware platforms. It can work with any type of physical-layer networking medium, in spite of wired or wireless one.

The increasing popularity of the UPnP technology makes clusters of networked devices, such as PC, entertainment equipment, and intelligent appliance, interconnected in home network environments. Hence, substantial interest in research and industrial communities comes into the examination of UPnP methodologies and performance [3-8]. It is noted that the UPnP architecture has a light-weight design and is of simplicity without complicating the system design. Unfortunately, there are still several shortcomings and problems found in different function layers, including problematic addressing transition [8], inefficient UPnP advertisement and power consumption [4], non-scalable M-Search [5], inflexible control action [6], and poor event notification [3, 7], which will be later described in section 2.3.

Over the past years, our work developed a UPnP middleware which successfully passed the UPnP Implementers Corporation (UIC) conformity [9] and was incorporated into BenQ™ home entertainment devices, for example, network TV. In this paper, we describe the design and the development of a mobile media content sharing mechanism in UPnP-based home network environments. We integrate the WLAN technology into the UPnP middleware, and noticeably implement an interesting mobile content sharing scenario on a specific mobile phone platform. In compliance with the DLNA interoperability guideline, we develop a mobile media server which is able to discover, interconnect with, and transfer media files to other UPnP-/DLNA-compliable devices. Accordingly, our developed mobile phones and home networked devices can communicate with each other through UPnP networking. Mobile phones can serve as "temporary" mobile content servers at any time they want to share stored media contents to be processed directly on external media player devices. As a result, users can conveniently and effectively share their favorite media contents anywhere and anytime, without need of unfriendly manual operations of connection setup and data file transfer, in a home network environment where the proposed mechanism is deployed.

The rest of this paper is organized as follows. Section 2 describes background knowledge, potential issues and related works about the UPnP technology. Section 3 mentions the proposed mechanism and its design issues. Section 4 presents the prototype implementation and discussion. Section 5 gives the conclusion and future research topics.

2. BACKGROUND AND RELATED WORK

We inspect several device and service discovery systems in section 2.1 and introduce basic knowledge about UPnP technology and its extension for multimedia services, UPnP AV [10], in section 2.2. Section 2.3 discusses the potential performance problems on UPnP Networking. Some related works are reviewed in section 2.4.

2.1 Device and Service Discovery

Device and service discovery is essential to enable devices and services to properly discover, configure, and communicate with each other. Specifically, *discovery* is a mechanism for dynamically referencing a resource on the network. Clients find resources automatically rather than needing pre-configured bindings to specific resources. Table 1 lists several discovery protocols we peruse to derive which is better designed for deployment in home environments [11, 12]. In terms of four major component categories, *i.e.*, topology, network scope, search and identity, the UPnP is deliberated better for home or small enterprise environments. Explicitly, Service Location Protocol (SLP) is oriented towards enterprise service discovery and heavyweight directories. Salutation is primarily used for special services with directory lookup and hard service states. Bluetooth is based on actual physical proximity rather than closeness in the IP routing domain, and only for profile-defined services are its effect of computation and bandwidth utilization. Jini rests on that all devices throughout a network support Java runtime capabilities, however, difficult to be realized. Bonjour popularized by Apple Inc. is an interesting proprietary solution which meshes closely with existing Internet standards, while operating in the absence of the traditional managed Internet infrastructure. However, its human-readable naming rule is not necessary to home appliances since users prefer automatic control by another intelligent device.

Table 1. Comparison of discovery protocols with major component categories.

System	Topology	Scope	Search	Identity
UPnP	P2P	subnet	simple	unique ID
Jini	P2P & Directory	bridgeable	medium	unique ID
Bonjour	P2P	subnet	simple	non-distinctive
Bluetooth SDP	P2P	subnet	medium	unique UUID
SLP	P2P or Directory	bridgeable	complicated	unique URL
Saluation	P2P or Directory	subnet	medium	unique
Others[a]	P2P or Directory	–	–	unique

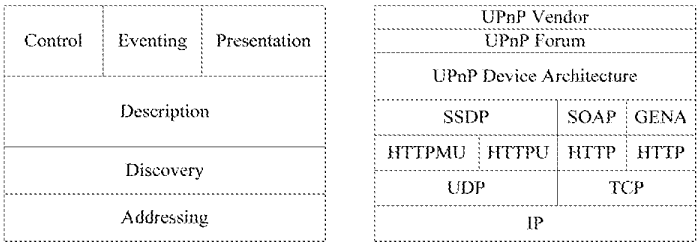
[a] Others: Ninja, INS, eSquirt IR, RFID, and *etc.* [11, 12].

2.2 UPnP Device Architecture and its AV Extension

The UPnP device architecture [2] specifies three entities: *device*, *service* and *control point* (CP). A UPnP device can be any entity implementing the UPnP protocols. Services are functions which devices can provide to users, and what service a device shall implement depends on the device type description. A CP likes a client, while a device acts as a server offering services. A CP can invoke actions on services, and provide any required parameters to and receive any return value from devices.

A UPnP device performs six fundamental function layers, as shown in Fig. 1 (a).

- *Addressing* is an underlying function by which a device gets a unique IP address as newly joining a home network. The UPnP framework uses two address assignment methods: dynamic host configuration protocol (DHCP) [13, 14] and automatic IP con-



(a) UPnP function layers. (b) UPnP communication protocols.

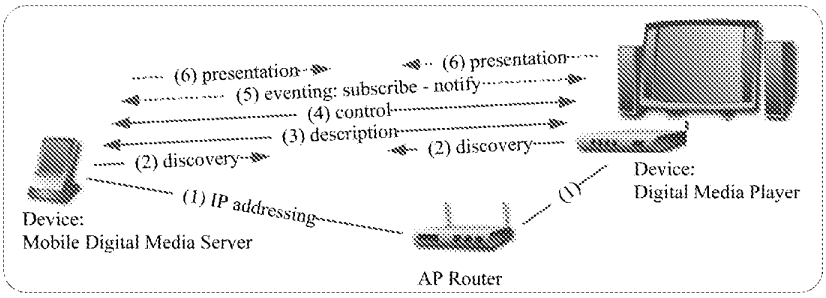
Fig. 1. UPnP function layers and communication protocol stacks.

figuration [15]. The latter is used as the DHCP service is not available.

- *Discovery* is the capability for a device to advertise its appearance and its services in a home network; so, CPs can find the device and its advertisement.
- *Description* is used by a device to present its services and capabilities in a well-defined format; so, CPs can parse its description file and know what it offers.
- *Control* is the capability for a device to handle requests from CPs and to invoke specific actions.
- *Eventing* is used by a device to notify the registered CPs of service state changes.
- *Presentation* is an HTML-based interface provided by a device for users to control or monitor the device directly.

On top of standard TCP/IP protocol stacks, the UPnP networking technology utilizes existing Internet protocols with compliant manipulations to support UPnP functions. Referring to Fig. 1 (b), we address the Simple Service Discovery Protocol (SSDP) [16], Simple Object Access Protocol (SOAP) [17] and General Event Notification Architecture (GENA) [18], as follows. The SSDP is a simple HTTP-based discovery mechanism used to discover local resources in a small, local area network with no need of centralized configuration, management, or administration. Each client directly queries the network, and each resource directly responds to the request. The SOAP integrates both HTTP and XML to provide a Web-based messaging and remote controlling mechanism. Its message body is used to specify control operations, and is expressed by XML and sent via HTTP. The GENA is in essence a publisher-subscriber system. A client (subscriber) registers at a service (publisher) for later notification about any changes of service states. The publisher responds a subscription ID and valid duration to the subscriber. Subsequent operations such as renewal and cancellation use the subscription ID to reference to the specific subscription. When the subscriber or publisher is no longer interested in the subscription, it will be cancelled by either.

Fig. 2 depicts an interaction procedure to ease exposition of UPnP functionality. In general, once a device is powered on, it tries to get an IP address first, organizes its description file, and broadcasts its advertisement by discovery function. When the device is found by a CP, it can be controlled by, send events to, and do presentation to a CP. Meanwhile, a CP can subscribe to services, later receive event notifications, and operate control actions. Note that addressing, description, discovery and control functions must be implemented imperatively; eventing and presentation parts are optional as needed.



1. A device joins in a home network and is assigned with an IP address, either by DHCP or Auto-IP.
2. A device sends SSDP messages for device and service advertisement onto a special multicast address 239.255.255.250:1900.
3. A CP receives device advertisement from 239.255.255.250:1900.
   A CP requests the device for accessing the device and the service descriptions.
   The devices sends both device and service XML-based descriptions to the CP.
4. A CP sends SOAP action messages to control the device. A device responds to SOAP actions.
   For example, a media player (with CP included) can send a *browse* action to obtain the set of meta data of media objects that a media service can provide.
5. A CP subscribes to some services provided by the device.
   The device responds a subscription ID to the CP and later notifies it of GENA event messages (to inform any changes of service statuses).
6. The device may provide a Web page to present itself in a home network.

Fig. 2. The interaction procedure in a UPnP network environment.

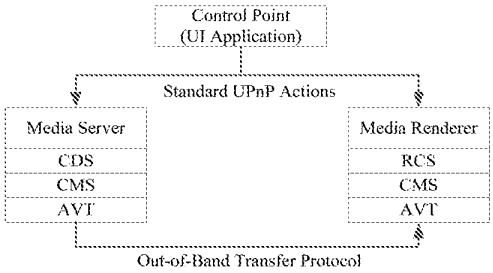


Fig. 3. UPnP AV architecture.

The UPnP AV [10], based on the UPnP framework, further defines three roles, *media server*, *media renderer* and *control point* (CP) in support of AV entertainment in home networks. As depicted in Fig. 3, the following describes each role with its service.

A *media server* serves as a media contents source in a home network. Its primary purpose is to allow CPs to enumerate media contents available for users to render them. Accordingly, three services, Content Directory Service (CDS), Connection Manager Service (CMS) and AV Transport Service (AVT), are defined below.

- *CDS* provides a set of actions that CPs invoke to enumerate media contents. For example, the "browse" action allows CPs to obtain detailed meta-data about media items available on the media server. The meta-data records the supported transfer protocols and data formats, and so CPs use it to determine if an indicated media renderer is able to render a selected media item.
- *CMS* manages the connections associated with a particular device. A CP invokes the primary "preparing-for-connection" action to notify a media server to prepare for upcoming media transfer. This action returns an AVT instance ID to the CP for later controlling the transfer flow and releasing the connection.
- *AVT* controls the player operations, such as stop, pause, seek, *etc.* Specially, it is allowed that AVT can take proprietary out-of-band transfer protocols for media content transfer [10].

A *media renderer* is to render media contents available in a home network. It allows a CP to control what and how media contents are rendered. Accordingly, three services, Rendering Control Service (RCS), Connection Manager Service (CMS) and AV Transport Service (AVT), are defined.

- *RCS* provides rendering actions for a CP to control the rendering of media contents, for example adjustment of brightness, contrast, and volume, for fine tune.

The CMS and AVT are the same as those of a media server. Minor difference in CMS is a CP checks if a media renderer is capable of rendering a specific media item.

2.3 UPnP Potential Problems

Prior works have examined the performance of the UPnP solution and found several problems in terms of discovery, control and eventing. Liong *et al.* [4] manifested that periodic SSDP-based discovery messages can impact network congestion and power dissipation of small electronics in an asymmetric home network where a Bluetooth Personal Area Network is bridged to an Ethernet network or Wireless LAN with higher bandwidth. Though UPnP M-Search can control the jitter bound to avoid implosion caused by huge multicast queries and responses, it may fall in a weak performance in large home networks. Mills *et al.* [5] devised an adaptive jitter control method that characterized performance of various combinations of jitter bound and network size.

As for UPnP control, SOAP was criticized to conflict with the REST principles [19] in designing an ideal Web-based network service. It obscured the semantics of HTTP POST without promotion to the original functionality. To improve SOAP response time, Newmarch [6] designed a REST-based method that can coexist with the existing one. It was shown that this method outperformed the original in aspects of request-response time, size of request/response payload, and memory consumption.

From the view of service-oriented architecture [20], Mazuryk *et al.* [7] examined the UPnP and remarked the scalability problem in discovery, inflexibility of fixed TCP time-out and impractical binding of arguments in control, inefficiency of eventing over TCP, and anonymity in UPnP API. The analytic result showed UPnP eventing was the weakest spot. They decomposed the eventing protocol into UDP-based transport level

and application level protocols, thereof avoiding TCP time-out and tearing down connections. Hu *et al.* [3] devised a compatible multicast complement which improved the efficiency of UPnP eventing without ambiguity and heavy implementation.

2.4 Related Works

Many academic and industrial researches have worked on related areas. Kim *et al.* [21] developed a home network system prototype for networked appliances by UPnP middleware. They focused on controlling traditional home appliances, not mobile devices. Al-Ali *et al.* [22] designed a Java based automation system for home devices. They focused on using Java platform and controlling by PC-based web page, which was different from UPnP middleware. Rich *et al.* [23] designed a collaborative system for home networked devices. They designed an interface for controlling traditional home appliances; however, no mobile or portable devices were involved. Choi *et al.* [24] developed a context-aware middleware for controlling home devices by Open Service Gateway initiative (OSGi) framework. Their work presented a control mechanism based on higher level service structure instead of UPnP technology. H. Kuriyama *et al.* [25] developed a translator for remotely controlling conventional home appliances without networked function, rather than developing a new device type. In this paper, we design a mobile media content sharing mechanism on the mobile phone platform and accordingly introduce a new device type, *i.e.*, mobile media server. The proposed framework is compliant to the UPnP and UPnP AV specifications. Therefore, users enjoy their mobile media contents via any home networked media players in a convenient way.

3. MOBILE MULTIMEDIA SHARING MECHANISM

This section describes the design of the proposed mechanism as well as design issues in course of developing the mobile media server and media renderer devices.

3.1 Design Abstract

The objective of this mechanism design is to make home networked devices interconnected and to enable mobile content sharing anywhere in a household playground. Consider a user scenario: a user can use a mobile device with storage units to easily and conveniently share stored media contents to home networked media player devices. Both mobile device and media player device involved are required to support UPnP and UPnP AV mechanisms, as mentioned in section 2.2. The mobile device is the media server, and the networked player device is the media renderer. A control point can be combined with either of them or as a dedicated device, and so used to interact with them and to negotiate media formats and transfer protocols.

Fig. 4 illustrates the user scenario to be developed and demonstrated in this paper. When a user took media contents, a picture or a video clip for example, and stored it in the mobile device such as mobile phone, the user can share media contents by means of the UPnP protocol via WLAN to a networked player device, for example, a network TV (BenQ™ DTV), which was fulfilled in our previous work [9]. To extend the utility of

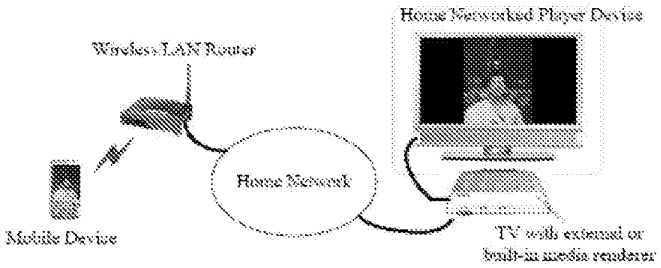


Fig. 4. Proposal of mobile content sharing scenario.

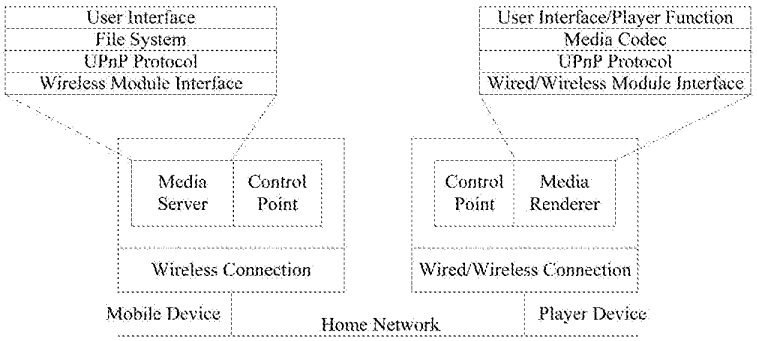


Fig. 5. System block diagram.

each device, the control point function is implemented on both mobile device and player device. In this way, a user can select the desired media item from either mobile server side or player side, therefore making this scenario more effective and convenient.

3.2 Media Server on Mobile Device

The design of the media server on a mobile device follows UPnP AV specification and uses WLAN as its transportation medium. On the top of the UPnP AV are an effective file system and a friendly user interface. As shown in Fig. 5, there are four significant layers: user interface, file system, UPnP protocol, and WLAN networking function. We briefly address design considerations of each layer, as follows.

- User interface (UI) is a top application. The most important design principle is user friendliness. There are two specific UIs: browse UI and control UI. Since a mobile device serves a mobile media server, a user can browse the file system through the browse UI to select the media content directories and files to be shared. The design of browse UI can classify the media content by media types, such as photo, music and video, so that the user can quickly and effectively find out the target media content. In

addition, the control UI displays available media renderers from which the user can select a favorite one to play indicated media contents.

- The file system is often related to the operating system (OS) chosen and is embedded-system-dependent. So, the primary design concern on file system is whether the OS adopted is advisable or whether there is adequate application program interface (API), *e.g.*, file descriptions and access operations, for development. Otherwise, the developer shall implement API porting layers to some extent to integrate the file system onto the target platform.
- The developed UPnP protocol layer herein contains both functions of media server and CP device classes. Significantly, we shall consider several system design issues. First of all, due to the limited memory space on mobile device, the code size should be compact and optimized. Second, task priority and manipulation are crucial because UPnP can invoke a number of tasks to handle different function modules, including web client and server, XML parser, network I/O, *etc.* Third, different sorts of UPnP messages may have various sizes. The UPnP kernel should be sophisticated to manage kernel resource carefully and avoid fatal exceptions like heap overrun and out of memory. Finally, independence design should be clear to maintain concurrence and stability since media server and CP run simultaneously.
- The WLAN function adopts IEEE 802.11b/g technology. In practice, this layer is highly hardware dependent. Its performance strongly depends on wireless chipset solution, embedded hardware architecture, configuration of network input/output interface, and driver implementation.

3.3 Media Renderer on Player Device

The media renderer on a player device is devised according to the UPnP AV in spite of what network medium used. As shown in Fig. 5, the media renderer includes user interface and player function, media codec, UPnP protocol, and physical network layers. Most functions are similar to those in the media server. We specially address several design considerations in user interface and player function, and media codec layers.

- There are two specific user interfaces: browse UI and control UI. The browse UI must be friendly for a user to easily browse or search on-line available media servers on the network. Moreover, browse UI must be *proactive* in transparently distinguishing or filtering out media content of which media formats are not supported by the renderer. So, a user will not inadvertently play unsupported media content and be prompted by exception or warning messages. As for control UI, its design has to support graphic interaction about basic operations, like play, stop and pause, corresponding to the control and decoding progress at media codec layer.
- The design of the media codec module should be extensible to support addition/removal of media formats on the media player device, and to open/close the support of any specific media format. This function layer should develop a structural, uniform interface for media codec management.

Same as the media server, the utilization of system resource is critical. The concurrency control must be considered when CP and media renderer run simultaneously on the

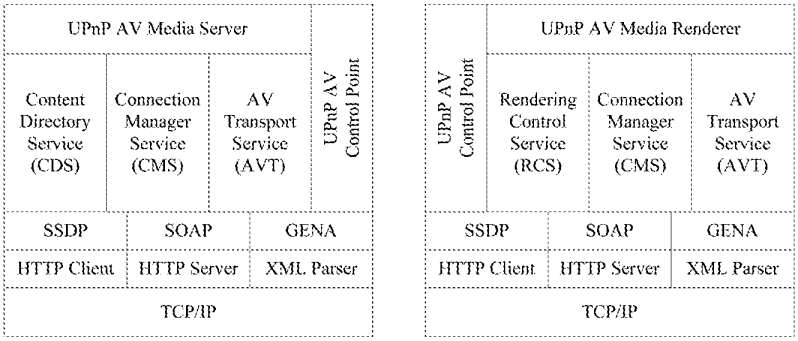
player device. Again, we develop UPnP middleware and applications on software platforms, and performance of network medium layer will be hardware-dependent.

4. PROTOTYPE IMPLEMENTATION AND DISCUSSION

This section presents the prototype implementation and discusses related issues. Sections 4.1 and 4.2 mention the implementation and concerns about mobile device and player device. Section 4.3 exhibits a prototype demonstration. In light of the DLNA interoperability guidelines, section 4.4 addresses several remarks about gateway device, media transport and flow control in UPnP-based home network environments.

4.1 Mobile Device Implementation

As depicted in Fig. 6 (a), the UPnP middleware on the mobile device is built on the base of TCP-IP layer. Upon it, we implement CDS, CMS, and AVT services as well as media server functions as mentioned in sections 2.2 and 3.2.



(a) Middleware stack on mobile device. (b) Middleware stack on player device.

Fig. 6. Middleware stack.

For simplicity and compatibility of AVT function, we develop a proprietary out-of-band media transfer mechanism by means of HTTP communication protocols. It is employed on both media server and media renderer to stream media objects between them. Specifically, the HTTP GET and POST transfer methods are utilized to behave in a request-response manner. One side can send an HTTP GET message to request an indicated media object. The other side responds an HTTP POST message which encapsulates the binary content of that media object. As a result of HTTP communications, the media transfer acts like in an interactively streaming manner.

The CDS service checks all shared media items and summarizes their information into meta-data. Since the representations of object identifier and parent identifier of each media item are not standardized in UPnP AV, we customize CDS service to meet our requirements of media content management.

As for the file system layer, because the native file system, provided by the mobile handheld platform, is usually too simple to satisfy developers' and users' demands, we develop a virtual file system instead with friendly and flexible UI structures for end users to process media content browsing and other operations. Referring to the design of browse UI, the virtual file system can catalog media items into image, audio, or video directories according to their formats rather than putting them into ordinary directories.

4.2 Player Device Implementation

The UPnP middleware implemented on player devices, as shown in Fig. 6 (b), has similar function blocks as those on the media server, except media renderer functions. The CMS and AVT services, and media codec layer are specially addressed below.

Getting protocol information is a key action in CMS. The CMS checks available media codec modules on the media renderer, and specifies supported media formats and file types in CMS protocol information. With CDS and CMS services, a CP negotiates a common media format for the media server and renderer to play an indicated media file.

The AVT service on media renderer is symmetric to that on mobile server. By using the HTTP Range header field to specify the access data range of a content binary file, we implement play, stop and pause actions on mobile devices as well as trick action, like fast forward/backward. Note that the implementation of trick mode is complicated somewhat. The newly launched DLNA v1.5 guideline [26] further specifies two implementing methods: client-oriented HTTP Range method and server-oriented method. The former is that the player device manipulates the values of Range header field in sequential HTTP GET requests to randomly access the target content binary. In the latter, the media server handles the target response according to time seek or play speed specified in the DLNA-defined TimeSeekRange.dlna.org or PlaySpeed.dlna.org header field.

We observe that the performance of HTTP-based method can be degraded by the intrinsic properties of HTTP and limited bandwidth throughput that mobile devices can offer. Relatively, the implementation effort of the server-side method is mostly on media server side. This method is thus applicable if the media server runs on a powerful desktop PC or media gateway device, but may unfortunately make a mobile device overloaded, especially as streaming video content. At present, we fulfill the HTTP-based method to perform the AVT service, and leave the server-side method till the mobile device has enough network capacity and computing resource. Incidentally, as mentioned before, AVT is out-of-band and has less influence on system design. We consider the alternative use of real-time transport protocol, like RTP/RTSP, in the future implementation.

Implementing media codec layer is critical. The following describes the flow of media codec process. In the beginning, the process extracts the HTTP MIME-type (data format) and file extension of the media item from parsed meta-data. Only mime-type is enough to identify its data format in most cases. For reliability, our implementation double checks the file extension to avoid an unwarned application break or fatal exception. Then, the process maps the resolved format to a specific program-defined value, instead of using the originally extracted string of data format, to facilitate program processing. The media codec checks what type the received data stream is, image, audio or video, and in turn calls the proper media codec to process the media item. Otherwise, the error handler will be called if the incoming data type is unknown or unsupported. After the

media codec finishes decoding the incoming data stream, the player outputs the decoded data to the target rendering devices such as display or audio speaker.

4.3 Prototype Demonstration

We describe the development environments and show the mobile media content sharing architecture in reference to the user scenario aforementioned in section 3.1.

4.3.1 Prototype development environment

Our development takes into account two situations. First, we have to make reuse of UPnP code module and platform migration (exporting UPnP source library onto different target platforms). Second, only C software development environments most embedded devices support. Thus, we implement the UPnP and UPnP AV code modules in ANSI C language, and port them onto target mobile media server and media player devices.

The prototype of mobile media server is implemented on the Windows PocketPC 2005 environment. We use Microsoft MFC to develop UI components. All source components are synchronized to BenQ™ P51 PDA phone as an experimental device with IntelPXA27x with WMMX, 520 MHz CPU, 128 MB RAM and Windows PocketPC 5.1 Operating System. Incidentally, we experience depreciated UI in small part when we integrate the MFC UI into Windows PocketPC 2005. It is because GUI and graphic library packets are practically platform-dependent.

For the role of media renderer, we use a previously developed media renderer [9] with Phillips PNX1500, 300 MHz CPU, 64 MB Flash RAM and pSOS Operating System. Our media renderer device currently supports several media formats, including (image) JPEG, PNG, BMP and TIF, (audio) LPCM, MP3, MPEG1-L2, (video) MPEG1, and MPEG2. As for the establishment of demonstration context, any wireless AP router with support of IEEE 802.11 a/b/g and DHCP server function can be adopted to interconnect the mobile media server and media renderer devices in a home network.

4.3.2 Scenario demonstration

Fig. 7 presents the snapshots of scenario demonstration. We run a mobile media server on BenQ™ P51 PDA phone. Through the browse UI, a user can select to share media contents stored in the phone or external memory card. As the storage unit is indicated, media contents are classified by their media formats into image, audio and video categories. In this way, users can have a friendly content browsing experience.

The capability of CP is respectively integrated with the media server and the media renderer, as mentioned before, to facilitate user's operations. There are two ways to play a media item. First, a user with a mobile media server in P51 can browse the local media contents, through the browse UI on the CP functions, and *push* a media item to the indicated renderer devices. Second, a user with a media renderer can browse the remote media contents in P51. As the play action is activated, the target renderer device can immediately *pull* a media item for rendering.

As illustrated in Fig. 7, on the media renderer side (output to TV screen), a user can use a remote IR controller to operate the CP to search available media servers on the net work. The mobile media server on P51 is highlighted. The user can further browse the



Fig. 7. Scenario demonstration.

media contents and select an interested media item. For example, a user shows a picture, stored in the mobile media server, on the TV screen, outputted by the media renderer. There are not manual operations of connection setup and media content copy/transfer.

4.4 Additional Remark

The above has mentioned in place several design and development challenges and issues. We further take some remarks about the gateway device and flow control below.

4.4.1 Gateway device in transcoding, transrating, or scaling

In light of the UPnP and DLNA specifications, the task of decoding media is indeed acted at the play device side. A mobile device can just stream media items to the player device which takes charge of decoding service. In practice, this behavior is much similar to the media file transfer. On the other hand, the role of home gateway service (on a powerful PC or dedicated device) is attractive in digital home vision. Mobile devices with limited computing and storage resource can leverage its content transformation ability, like transcoding, transrating or scaling of content binary, in distributing media content. Therefore, the newly launched DLNA interoperability guideline v1.5 [26] defines the home infrastructure device (HID) category that includes two device classes, mobile network connectivity function (M-NCF) and media interoperability unit (MIU), to support network interoperability and media format interoperability. Notwithstanding the design of a home gateway device is orthogonal to the proposal in this paper, it is complementary to mobile media content sharing scenarios.

4.4.2 Quality of service (QoS) in flow control

Since the DLNA interoperability guideline v1.0, the HTTP communication protocols are used as the media transport baseline for media transfer across a home network [1]. With the support of standard Multipurpose Internet Mail Extension (MIME), the content receiver is able to identify the type of binary data contained in a streaming file, and invoke the corresponding decoding function to process the received data. However, due to device differentiation about system designs and restrictions, UPnP allows the use of proprietary out-of-band media transport protocols for AVT Service. The DLNA v1.5 hence adds the RTP as an optional media transport [26]. At present, we deliberate the parallel development of RTP protocols onto other target devices, subject to the significant limitations of embedded device system and resources.

In accordance with the DLNA v1.0, our design delivers the media file in a default, best-effort quality of service (QoS) fashion for immediate playback over the HTTP communications. To support the increasing system usages, the DLNA v1.5 defines a structure of priority-based QoS control and a set of transfer modes. There are three basic media transfer modes: streaming, interactive and background modes. Each transfer mode can be associated with different priority levels. A DLNA-defined application-level QoS tag, *i.e.*, DLNAQS_UP = 0, 1, 2 or 3, is so used to correlate the underlying settings of "802.1Q user priority," "Wi-Fi wireless multimedia access category," and "differentiated services code point" to a particular DLNA traffic type. We notice that the media transfer in the DLNA v1.0 is closely mapped to a streaming transfer mode in terms of functionality.

5. CONCLUDING REMARK AND FUTURE WORK

Many modern mobile handheld devices enable users to take pictures, shoot video clips, or record audio sounds, and to store them in mobile devices. However, due to the intrinsic dimensional limitation and resource and power limitation, mobile devices cannot offer users high-performance and high-quality multimedia enjoyment. Although us-

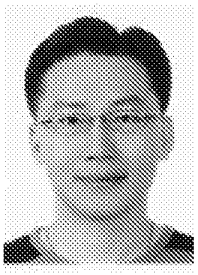
ers can have external, powerful or professional media player devices, unfortunately, they often suffer from an awkward, inconvenient way to share and transfer multimedia contents stored in mobile devices to external high-end media player devices. To resolve this situation, in this paper we have developed an efficient mobile content sharing architecture that is based on the UPnP and UPnP AV technologies and is compliable with the DLNA interoperability guidelines. It is appealing that our architecture supports a convenient and effective way for users to share their media contents on mobile devices to other home networked devices. We have demonstrated that with the control point design, users can browse and select media items on mobile devices and render them on the player devices; meanwhile, through the friendly UI design, the network connection and media streaming are transparent to users.

Currently, we are investigating several design issues, development challenges and requirements on our mobile content sharing architecture. The future work will include several aspects. First, we will study those UPnP essential issues and propose solutions to upgrade the performance and robustness of UPnP technologies. Second, we will continue to extend the provision of more effective media codec functions on either the media server or media renderer, associated with high-definition content formats for the upcoming trend of high-quality multimedia. Third, we will develop suitable media streaming protocols, such as RTP/RTSP, deployed on both media server and media renderer sides to support various playing operations, hereby satisfying user requirements. Finally, premium content protection, such as Digital Rights Management (DRM) on content source or Digital Transmission Contents Protection over IP (DTCP-IP) [27] on transmission channel, is not supported yet. The future work will incorporate the above into our developed home-networked multimedia content sharing architecture.

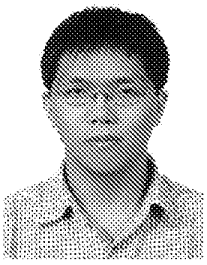
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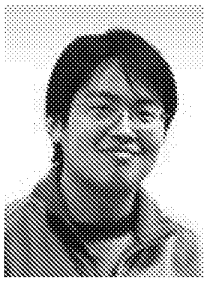
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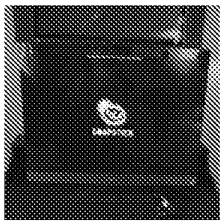
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PCMag UK News

Snapstick's Media Streaming App/Box: Hands On

BY MARK HACHMAN 8 JAN 2011, 8:17 A.M.



Right now, Snapstick is everything that Google promised with Google TV, except with its odd little quirky requirement that users "snap" content to a set-top box.

I had a chance to play around with the app/set-top box for a few minutes here at CES late on Friday. I'm impressed with what SnapStick offers - what appears to be full-featured, Web-based content on a television.

For whatever reason - lack of sleep, an obsession with baseball - Snapstick reminds me a fireballing pitcher who interrupts his pitching motion with an odd little hitch as he delivers the ball. The "snap" seems a bit contrived; why doesn't the Web page just open on the device itself? But in my limited time of playing with the device, I couldn't argue with the results.

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For now, a user needs to own either an iPod touch or iPad, and must download the Snapstick application. Unfortunately, a Snapstick user must also own the associated set-top box, and there's the rub: for now, D-Link has signed a contract for a trial run of the hardware. Still, Snapstick management seemed extremely optimistic that a final deal would be assigned. The target price? Just over $100, which retailers may discount to under that $100 price point very shortly, executives said.

All a
devic
the set-top box. Users don't even have to select a local box; if it's configured correctly, content can be snapped around the world.

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most probably via a wired connection. For whatever reason, the iPod touch app worked well, but the iPad did not; however, the touch's relatively small display size made page navigation difficult.

The user can scroll around the Web page on the touch or iPad, and highlight the area he wants to see on the screen. By default (mostly due to the page design) the most interesting bits are usually found on the top of the screen. In reality, sliding a window around an image of the full Web page probably makes the most sense; it just felt a bit awkward, reminding me of navigating a zoomed-out Web page on a mobile browser and then zooming in to read the text.

Another issue crops up when you want to watch a video in full-screen mode - unfortunately, that requires you to once again find the button or icon on the iPad or iPod touch that orders up the full-screen video. On the touch, it's a frustrating pixel hunt.

With that said, Snapstick delivers the Web to your TV, including video that the content providers inexplicably reserve for only your PC. Hulu seems to work just fine, as did the broadcast sites. That's because Snapstick uses a generic Firefox browser - no self-identification as the Revue does. That means, that to a site like Hulu or CBS.com, the Snapstick appears to be the same as your desktop browser.

Users have a vast and ever-growing number of methods to display content on their TV screens. But few deliver the full Web, or something close to it. So far, the best option remains a notebook connected to the TV via an HDMI cable. But, slowly, the industry moves forward towards convergence. Snapstick's a bit of a rocky road, but it's headed in the right direction.

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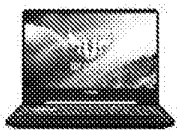
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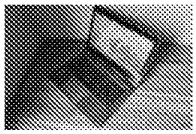
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(/article/3489782/this-absurdly-cheap-asus-gaming-laptop-packs-a-geforce-rtx-2060-for-980-today-only.html)

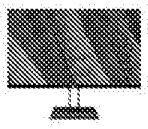
This absurdly cheap Asus gaming laptop packs a GeForce RTX 2060 for $980,... (/article/3489782/this-absurdly-cheap-asus-gaming-laptop-packs-a-geforce-rtx-2060-for-980-today-only.html)


(/article/3489423/the-1tb-sabrent-rocket-pcie-40-ssd-is-down-to-a-killer-150-today.html)

The 1TB Sabrent Rocket PCIe 4.0 SSD is down to a killer $150 today (/article/3489423/the-1tb-sabrent-rocket-pcie-40-ssd-is-down-to-a-killer-150-today.html)

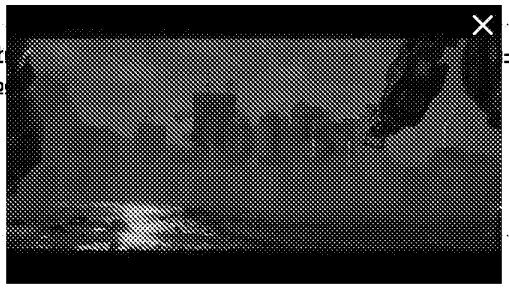

(/article/3489044/amazons-24-hour-pc-and-tablet-sale-features-an-enticing-hodgepodge-of-bargains.html)

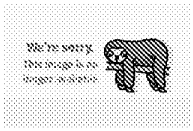
Amazon's 24-hour PC and tablet sale features an enticing hodgepodge of bargains (/article/3489044/amazons-24-hour-pc-and-tablet-sale-features-an-enticing-hodgepodge-of-bargains.html)


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Upgrade to a 27-inch, high-definition IPS monitor with[illegible]-to-a-27-inch-high-definition-ips-monitor-with-game-smo[illegible]

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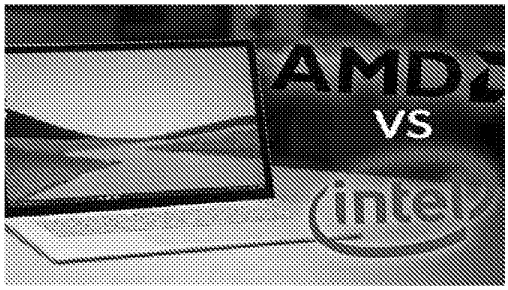




Artwork: Chip Taylor

YouTube's new Leanback service (http://www.pcworld.com/article/200704/youtube_leanback_youtube_that_looks_like_tv.html?tk=rel_news) aims to become a fixture on your television by letting you watch an uninterrupted stream of full-screen YouTube videos in high definition. The beta service decides what to show you based on your YouTube account preferences, and you can use Leanback to watch your YouTube movie rentals obtained through the new YouTube Store (http://www.pcworld.com/article/194935/youtube_opens_rental_store.html?tk=rel_news). Leanback also offers a number of different video feeds organized by category if you get tired of the initial personalized video stream Leanback offers by default.

Here's a quick look at the new Leanback service from YouTube:



(link)

Getting Started

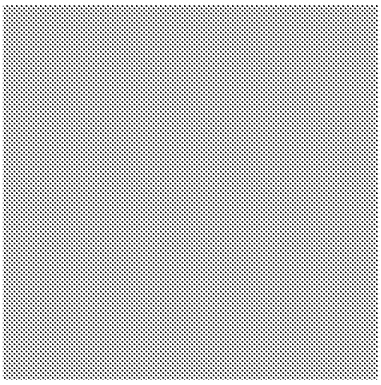
Google says Leanback is meant to be used on large screens like your television so you might want to try this out on a larger screen like your Internet-capable television. To start using Leanback, point your Web browser to youtube.com/leanback (http://www.youtube.com/leanback). If you're not logged into the site with your YouTube or Google account, you will be prompted to sign in before you can start watching videos. If you don't have a YouTube account, you can create one from the sign-in page, and you must have a YouTube account to use the service.

All About the Keyboard



You can set your mouse aside for the moment, because Leanback depends exclusively on your keyboard's directional arrows and the return key to navigate through the new service. If you try to use your mouse, you'll be greeted with the above message.

One tap of the up arrow displays Leanback's search option, hitting the down key once shows you Leanback's playback controls, and a second strike of the down key reveals a filmstrip of all the videos in your current Leanback queue.

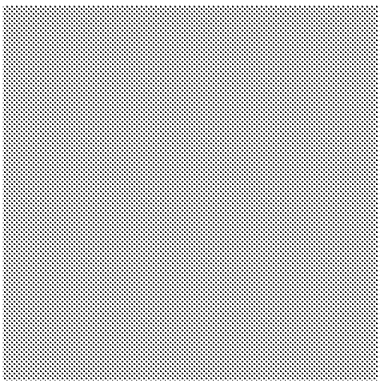


When you have the playback controls on screen, you use the right and left arrows to navigate through the various controls like rewind, play/pause, and fast forward, and you hit "enter" to select the control you want. If you're getting tired of the video you're viewing, you can also use the right and left arrows to move through your Leanback queue. To sort through the entire queue without switching to the next video, first bring up the filmstrip using the down arrow and then navigate to the left or right. Just like on YouTube, hitting the spacebar will pause the video you're watching.

Content

By default, Leanback's content uses what YouTube calls Your Feed to create a queue of videos for you to watch. Your Feed is based on your YouTube subscriptions and past videos you've watched. If you've linked your Facebook account to your YouTube ID, then Your Feed will also include YouTube videos your Facebook friends have shared. In my experience, my feed included a few videos I'd already seen, so just like with real television you may find some repeats mixed in with newer videos.

[Further reading: How to calibrate your TV] (https://www.techhive.com/article/2079503/smart-tv/easily-calibrate-your-new-hdtv.html)



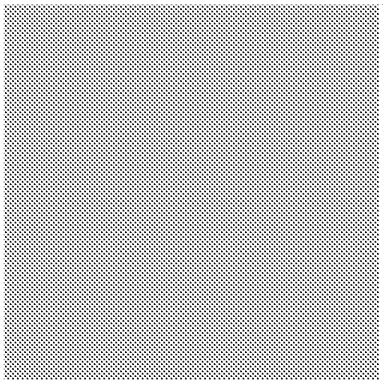
If you get tired of the video choices in Your Feed, just press the down key until you see a horizontal list of different video feeds organized by subject. Leanback has a number of different video categories, including sports, science & technology, film & animation, YouTube movie rentals, how-to videos, and others; for example, cat lovers can check out the Pets & Animals feed. Any YouTube playlists you've created are also included as separate video feeds in this section as are your past searches on Leanback.

Most of the videos Leanback shows you are fairly good quality and should look fine on your television set. Nevertheless, this is YouTube -- so expect to see a few low-quality images in the mix, especially when viewing videos contained in Your Feed and when using the search feature.



YouTube Leanback vs. Clicker

At first glance, Leanback appears to have some similarities to Clicker.tv (http://www.pcworld.com/article/182092/clicker_handson_web_potatoes_you_need_this.h you discover online video content.



Both services are trying to create a better viewing experience for Web-based videos and both offer a slick, full-screen experience. But that's where the similarities end. Unlike Leanback, Clicker is focused on delivering premium content including television episodes, movies, and Webisodes such as ABC's Lost: Untangled (http://abc.go.com/shows/lost/lost-untangled). Clicker also directs you to content on other sites and services including Netflix, Amazon VOD and network television sites such as ABC.com.

YouTube's Leanback, meanwhile, is only for YouTube content and that's it. So while you may look at Leanback and be reminded of Clicker's interface, the two sites really function as complements to each other. You can search for YouTube content on Clicker.tv if you want to, but if you want the complete YouTube experience, then Leanback is really the better choice.

Leanback is just the latest attempt by Google to bring online video into the living room. In 2009, the site introduced YouTube XL (http://www.youtube.com/xl), a version of the regular YouTube site optimized for your living room television. Later this year, Google will launch Google TV (http://www.pcworld.com/article/196794/google_is_headed_for_your_tv.html?tk=rel_news), an Android-based platform baked into set-top boxes and Internet-connected TVs that is meant to merge the Web and regular television.

Connect with Ian on Twitter (@ianpaul (http://twitter.com/ianpaul)).

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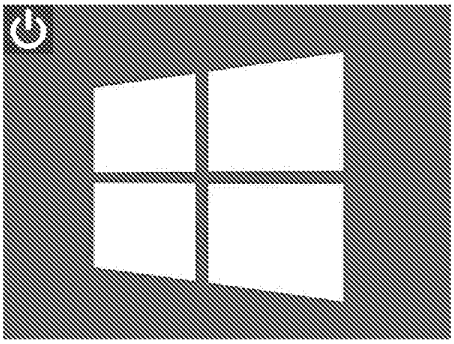
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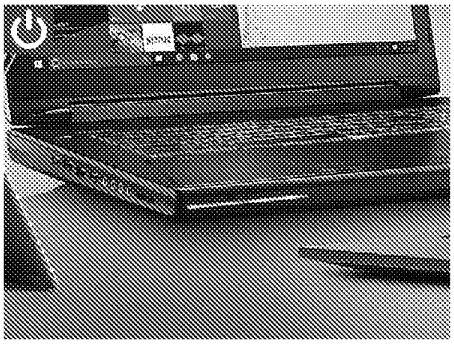
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/687,249	08/25/2017	David Strober	41197.278581	4059

149550 7590 09/03/2020

SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
2555 GRAND BLVD
KANSAS CITY, MO 64108-2613

EXAMINER	
HOPE, DARRIN	

ART UNIT	PAPER NUMBER
2173	

NOTIFICATION DATE	DELIVERY MODE
09/03/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

shbdocketing@shb.com

Notice of Allowability	Application No. 15/687,249	Applicant(s) Strober, David	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the IDS filed on 7/22/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-20 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 7/22/2020.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DARRIN HOPE/ Examiner, Art Unit 2173	/TADESSE HAILU/ Primary Examiner, Art Unit 2173

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

2. This Office Action is responsive to the communications filed on 12 December 2019.

Allowable Subject Matter

3. Claims 1-20 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The present invention is directed to a computer-implemented method and device for presenting and controlling content on a display device.

The prior arts fails to show individually or in combination the elements recited in independent claim 1.

Specifically, the prior art references fail to show, in part, "**obtaining a synchronization code associated with the first computing device,** wherein the associated synchronization code is stored on a remote server device; **providing the synchronization code to a second 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 first computing device and the second computing device;** receiving, 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 second computing device; selecting 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 **controlling 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" as recited in independent claim 1. At least based on the above distinctions, the Examiner submits that independent claim 1 is patentable over the combination of the cited references. Independent claims 12 and 17 include similar limitations to that of claim 1 and are also patentable over the cited prior art for at least the same reasons described above with respect to claim 1. At least by virtue of their dependency, the Examiner submits that the remaining claims are also patentable over the combination of the cited references.

Accordingly, Claims 1-20 are allowed.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on Mon-Thr - 7-4:30, Fri - 7-3:30, Alt. Fri Off.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DARRIN HOPE
Examiner
Art Unit 2173

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

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- How To
- Legal
- Marketing
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- Product Development

- Cool Jobs
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The Web To Your TV, With A Flick Of A Wrist? Slapstick Says Yes

by Marla Shaivitz on December 10, 2010



Start-up Snapstick promises that with the flick of a wrist you'll be able to transfer video content from your iPhone or iPad onto your TV.

How does it work? The Snapstick team gave CNET a sneak peak of the software that makes an iPhone/iPad act like a remote to transmit the content on the device over a WiFi connection. The use of the accelerometer triggers the Snapstick software to begin streaming web content. With "a firm flick or snap" of the device, content is transferred from the device to the TV, thus the moniker, "Snapstick".

This service is in a preliminary stage. Snapstick's website indicates they are still in private beta, and according to CNET, the company is only now starting to show the product to potential partners.

Still, it's interesting to see different approaches to the delivery of web content to the big screen.

You can watch the Snapstick's demo video here, and form your own opinion.

Read a more comprehensive explanation of the process here.

3

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Application Number:	16917095
International Application Number:	
Confirmation Number:	6770
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Customer Number:	149550
Filer:	Keith Joshua Bae/Traci Burke
Filer Authorized By:	Keith Joshua Bae
Attorney Docket Number:	41197.280029
Receipt Date:	29-SEP-2020
Filing Date:	30-JUN-2020
Time Stamp:	16:11:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	41197-280029-IDSForm.pdf	1013852 df6adf6349112829d3ca0d96a4c1472c0dbef496	no	25

Warnings:

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2	Foreign Reference	41197-280029-FP1.pdf	4686749 fbf16ab1ba8721c3e5b533b35fb300ad91e4be38	no	26
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16	Non Patent Literature	41197-280029-NPL6.pdf	237674 a78470e51639a52e9ed87076fdcc9e4a4032a1c3	no	2
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17	Non Patent Literature	41197-280029-NPL7.pdf	14631077 cabac490bdbb2434d90e1d193efda574abcd76e1	no	102
Warnings:					
Information:					
18	Non Patent Literature	41197-280029-NPL8.pdf	684260 30f1940f4bc3702763347b8124133331 8b74d153	no	5
Warnings:					
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19	Non Patent Literature	41197-280029-NPL9.pdf	133044 e912826a88a5b01307e3c30f86c5cfcf87ebab2f	no	1
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20	Non Patent Literature	41197-280029-NPL10.pdf	159816 19589fc6e7aa83706f0526b132fbb2887db30015	no	1
Warnings:					
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21	Non Patent Literature	41197-280029-NPL11.pdf	138338 203dc1e29d2d61bd1d85ad6c9b6d17c3ef00a1ad	no	1
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22	Non Patent Literature	41197-280029-NPL12.pdf	163368 3c86553f1b2f9f92cfb6103bf76ce5fb8abbf18f	no	1
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23	Non Patent Literature	41197-280029-NPL13.pdf	276120 f865db655135d14a883759dda218cebaeb7f06dc	no	1
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24	Non Patent Literature	41197-280029-NPL14.pdf	976297 c19fe016432ce3047cd2b412124829a63d362438	no	3
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25	Non Patent Literature	41197-280029-NPL15.pdf	367011 9da1af9afe3eadcddb0c085f7e2b27bf4cf7c8c5	no	2
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Information:					
26	Non Patent Literature	41197-280029-NPL16.pdf	229229 13acc136611fff101108235757 72f627c953bf83	no	2
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27	Non Patent Literature	41197-280029-NPL17.pdf	350118 8aeeb11fce5d67a9680959521d41133c8d46be6d	no	2
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28	Non Patent Literature	41197-280029-NPL18.pdf	799403 9d5edfb508d78fe0cf19e92fca6800abaefeb080	no	3
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29	Non Patent Literature	41197-280029-NPL19.pdf	930895 5660b579da71702dbc4e0e6f904983f891a2652b	no	3
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30	Non Patent Literature	41197-280029-NPL20.pdf	787458 d4253de318b1ded07d959c88f426fc5cbe309f93	no	3
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31	Non Patent Literature	41197-280029-NPL21.pdf	169264 275796c5f2a5fe1d86bac050c5207e056f2b8678	no	1
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32	Non Patent Literature	41197-280029-NPL22.pdf	602423 1ff8e8e49a471eb949fe2aefa9e384a254e99933	no	2
Warnings:					
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33	Non Patent Literature	41197-280029-NPL23.pdf	1256014 f56920a5cfd63c8956f3f410e2f5f6bd9a66611a	no	5
Warnings:					
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34	Non Patent Literature	41197-280029-NPL24.pdf	661904 fef666ed4f052dade9343ecddfe6d05c80dc26cc	no	3
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35	Non Patent Literature	41197-280029-NPL25.pdf	1232753 fcbd98b0465c2855f0432bc00d39a46ec1d57c4b	no	8
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36	Non Patent Literature	41197-280029-NPL26.pdf	2533376 337b060460aa4dbf640fac2f5137122d02b4e01d	no	17
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Information:					

37	Non Patent Literature	41197-280029-NPL27.pdf	508668 2c2a208ceaf119ccc4331152ca4404290442 1f0e	no	2
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38	Non Patent Literature	41197-280029-NPL28.pdf	1569338 fc22cb56dde337949b146fcc58b8471e515 9ab81	no	6
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39	Non Patent Literature	41197-280029-NPL29.pdf	1071280 0ddd8b98dfb80226566349189ea443ff4d0 eea0a	no	5
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40	Non Patent Literature	41197-280029-NPL30.pdf	54140 55a0eb64b4e341f188ce5a61914159c72ab 5768c	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	74373052		

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New Applications Under 35 U.S.C. 111

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/917,095	06/30/2020	David Strober	41197.280029

CONFIRMATION NO. 6770

149550
SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
2555 GRAND BLVD
KANSAS CITY, MO 64108-2613

PUBLICATION NOTICE



Title:PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

Publication No.US-2020-0334291-A1
Publication Date:10/22/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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KANSAS CITY, MO 64108-2613
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Application	Document	Mailroom Date	Attorney Docket No.
16917095	NTC.PUB	10/22/2020	41197.280029

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APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
16/917,095	**10/28/2020 12:24:47 PM ET**	**41197.280029**

Title of Invention

PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	6770	FILED BY	Traci Burke
PATENT CENTER #	60101302	FILING DATE	06/30/2020
CUSTOMER #	149550	FIRST NAMED INVENTOR	David Strober
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Keith Bae

Documents

TOTAL DOCUMENTS: 5

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
280029_Response_to_FAI_PreInterview_Communication.pdf		12	-	63 KB
280029_Response_to_FAI_PreInterview_Communication-FAI.A...pdf	(1-1)	1	Reply under 1.111 to Pre-Interview Communication	20 KB
280029_Response_to_FAI_PreInterview_Communication-INTRVIEW.APP.pdf	(2-2)	1	Applicant summary of interview with examiner	18 KB
280029_Response_to_FAI_PreInterview_Communication-IACS.pdf	(3-8)	6	Amendment Copy Claims/Response to Suggested Claims	36 KB

280029_Response_to_FAI_PreInterview_Communication-REM.pdf	(9-12)	4	Applicant Arguments/Remarks Made in an Amendment	38 KB
280029_FAI_Interview_Request.pdf		1	First Action Interview - Schedule Interview request	335 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
280029_Response_to_FAI_PreInterview_Communication.pdf	87A7201AD3A46269756526AF5B1D489273EB927BAC04999A77038B70067CD66192DE25D4A5541286E849BCB0DEEF1428714D0A1658C267EE7654FB47558D3DCF
280029_Response_to_FAI_PreInterview_Communication-FAI.A...pdf	644ECB0696F110587E2B3FC13DC20F4B3D5AD11F559B0E838C46DB5DA5FB21867D69CEF81CA91750F17E0737CD7B386ED40EC11F9D287214D78344CC2DDA9A35
280029_Response_to_FAI_PreInterview_Communication-INTRVIEW.APP.pdf	A1004F6AD51EF44E358CDDD281CE99510E98E0FF227A404C6AFEE191173789C12FDF0D406885EBD4731671FA0556ABE55EF03169BCCAE5882A0EA4DC36378752
280029_Response_to_FAI_PreInterview_Communication-IACS.pdf	D1DC9FB3F1AD75ED044C6189507BB4303EDC7AC50FE9CA46B1BFBABF3C4917A2D49AE3B930D2B7AEC56C0C4A5201DDBC6B23C79A7E7D489662646D398104D360
280029_Response_to_FAI_PreInterview_Communication-REM.pdf	70077BA34ACAFBD8176AB4EF48B62CB51449419716 0E91D9FFFA2F58328F0CD64278AFD2FCF8A5CBF1E69604BA4AF67A0C690504A97335A9AC42D2FEED6537C5
280029_FAI_Interview_Request.pdf	A16679A8458AE66ABDB0A42ECCBE0B60F0636A19D430501D5F03F1D7DAEE38A793A11EAE359E02C45A56C2E1CD86B2F168D7761F6A0F3AFE00786F0685626400

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Doc Code: M865 or FAI.REQ.INTV

PTOL-413A (07-16)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Applicant Initiated Interview Request Form

Application No.: 16/917,095 First Named Applicant: David Strober
Examiner: Darrin Hope Art Unit: 2173 Status of Application: Pending

Tentative Participants:
(1) Keith J. Bae (2) Examiner Hope

(3) _____ (4) _____

Proposed Date of Interview: 10 November 2020 **Proposed Time:** 3:00 EST (○AM ○PM)

Type of Interview Requested:
(1) ☑ Telephonic (2) ☐ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☑ NO
If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) 102(a)(2)	1, 5, 8, 12, 15 and 16	Sukeda	☐	☐	☐
(2) 103(a)	2-4, 6, 7, 9-11, 13, 14 a	Mahajan	☐	☐	☐
(3)			☐	☐	☐
(4)			☐	☐	☐

☐ Continuation Sheet Attached ☑ Proposed Amendment or Arguments Attached

Brief Description of Arguments to be Presented: _____

An interview was conducted on the above-identified application on _____

NOTE: This form should be completed and filed by applicant in advance of the interview (see MPEP § 713.01). If this form is signed by a registered practitioner not of record, the Office will accept this as an indication that he or she is authorized to conduct an interview on behalf of the principal (37 CFR 1.32(a)(3)) pursuant to 37 CFR 1.34. This is not a power of attorney to any above named practitioner. See the Instruction Sheet for this form, which is incorporated by reference. By signing this form, applicant or practitioner is certifying that he or she has read the Instruction Sheet. After the interview is conducted, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible. This application will not be delayed from issue because of applicant's failure to submit a written record of this interview.

/KEITH J. BAE/
Applicant/Applicant's Representative Signature

Examiner/SPE Signature

Keith J. Bae
Typed/Printed Name of Applicant or Representative

816-474-6550
Applicant's/Applicant's Representative's Telephone Number

64,633
Registration Number, if applicable

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 24 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

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APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
16/917,095	10/28/2020 12:24:47 PM ET	41197.280029

Title of Invention

PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

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PATENT CENTER #	60101302	AUTHORIZED BY	Keith Bae
CUSTOMER #	149550	FILING DATE	06/30/2020
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	David Strober

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 6935	E20200RC25158329	Traci Burke

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
2251	EXTENSION FOR RESPONSE WITHIN FIRST MONTH	110.00	1	110.00
			TOTAL AMOUNT:	$110.00

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Listing of Claims:

This listing of claims is presented for discussion purposes:

1. (Original) A non-transitory computer storage medium storing computer-useable instructions that, when used by a computing device, cause the computing device to perform operations comprising:

providing a unique identifier of the computing device to another computing device;

receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first media playing element of a plurality of media playing elements, and including a set of commands that corresponds to the first media playing element;

selecting the first media playing element from the plurality of media playing elements based at least in part on the received message; and

controlling how the selected first media playing element plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.

2. (Original) The medium of claim 1, wherein the set of commands included in the received set of messages is recognizable by the first media playing element.

3. (Original) The medium of claim 2, wherein the set of commands is converted via an API adapter to be recognizable by the first media playing element, the set of commands being converted based on a determination that the first media playing element is associated with the referenced piece of content.

4. (Original) The medium of claim 1, wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first media playing element.

5. (Original) The medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a synchronization code.

6. (Original) The medium of claim 1, wherein the received set of commands includes programming code associated with the first media playing element.

7. (Original) The medium of claim 1, wherein each media playing element of the plurality of media playing elements is operable to play and/or control a corresponding type of media.

8. (Original) A computerized system comprising:

a server; and

a media receiver to—

provide a unique identifier of the media receiver to a computing device, wherein each of the computing device and the media receiver are in communication with the server;

based on the provided unique identifier, receive a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first media playing element of a plurality of media playing elements, 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 media playing element;

select the first media playing element from the plurality of media playing elements based at least in part on the received message; and

control how the selected first media playing element 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.

9. (Original) The computerized system of claim 8, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.

10. (Original) The computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages.

11. (Original) The computerized system of claim 8, wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first media playing element.

12. (Original) The computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a unique synchronization code.

13. (Original) The computerized system of claim 8, wherein the converted set of commands includes programming code associated with the first media playing element.

14. (Original) The computerized system of claim 8, wherein the set of commands converted to the first format is recognizable to the first media playing element.

15. (Original) The computerized system of claim 8, wherein each media playing element of the plurality of media playing elements is operable to play and/or control a corresponding type of media.

16. (Original) The computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server.

17. (Original) A computer-implemented method for controlling playback of various types of content, comprising:

providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;

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 media playing element of a plurality of media playing elements, 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 media playing element;

selecting, by the media receiver, the first media playing element from the plurality of media playing elements based at least in part on the received message; and

controlling, by the media receiver, how the selected first media playing element 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.

18. (Original) The method of claim 17, wherein the media receiver is coupled to a display, and the media receiver controls how the selected first media playing element plays the referenced piece of content via the display.

19. (Original) 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 media playing element.

20. (Original) 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.

REMARKS

Applicant respectfully requests reconsideration of the present application.

Rejections based on 35 U.S.C. § 102

Claims 1, 5, 8, 12, 15 and 16 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by U.S. Publication No. 2009/0172780 A1 to Sukeda, et al., (hereinafter "Sukeda"). Applicant traverses the rejection for these reasons:

- The Office cites Sukeda as purportedly describing each and every element of the claimed invention. Of the several assertions made in the Office Action, one of the assertions interprets a "first media playing element from a plurality of media playing elements" from the claimed invention as "an individual content [] selected from the list," as described in Sukeda. *See* Office Action, p. 4.
- However, the Office changes its interpretation of "first media playing element" in relation to the last claimed feature of claim 1, specifically "**controlling how the selected first media playing element** *plays the referenced piece of content…*" Inconsistent with its initial interpretation of "first media playing element," the Office now interprets "referenced piece of content" with its plain meaning, while inconsistently interpreting "first media playing element" as "the operation terminal."
- For at least these reasons, Sukeda does not describe each and every feature recited in the independent claims.

Rejections based on 35 U.S.C. § 103

Claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2009/0172780 A1 to Sukeda, et al., (hereinafter "Sukeda"), in view of U.S. Publication No. 2009/0248802 A1 to Mahajan, et al., (hereinafter "Mahajan").

- Applicant submits that Mahajan fails to cure the deficiencies of Sukeda because Mahajan fails to teach each and every feature recited in the claims.
- At best, Mahaja notes that "media or media files can be stored according to different formats…" and that "[p]rocessing the media files can be accomplished by *a media player* that employs one or more media platforms configured to handle the format of the media file." This is not the same as:

  receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing ***a piece of content associated with a first media playing element of a plurality of media playing elements***, and including a set of commands that corresponds to the first media playing element;

  selecting the first media playing element from the plurality of media playing elements based at least in part on the received message; and

  controlling how the selected first media playing element plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.
- Mahaja also fails to teach ***selecting the first media playing element from the plurality of media playing elements*** based at least in part on the received

message, and ***controlling how the selected first media playing element plays the referenced piece of content*** based on at least one command of the set of commands included in the received set of messages. At best, Mahaja speaks of an "abstraction functionality allowing media operations to be effectively conveyed in a collaboration session between server and client." *See* ¶[0013].

CONCLUSION

For at least the reasons stated above, claims 1-20 are now in condition for allowance. Applicants respectfully request withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned – 816-474-6550 or kbae@shb.com (such communication via email is herein expressly granted) – to resolve the same. It is believed that all fees due have been paid, however, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112, with reference to Attorney Docket No. 41197.280029.

Respectfully submitted,

/KEITH J. BAE/

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	16/917,095 Confirmation No. 6770
First Inventor	:	David Strober
Applicant	:	Touchstream Technologies, Inc.
Filed	:	06/30/2020
Title	:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
Group Art Unit	:	2173
Examiner	:	Darrin Hope
Atty. Docket No.	:	41197.280029
Customer No.	:	149550

VIA EFS-WEB – October 28, 2020

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR EXTENSION OF TIME & REPLY TO FIRST ACTION INTERVIEW PILOT PROGRAM PRE-INTERVIEW COMMUNICATION

Applicant hereby requests a three-month extension of time to respond to the First Action Interview Pilot Program Pre-Interview Communication mailed September 3, 2020, extending the period for response to November 3, 2020. The present communication is submitted in response to the outstanding communication. In response to this communication, please consider the following:

First Action Interview Response: begin on page 2 of this paper.

Listing of the Claims: begin on page 3 of this paper.

Remarks/Arguments: begin on page 9 of this paper.

First Action Interview

Applicants specifically request an interview under the First Action Interview Pilot Program. As such, Applicants have electronically filed an Applicant Initiated Interview Request Form herewith the corresponding proposed amendment or arguments.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/917,095	06/30/2020	David Strober	41197.280029	6770

149550 7590 12/10/2020

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EXAMINER	
HOPE, DARRIN	

ART UNIT	PAPER NUMBER
2173	

NOTIFICATION DATE	DELIVERY MODE
12/10/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

shbdocketing@shb.com

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA. This Office Action is responsive to the communications filed on 28 October 2020. Claims 1-20 are presented for examinations.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

3. Claims 1, 5, 8, 12, 15 and 16 are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Sukeda et al. (Hereinafter, Sukeda, US 2009/0172780 A1).

4. **Per claim 1**, Sukeda discloses a non-transitory computer storage medium storing computer-useable instructions (e.g., data storing part 100 as shown in Fig. 1) that, when used by a computing device, cause the computing device to perform operations comprising:

- providing a unique identifier of the computing device (e.g., a display terminal) to another computing device (e.g., an operation terminal such as a mobile phone and a mobile terminal) (e.g., step 331 as shown in Fig. 11; paragraph [0052]; paragraph [0066], "*FIG. 11 shows a processing procedure for newly registering the operation terminal such as a mobile phone and a mobile terminal. While the QR Code in which the URL for registration including the display terminal ID is*

encoded is displayed on the display terminal (331), the QR Code is read by use of the operation terminal (mainly, mobile phone) (332) …" ; Examiner's Note: Sukeda discloses providing a terminal ID for a display terminal 302.);

- receiving a set of messages from the other computing device based on the provided unique identifier (paragraph [0052], "*…When the QR Code is read using the operation terminal (mainly, mobile phone) (303), and the operation terminal accesses the URL for registration with an identification code of the operation terminal itself being attached (304), the server receives the display terminal ID and the terminal identification code of the operation terminal, and starts registration processing...* "; Examiner's Note: Sukeda discloses a server receiving a message from an operation terminal having the terminal identifier.), the received set of messages referencing a piece of content associated with a first media playing element of a plurality of media playing elements (e.g., data 112 as shown in Fig. 3; paragraph [0050], " *The data 112 with respect to the latest display contents/list is data for storing the contents and list to be displayed by each display terminal together with a mode to display. The data 112 includes information, such as a display mode 161 whether to display a single content or a list display, an ID 162 of the display terminal, an ID (or arrangement) 163 of the contents to be displayed, a search condition and keyword 164 inputted from the operation terminal (when needed), and a date and time of update 165. Metadata 170 of each content is referred to from the content ID 163. The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content …* "), and including a set of commands that corresponds to the first

media playing element (e.g., data 113 as shown in Fig. 3; paragraph [0050], "*…The data 113 includes an ID 181 of the display terminal and information such as a displayed state 182, a volume 183, a date and time of update 184, etc., and defines the playback status and volume of each display terminal.* "; paragraph [0053], " *...When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322)…* ");

- selecting the first media playing element from the plurality of media playing elements based at least in part on the received message (e.g., step 318 as shown in Fig. 5; paragraph [0053], "*… When the list of the contents is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)…* "); and
- controlling how the selected first media playing element plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages (paragraph [0015]; paragraph [0046]; paragraph [0053], "*… On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "*… When operation of changing playback status and*

adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled. "; paragraph [0060]).

5. **Per claim 5**, Sukeda discloses the medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code (paragraph [0052]), a RFID code, a text, or a synchronization code. Sukeda disclose scanning a QR code identifying a URL address to a server. A unique display terminal ID is provided to a server.

6. **Per claim 8**, Sukeda discloses a computerized system comprising:

- a server (e.g., server 001 as shown in Fig. 1; paragraph [0011]; paragraph [0046]); and
- a media receiver (e.g., display terminal as shown in Fig. 1) to
- provide a unique identifier of the computing device (e.g., a display terminal) to another computing device (e.g., an operation terminal such as a mobile phone and a mobile terminal) (e.g., step 331 as shown in Fig. 11; paragraph [0052]; paragraph [0066], "*FIG. 11 shows a processing procedure for newly registering the operation terminal such as a mobile phone and a mobile terminal. While the QR Code in which the URL for registration including the display terminal ID is encoded is displayed on the display terminal (331), the QR Code is read by use of the operation terminal (mainly, mobile phone) (332) …*" ; Examiner's Note: Sukeda discloses providing a terminal ID for a display terminal 302.);
- receive a set of messages from the other computing device based on the provided unique identifier (paragraph [0052], "*… When the QR Code is read using*

the operation terminal (mainly, mobile phone) (303), and the operation terminal accesses the URL for registration with an identification code of the operation terminal itself being attached (304), the server receives the display terminal ID and the terminal identification code of the operation terminal, and starts registration processing... "; Examiner's Note: Sukeda discloses a server receiving a message from an operation terminal having the terminal identifier.), the received set of messages referencing a piece of content associated with a first media playing element of a plurality of media playing elements (e.g., data 112 as shown in Fig. 3; paragraph [0050], " *The data 112 with respect to the latest display contents/list is data for storing the contents and list to be displayed by each display terminal together with a mode to display. The data 112 includes information, such as a display mode 161 whether to display a single content or a list display, an ID 162 of the display terminal, an ID (or arrangement) 163 of the contents to be displayed, a search condition and keyword 164 inputted from the operation terminal (when needed), and a date and time of update 165. Metadata 170 of each content is referred to from the content ID 163. The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content* ... "), and including a set of commands that corresponds to the first media playing element (e.g., data 113 as shown in Fig. 3; paragraph [0050], "*...The data 113 includes an ID 181 of the display terminal and information such as a displayed state 182, a volume 183, a date and time of update 184, etc., and defines the playback status and volume of each display terminal.* "; paragraph [0053], " *...When the operation terminal sends a command to change the*

playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322)… ");

- select the first media playing element from the plurality of media playing elements based at least in part on the received message(e.g., step 318 as shown in Fig. 5; paragraph [0053], "*… When the list of the contents is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)…* "); and
- control how the selected first media playing element plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages (paragraph [0015]; paragraph [0046]; paragraph [0053], "*… On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "*… When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

7. **Per claim 12**, Sukeda discloses the computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a

browser cookie, a QR code (paragraph [0052]), a RFID code, a text, or a synchronization code. Sukeda disclose scanning a QR code identifying a URL address to a server. A unique display terminal ID is provided to a server.

8. **Per claim 15**, Sukeda discloses the computerized system of claim 8, wherein each media playing element of the plurality of media playing elements is operable to play and/or control a corresponding type of media (paragraph [0015] ; paragraph [0046]; paragraph [0053], "... *On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "... *When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

9. **Per claim 16**, Sukeda discloses the computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server (Abstract; paragraphs [0010-0011]; paragraphs [0013-0014]; paragraph [0046]).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having

ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

11.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 are rejected under 35 U.S.C. 103 as being unpatentable over Sukeda et al. (Hereinafter, Sukeda, US 2009/0172780 A1) in view of Mahajan et al. (Hereinafter, Mahajan, US 2009/0248802 A1).

14. **Per claim 2,** Sukeda discloses the medium of claim 1, but does not expressly disclose wherein the set of commands included in the received set of messages is recognizable by the first media playing element.

15. Mahajan discloses wherein the set of commands included in the received set of messages is recognizable by the first media playing element (paragraph [0013]; paragraph [0022], " *… For example, in the present example the collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122. The genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126.* ").

16. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

17. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 2.

18. **Per claim 3**, Sukeda and Mahajan disclose the medium of claim 2, wherein the set of commands is converted via an API adapter (Mahajan, e.g., RTS abstraction module 210 as shown in Fig. 2) to be recognizable by the first media playing element, the set of commands being converted based on a determination that the first media playing element is associated with the referenced piece of content (Mahajan, paragraphs [0013-0014]; paragraph [0022]; paragraph [0036]; paragraph [0041-0042]).

19. **Per claim 4,** Sukeda discloses the medium of claim 1, but does not expressly disclose wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first media playing element.

20. Mahajan discloses wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first media playing element

(paragraph [0013]; paragraph [0022], " *… For example, in the present example the collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122. The genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126.* ").

21. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

22. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 4.

23. **Per claim 6**, Sukeda discloses the medium of claim 1, but does not expressly disclose wherein the received set of commands includes programming code associated with the first media playing element.

24. Mahajan discloses wherein the received set of commands includes programming code (e.g., generic media operations 310A-310I as shown in Fig. 3) associated with the first media playing element (paragraph [0036]).

25. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

26. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 6.

27. **Per claim 7**, Sukeda discloses the medium of claim 1, but does not expressly disclose wherein each media playing element of the plurality of media playing elements is operable to play and/or control a corresponding type of media.

28. Mahajan discloses wherein each media playing element of the plurality of media playing elements is operable to play and/or control a corresponding type of media (paragraphs [0039-0040]).

29. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the

user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

30. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 7.

31. **Per claim 9**, Sukeda discloses the computerized system of claim 8, but does not expressly disclose wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.

32. Mahajan discloses wherein the set of commands in the universal format is included in the set of messages communicated from the computing device (paragraphs [0039-0040]; paragraph [0042]).

33. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

34. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 9.

35. **Per claim 10**, Sukeda and Mahajan disclose the computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages (Mahajan, paragraph [0022]; paragraphs [0039-0040]; paragraph [0042]).

36. **Per claim 11**, Sukeda discloses the computerized system of claim 8, but does not expressly wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first media playing element.

37. Mahajan discloses wherein the set of commands in the universal format is included in the set of messages communicated from the computing device (paragraphs [0039-0040]; paragraph [0042]).

38. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

39. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 11.

40. **Per claim 13,** Sukeda discloses the computerized system of claim 8, but does not expressly disclose wherein the converted set of commands includes programming code associated with the first media playing element.

41. Mahajan discloses wherein the converted set of commands includes programming code associated with the first media playing element (e.g., generic media operations 310A-310I as shown in Fig. 3) associated with the first media playing element (paragraph [0036]).

42. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

43. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 13.

44. **Per claim 14**, Sukeda discloses the computerized system of claim 8, but does not expressly disclose wherein the set of commands converted to the first format is recognizable to the first media playing element.

45. Mahajan discloses wherein the set of commands converted to the first format is recognizable to the first media playing element (paragraph [0013]; paragraph [0022], " *... For example, in the present example the collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122. The genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126.* ").

46. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

47. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 14.

48. **Per claim 17**, Sukeda discloses a computer-implemented method for controlling playback of various types of content, comprising:

- providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system (e.g., step 331 as shown in Fig. 11; paragraph [0052]; paragraph [0066], "*FIG. 11 shows a processing procedure for newly registering the operation terminal such as a mobile phone and a mobile terminal. While the QR Code in which the URL for registration including the display terminal ID is encoded is displayed on the display terminal (331), the QR Code is read by use of the operation terminal (mainly, mobile phone) (332) …*" ; Examiner's Note: Sukeda discloses providing a terminal ID for a display terminal 302.);
- 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 media playing element of a plurality of media playing elements(paragraph [0052], "*… When the QR Code is read using the operation terminal (mainly, mobile phone) (303), and the operation terminal accesses the URL for registration with an identification code of the operation terminal itself being attached (304), the server receives the display terminal ID and the terminal identification code of the operation terminal, and starts registration processing...* "; Examiner's Note: Sukeda discloses a server receiving a message from an operation terminal having the terminal identifier), and;
- selecting, by the media receiver, the first media playing element from the plurality of media playing elements based at least in part on the received message(e.g., step 318 as shown in Fig. 5; paragraph [0053], "*… When the list of the contents*

is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)… "); and

49. Sukeda does not expressly disclose:

- including a set of commands converted from a universal format defined by the computing device to a first format that corresponds to the first media playing element(paragraphs [0039-0040]; paragraph [0042]), and
- controlling, by the media receiver, how the selected first media playing element 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 (paragraphs [0039-0040]).

50. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

51. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 17.

52. **Per claim 18**, Sukeda and Mahajan disclose the method of claim 17, wherein the media receiver is coupled to a display, and the media receiver controls how the selected first media playing element plays the referenced piece of content via the display (Sukeda, paragraph [0015]; paragraph [0046]; paragraph [0053], "… *On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "… *When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

53. **Per claim 19**, Sukeda and Mahajan disclose 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 media playing element (Mahajan, paragraph [0022]; paragraphs [0039-0040]; paragraph [0042]).

54. **Per claim 20**, Sukeda and Mahajan disclose 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 (Sukeda, Abstract; paragraphs [0010-0011]; paragraphs [0013-0014]; paragraph [0046]).

Response to Arguments

55. Applicant's arguments filed 28 October 2020 have been fully considered but they are not persuasive.

Rejections based on 35 U.S.C. § 102

56. On page 1 of Applicant's remarks, Applicant argues that "the Office changes its interpretation of "first media playing element" in relation to the last claimed feature of claim 1" as "an individual content [] selected from the list," as described in Sukeda since the Office now interprets "referenced piece of content" with its plain meaning, while inconsistently interpreting "first media playing element" as "the operation terminal."

57. The Examiner disagrees since Sukeda discloses "controlling how the selected first media playing element plays the referenced piece of content..." (Sukeda, paragraph [0015]; paragraph [0046]; paragraph [0053], "… *On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "… *When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]). Thus, Sukeda discloses selecting an element from a list to play and sending commands to change the playback status and the volume of the media.

58. For at least these reasons, Sukeda does describe each and every feature recited in the independent claims.

Rejections based on 35 U.S.C. § 103

59. Applicant argues that "Mahajan fails to cure the deficiencies of Sukeda because Mahajan fails to teach each and every feature recited in the claims."

60. The Examiner disagrees since Sukeda does describe each and every feature recited in the independent claims as discussed above.

61. In summary, the Examiner maintains the rejection of claims 1-20.

Conclusion

62. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on Mon-Thr - 7-4:30, Fri - 7-3:30, Alt. Fri Off.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DARRIN HOPE
Examiner
Art Unit 2173

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

First Action Interview Office Action Summary	Application No. 16/917,095	Applicant(s) Strober, David	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (FITF) Status Yes

The MAILING OR NOTIFICATION DATE of this communication appears on the cover sheet with the correspondence address.

THE SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **TWO MONTHS** FROM THE MAILING OR NOTIFICATION DATE OF THIS COMMUNICATION.

This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

☐ Applicant's request to not have a first-action interview is acknowledged (or the time period for reply set forth in the Pre-Interview Communication has expired and the Office did not receive any reply).

Status

1) ☑ Responsive to communication(s) filed on 06/30/2020 and interview conducted on 12 November 2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____ .

2) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

3) ☑ Claim(s) 1-20 is/are pending in the application.

3a) Of the above claim(s) _____ is/are withdrawn from consideration.

4) ☐ Claim(s) _____ is/are allowed.

5) ☑ Claim(s) 1-20 is/are rejected.

6) ☐ Claim(s) _____ is/are objected to.

7) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

8) ☐ The specification is objected to by the Examiner.

9) ☑ The drawing(s) filed on 06/30/2020 is/are: a) ☑ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

10) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

Contact Information

Examiner's Telephone Number: (571)270-5079

Examiner's Typical Work Schedule: Mon-Thr - 7-4:30, Fri - 7-3:30

Supervisor's Name: Kieu D Vu

Supervisor's Telephone Number: (571)272-4057

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 09/03/2020,09/29/2020.

3) ☑ Interview Summary (PTO-413) Paper No(s)/Mail Date. 20201112 .

4) ☐ Other: _____ .

First Action Interview Office Action Summary	**Application No.** 16/917,095	**Applicant(s)** Strober, David	
	Examiner DARRIN HOPE	**Art Unit** 2173	**AIA (FITF) Status** Yes

Notification of Rejection(s) and/or Objection(s)

#	Claim(s)	Reference(s) (if applicable)	Rejection Statutory Basis	Brief Explanation of Rejection
1	1,5,8,12 and 15-16	Sukeda et al	35 U.S.C. 102(a)(2)	See attached Office Action
2	1-4,6-7,9-11 and 13-14	Sukeda et al./ Mahajan	35 U.S.C. 103	See attached Office Action

Expanded Discussion/Commentary

DATE: 25 August 2020	/DARRIN HOPE/ Examiner, Art Unit 2173	/TADESSE HAILU/ Primary Examiner, Art Unit 2173

Applicant-Initiated Interview Summary	**Application No.** 16/917,095	**Applicant(s)** Strober, David		
	Examiner DARRIN HOPE	**Art Unit** 2173	**AIA (First Inventor to File) Status** Yes	**Page** 1 of 2

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
DARRIN HOPE	Examiner	Telephonic
TADDESSE HAILU	Primary Examiner	
KEITH J. BAE	Attorney of Record	

Date of Interview: 12 November 2020

Issues Discussed:

35 U.S.C. 102

Applicant and examiners discussed interpretation of claimed elements. Applicant argued that "the Office changes its interpretation of "first media playing element" in relation to the last claimed feature of claim 1 " as "an individual content [] selected from the list," as described in Sukeda since the Office now interprets "referenced piece of content" with its plain meaning, while inconsistently interpreting "first media playing element" as "the operation terminal."

The Examiner disagreed since Sukeda discloses "controlling how the selected first media playing element plays the referenced piece of content..." (Sukeda, paragraph [0015] ; paragraph [0046]; paragraph [0053], "… On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ... "; paragraph [0059], " … When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled. "; paragraph [0060]). Thus, Sukeda discloses selecting an element from a list to play and sending commands to change the playback status and the volume of the media. Examiner argued that maintained that the prior art of Sukeda generally reads on the claim limitation.

Proposed Amendment(s)

The Applicant did not propose any amendments to the claims.

/DARRIN HOPE/ Examiner, Art Unit 2173	/TADESSE HAILU/ Primary Examiner, Art Unit 2173

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant-Initiated Interview Summary	**Application No.** 16/917,095	**Applicant(s)** Strober, David		
	Examiner DARRIN HOPE	**Art Unit** 2173	**AIA (First Inventor to File) Status** Yes	**Page** **2 of 2**

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Notice of References Cited	Application/Control No. 16/917,095	Applicant(s)/Patent Under Reexamination Strober, David	
	Examiner DARRIN HOPE	Art Unit 2173	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20090172780-A1	07-2009	Sukeda; Hiroko	H04N21/4227	726/3
*	B	US-20090248802-A1	10-2009	Mahajan; Rajneesh	H04L65/4015	709/204
	C					
	D					
	E					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	Art Unit
	DARRIN HOPE	2173

CPC - Searched*		
Symbol	Date	Examiner
G06F16/74 G06F9/452 G06F16/951	08/25/2020	DH

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor's Name Search	08/25/2020	DH
EAST	08/25/2020	DH
TP.com database	08/25/2020	DH
EAST	11/12/2020	DH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
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✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant						☐ CPA		☐ T.D.		☐ R.1.47
CLAIM		DATE								
Final	Original	08/25/2020								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
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	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	16917095
Filing Date	2020-06-30
First Named Inventor	David Strober
Art Unit	2173
Examiner Name	Darrin Hope
Attorney Docket Number	41197.280029

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	5	6181713	B1	2001-01-30	Patki et al.	
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	7	8751793	B2	2004-06-24	Ginter et al.	
	8	6756965	B2	2004-06-29	Combs et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.H/

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	12	7114173	B2	2006-09-26	Urdang et al.	
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	Attorney Docket Number	41197.280029

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

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Name/Print	Keith J. Bae	Registration Number	64633

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16917095
	Filing Date	2020-06-30
	First Named Inventor	David Strober
	Art Unit	2173
	Examiner Name	Darrin Hope
	Attorney Docket Number	41197.280029

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16917095
	Filing Date	2020-06-30
	First Named Inventor	David Strober
	Art Unit	2173
	Examiner Name	Darrin Hope
	Attorney Docket Number	41197.280029

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/KEITH J. BAE/	Date (YYYY-MM-DD)	2020-09-03
Name/Print	Keith J. Bae	Registration Number	64633

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L21	2,500	L8 L9 L10 L11 L12 L13 L14 L15 L16 L17 L18 L19 L20	US-PGPUB; USPAT	OR	OFF	2020/11/12 16:48
L22	11	L6 and L21	US-PGPUB; USPAT	OR	OFF	2020/11/12 16:48

EAST Search History (Interference)

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From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 149550

Dec 10, 2020 04:03:49 AM

Dear PAIR Customer:

SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
2555 GRAND BLVD
KANSAS CITY, MO 64108-2613
UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
16917095	OA.FAI	12/10/2020	41197.280029
	EXIN	12/10/2020	41197.280029
	892	12/10/2020	41197.280029
	1449	12/10/2020	41197.280029
	1449	12/10/2020	41197.280029

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UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

Electronic Patent Application Fee Transmittal

Application Number:	16917095
Filing Date:	30-Jun-2020
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Filer:	Keith Joshua Bae/Elizabeth Iverson
Attorney Docket Number:	41197.280029

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	220	220
Miscellaneous:				
			Total in USD ($)	**220**

Electronic Acknowledgement Receipt	
EFS ID:	42082293
Application Number:	16917095
International Application Number:	
Confirmation Number:	6770
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Customer Number:	149550
Filer:	Keith Joshua Bae/Elizabeth Iverson
Filer Authorized By:	Keith Joshua Bae
Attorney Docket Number:	41197.280029
Receipt Date:	03-MAR-2021
Filing Date:	30-JUN-2020
Time Stamp:	18:22:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$220
RAM confirmation Number	E202133I22594560
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	41197_280029_Response_.pdf	79700 0146edec1f0d1dcd8a08c79a175ca28e1656e8ab	no	14
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30923 7184ec59ca894c60d5b681296fde26cd672375d8	no	2
Warnings:					
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		Total Files Size (in bytes):	110623		

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	16/917,095	Confirmation No. 6770
First Inventor	:	David Strober	
Applicant	:	Touchstream Technologies, Inc.	
Filed	:	06/30/2020	
Title	:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE	
Group Art Unit	:	2173	
Examiner	:	Darrin Hope	
Atty Docket No.	:	41197.280029	
Customer No.	:	149550	

VIA EFS-WEB – March 3rd, 2021

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO FIRST ACTION INTERVIEW

It is hereby requested that the time period for responding to the Office Action mailed December 10, 2020, be extended for one (1) month. The appropriate extension fee of $220.00 under 37 C.F.R. § 1.17(a)(1) is submitted herewith. In response to the Non Final Office Action, please amend the above-identified application as follows:

Amendments to the Claims: begin on page 2 of this paper.

Summary of Examiner Interview: begins on page 8 of this paper.

Remarks: begin on page 9 of this paper.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A non-transitory computer storage medium storing computer-useable instructions that, when used by a computing device, cause the computing device to perform operations comprising:

providing a unique identifier of the computing device to another computing device;

receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first media playing ~~element~~ application of a plurality of media playing ~~elements~~ applications, and including a set of commands that corresponds to the first media playing ~~element~~ application;

selecting the first media playing ~~element~~ application from the plurality of media playing ~~elements~~ applications based at least in part on the received message; and

controlling how the selected first media playing ~~element~~ application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.

2. (Original) The medium of claim 1, wherein the set of commands included in the received set of messages is recognizable by the first media playing element.

3. (Currently Amended) The medium of claim 2, wherein the set of commands is converted via an API adapter to be recognizable by the first media playing element, the set of commands being converted based on a determination that the first media playing ~~element~~ application is associated with the referenced piece of content.

4. (Original) The medium of claim 1, wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first media playing element.

5. (Original) The medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a synchronization code.

6. (Original) The medium of claim 1, wherein the received set of commands includes programming code associated with the first media playing element.

7. (Currently Amended) The medium of claim 1, wherein each media playing ~~element~~ application of the plurality of media playing ~~elements~~ applications is operable to play and/or control a corresponding type of media.

8. (Currently Amended) A computerized system comprising:

a server; and

a media receiver to—

provide a unique identifier of the media receiver to a computing device, wherein each of the computing device and the media receiver are in communication with the server;

based on the provided unique identifier, receive a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first media playing ~~element~~ application of a plurality of media playing ~~elements~~ applications, 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 media playing element;

select the first media playing ~~element~~ application from the plurality of media playing ~~elements~~ applications based at least in part on the received message; and

control how the selected first media playing ~~element~~ 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.

9. (Original) The computerized system of claim 8, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.

10. (Original) The computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages.

11. (Original) The computerized system of claim 8, wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first media playing element.

12. (Original) The computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a unique synchronization code.

13. (Original) The computerized system of claim 8, wherein the converted set of commands includes programming code associated with the first media playing element.

14. (Original) The computerized system of claim 8, wherein the set of commands converted to the first format is recognizable to the first media playing element.

15. (Currently Amended) The computerized system of claim 8, wherein each media playing ~~element~~ application of the plurality of media playing ~~elements~~ applications is operable to play and/or control a corresponding type of media.

16. (Original) The computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server.

17. (Currently Amended) A computer-implemented method for controlling playback of various types of content, comprising:

providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;

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 media playing ~~element~~ application of a plurality of media playing ~~elements~~ applications, 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 media playing element;

selecting, by the media receiver, the first media playing ~~element~~ application from the plurality of media playing ~~elements~~ applications based at least in part on the received message; and

controlling, by the media receiver, how the selected first media playing ~~element~~ 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.

18. (Currently Amended) The method of claim 17, wherein the media receiver is coupled to a display, and the media receiver controls how the selected first media playing ~~element~~ application plays the referenced piece of content via the display.

19. (Original) 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 media playing element.

20. (Original) 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.

SUMMARY OF EXAMINER INTERVIEW

Applicants would like to thank the Examiner for granting an interview on November 12, 2020. During the interview, Applicant discussed the claimed invention and argued interpretations relating to "media playing element(s)." The Examiner suggested clarification relating to this phrasing, which has been addressed in the subject response. Applicant thanks examiner for his time.

REMARKS

The Non-Final Office Action mailed December 10, 2020 has been received and reviewed. Prior to the present communication, claims were pending and claims stand rejected. Each of Claim(s) 1, 3, 7-8, 15, and 17-18 has been amended herein. Reconsideration of the subject application is respectfully requested in view of the amendments and the following remarks.

Rejections based on 35 U.S.C. § 102

Claims 1, 5, 8, 12, 15 and 16 were rejected under 35 U.S.C. § 102(a)(2) as ostensibly being anticipated by U.S. Publication No. 2009/0172780 A1 to Sukeda et al. (hereinafter "Sukeda"). As the asserted reference fails to describe, expressly or inherently, each and every element recited in the rejected claim(s), Applicant respectfully traverses the rejection, as hereinafter set forth.

Applicant submits that Sukeda fails to describe, among other things, "...the received set of messages referencing a piece of content associated with a first media playing ***application*** of a plurality of media playing ***applications***, and including a set of commands that corresponds to the first media playing ***application***" and "selecting the first media playing ***application*** from the plurality of media playing ***applications*** based at least in part on the received message" as similarly recited in amended independent claims 1, 8, and 15.

In the Office Action mailed December 10, 2020, the Office interprets the previously recited claim language of "media playing element" as "data" (e.g., data 113 as shown in Fig. 3; paragraph [0050]), which includes "an ID 181 of the display terminal and information such as a displayed state 182, a volume 183, a date and time of update 184, etc., and defines the playback status and volume of each display terminal." *See* Office Action, pp. 3-4. The Office further asserts that the step of selecting "the first media playing element from the plurality of media playing

elements" is described in Sudeka by referencing step 318 as shown in Fig. 5 and paragraph [0053], reciting "…when the *list of contents* is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, details contents information, or the like on a screen of the operation terminal (319)." *See* Office Action, p. 4.

As amended, for instance, independent claim 1 recites "…the received set of messages referencing a piece of content associated with a first media playing ***application*** of a plurality of media playing ***applications***, and including a set of commands that corresponds to the first media playing ***application***." Amended independent claim 1 further recites "selecting the first media playing ***application*** from the plurality of media playing ***applications*** based at least in part on the received message." Sudeka does not describe these features. At best, Sudeka describes "data" that includes "information, such as *a display mode* 161 whether to display a single *content* or a list display, an *ID 162 of the display terminal*, an *ID (or arrangement) 163 of the contents* to be displayed, a *search condition and keyword* 164 inputted from the operation terminal (when needed), and a *date and time* of update 165." Sudeka further references "metadata" that can include "a *reference 175 to a content body* 177 and variety of *information related to the content*." *See* Office Action, p. 3. Applicant submits that, among these definitions of "data" included in Sudeka, none of a display mode, ID of terminal, ID of content(s), search condition, keyword, or date and time, describe "a first media playing application of a plurality of media playing applications." Applicant also submits that, among the definitions of "metadata" according to Sudeka, none of a reference to a content body or information related to the content" describes "a first media playing application of a plurality of media playing applications." Moreover, even if somehow the Office were to interpret the inequivalent language of Sudeka to describe "a first media playing application

of a plurality of media playing applications," Applicant submits that Sudeka does not describe "selecting the first media playing application from the plurality of media playing applications based at least in part on the received message." Instead, the Office asserts that Sudeka purportedly describes a selection of "an individual content" from a "list of contents ... browsed on the operation terminal (317)," which causes a server update to "the latest display contents" and "display a thumbnail image, detailed contents information, or the like on a screen of the operation terminal." Applicatn submits that Sudeka's *selection* is clearly not "selecting the first media playing application from the plurality of media playing applications based at least in part on the received message."

For at least the reasons as detailed hereinabove for the similar features of amended independent claim(s) 1, 8, and 15, Applicant respectfully requests that the rejection to the independent claims be withdrawn. As claims 5, 12, and 16 depend directly or indirectly from the amended independent claims, Applicant respectfully requests that the rejection to dependent claims 5, 12, and 16 be withdrawn for the same reasons as the amended independent claims from which they depend, and for the additional features recited therein. Accordingly, withdrawal of the rejections of claims 5, 12, and 16 is respectfully requested as well, for at least the above-cited reasons. Claims 1, 5, 8, 12, 15 and 16 are believed to be in condition for allowance and such favorable action is respectfully requested.

Rejections based on 35 U.S.C. § 103

Claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 were rejected under 35 U.S.C. § 103 as ostensibly being unpatentable over U.S. Publication No. 2009/0172780 A1 to Sukeda et al. (hereinafter "Sukeda"), in view of U.S. Publication No. 2009/0248802 A1 to Mahajan et al.

(hereinafter "Mahajan"). As the cited references, both alone or in combination, fail to teach or suggest all of the features of the independent claim(s) as amended, Applicant respectfully traverses this rejection, as hereinafter set forth.

As noted above, Sukeda fails to describe or teach, among other things, "…the received set of messages referencing a piece of content associated with a first media playing ***application*** of a plurality of media playing ***applications***, and including a set of commands that corresponds to the first media playing ***application***" and "selecting the first media playing ***application*** from the plurality of media playing ***applications*** based at least in part on the received message" as similarly recited in amended independent claims 1, 8, and 15. Applicant submits that Mahajan fails to cure the deficiencies of Sukeda and thus the rejection to claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 should be withdrawn for the same reasons as the independent claims from which they depend and for the additional features recited therein. In fact, Mahajan is silent in teaching "…the received set of messages referencing a piece of content associated with a first media playing ***application*** of a plurality of media playing ***applications***, and including a set of commands that corresponds to the first media playing ***application***" and "selecting the first media playing ***application*** from the plurality of media playing ***applications*** based at least in part on the received message" as similarly recited in amended independent claims 1, 8, and 15. At best, Mahajan discusses how "generic media playback commands can be sent to the client" and "client can convert the generic commands into commands that are specific to a platform supported by the client." *See* Mahajan, ¶[0014]. Mahajan further discusses how a "collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122" and thus "the genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126." Applicant submits that Mahajan's

translations for playback commands are being performed based on a "client's media platform" as opposed to "…the received set of messages referencing ***a piece of content associated with a first media playing application*** of a plurality of media playing applications, and ***including a set of commands that corresponds to the first media playing application***" and "***selecting the first media playing application from the plurality of media playing applications based at least in part on the received message***." Instead, Mahajan discusses genericizing media playback commands and translating them "specific to the client's media platform," which is not "…the received set of messages referencing ***a piece of content associated with a first media playing application*** of a plurality of media playing applications, and ***including a set of commands that corresponds to the first media playing application***" and "***selecting the first media playing application from the plurality of media playing applications based at least in part on the received message***." There is, in fact, no selection of a media playing application according to Mahajan, but instead a mere translation of genericized commands to a media platform specific to a client. *See* Mahajan, ¶[0022].

As the applied references, both alone and in combination, do not teach or suggest all features of amended independent claims 1, 8, and 15, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection be withdrawn. As claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 depend directly or indirectly from amended independent claim(s) 1, 8, and 15, respectively, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection to claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 be withdrawn for the same reasons as the amended independent claim(s) from which they depend, and for the additional features recited therein.

CONCLUSION

For at least the reasons stated above, the pending claims are believed to be in condition for allowance. Applicant respectfully requests withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned – 816-474-6550 or kbae@shb.com (such communication via email is herein expressly granted) – to resolve the same. It is believed that all fees due have been paid. However, if this belief is in error, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112, with reference to Attorney Docket No. 41197.280029.

Respectfully submitted,

/Keith J. Bae/

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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipshookdocketing@shb.com
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Office Action Summary	Application No. 16/917,095	Applicant(s) Strober, David	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 3 March 2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☑ This action is **FINAL.** 2b) ☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-20 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-20 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 06/30/2020 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA. This Office Action is responsive to the communications filed on 3 March 2020. Claims 1-20 are presented for examinations.

Claim Objections

2. Claims 2, 3, 4, 6, 11, 13, 14, and 19 are objected to because of the following informalities: There is a lack of antecedent basis for "the first media playing element." Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

4. Claims 1, 5, 8, 12, 15 and 16 are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Sukeda et al. (Hereinafter, Sukeda, US 2009/0172780 A1).

5. **Per claim 1**, Sukeda discloses a non-transitory computer storage medium storing computer-useable instructions (e.g., data storing part 100 as shown in Fig. 1) that, when used by a computing device, cause the computing device to perform operations comprising:

- providing a unique identifier of the computing device (e.g., a display terminal) to another computing device (e.g., an operation terminal such as a mobile phone

and a mobile terminal) (e.g., step 331 as shown in Fig. 11; paragraph [0052]; paragraph [0066], "*FIG. 11 shows a processing procedure for newly registering the operation terminal such as a mobile phone and a mobile terminal. While the QR Code in which the URL for registration including the display terminal ID is encoded is displayed on the display terminal (331), the QR Code is read by use of the operation terminal (mainly, mobile phone) (332) …*" ; Examiner's Note: Sukeda discloses providing a terminal ID for a display terminal 302.);

- receiving a set of messages from the other computing device based on the provided unique identifier (paragraph [0052], "… *When the QR Code is read using the operation terminal (mainly, mobile phone) (303), and the operation terminal accesses the URL for registration with an identification code of the operation terminal itself being attached (304), the server receives the display terminal ID and the terminal identification code of the operation terminal, and starts registration processing*... "; Examiner's Note: Sukeda discloses a server receiving a message from an operation terminal having the terminal identifier.), the received set of messages referencing a piece of content associated with a first media playing ~~element~~ application of a plurality of media playing ~~elements~~ applications (e.g., data 112 as shown in Fig. 3; paragraph [0050], " *The data 112 with respect to the latest display contents/list is data for storing the contents and list to be displayed by each display terminal together with a mode to display. The data 112 includes information, such as a display mode 161 whether to display a single content or a list display, an ID 162 of the display terminal, an ID (or arrangement) 163 of the contents to be displayed, a search condition and*

keyword 164 inputted from the operation terminal (when needed), and a date and time of update 165. Metadata 170 of each content is referred to from the content ID 163. The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content … "; Examiner's Note: Data 112 includes Content ID 163 having content metadata 170 referencing a piece of content associated with a first media playing application of a plurality of media playing applications, i.e., the content body 177 referenced by contents URL 175. See Fig. 3. As cited in paragraph [0050], " *…The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content ….* " The Examiner broadly and reasonably interprets the application or web site claimed by the Applicant to be analogous to the content body 177 disclosed by Sukeda.), and including a set of commands that corresponds to the first media playing ~~element~~ application(e.g., data 113 as shown in Fig. 3; paragraph [0050], "*…The data 113 includes an ID 181 of the display terminal and information such as a displayed state 182, a volume 183, a date and time of update 184, etc., and defines the playback status and volume of each display terminal.* "; paragraph [0053], " *...When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322)…* ");

- selecting the first media playing ~~element~~ application from the plurality of media playing ~~elements~~ applications based at least in part on the received message (e.g., step 318 as shown in Fig. 5; paragraph [0053], "*… When the list of the*

contents is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)… "); and

- controlling how the selected first media playing ~~element~~ application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages (paragraph [0015]; paragraph [0046]; paragraph [0053], "*… On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "*… When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

6. **Per claim 5**, Sukeda discloses the medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code (paragraph [0052]), a RFID code, a text, or a synchronization code. Sukeda disclose scanning a QR code identifying a URL address to a server. A unique display terminal ID is provided to a server.

7. **Per claim 8**, Sukeda discloses a computerized system comprising:

- a server (e.g., server 001 as shown in Fig. 1; paragraph [0011]; paragraph [0046]); and
- a media receiver (e.g., display terminal as shown in Fig. 1) to
- provide a unique identifier of the computing device (e.g., a display terminal) to another computing device (e.g., an operation terminal such as a mobile phone and a mobile terminal) (e.g., step 331 as shown in Fig. 11; paragraph [0052]; paragraph [0066], "*FIG. 11 shows a processing procedure for newly registering the operation terminal such as a mobile phone and a mobile terminal. While the QR Code in which the URL for registration including the display terminal ID is encoded is displayed on the display terminal (331), the QR Code is read by use of the operation terminal (mainly, mobile phone) (332) …*" ; Examiner's Note: Sukeda discloses providing a terminal ID for a display terminal 302.);
- based on the provided unique identifier, receive a set of messages from the other computing device based on the provided unique identifier (paragraph [0052], "*… When the QR Code is read using the operation terminal (mainly, mobile phone) (303), and the operation terminal accesses the URL for registration with an identification code of the operation terminal itself being attached (304), the server receives the display terminal ID and the terminal identification code of the operation terminal, and starts registration processing...* "; Examiner's Note: Sukeda discloses a server receiving a message from an operation terminal having the terminal identifier.), the received set of messages referencing a piece of content associated with a first media playing ~~element~~ application of a plurality of media playing ~~elements~~ applications (e.g., data 112 as shown in Fig. 3;

paragraph [0050], " *The data 112 with respect to the latest display contents/list is data for storing the contents and list to be displayed by each display terminal together with a mode to display. The data 112 includes information, such as a display mode 161 whether to display a single content or a list display, an ID 162 of the display terminal, an ID (or arrangement) 163 of the contents to be displayed, a search condition and keyword 164 inputted from the operation terminal (when needed), and a date and time of update 165. Metadata 170 of each content is referred to from the content ID 163. The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content …* "; Examiner's Note: Data 112 includes Content ID 163 having content metadata 170 referencing a piece of content associated with a first media playing application of a plurality of media playing applications, i.e., the content body 177 referenced by contents URL 175. See Fig. 3. As cited in paragraph [0050], " *…The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content ….* " The Examiner broadly and reasonably interprets the application or web site claimed by the Applicant to be analogous to the content body 177 disclosed by Sukeda.), and including a set of commands that corresponds to the first media playing ~~element~~ application(e.g., data 113 as shown in Fig. 3; paragraph [0050], "*…The data 113 includes an ID 181 of the display terminal and information such as a displayed state 182, a volume 183, a date and time of update 184, etc., and defines the playback status and volume of each display terminal.* "; paragraph [0053], " *...When the operation terminal sends a command to change the playback status and the volume, the server*

updates a value of the data 113 with respect to the playback status and the volume (322)… ");

- select the first media playing ~~element~~ application from the plurality of media playing ~~elements~~ applications based at least in part on the received message (e.g., step 318 as shown in Fig. 5; paragraph [0053], "*… When the list of the contents is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)…* "); and
- control how the selected first media playing ~~element~~ application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages (paragraph [0015]; paragraph [0046]; paragraph [0053], "*… On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "*… When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

8. **Per claim 12**, Sukeda discloses the computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a

browser cookie, a QR code (paragraph [0052]), a RFID code, a text, or a synchronization code. Sukeda disclose scanning a QR code identifying a URL address to a server. A unique display terminal ID is provided to a server.

9. **Per claim 15**, Sukeda discloses the computerized system of claim 8, wherein each media playing ~~element~~ application of the plurality of media playing ~~elements~~ applications is operable to play and/or control a corresponding type of media (paragraph [0015] ; paragraph [0046]; paragraph [0053], "*... On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "*... When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

10. **Per claim 16**, Sukeda discloses the computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server (Abstract; paragraphs [0010-0011]; paragraphs [0013-0014]; paragraph [0046]).

11. **Per claim 17**, Sukeda discloses a computer-implemented method for controlling playback of various types of content, comprising:

- providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system (e.g., step 331 as shown in Fig. 11; paragraph [0052]; paragraph [0066], "*FIG. 11 shows a*

processing procedure for newly registering the operation terminal such as a mobile phone and a mobile terminal. While the QR Code in which the URL for registration including the display terminal ID is encoded is displayed on the display terminal (331), the QR Code is read by use of the operation terminal (mainly, mobile phone) (332) …" ; Examiner's Note: Sukeda discloses providing a terminal ID for a display terminal 302.);

- based on the provided unique identifier, receive a set of messages from the other computing device based on the provided unique identifier (paragraph [0052], "…*When the QR Code is read using the operation terminal (mainly, mobile phone) (303), and the operation terminal accesses the URL for registration with an identification code of the operation terminal itself being attached (304), the server receives the display terminal ID and the terminal identification code of the operation terminal, and starts registration processing*... "; Examiner's Note: Sukeda discloses a server receiving a message from an operation terminal having the terminal identifier.), the received set of messages referencing a piece of content associated with a first media playing ~~element~~ application of a plurality of media playing ~~elements~~ applications (e.g., data 112 as shown in Fig. 3; paragraph [0050], " *The data 112 with respect to the latest display contents/list is data for storing the contents and list to be displayed by each display terminal together with a mode to display. The data 112 includes information, such as a display mode 161 whether to display a single content or a list display, an ID 162 of the display terminal, an ID (or arrangement) 163 of the contents to be displayed, a search condition and keyword 164 inputted from the operation*

terminal (when needed), and a date and time of update 165. Metadata 170 of each content is referred to from the content ID 163. The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content … "; Examiner's Note: Data 112 includes Content ID 163 having content metadata 170 referencing a piece of content associated with a first media playing application of a plurality of media playing applications, i.e., the content body 177 referenced by contents URL 175. See Fig. 3. As cited in paragraph [0050], " *…The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content ….* " The Examiner broadly and reasonably interprets the application or web site claimed by the Applicant to be analogous to the content body 177 disclosed by Sukeda.), and including a set of commands that corresponds to the first media playing ~~element~~ application(e.g., data 113 as shown in Fig. 3; paragraph [0050], "*…The data 113 includes an ID 181 of the display terminal and information such as a displayed state 182, a volume 183, a date and time of update 184, etc., and defines the playback status and volume of each display terminal.* "; paragraph [0053], " *...When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322)…* ");

- select the first media playing ~~element~~ application from the plurality of media playing ~~elements~~ applications based at least in part on the received message (e.g., step 318 as shown in Fig. 5; paragraph [0053], "*… When the list of the contents is browsed on the operation terminal (317) and an individual content is*

selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)... ").

12. Sukeda does not expressly disclose:

- including a set of commands converted from a universal format defined by the computing device to a first format that corresponds to the first media playing element(paragraphs [0039-0040]; paragraph [0042]), and
- controlling, by the media receiver, how the selected first media playing element 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 (paragraphs [0039-0040]).

13. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

14. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 17.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

16.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 are rejected under 35 U.S.C. 103 as being unpatentable over Sukeda et al. (Hereinafter, Sukeda, US 2009/0172780 A1) in view of Mahajan et al. (Hereinafter, Mahajan, US 2009/0248802 A1).

19. **Per claim 2,** Sukeda discloses the medium of claim 1, but does not expressly disclose wherein the set of commands included in the received set of messages is recognizable by the first media playing element.

20. Mahajan discloses wherein the set of commands included in the received set of messages is recognizable by the first media playing element (paragraph [0013];

paragraph [0022], " … *For example, in the present example the collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122. The genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126.* ").

21. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

22. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 2.

23. **Per claim 3**, Sukeda and Mahajan disclose the medium of claim 2, wherein the set of commands is converted via an API adapter (Mahajan, e.g., RTS abstraction module 210 as shown in Fig. 2) to be recognizable by the first media playing element, the set of commands being converted based on a determination that the first media playing element application is associated with the referenced piece of content (Mahajan, paragraphs [0013-0014]; paragraph [0022]; paragraph [0036]; paragraph [0041-0042]).

24. **Per claim 4,** Sukeda discloses the medium of claim 1, but does not expressly disclose wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first media playing element.

25. Mahajan discloses wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first media playing element (paragraph [0013]; paragraph [0022], " *... For example, in the present example the collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122. The genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126.* ").

26. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

27. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 4.

28. **Per claim 6**, Sukeda discloses the medium of claim 1, but does not expressly disclose wherein the received set of commands includes programming code associated with the first media playing element.

29. Mahajan discloses wherein the received set of commands includes programming code (e.g., generic media operations 310A-310I as shown in Fig. 3) associated with the first media playing element (paragraph [0036]).

30. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

31. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 6.

32. **Per claim 7**, Sukeda discloses the medium of claim 1, but does not expressly disclose wherein each media playing ~~element~~ application of the plurality of media playing elements is operable to play and/or control a corresponding type of media.

33. Mahajan discloses wherein each media playing element of the plurality of media playing ~~elements~~ applications is operable to play and/or control a corresponding type of media (paragraphs [0039-0040]).

34. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

35. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 7.

36. **Per claim 9**, Sukeda discloses the computerized system of claim 8, but does not expressly disclose wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.

37. Mahajan discloses wherein the set of commands in the universal format is included in the set of messages communicated from the computing device (paragraphs [0039-0040]; paragraph [0042]).

38. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing

multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

39. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 9.

40. **Per claim 10**, Sukeda and Mahajan disclose the computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages (Mahajan, paragraph [0022]; paragraphs [0039-0040]; paragraph [0042]).

41. **Per claim 11**, Sukeda discloses the computerized system of claim 8, but does not expressly wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first media playing element.

42. Mahajan discloses wherein the set of commands in the universal format is included in the set of messages communicated from the computing device (paragraphs [0039-0040]; paragraph [0042]).

43. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve

the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

44. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 11.

45. **Per claim 13,** Sukeda discloses the computerized system of claim 8, but does not expressly disclose wherein the converted set of commands includes programming code associated with the first media playing element.

46. Mahajan discloses wherein the converted set of commands includes programming code associated with the first media playing element (e.g., generic media operations 310A-310I as shown in Fig. 3) associated with the first media playing element (paragraph [0036]).

47. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This

method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

48. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 13.

49. **Per claim 14**, Sukeda discloses the computerized system of claim 8, but does not expressly disclose wherein the set of commands converted to the first format is recognizable to the first media playing element.

50. Mahajan discloses wherein the set of commands converted to the first format is recognizable to the first media playing element (paragraph [0013]; paragraph [0022], " *... For example, in the present example the collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122. The genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126.* ").

51. At the filing date of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan systems and methods for managing multimedia operations in remote sessions in Sukeda's content display device to improve the device with reasonable expectation that this would result in a content display device that could "facilitate effective communication between the server and client such that the user's media playback commands are executable on the client independent of platforms employed on the server and client" as suggested by Mahajan (paragraph [0014]). This method for improving the scroll bar control device of Sukeda was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

52. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sukeda and Mahajan to obtain the invention as specified in claim 14.

53. **Per claim 18**, Sukeda and Mahajan disclose the method of claim 17, wherein the media receiver is coupled to a display, and the media receiver controls how the selected first media playing ~~element~~ application plays the referenced piece of content via the display (Sukeda, paragraph [0015]; paragraph [0046]; paragraph [0053], "… *On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "*… When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

54. **Per claim 19**, Sukeda and Mahajan disclose 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 media playing element (Mahajan, paragraph [0022]; paragraphs [0039-0040]; paragraph [0042]).

55. **Per claim 20**, Sukeda and Mahajan disclose 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 (Sukeda, Abstract; paragraphs [0010-0011]; paragraphs [0013-0014]; paragraph [0046]).

Response to Arguments

56. Applicant's arguments filed 3 March 2020 have been fully considered but they are not persuasive.

Rejections based on 35 U.S.C. § 102

57. On page 1 of Applicant's remarks, Applicant argues that Sukeda fails to describe, among other things, "...the received set of messages referencing a piece of content associated with a first media playing application of a plurality of media playing applications, and including a set of commands that corresponds to the first media playing application" and "selecting the first media playing application from the plurality of media playing applications based at least in part on the received message" as similarly recited in amended independent claims 1, 8, and 15.

58. The Examiner disagrees since Sukeda discloses

- receiving a set of messages from the other computing device based on the provided unique identifier (paragraph [0052], "*...When the QR Code is read using the operation terminal (mainly, mobile phone) (303), and the operation terminal accesses the URL for registration with an identification code of the operation terminal itself being attached (304), the server receives the display terminal ID and the terminal identification code of the operation terminal, and starts registration processing...* "), the received set of messages referencing a piece of content associated with a first media playing ~~element~~ application of a plurality of media playing ~~elements~~ applications (e.g., data 112 as shown in Fig. 3;

paragraph [0050], " *The data 112 with respect to the latest display contents/list is data for storing the contents and list to be displayed by each display terminal together with a mode to display. The data 112 includes information, such as a display mode 161 whether to display a single content or a list display, an ID 162 of the display terminal, an ID (or arrangement) 163 of the contents to be displayed, a search condition and keyword 164 inputted from the operation terminal (when needed), and a date and time of update 165. Metadata 170 of each content is referred to from the content ID 163. The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content …* "; Examiner's Note: Data 112 includes Content ID 163 having content metadata 170 referencing a piece of content associated with a first media playing application of a plurality of media playing applications, i.e., the content body 177 referenced by contents URL 175. See Fig. 3. As cited in paragraph [0050], " *…The metadata 170 includes a reference 175 to a content body 177 and variety of information related to the content ….* "), and including a set of commands that corresponds to the first media playing ~~element~~ application(e.g., data 113 as shown in Fig. 3; paragraph [0050], "*…The data 113 includes an ID 181 of the display terminal and information such as a displayed state 182, a volume 183, a date and time of update 184, etc., and defines the playback status and volume of each display terminal.* "; paragraph [0053], " *...When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322)…* ");

- selecting the first media playing ~~element~~ application from the plurality of media playing ~~elements~~ applications based at least in part on the received message (e.g., step 318 as shown in Fig. 5; paragraph [0053], "*… When the list of the contents is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)…* "); and
- controlling how the selected first media playing ~~element~~ application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages (paragraph [0015]; paragraph [0046]; paragraph [0053], "*… On the operation terminal, the thumbnail and a description of the contents are browsed (320), and the playback status and the volume are adjusted when necessary (321). When the operation terminal sends a command to change the playback status and the volume, the server updates a value of the data 113 with respect to the playback status and the volume (322) ...* "; paragraph [0059], "*… When operation of changing playback status and adjustment of the volume are performed on this screen, a command is sent to the server so that contents playback in the display terminal is controlled.* "; paragraph [0060]).

59. The Examiner broadly and reasonably interprets the application or web site claimed by the Applicant to be analogous to the content body 177 disclosed by Sukeda. Sukeda discloses a contents URL 175 referencing the content body 177. Thus, Sukeda

suggests an application or web page for providing contents. For at least these reasons, Sukeda does describe each and every feature recited in the independent claims.

Rejections based on 35 U.S.C. § 103

60. Applicant argues that "Mahajan fails to cure the deficiencies of Sukeda because Mahajan fails to teach each and every feature recited in the claims."

61. The Examiner disagrees since Sukeda does describe each and every feature recited in the independent claims as discussed above.

62. In summary, the Examiner maintains the rejection of claims 1-20.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

63.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on Mon-Thr - 7-4:30, Fri - 7-3:30, Alt. Fri Off.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DARRIN HOPE
Examiner
Art Unit 2173

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	Art Unit
	DARRIN HOPE	2173

CPC - Searched*		
Symbol	Date	Examiner
G06F16/74 G06F9/452 G06F16/951	08/25/2020	DH

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor's Name Search	08/25/2020	DH
EAST	08/25/2020	DH
TP.com database	08/25/2020	DH
EAST	11/12/2020	DH
EAST	04/01/2021	DH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	Art Unit
	DARRIN HOPE	2173

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant						☐ CPA		☐ T.D.		☐ R.1.47
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EAST Search History

EAST Search History (Prior Art)

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L2	11	((("STROBER") near3 ("David"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2021/04/01 18:23
L3	3,384	(715/716).ccls.	US-PGPUB; USPAT	OR	OFF	2021/04/01 18:23
L4	36	L1 and L3	US-PGPUB; USPAT	OR	OFF	2021/04/01 18:23
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16917095	CTFR	04/07/2021	41197.280029

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16917095
Filing Date	2020-06-30
First Named Inventor	David Strober
Art Unit	2173
Examiner Name	Darrin Hope
Attorney Docket Number	41197.280029

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16917095
	Filing Date	2020-06-30
	First Named Inventor	David Strober
	Art Unit	2173
	Examiner Name	Darrin Hope
	Attorney Docket Number	41197.280029

	1	Non-Final Office Action dated February 2, 2021 in U.S. Patent Application No. 15/687,249, 9 pages.	

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	Application Number	16917095
	Filing Date	2020-06-30
	First Named Inventor	David Strober
	Art Unit	2173
	Examiner Name	Darrin Hope
	Attorney Docket Number	41197.280029

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

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See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Keith J. Bae/	Date (YYYY-MM-DD)	2021-04-22
Name/Print	Keith J. Bae	Registration Number	64,633

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/687,249	08/25/2017	David Strober	41197.278581	4059

149550 7590 02/02/2021

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KANSAS CITY, MO 64108-2613

EXAMINER	
HOPE, DARRIN	

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2173	

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02/02/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipshookdocketing@shb.com
shbdocketing@shb.com

Office Action Summary	Application No. 15/687,249	Applicant(s) Strober, David	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 3 September 2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-20 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1,12 and 17 is/are rejected.

8) ☑ Claim(s) 2-11,13-16 and 18-20 is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 09/03/2020, 11/30/2020.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions. This Office Action is responsive to the communications filed on 3 September 2020. Claims 1-20 are pending.

2. The indicated allowability of claims is withdrawn in view of copending Application No. 16/917,095. Rejections based on the newly cited reference(s) follow.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a

result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

4. Claims 1, 12 and 17 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 8 and 17 of copending Application No. 16/917,095(reference application). Although the claims at issue are not identical, they are not patentably distinct from each other because differences are not sufficient to render the claims patentably distinct, and therefore, claims 1, 12 and 17 are obvious variation of claims 1, 8 and 17 of the copending Application No. 16/917,095.

Instant Application No. 15/687,249	Copending Application No. 16/917,095.
1. A non-transitory computer storage medium storing computer-useable instructions that, when used by a first computing device,	1. A non-transitory computer storage medium storing computer-useable instructions that, when used by a computing device, cause the computing device to perform operations comprising:

cause the first computing device to perform operations comprising: obtaining a synchronization code associated with the first computing device, wherein the associated synchronization code is stored on a remote server device; providing the synchronization code to a second 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 first computing device and the second computing device;	providing a unique identifier of the computing device to another computing device;
receiving, 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 second computing device;	receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first media playing element of a plurality of media playing elements, and including a set of commands that corresponds to the first media playing element;
selecting 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	selecting the first media playing element from the plurality of media playing elements based at least in part on the received message; and
controlling 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.	controlling how the selected first media playing element plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.

12. A computer-implemented method for remotely presenting various types of content, comprising:	17. A computer-implemented method for controlling playback of various types of content, comprising:
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:	providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;
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;	
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;	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 media playing element of a plurality of media playing elements, 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 media playing element;
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	selecting, by the media receiver, the first media playing element from the plurality of media playing elements based at least in part on the received message; and

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 .	controlling, by the media receiver, how the selected first media playing element 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.
17. A content presentation device comprising: a display;	8. A computerized system comprising:
at least one processor; and	a server; and
at least one computer storage media storing computer-usable instructions that, when used by the at least one processor, cause the at least one processor to:	
obtain a synchronization code associated with the content presentation device, wherein the associated synchronization code is stored on a remote server device;	a media receiver to provide a unique identifier of the media receiver to a computing device, wherein each of the computing device and the media receiver are in communication with the server; based on the provided unique identifier,
provide 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;	
receive, from the remote server device, a first message that includes at least one command in a first format, the first message being received based on the stored association and on a second message in the second format sent from the associated remote computing device;	receive a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first media playing element of a plurality of media playing elements, and

select a first media player application from a plurality of media player applications based 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 control how the selected first media player application plays the referenced first piece of content ł based on a first command of the at least one command in the first format having been included in the received first message.	including a set of commands converted from a universal format defined by the computing device to a first format that corresponds to the first media playing element; select the first media playing element from the plurality of media playing elements based at least in part on the received message; and control how the selected first media playing element 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.

5. This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Allowable Subject Matter

6. Claims 1-20 are allowable upon filing a terminal disclaimer with copending Application No. 16/917,095.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on Mon-Thr - 7-4:30, Fri - 7-3:30, Alt. Fri Off.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DARRIN HOPE
Examiner
Art Unit 2173

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

Electronic Patent Application Fee Transmittal

Application Number:	16917095
Filing Date:	30-Jun-2020
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Filer:	Keith Joshua Bae/Elizabeth Iverson
Attorney Docket Number:	41197.280029

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	260	260
		Total in USD ($)		**260**

Electronic Acknowledgement Receipt	
EFS ID:	42521388
Application Number:	16917095
International Application Number:	
Confirmation Number:	6770
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Customer Number:	149550
Filer:	Keith Joshua Bae/Elizabeth Iverson
Filer Authorized By:	Keith Joshua Bae
Attorney Docket Number:	41197.280029
Receipt Date:	22-APR-2021
Filing Date:	30-JUN-2020
Time Stamp:	11:33:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$260
RAM confirmation Number	E20214LB34190507
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	41197_280029_IDSForm.pdf	1007084 a0d676a27c8ae8dd8bebb63e82e425edd66d3c05	no	4
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
2	Non Patent Literature	41197_280029_NPL1.pdf	1555478 622142f583aee58895054038ee38d4483e1225ee	no	9
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30643 ba7fe44cfc5166e9b8d930e5fee20387dada296a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2593205		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

USPTO Automated Interview Request (AIR)

Apr 27 2021

This paper requesting to schedule and/or conduct an interview is appropriate because:

This submission is requested to be accepted as an authorization for this interview to communicate via the internet. Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned concerning scheduling of the interview via video conference, instant messaging, or electronic mail, and to conduct the interview in accordance with office practice including video conferencing.

Name(s):
Keith Bae

S-signature:
/Keith Bae/

Registration Number:
64633

U.S. Application Number:
16917095

Confirmation Number:
6770

E-mail Address:
kbae@shb.com

Phone Number:
+1 8165590330

Proposed Time of Interview:
5-5-2021 11:00 AM ET

Prefered Interview Type:
Telephonic

I am the applicant or applicant's representative for this application.

Topic for Discussion:

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	16/917,095	Filing Date	2020-06-30	Docket Number (if applicable)	41197.280029	Art Unit	2173
First Named Inventor	David Strober			Examiner Name	DARRIN HOPE		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 192112

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Keith J. Bae/	Date (YYYY-MM-DD)	2021-05-11
Name	Keith J. Bae	Registration Number	64633

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc Code: TRACK1.REQ
Document Description: TrackOne Request

PTO/AIA/424 (04-14)

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)

First Named Inventor:	David Strober	Nonprovisional Application Number (if known):	16/917,095
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently $0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.

2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.

3. The applicable box is checked below:

I. ☐ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, **or** the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☑ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Keith J. Bae/	Date 2021-05-11
Name (Print/Typed) Keith J. Bae	Practitioner Registration Number 64,633

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.**

☑ *Total of 1 forms are submitted.

Privacy Act Statement

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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Electronic Patent Application Fee Transmittal

Application Number:	16917095
Filing Date:	30-Jun-2020
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Filer:	Keith Joshua Bae/Elizabeth Iverson
Attorney Docket Number:	41197.280029

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2100	2100
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
RCE- 1ST REQUEST	2801	1	680	680
		Total in USD ($)		**2780**

Electronic Acknowledgement Receipt	
EFS ID:	42690085
Application Number:	16917095
International Application Number:	
Confirmation Number:	6770
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Customer Number:	149550
Filer:	Keith Joshua Bae/Elizabeth Iverson
Filer Authorized By:	Keith Joshua Bae
Attorney Docket Number:	41197.280029
Receipt Date:	11-MAY-2021
Filing Date:	30-JUN-2020
Time Stamp:	12:29:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$2780
RAM confirmation Number	E20215AC29261109
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response After Final Action	Response_to_OA.pdf	90236 cec2ba4053127e8951977f60dcef222c296d1464	no	15
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	RCE_FORM.pdf	1350004 12165ef9b2fe2f9caaffbceed7bdbd07ed52e723	no	3
Warnings:					
Information:					
3	TrackOne Request	Prioritized_Examination.pdf	114444 f39c6a62f143b38e176f6f0e9503379af0412281	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32494 aa2d3c06ec28fa312390317fa11107deebc185cf	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1587178		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	16/917,095	Confirmation No. 6770
First Inventor	:	David Strober	
Applicant	:	Touchstream Technologies, Inc.	
Filed	:	06/30/2020	
Title	:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE	
Group Art Unit	:	2173	
Examiner	:	DARRIN HOPE	
Atty Docket No.	:	41197.280029	
Customer No.	:	149550	

VIA EFS-WEB – May 11, 2021

Mail Stop RCE
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

RESPONSE AND REQUEST FOR CONTINUED EXAMINATION

Applicant respectfully requests continued examination of the above identified application. The following is in accordance with the requirements under 37 C.F.R § 1.1114(c) and MPEP 706.07(h), Sec. II. A fee for the RCE is submitted electronically herewith.

In response to the Final Office Action mailed April 7, 2021, please amend the above-identified application as follows:

Amendments to the Claims: begin on page 2 of this paper.

Summary of Examiner Interview: begins on page 8 of this paper.

Remarks: begin on page 9 of this paper.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A non-transitory computer storage medium storing computer-useable instructions that, when used by a computing device, cause the computing device to perform operations comprising:

providing a unique identifier of the computing device to another computing device;

receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application[[s]] types, and including a set of commands that corresponds to the first type of media playing application;

in response to receiving the set of messages, selecting the first type of media playing application from the plurality of media playing application[[s]] types based at least in part on its association with the piece of content referenced in the received set of messages; and

controlling how the selected first type of media playing application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.

2. (Currently Amended) The medium of claim 1, wherein the set of commands included in the received set of messages is recognizable by the first type of media playing application ~~element~~.

3. (Currently Amended) The medium of claim 2, wherein the set of commands is converted via an API adapter to be recognizable by the first type of media playing application ~~element~~, the set of commands being converted based on a determination that the first type of media playing application is associated with the referenced piece of content.

4. (Currently Amended) The medium of claim 1, wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first type of media playing application ~~element~~.

5. (Original) The medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a synchronization code.

6. (Currently Amended) The medium of claim 1, wherein the received set of commands includes programming code associated with the first type of media playing application ~~element~~.

7. (Currently Amended) The medium of claim 1, wherein each media playing application type of the plurality of media playing application[[s]] types is operable to play and/or control a corresponding type of media.

8. (Currently Amended) A computerized system comprising:

a server; and

a media receiver to—

provide a unique identifier of the media receiver to a computing device, wherein each of the computing device and the media receiver are in communication with the server;

based on the provided unique identifier, receive a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application[[s]] 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 ~~element~~;

in response to the set of messages being received, select the first type of media playing application from the plurality of media playing application[[s]] types based at least in part on its association with the piece of content referenced in the received set of messages; and

control how the selected first type of media playing application plays the referenced piece of content based on at least one command of the converted set of commands included in the received set of messages.

9. (Original) The computerized system of claim 8, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.

10. (Original) The computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages.

11. (Currently Amended) The computerized system of claim 8, wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first type of media playing application ~~element~~.

12. (Original) The computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a unique synchronization code.

13. (Currently Amended) The computerized system of claim 8, wherein the converted set of commands includes programming code associated with the first type of media playing application ~~element~~.

14. (Currently Amended) The computerized system of claim 8, wherein the set of commands converted to the first format is recognizable to the first type of media playing application ~~element~~.

15. (Currently Amended) The computerized system of claim 8, wherein each media playing application type of the plurality of media playing application[[s]] types is operable to play and/or control a corresponding type of media.

16. (Original) The computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server.

17. (Currently Amended) A computer-implemented method for controlling playback of various types of content, comprising:

providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;

based on the provided unique identifier, receiving, by the media receiver via the server system, a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application[[s]] 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 ~~element~~;

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[[s]] types based at least in part on its association with the piece of content referenced in the received set of messages; and

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.

18. (Currently Amended) 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.

19. (Currently Amended) 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 ~~element~~.

20. (Original) 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.

SUMMARY OF EXAMINER INTERVIEW

Applicant would like to thank the Examiner for granting an interview on May 10, 2021. During the interview, Applicant discussed the claimed invention and proposed amendments believed to overcome the currently cited references. While no agreement was reached, the Examiner noted that should the amendments be entered, they would be reviewed with additional search and consideration.

REMARKS

The Final Office Action mailed April 7, 2021 has been received and reviewed. Prior to the present communication, claims 1-20 were pending and claims 1-20 stand rejected. Each of Claim(s) 1-4, 6-8, 11, 13-15, and 17-19 has been amended herein. Support for the amendments can be found in at least ¶¶[0026], [0034], [0039] of the as-filed specification. Reconsideration of the subject application is respectfully requested in view of the amendments and the following remarks.

Rejections based on 35 U.S.C. § 102

Claims 1, 5, 8, 12, 15 and 16 were rejected under 35 U.S.C. § 102(a)(2) as ostensibly being anticipated by U.S. Publication No. 2009/0172780 to Sukeda et al. (hereinafter "Sukeda"). As the asserted reference fails to describe, expressly or inherently, each and every element recited in the rejected claim(s), Applicant respectfully traverses the rejection, as hereinafter set forth.

First and foremost, Applicant points out that the Office asserts that it "broadly and reasonably interprets the *application or web site claimed by the Applicant* to be analogous to the content body 177 disclosed by Sukeda." *See* Office Action of April 5, 2021, p. 4. However, Applicant's claim (prior to amendments made herein) recited "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing ***a piece of content associated with a first media playing application*** of a plurality of media playing applications, and including a set of commands that corresponds to ***the first media playing application***; selecting the ***first media playing application*** from the plurality of media playing applications based at least in part on the received message." Applicant submits that content body 177 of Sukeda can only be reasonably interpreted as "the piece of content," as recited in Applicant's

claims. If "the content body 177" of Sukeda was interpreted as an "application," as asserted by the Office on p. 4 of the Office Action, then the description of Sukeda would need to show that a "contents URL 175" of Sukeda points to an *application*, and not the content itself, which it does not. Even still, if the Office somehow rationally justifies that "content body 177" of Sukeda could be interpreted as an "application," as claimed, the Office should not be able to change its interpretation to reasonably rely on Sukeda as purportedly describing "selecting the first media playing application from the plurality of media playing applications based at least in part on the received message," as was claimed. This would require Sukeda to describe the *selection of an application based on a received message*. Sukeda at best describes, as the Office indicates on pp. 4-5 of the Office Action, that "when the list of *contents* is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)." *See* Office Action, p. 5. Applicant submits that the Office appears to revert back to interpreting "content body" as "the piece of content" as opposed to an application. To this end, Applicant respectfully submits that the rejection is improper.

Applicant has herein amended independent claim 1 to recite, among other things, "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***." Applicant submits that Sukeda fails to describe each and every feature recited in amended independent claim 1. As independent claims 8 and 17 have also been amended to recite similar features of amended independent claim 1, Applicant

submits that Sukeda fails to describe each and every feature recited in amended independent claims 8 and 17 as well.

Applicant submits that Sukeda does not describe, among other things, "***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***," as similarly recited in the amended independent claims. Applicant notes that the amended language should clarify that a "first *type* of media playing application" is selected from a plurality of media playing application types based on the first *type* of media playing application's association with the piece of content referenced in the received set of messages. In this regard, even if the Office were to interpret Sukeda's "content body 177" as an application (or website), Applicant submits that the Office cannot reasonably interpret "content body 177" as an application *type*. Applicant further submits that, as amended, the independent claims require that a first *type* of media playing application is selected from a plurality of media playing application types *based on the first type of media playing application being associated with the piece of content referenced in the received set of messages*. Sukeda does not describe the selection of a media playing application type, based on a piece of content referenced in the received set of messages being associated with a particular media playing application type. Lastly, the amended independent claims require that the first type of media playing application is selected from the plurality of media playing application types ***in response to receiving the set of messages***. Sukeda, on the other hand, notes that "when the list of *contents* is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)." *See* Office Action, p. 5. In this regard, Sukeda does not describe the selection of a first type of media playing application *in response to* receiving the set of messages, as claimed, because whatever object

of Sukeda the Office may interpret as being selected, it cannot be selected *in response to receiving the set of messages*. Instead, Sukeda discusses the presentation of a list, and then allowing a user to select an individual content from the list.

As Sukeda fails to describe each and every element recited in amended independent claims 1, 8, and 17, withdrawal of the rejection to these claims is respectfully requested. For at least the reasons as detailed hereinabove for the similar features of amended independent claim(s) 1, 8, and 17, Sukeda fails to describe each element recited in claims 5, 12, 15 and 16, for the same reasons as the independent claims from which they depend and for the additional features recited therein. Accordingly, withdrawal of the rejections of these claims is respectfully requested as well, for at least the above-cited reasons. Claims 1, 5, 8, 12, 15 and 16 are believed to be in condition for allowance and such favorable action is respectfully requested.

Rejections based on 35 U.S.C. § 103

Claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 were rejected under 35 U.S.C. § 103 as ostensibly being unpatentable over Sukeda, in view of U.S. Publication No. 2009/0248802 to Mahajan et al. (hereinafter "Mahajan"). As the cited references, both alone or in combination, fail to teach or suggest all of the features of the independent claim(s) as amended, Applicant respectfully traverses this rejection, as hereinafter set forth.

As described above with respect to the amended independent claims, Sukeda fails to describe each and every feature recited in at least amended independent claims 1, 8, and 17. Applicant herein submits that Mahajan fails to cure the deficiencies of Sukeda, because Mahajan does not teach "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set

of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***," as is similarly recited in the amended independent claims.

In fact, Mahajan is silent in teaching "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***," as is similarly recited in the amended independent claims. At best, Mahajan discusses how "generic media playback commands can be sent to the client" and "client can convert the generic commands into commands that are specific to a platform supported by the client." *See* Mahajan, ¶[0014]. Mahajan further discusses how a "collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122" and thus "the genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126." Applicant submits that Mahajan's translations for playback commands are being performed based on a "client's media platform" as opposed to "…the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of***

messages, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***." Instead, Mahajan discusses genericizing media playback commands and translating them "specific to the client's media platform," which is not "...the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***." There is, in fact, no selection of any media playing application type according to Mahajan, but instead a mere translation of genericized commands to *a media platform specific to a client*. *See* Mahajan, ¶[0022].

As the applied references, both alone and in combination, do not teach or suggest all features of amended independent claims 1, 8, and 17, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection be withdrawn. As claims 2-4, 6, 7, 9-11, 13, 14 and 18-20 depend directly or indirectly from amended independent claim(s) 1, 8, and 17, respectively, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection to claims 2-4, 6, 7, 9-11, 13, 14 and 18-20 be withdrawn for the same reasons as the amended independent claim(s) from which they depend, and for the additional features recited therein.

CONCLUSION

For at least the reasons stated above, the pending claims are believed to be in condition for allowance. Applicant respectfully requests withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned – 816-474-6550 or kbae@shb.com (such communication via email is herein expressly granted) – to resolve the same. It is believed that all fees due have been paid. However, if this belief is in error, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112, with reference to Attorney Docket No. 41197.280029.

Respectfully submitted,

/Keith J. Bae/

Keith J. Bae
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PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/917,095	Filing Date 06/30/2020	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	05/11/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $240 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/ELMIRA Y HALL/
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/917,095	06/30/2020	David Strober	41197.280029	6770

149550 7590 06/04/2021

SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
INTELLECTUAL PROPERTY DEPARTMENT
2555 GRAND BLVD
KANSAS CITY, MO 64108-2613

EXAMINER	
HOPE, DARRIN	

ART UNIT	PAPER NUMBER
2173	

NOTIFICATION DATE	DELIVERY MODE
06/04/2021	ELECTRONIC

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Applicant-Initiated Interview Summary	**Application No.** 16/917,095	**Applicant(s)** Strober, David		
	Examiner DARRIN HOPE	**Art Unit** 2173	**AIA (First Inventor to File) Status** Yes	**Page** 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
DARRIN HOPE	Examiner	Telephonic
KEITH BAE	Attorney	

Date of Interview: 10 May 2021

Issues Discussed:

Proposed Amendment(s)

Discussed applicant's proposed amendments. The Examiner agreed that the amendments appeared to overcome the prior art. However, further search and consideration is needed to determined patentability.

☑ Attachment

/DARRIN HOPE/ Examiner, Art Unit 2173	/TADESSE HAILU/ Primary Examiner, Art Unit 2173

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

PROPOSED AMENDMENTS TO THE CLAIMS:

This listing of claims and the proposed amendments are not to be entered and are presented for discussion purposes only.

Listing of Claims:

1. (Currently Amended) A non-transitory computer storage medium storing computer-useable instructions that, when used by a computing device, cause the computing device to perform operations comprising:

providing a unique identifier of the computing device to another computing device;

receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application[[s]] types, and including a set of commands that corresponds to the first type of media playing application;

in response to receiving the set of messages, selecting the first type of media playing application from the plurality of media playing application[[s]] types based at least in part on its association with the piece of content referenced in the received set of messages; and

controlling how the selected first type of media playing application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages.

2. (Currently Amended) The medium of claim 1, wherein the set of commands included in the received set of messages is recognizable by the first type of media playing application ~~element~~.

3. (Currently Amended) The medium of claim 2, wherein the set of commands is converted via an API adapter to be recognizable by the first type of media playing application ~~element~~, the set of commands being converted based on a determination that the first type of media playing application is associated with the referenced piece of content.

4. (Currently Amended) The medium of claim 1, wherein the set of commands is defined in a universal format and converted to a particular format recognizable by the first type of media playing application ~~element~~.

5. (Original) The medium of claim 1, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a synchronization code.

6. (Currently Amended) The medium of claim 1, wherein the received set of commands includes programming code associated with the first type of media playing application ~~element~~.

7. (Currently Amended) The medium of claim 1, wherein each media playing application type of the plurality of media playing application[[s]] types is operable to play and/or control a corresponding type of media.

8. (Currently Amended) A computerized system comprising:

a server; and

a media receiver to—

provide a unique identifier of the media receiver to a computing device, wherein each of the computing device and the media receiver are in communication with the server;

based on the provided unique identifier, receive a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application[[s]] 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 ~~element~~;

in response to the set of messages being received, select the first type of media playing application from the plurality of media playing application[[s]] types based at least in part on its association with the piece of content referenced in the received set of messages; and

control how the selected first type of media playing application plays the referenced piece of content based on at least one command of the converted set of commands included in the received set of messages.

9. (Original) The computerized system of claim 8, wherein the set of commands in the universal format is included in the set of messages communicated from the computing device.

10. (Original) The computerized system of claim 9, wherein the converted set of commands in the first format is included in the received set of messages.

11. (Currently Amended) The computerized system of claim 8, wherein the computerized system is configured to convert the set of commands from the universal format to the first format based on the piece of content being associated with the first type of media playing application ~~element~~.

12. (Original) The computerized system of claim 8, wherein the unique identifier includes one of an IP address, a MAC address, a web cookie, a browser cookie, a QR code, a RFID code, a text, or a unique synchronization code.

13. (Currently Amended) The computerized system of claim 8, wherein the converted set of commands includes programming code associated with the first type of media playing application ~~element~~.

14. (Currently Amended) The computerized system of claim 8, wherein the set of commands converted to the first format is recognizable to the first type of media playing application ~~element~~.

15. (Currently Amended) The computerized system of claim 8, wherein each media playing application type of the plurality of media playing application[[s]] types is operable to play and/or control a corresponding type of media.

16. (Original) The computerized system of claim 8, wherein the set of messages is received from the computing device based further on each of the computing device and the media receiver being in communication with the server.

17. (Currently Amended) A computer-implemented method for controlling playback of various types of content, comprising:

providing, by a media receiver, a unique identifier of the media receiver to a computing device in communication with a server system;

based on the provided unique identifier, receiving, by the media receiver via the server system, a set of messages from the computing device, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application[[s]] 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 ~~element~~;

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[[s]] types based at least in part on its association with the piece of content referenced in the received set of messages; and

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.

18. (Currently Amended) 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.

19. (Currently Amended) 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 ~~element~~.

20. (Original) 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.

Rejections based on 35 U.S.C. § 102

Claims 1, 5, 8, 12, 15 and 16 were rejected under 35 U.S.C. § 102(a)(2) as ostensibly being anticipated by U.S. Publication No. 2009/0172780 to Sukeda et al. (hereinafter "Sukeda"). As the asserted reference fails to describe, expressly or inherently, each and every element recited in the rejected claim(s), Applicant respectfully traverses the rejection, as hereinafter set forth.

First and foremost, Applicant points out that the Office asserts that it "broadly and reasonably interprets the *application or web site claimed by the Applicant* to be analogous to the content body 177 disclosed by Sukeda." *See* Office Action of April 5, 2021, p. 4. However, Applicant's claim (prior to amendments made herein) recited "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing ***a piece of content associated with a first media playing application*** of a plurality of media playing applications, and including a set of commands that corresponds to ***the first media playing application***; selecting the ***first media playing application*** from the plurality of media playing applications based at least in part on the received message." Applicant submits that content body 177 of Sukeda can only be reasonably interpreted as "the piece of content," as recited in Applicant's claims. If "the content body 177" of Sukeda was interpreted as an "application," as asserted by the Office on p. 4 of the Office Action, then the description of Sukeda would need to show that a "contents URL 175" of Sukeda points to an *application*, and not the content itself, which it does not. Even still, if the Office somehow rationally justifies that "content body 177" of Sukeda could be interpreted as an "application," as claimed, the Office should not be able to change its interpretation to reasonably rely on Sukeda as purportedly describing "selecting the first media playing application from the plurality of media playing applications based at least in part on the received message," as was claimed. This would require Sukeda to describe the *selection of an application based on a received message*. Sukeda

at best describes, as the Office indicates on pp. 4-5 of the Office Action, that "when the list of *contents* is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)." *See* Office Action, p. 5. Applicant submits that the Office appears to revert back to interpreting "content body" as "the piece of content" as opposed to an application. To this end, Applicant respectfully submits that the rejection is improper.

Applicant has herein amended independent claim 1 to recite, among other things, "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***." Applicant submits that Sukeda fails to describe each and every feature recited in amended independent claim 1. As independent claims 8 and 17 have also been amended to recite similar features of amended independent claim 1, Applicant submits that Sukeda fails to describe each and every feature recited in amended independent claims 8 and 17 as well.

Applicant submits that Sukeda does not describe, among other things, "***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***," as similarly recited in the amended independent claims. Applicant notes that the amended language should clarify that a "first *type* of media playing application" is selected from a plurality of media playing application types based on

the first *type* of media playing application's association with the piece of content referenced in the received set of messages. In this regard, even if the Office were to interpret Sukeda's "content body 177" as an application (or website), Applicant submits that the Office cannot reasonably interpret "content body 177" as an application *type*. Applicant further submits that, as amended, the independent claims require that a first *type* of media playing application is selected from a plurality of media playing application types *based on the first type of media playing application being associated with the piece of content referenced in the received set of messages*. Sukeda does not describe the selection of a media playing application type, based on a piece of content referenced in the received set of messages being associated with a particular media playing application type. Lastly, the amended independent claims require that the first type of media playing application is selected from the plurality of media playing application types ***in response to receiving the set of messages***. Sukeda, on the other hand, notes that "when the list of *contents* is browsed on the operation terminal (317) and an individual content is selected from the list (318), the server updates the latest display contents 112, and displays a thumbnail image, detailed contents information, or the like on a screen of the operation terminal (319)." *See* Office Action, p. 5. In this regard, Sukeda does not describe the selection of a first type of media playing application *in response to* receiving the set of messages, as claimed, because whatever object of Sukeda the Office may interpret as being selected, it cannot be selected *in response to receiving the set of messages*. Instead, Sukeda discusses the presentation of a list, and then allowing a user to select an individual content from the list.

As Sukeda fails to describe each and every element recited in amended independent claims 1, 8, and 17, withdrawal of the rejection to these claims is respectfully requested. For at least the reasons as detailed hereinabove for the similar features of amended independent claim(s) 1, 8, and 17, Sukeda fails to describe each element recited in claims 5, 12, 15 and 16, for the same reasons as the independent claims from which they depend and for the additional features recited

therein. Accordingly, withdrawal of the rejections of these claims is respectfully requested as well, for at least the above-cited reasons. Claims 1, 5, 8, 12, 15 and 16 are believed to be in condition for allowance and such favorable action is respectfully requested.

Rejections based on 35 U.S.C. § 103

Claims 2-4, 6, 7, 9-11, 13, 14 and 17-20 were rejected under 35 U.S.C. § 103 as ostensibly being unpatentable over Sukeda, in view of U.S. Publication No. 2009/0248802 to Mahajan et al. (hereinafter "Mahajan"). As the cited references, both alone or in combination, fail to teach or suggest all of the features of the independent claim(s) as amended, Applicant respectfully traverses this rejection, as hereinafter set forth.

As described above with respect to the amended independent claims, Sukeda fails to describe each and every feature recited in at least amended independent claims 1, 8, and 17. Applicant herein submits that Mahajan fails to cure the deficiencies of Sukeda, because Mahajan does not teach "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***," as is similarly recited in the amended independent claims.

In fact, Mahajan is silent in teaching "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media

playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***," as is similarly recited in the amended independent claims. At best, Mahajan discusses how "generic media playback commands can be sent to the client" and "client can convert the generic commands into commands that are specific to a platform supported by the client." *See* Mahajan, ¶[0014]. Mahajan further discusses how a "collaboration media abstraction layer 130 can abstract or genericize the media playback commands specific to media platform 122" and thus "the genericized media playback commands can then be translated into media playback commands specific to the client's media platform 126." Applicant submits that Mahajan's translations for playback commands are being performed based on a "client's media platform" as opposed to "…the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced in the received set of messages***." Instead, Mahajan discusses genericizing media playback commands and translating them "specific to the client's media platform," which is not "…the received set of messages referencing a piece of content associated with a first *type* of media playing application of a plurality of media playing application *types*, and including a set of commands that corresponds to the first *type* of media playing application; ***in response to receiving the set of messages***, selecting the first type of media playing application from the plurality of media playing application types ***based at least in part on its association with the piece of content referenced***

in the received set of messages." There is, in fact, no selection of any media playing application type according to Mahajan, but instead a mere translation of genericized commands to *a media platform specific to a client*. *See* Mahajan, ¶[0022].

As the applied references, both alone and in combination, do not teach or suggest all features of amended independent claims 1, 8, and 17, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection be withdrawn. As claims 2-4, 6, 7, 9-11, 13, 14 and 18-20 depend directly or indirectly from amended independent claim(s) 1, 8, and 17, respectively, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection to claims 2-4, 6, 7, 9-11, 13, 14 and 18-20 be withdrawn for the same reasons as the amended independent claim(s) from which they depend, and for the additional features recited therein.

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149550 7590 06/30/2021

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EXAMINER
HOPE, DARRIN

ART UNIT	PAPER NUMBER
2173	

DATE MAILED: 06/30/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/917,095	06/30/2020	David Strober	41197.280029	6770

TITLE OF INVENTION: PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	09/30/2021

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/917,095	06/30/2020	David Strober	41197.280029	6770

TITLE OF INVENTION: PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	09/30/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
HOPE, DARRIN	2173	715-716000

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❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/917,095	06/30/2020	David Strober	41197.280029	6770

149550 7590 06/30/2021

SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
INTELLECTUAL PROPERTY DEPARTMENT
2555 GRAND BLVD
KANSAS CITY, MO 64108-2613

EXAMINER	
HOPE, DARRIN	
ART UNIT	**PAPER NUMBER**
2173	

DATE MAILED: 06/30/2021

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/917,095	Applicant(s) Strober, David	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the RCE filed on 11 May 2021.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-20 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 04/22/2021.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DARRIN HOPE/ Examiner, Art Unit 2173	/TADESSE HAILU/ Primary Examiner, Art Unit 2173

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions. This Office Action is responsive to the communications filed on 11 May 2021. Claims 1-20 are pending.

Allowable Subject Matter

2. Claims 1-20 are allowed.

3. The following is an examiner's statement of reasons for allowance:

The present invention is directed to a computer-implemented method and device for presenting and controlling content on a display device.

The prior arts fails to show individually or in combination the elements recited in independent claim 1.

Specifically, the prior art references fail to show, in part, "receiving a set of messages from the other computing device based on the provided unique identifier, the received set of messages referencing a piece of content associated with a first type of media playing application of a plurality of media playing application types, and including a set of commands that corresponds to the first type of media playing application; in response to receiving the set of messages, selecting the first type of media playing application from the plurality of media playing application types based at least in part on its association with the piece of content referenced in the received set of messages; and controlling how the selected first type of media playing application plays the referenced piece of content based on at least one command of the set of commands included in the received set of messages" as recited in independent claim 1. At least based on the

above distinctions, the Examiner submits that independent claim 1 is patentable over the combination of the cited references. Independent claims 8 and 17 include similar limitations to that of claim 1 and are also patentable over the cited prior art for at least the same reasons described above with respect to claim 1. At least by virtue of their dependency, the Examiner submits that the remaining claims are also patentable over the combination of the cited references.

Accordingly, Claims 1-20 are allowed.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on Mon-Thr - 7-4:30, Fri - 7-3:30, Alt. Fri Off.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DARRIN HOPE
Examiner
Art Unit 2173

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	**Art Unit**
	DARRIN HOPE	2173

CPC						
Symbol					**Type**	**Version**
G06F	/	16	/	74	F	2019-01-01
G06F	/	16	/	951	I	2019-01-01
G06F	/	9	/	452	I	2018-02-01

CPC Combination Sets								
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

/DARRIN HOPE/ Examiner, Art Unit 2173	17 June 2021	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/TADESSE HAILU/ Primary Examiner, Art Unit 2173	17 June 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20210617

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	**Art Unit**
	DARRIN HOPE	2173

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F	/	3	/	01

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
715	716

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

/DARRIN HOPE/ Examiner, Art Unit 2173	17 June 2021	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/TADESSE HAILU/ Primary Examiner, Art Unit 2173	17 June 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	**Art Unit**
	DARRIN HOPE	2173

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	10	19	19										
2	2	11	11	20	20										
3	3	12	12												
4	4	13	13												
5	5	14	14												
6	6	15	15												
7	7	16	16												
8	8	17	17												
9	9	18	18												

/DARRIN HOPE/ Examiner, Art Unit 2173	17 June 2021	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/TADESSE HAILU/ Primary Examiner, Art Unit 2173	17 June 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office Part of Paper No.: 20210617

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	Art Unit
	DARRIN HOPE	2173

CPC - Searched*		
Symbol	Date	Examiner
G06F16/74 G06F9/452 G06F16/951	08/25/2020	DH

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor's Name Search	08/25/2020	DH
EAST	08/25/2020	DH
TP.com database	08/25/2020	DH
EAST	11/12/2020	DH
EAST	04/01/2021	DH
EAST	06/17/2021	DH

/DARRIN HOPE/ Examiner, Art Unit 2173	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/917,095	Strober, David
	Examiner	Art Unit
	DARRIN HOPE	2173

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G06F16	74, 951	06/17/2021	DH
G06F9	452	06/17/2021	DH

/DARRIN HOPE/ Examiner, Art Unit 2173	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	("20200334291").PN.	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2021/06/17 17:30
L2	31,194	(G06F16/74 G06F9/452 G06F16/951).cpc.	US-PGPUB; USPAT	OR	OFF	2021/06/17 17:31
L3	12	((("STROBER") near3 ("David"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2021/06/17 17:31
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L32	564	L2 and media with (player application) with (adapt$3 convert$3 translat$3 conversion format$3)	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2021/06/17 17:55

L33	24	L16 and L32	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2021/06/17 17:56

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	31,194	(G06F16/74 G06F9/452 G06F16/951).cpc.	US-PGPUB; USPAT	OR	OFF	2021/06/17 17:38
L34	31,194	(G06F16/74 G06F9/452 G06F16/951).cpc.	US-PGPUB; USPAT	OR	OFF	2021/06/17 17:58
L35	5,131	receiv$3 same (set multiple) same message$1 same ((comput$3 terminal mobile cell smart) near (device apparatus phone telephone)) same (based respons$3) same ("unique identifier " "ip address" "web cookie" "QR code" "MAC address" "RFID code" text "synchronization code")	US-PGPUB; USPAT	OR	OFF	2021/06/17 17:58
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L38	564	L4 and L37	US-PGPUB; USPAT	OR	OFF	2021/06/17 18:00

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C:\Users\dhope\Documents\EAST\Workspaces\16917095.wsp

Bibliographic Data

Application No: 16/917,095

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /DARRIN HOPE/ Examiner's Signature | Initials

Title: PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
06/30/2020	715	2173	41197.280029
RULE			

APPLICANTS

Touchstream Technologies, Inc., Valhalla, NY, UNITED STATES

INVENTORS

David Strober, Rye, NY, UNITED STATES

CONTINUING DATA

This application is a CON of 15687249 08/25/2017 PAT 11048751

15687249 is a CON of 13532546 06/25/2012 PAT 9767195

13532546 is a CIP of 13157821 06/10/2011 PAT 8904289

13157821 has PRO of 61477998 04/21/2011

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

07/09/2020

** SMALL ENTITY **

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SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
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KANSAS CITY, MO 64108-2613
UNITED STATES

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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	16917095
	Filing Date	2020-06-30
	First Named Inventor	David Strober
	Art Unit	2173
	Examiner Name	Darrin Hope
	Attorney Docket Number	41197.280029

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.H/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16917095
	Filing Date	2020-06-30
	First Named Inventor	David Strober
	Art Unit	2173
	Examiner Name	Darrin Hope
	Attorney Docket Number	41197.280029

	1	Non-Final Office Action dated February 2, 2021 in U.S. Patent Application No. 15/687,249, 9 pages.	

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Examiner Signature	/DARRIN HOPE/	Date Considered	06/17/2021

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.H/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16917095
	Filing Date	2020-06-30
	First Named Inventor	David Strober
	Art Unit	2173
	Examiner Name	Darrin Hope
	Attorney Docket Number	41197.280029

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Keith J. Bae/	Date (YYYY-MM-DD)	2021-04-22
Name/Print	Keith J. Bae	Registration Number	64,633

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/917,095	06/30/2020	David Strober	41197.280029	6770

149550 7590 06/29/2021

SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
INTELLECTUAL PROPERTY DEPARTMENT
2555 GRAND BLVD
KANSAS CITY, MO 64108-2613

EXAMINER	
HOPE, DARRIN	

ART UNIT	PAPER NUMBER
2173	

NOTIFICATION DATE	DELIVERY MODE
06/29/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Doc Code:
TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.: 16/917,095

1. THE REQUEST FILED 11 May 2021 IS **GRANTED.**

The above-identified application has met the requirements for prioritized examination

A. ☐ for an original nonprovisional application (Track I).
B. ☒ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination.** The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

A. filing a **petition for extension of time** to extend the time period for filing a reply;
B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims**, or a multiple dependent claim;
C. filing a **request for continued examination**;
D. filing a notice of appeal;
E. filing a request for suspension of action;
F. mailing of a notice of allowance;
G. mailing of a final Office action;
H. completion of examination as defined in 37 CFR 41.102; or
I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to Cheryl Gibson-Baylor at 571-272-3213.

Cheryl Gibson-Baylor
/Cheryl Gibson-Baylor/
[*Signature*]

Paralegal Specialist, Office of Petitions
(Title)

U.S. Patent and Trademark Office
PTO-2298 (Rev. 02-2012)

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16917095	30-Jun-2020	David Strober	41197.280029	6770

TITLE OF INVENTION :

PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	Utility under 35 USC 111(a)	2173	716000	DARRIN HOPE

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$600	$0	$600	30-Sep-2021	$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
149550 SHOOK, HARDY & BACON LLP (Touchstream Technologies, Inc.) INTELLECTUAL PROPERTY DEPARTMENT 2555 GRAND BLVD KANSAS CITY MO 64108-2613 UNITED STATES 816-474-6550 ipshookdocketing@shb.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

◉ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

○ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Doc Code: IFEE PTOL/85B-EFS

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee

☐ I authorize USPTO to apply my previously paid issue fee to the current fees due

☐ Publication Fee

☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____

☐ Advance Order - # of copies _____

☒ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency or credit any overpayment, to Deposit Account Number 19-2112 . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. SHOOK, HARDY & BACON L.L.P.
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
Touchstream Technologies, Inc.	Valhalla	NEW YORK	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Keith J. Bae/	**Date**	06-30-2021
Name	Keith Joshua Bae	**Registration Number**	64633

WEB IFEE 1.0

Electronic Patent Application Fee Transmittal

Application Number:	16917095
Filing Date:	30-Jun-2020
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Filer:	Keith Joshua Bae/Elizabeth Iverson
Attorney Docket Number:	41197.280029

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPL ISSUE FEE	2501	1	600	600
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**600**

Electronic Acknowledgement Receipt	
EFS ID:	43135802
Application Number:	16917095
International Application Number:	
Confirmation Number:	6770
Title of Invention:	PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE
First Named Inventor/Applicant Name:	David Strober
Customer Number:	149550
Filer:	Keith Joshua Bae/Elizabeth Iverson
Filer Authorized By:	Keith Joshua Bae
Attorney Docket Number:	41197.280029
Receipt Date:	30-JUN-2021
Filing Date:	30-JUN-2020
Time Stamp:	14:46:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$600
RAM confirmation Number	E20216TE46022474
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	46328 1e87a9ea4b8fc330cd2a1c5e6e64473f6bcacbc9	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32067 b277c3ffaa278213b66f3d87369cfe1e47ebd7ca	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	78395		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

To: shbdocketing@shb.com,ipshookdocketing@shb.com,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 149550

Jun 30, 2021 03:57:34 AM

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Application	Document	Mailroom Date	Attorney Docket No.
16917095	NOA	06/30/2021	41197.280029
	1449	06/30/2021	41197.280029
	TRACK1.GRANT	06/29/2021	41197.280029

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	16917095
Filing Date	2020-06-30
First Named Inventor	David Strober
Art Unit	2173
Examiner Name	Darrin Hope
Attorney Docket Number	41197.280029

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	4855842	A	1989-08-08	Hayes et al.	
	2	5613137	A	1997-03-18	Bertram et al.	
	3	5875311	A	1999-02-23	Bertram et al.	
	4	5878311	A	1999-03-02	Ichinokawa	
	5	6181713	B1	2001-01-30	Patki et al.	
	6	6252889	B1	2001-06-26	Patki et al.	
Change(s) applied to document, /S.B./ 7/6/2021	7	8751793	B2	~~2004-06-24~~ 06/2014	Ginter et al.	
	8	6756965	B2	2004-06-29	Combs et al.	

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/917,095	08/10/2021	11086934	41197.280029	6770

149550 7590 07/21/2021

SHOOK, HARDY & BACON LLP
(Touchstream Technologies, Inc.)
INTELLECTUAL PROPERTY DEPARTMENT
2555 GRAND BLVD
KANSAS CITY, MO 64108-2613

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

David Strober, Rye, NY;
Touchstream Technologies, Inc., Valhalla, NY;

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IR103 (Rev. 10/09)

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Subject: Private PAIR Correspondence Notification for Customer Number 149550

Jul 22, 2021 03:41:52 AM

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Application	Document	Mailroom Date	Attorney Docket No.
16917095	ISSUE.NTF	07/21/2021	41197.280029

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