PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-488-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055303	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 20A

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055303

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 7/173 (2013.01)
USPC - 725/27
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06F 3/00; H04N 7/16, 173 (2013.01)
USPC - 715/ 709, 738, 760; 725/27

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06F 3/00; H04N 7/16, 173 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Google, Orbit, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011/0289419 A1 (YU et al) 24 November 2011 (24.11.2011) entire document	1-20
A	US 2012/0200574 A1 (HILL et al) 09 August 2012 (09.08.2012) entire document	1-20
A	WO 99/21308 (MUGURA et al) 29 April 1999 (29.04.1999) entire document	1-20
A	US 2008/0022309 A1 (BEGEJA et al) 24 January 2008 (24.01.2008) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 November 2013	05 DEC 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: KENDRIA E. PEARSON
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	05 DEC 2013
Applicant's or agent's file reference 6583-488-PCT	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055303	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 7/173 (2013.01)
USPC - 725/27

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	11 November 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055303

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

a. (means)

☐ on paper

☐ in electronic form

b. (time)

☐ in the international application as filed

☐ together with the international application in electronic form

☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055303

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	None	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

See Supplemental Box

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055303

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by Yu et al., hereinafter referred to as Yu.

Regarding claims 1, 10, 16, Yu discloses a method for displaying content on a television (a user platform 140 comprises a television 142, para 0071; figs 17, 18 & 20 shows a method for the user to access television content items via a TV portal, abstract, para 0115, 0122), a non-transitory computer readable information storage medium having stored thereon instructions that cause a computing system to execute a method of displaying content on a television [claim 10] (the computer system 5600 includes a display, and the disk drive unit 5616 includes a non-transitory machine readable medium 5622 and stored on it are instructions and data e.g, software 5624 in a memory 5604 within the processor 5602 executed by the computer system, para 0228, 0229), a system for displaying content on a television, comprising: an input device associated with the television, a memory, and a microprocessor operable [claim 16] (the computer system 5600 includes a display, and the disk drive unit 5616 includes a non-transitory machine readable medium 5622 and stored on it are instructions, para 0228, 0229; figs 17, 18 & 20 shows a method wherein the television content is provided as a listing which can be accessed by the user by manipulating a conventional television remote control device by position the selection box 2022 around a desired TV content item [receiving a first directional input], para 0115, 0122) comprising: receiving a first directional input via an input device associated with the television (a user platform 140 comprises a television 142, para 0071; figs 17, 18 & 20 shows the user access television content items via a TV portal, the television content is provided as a listing which can be accessed by the user by manipulating a conventional television remote control device by position the selection box 2022 around a desired TV content item [receiving a first directional input], para 0115, 0122; fig. 18 displays a content listing area 1820 [screen channel changer/ electronic program guide] which lists the available contents with the time slots which includes the programming channels, which the users can highlights/select a particular content using an input device which upon selection delivers the content, para 0119, 0123); determining, based on a first direction associated with the first directional input, a content panel to display via the television (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device, upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 [a content panel to display via the television] as shown in fig.21, para 0122); retrieving, from a memory, a first content information for displaying in the content panel (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device, upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 [the page 2100 provides 2114, 2112, 2122 and 2124 contents which are displayed interpreted as first content information for displaying in the content panel] as shown in fig.21, para 0122; fig.6 shows a data processor 111 causes the provision module 117 to retrieve the contents from the assets stored within the service provider database 112 and makes the content accessible to the interface device 644 [interpreted as retrieving, from a memory, a content information for displaying in the content panel] via the network 120, para 0060); identifying at least one of a content source and a second content information currently being displayed via the television (the display 2100 displays the button 2114, the button 2114 "Cast & Crew" being selected by the user [selecting by the user is interpreted as identifying the content source] upon which displays the screen 2200 of fig.22, para 0125); selecting a panel type based on the identified at least one of content source and second content information currently being displayed via the television (upon the user selecting the option of 2114 "Cast & Crew" [content source] on fig.21 the user is provided with a display 2200 which provides the users with a cast page which represents detailed information 2222 related to the selected content item in this case is "Lost" television program [displaying the 2200 page which is square shaped panel including the contents 2222 upon the user selecting the 2114 is interpreted as selecting a panel type based on the identified content source], para 0125); retrieving, from memory, a third content information based on the selected panel type (upon the user selecting the option of 2114 "Cast & Crew" on fig.21 the user is provided with a display 2200 which provides the users with a cast page which represents detailed information 2222 [third content information] related to the selected content item in this case is "Lost" television program [displaying the 2200 page which is square shaped panel including the contents 2222 upon the user selecting the 2114 is interpreted as selecting a panel type based on the identified content source], para 0125; fig.6 shows a data processor 111 causes the provision module 117 to retrieve the contents from the assets stored within the service provider database 112 and makes the content accessible to the interface device 644 [interpreted as retrieving, from a memory, a content information for displaying in the content panel] via the network 120, para 0060); and displaying, via the television, the retrieved first content information and the third content information in the content panel based on the selected panel type (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device, upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 [the page 2100 provides 2114, 2112, 2122 and 2124 contents which are displayed interpreted as first content information for displaying in the content panel] as shown in fig.21, para 0122; upon the user selecting the option of 2114 "Cast & Crew" on fig.21 the user is provided with a display 2200 which provides the users with a cast page which represents detailed information 2222 [third content information] related to the selected content item in this case is "Lost" television program [displaying the 2200 page which is square shaped panel including the contents 2222 upon the user selecting the 2114 is interpreted as selecting a panel type based on the identified content source], para 0125; a user platform 140 comprises a television 142, para 0071; figs 17, 18 & 20 shows the user to access television content items via a TV portal, para 0115,0122).

Regarding claims 2, 11, 17, Yu further teaches comprising: retrieving, from a memory, a first image that is representative of the at least one of content source and second content information (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device, upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 [the page 2100 provides 2114, 2112, 2122 and 2124 contents which are displayed interpreted as a first image representative of a content source] as shown in fig.21, para 0122; fig.6 shows a data processor 111 causes the provision module 117 to retrieve the contents from the assets stored within the service provider database 112 and makes the content accessible to the interface device 644 [interpreted as retrieving, from a memory, a content information for displaying in the content panel] via the network 120, para 0060); and displaying, via the television, the first image in the content panel (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device, upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 [the page 2100 provides 2114, 2112, 2122 and 2124 contents which are displayed] as shown in fig.21, para 0122; a user platform 140 comprises a television 142, para 0071; figs 17, 18 & 20 shows the user to access television content items via a TV portal, para 0115,0122).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055303

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding claims 3, 12, 18, Yu further teaches wherein the content panel is an application panel (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device, upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 [the page 2100 provides 2114, 2112, 2122 and 2124 contents which are displayed interpreted as application panel] as shown in fig.21, para 0122; fig. 18 displays a content listing area 1820 which lists the available contents with the time slots which includes the programming channels, which the users can highlights/select a particular content [application panel] using an input device which upon selection delivers the content, para 0119, 0123).

Regarding claim 4, Yu further teaches comprising: receiving a second directional input via the input device (a user platform 140 comprises a television 142, para 0071; figs 17, 18 & 20 shows the user access television content items via a TV portal, the television content is provided as a listing which can be accessed by the user by manipulating a conventional television remote control device by position the selection box 2022 around a desired TV content item [receiving a first directional input], further the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device [receiving a second directional input], upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 as shown in fig.21, para 0115, 0122); and determining, based on a second direction associated with the second directional input, a second content panel to display via the television (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device [receiving a second directional input], upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 [second content panel to display] as shown in fig.21, para 0115, 0122).

Regarding claims 5, 14, 19, Yu further teaches comprising: receiving a second directional input via the input device (a user platform 140 comprises a television 142, para 0071; figs 17, 18 & 20 shows the user access television content items via a TV portal, the television content is provided as a listing which can be accessed by the user by manipulating a conventional television remote control device by position the selection box 2022 around a desired TV content item [receiving a first directional input], further the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device [receiving a second directional input], upon selection of the desired TV content 2022 the user is presented with a TV content overview page 2100 as shown in fig.21, para 0115, 0122); determining, based on a second direction associated with the second directional input, a source of at least one content information to be displayed in the content panel based on the selected panel type (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device [receiving a second directional input], upon selection of the desired TV content 2022 which in this case is LOST TV program, the user is presented with a TV content overview page 2100 which provides information on the "Lost" TV program [interpreted as determining a source of a content information displayed], as shown in fig.21 , para 0115, 0122); retrieving at least a portion of the at least one content information from the determined source (fig.6 shows a data processor 111 causes the provision module 117 to retrieve the contents from the assets stored within the service provider database 112 and makes the content accessible to the interface device 644 [interpreted as retrieving, from a memory, a content information for displaying in the content panel] via the network 120, para 0060); and displaying, via the television, the content information associated with the determined source (the user selects the listed TV content by the selection box 2022 by activating a selection button on a remote control device [receiving a second directional input], upon selection of the desired TV content 2022 which in this case is LOST TV program, the user is presented with a TV content overview page 2100 which provides information on the "Lost" TV program [interpreted as determining a source of a content information displayed], as shown in fig.21 , para 0115, 0122).

Regarding claims 6, 13, 20, Yu further teaches wherein the third content information comprises information associated with content information marked as favorite (upon the user selecting the option of Bookmark 2124 [third content information] on fig.21 the user is enabled to add the content item to a list of favorite content items [content information marked as favorite] and further can also bookmark the content item for easy access, para 0125).

Regarding claim 7, Yu further teaches wherein the third content information comprises information associated with TV series episode content information (upon the user selecting the option of 2114 "Cast & Crew" on fig.21 the user is provided with a display 2200 which provides the users with a cast page which represents detailed information 2222 [third content information] related to the selected content item in this case is "Lost" television program, and further displays "show synopsis" option which provides details of the television program LOST [TV series episode content information], para 0125).

Regarding claim 8, Yu further teaches wherein the selected panel type is a search panel (figs.33, 34 & 35 shows on the display 3300 the user selects the search option 1715, and is presented with the search panel 3400, where the user types in the search terms 3422 and searches, para 0139, 0140).

Regarding claim 9, Yu further teaches wherein the selected panel type is a recommended panel (figs.33, 34 & 35 shows on the display 3300 the user selects the search option 1715, and is presented with the search panel 3400, where the user types in the search terms 3422 and searches, further based on the search query the user is provided with suggestions in the suggestions box 3424 [recommended panel], para 0139, 0140).

Regarding claim 15, Yu further teaches wherein the third content information comprises information associated with TV series episode content information (upon the user selecting the option of 2114 "Cast & Crew" on fig.21 the user is provided with a display 2200 which provides the users with a cast page which represents detailed information 2222 [third content information] related to the selected content item in this case is "Lost" television program, and further displays "show synopsis" option which provides details of the television program LOST [TV series episode content information], para 0125), and wherein the selected panel type is an info panel associated with the TV series episode content information (fig.18 shows the TV content listing with the option 1826 which the user activates by selecting, upon which the user is presented with the window 2100 on fig.21 which provides the user with the "show synopsis" option which provides details of the television program LOST [TV series episode content information], para 0123, 0125).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: DEAN N. REINHARDT
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* 10 JAN 2014
Applicant's or agent's file reference 6583-489-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2013/055280	International filing date *(day/month/year)* 16 August 2013
Applicant FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774 Telephone No.

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-489-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055280	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 21

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055280

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 7/173 (2013.01)
USPC - 725/27
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06F 3/00; H04N 7/16, 173 (2013.01)
USPC -715/ 709, 738, 760; 725/27

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06F 3/00; H04N 7/16, 173 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Google, Orbit, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011/0289419 A1 (YU et al) 24 November 2011 (24.11.2011) entire document	1-20
A	US 2012/0200574 A1 (HILL et al) 09 August 2012 (09.08.2012) entire document	1-20
A	WO 99/21308 (MUGURA et al) 29 April 1999 (29.04.1999) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 December 2013	10 JAN 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: DEAN N. REINHARDT
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	10 JAN 2014
Applicant's or agent's file reference 6583-489-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055280	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 7/173 (2013.01)
USPC - 725/27

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	25 December 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055280

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055280

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	8	YES
	Claims	1-7, 9-20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-7, 9-20 lack novelty under PCT Article 33(2) as being anticipated by Yu et al., hereinafter referred to as Yu.

Regarding claims 1, 17, Yu discloses a non-transitory computer readable storage medium having stored thereon instructions that cause a processor to execute [claim 1] (a computer implemented system and method for using a processor to execute a browser engine and a machine or computer instructions used to cause a processor which is programmed with the instructions to perform various steps, abstract, para 0235; 0229) a method of displaying a media center panel on a television display, the method comprising the steps of [claim 1] (figs.1 & 2 shows a user platform 140 for receiving content information, and the user platform comprises a television (TV) 142, a personal computer 142, para 0056; fig.17 shows a user platform which displays a content browsing and selection user interface which includes a root page 1900 which shows a command option area 1710 wherein a user selects a TV command option 1713 which enables the user to view a television content portal 2000 [displaying a media center panel] displayed in fig.20, para 0115, 0121) a method for organizing media item metadata on a television, the method comprising [claim 17] (figs.1 & 2 shows a user platform 140 for receiving content information, and the user platform comprises a television (TV) 142, a personal computer 142, para 0056; fig.17 shows a user platform which displays a content browsing and selection user interface which includes a root page 1900 which shows a command option area 1710 wherein a user selects a TV command option 1713 which enables the user to view a television content portal 2000 which includes media contents [organizing media item metadata] displayed in the content area 2020 in fig.20, para 0115, 0121):receiving a request to activate the media center panel (the user selects the command option 1713 on the command option area 1710, and in response to the user selecting the TV command option 1713 [receiving a request to activate] from the root page 1900 the system displays a TV portal 2000 [activate the media center panel] shown in the fig.20, para 0121, 0122); determining a type of media center panel requested (the user selects the command option 1713 on the command option area 1710, and in response to the user selecting the TV command option 1713 [receiving a request to activate] from the root page 1900 the system displays a TV portal 2000 [determining a type of media center panel] shown in the fig.20, para 0121, 0122; fig. 26 shows the user selects a movies option on the command option area 1710 and upon the selection the system displays 2700 [determining a type of media center panel] with a list of movies in fig.27 [based on the type of option selected by the user in the command option area a corresponding display panel is displayed interpreted as determining a type of media center panel requested], para 0130, 0131); retrieving, from memory, metadata based on the type of media center panel requested (fig.20 shows once the TV portal 2000 is selected by the user [based on the type of media center panel] the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated [retrieving, from memory, metadata] with the television content for selection from the TV portal 2000, the contents displayed includes an image, textual description of the TV content item displayed in the content item area 2020, para 0084, 0121, 0122); and displaying on the television display the retrieved metadata in the media center panel (fig.20 shows once the TV portal 2000 is selected by the user the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated with the television content for selection from the TV portal 2000, the contents displayed includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 [displaying on the television display retrieved metadata] and can be selected by using a selection box 2022, para 0084, 0121, 0122).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055280

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 12, A television system, comprising: a display; a memory; a processor in communication with the memory and the display (a computer implemented system and method for using a processor to execute a browser engine and a machine or computer instructions used to cause a processor which is programmed with the instructions to perform various steps, abstract, para 0235, 0229; figs.1 & 2 shows a user platform 140 for receiving content information, and the user platform comprises a television (TV) 142, a personal computer 142, para 0056; fig.17 shows a user platform which displays a content browsing and selection user interface which includes a root page 1900 which shows a command option area 1710 wherein a user selects a TV command option 1713, para 0121), the processor operable to: to: receive a request to activate a media center panel (the user selects the command option 1713 on the command option area 1710, and in response to the user selecting the TV command option 1713 [receiving a request to activate] from the root page 1900 the system displays a TV portal 2000 [activate the media center panel] shown in the fig.20, para 0121, 0122); determine the type of media center panel requested (the user selects the command option 1713 on the command option area 1710, and in response to the user selecting the TV command option 1713 [receiving a request to activate] from the root page 1900 the system displays a TV portal 2000 [determining a type of media center panel] shown in the fig.20, para 0121, 0122; fig. 26 shows the user selects a movies option on the command option area 1710 and upon the selection the system displays 2700 [determining a type of media center panel] with a list of movies in fig.27 [based on the type of option selected by the user in the command option area a corresponding display panel is displayed interpreted as determining a type of media center panel requested], para 0130, 0131); retrieve, from memory, metadata based on the type of media center panel requested (fig.20 shows once the TV portal 2000 is selected by the user [based on the type of media center panel] the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated [retrieving, from memory, metadata] with the television content for selection from the TV portal 2000, the contents displayed includes an image, textual description of the TV content item displayed in the content item area 2020, para 0084); and display, on the television display, the retrieved metadata in the media center panel, wherein the metadata comprises at least one of a thumbnail, a title, a description, a rating, and a run time (fig.20 shows once the TV portal 2000 is selected by the user the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated with the television content for selection from the TV portal 2000, the contents displayed includes an image, textual description of the TV content item such as "Lost" [a thumbnail, a title] is displayed in the content item area 2020 [displaying on the television display retrieved metadata] and can be selected by using a selection box 2022, para 0084).

Regarding claim 2, Yu further teaches wherein the type of media center panel comprises at least one of: an information panel; a favorite panel; a last viewed panel; a most viewed panel; a search panel; and a new panel (figs.33-35 shows a root page 3300 wherein a user highlights a command option 1715 "Search" command option area 1710 of the root page 3300 [a search panel], and the search command enables the user to search particular content items by using a user generated search query, and fig.35 shows a search result 3521, para 0139, 0140).

Regarding claim 3, Yu further teaches wherein the metadata comprises at least one of: a thumbnail; a title; a description; a rating; and a run time (fig.20 shows once the TV portal 2000 is selected by the user the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated with the television content for selection from the TV portal 2000, the contents displayed includes an image r textual description of the TV content item such as "Lost" [a thumbnail, a title] is displayed in the content item area 2020 [displaying on the television display retrieved metadata] and can be selected by using a selection box 2022, para 0084).

Regarding claim 4, 13, Yu further teaches further comprising: receiving a selection of a media item from one or more media items displayed in the media center panel (fig.20 shows once the TV portal 2000 is selected by the user, media contents are displayed which includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100 [receiving a selection of a media item], which provides a user selectable buttons 2124, 2122 and the button 2122 enables the user to watch the selected content item, para 0121, 0124); and presenting content associated with the selected media item (fig.20 shows once the TV portal 2000 is selected by the user, media contents are displayed which includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022 [presenting content associated with the selected media], upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 and the button 2122 enables the user to watch the selected content item, para 0121, 0124).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055280

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 5, Yu further teaches comprising: receiving a request to activate a second media center panel (fig.20 shows once the TV portal 2000 is selected by the user, media contents are displayed which includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022 [receiving a request to activate a second media center panel], upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 and the button 2122 enables the user to watch the selected content item, para 0121, 0124); determining the type of media center panel requested (fig.20 shows once the TV portal 2000 is selected by the user, media contents are displayed which includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122associated with the selected media content [determining the type of media center panel] and the button 2122 enables the user to watch the selected content item, para 0121, 0124); retrieving, from memory, metadata based on the type of the second media center panel (fig.20 shows once the TV portal 2000 is selected by the user [based on the type of media center panel] the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated [retrieving, from memory, metadata] with the television content for selection from the TV portal 2000, para 0084; fig.20 shows the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 associated with the selected media content [second media center panel] and the button 2122 enables the user to watch the selected content item, para 0121, 0124); and displaying on the television display the retrieved metadata in the second media center panel (fig.20 shows the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100 [second media center panel], which provides a user selectable buttons 2124, 2122 associated with the selected media content [displaying on the television display in the second media center panel] and the button 2122 enables the user to watch the selected content item, para 0121, 0124).

Regarding claims 6, 16, Yu further teaches comprising: receiving a selection of a media item from one or more media items displayed in the second media center panel (fig.20 shows once the TV portal 2000 is selected by the user, content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100 [second media center panel], which provides a user selectable buttons 2124, 2122 associated with the selected media content and the button 2122 enables the user to watch [receiving a selection of a media item], listen or consume the selected content item, para 0121, 0124); and presenting content associated with the selected media item (upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 associated with the selected media content and the button 2122 enables the user to watch [enable the user to watch the content is interpreted as receiving a selection of a media item to present content associated], listen or consume the selected content item, para 0121, 0124).

Regarding claims 7, 14, Yu further teaches wherein the media center panel includes a list of one or more related media items (fig.23 shows a user interface panel 2300 which includes detailed information area 2320 related to the actor selected, the area 2320 includes content items/movies related [list of one or more related media items] to the actor selected, para 0126).

Regarding claim 9, Yu further teaches including retrieving, from a data subservice, metadata based on the type of media center panel requested (fig.20 shows once the TV portal 2000 is selected by the user [based on the type of media center panel] the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated [retrieving, from data subservice metadata] with the television content for selection from the TV portal 2000, the contents displayed includes an image, textual description of the TV content item displayed in the content item area 2020, para 0084, 0121, 0122).

Regarding claim 10, Yu further teaches comprising after receiving the request to activate the media center panel: identifying a user associated with the request (the users can log into the accounts maintained by the system 200, a user profile/ user identifier associated with the user to include user behavior information corresponding to a content information accessed by the user is stored in database 112, fig.20 shows a "For You" command option that displays a list of TV content items in the content item area 2020 that are likely of interest to a particular user based his profile [identifying a user associated with the request], para 0076, 0080, 0122); and retrieving metadata associated with the identified user from memory for display by the media center panel (fig.20 shows a "For You" command option that displays a list of TV content items [retrieving metadata associated] displayed in the content item area 2020 [display by the media center panel] that are likely of interest to a particular user/viewer based on a previously generated user profile and based on a historical pattern of previously viewed contents stored in a database 112, para 0080, 0122).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055280

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 11, Yu further teaches further comprising after receiving the request: determining whether the request is a first request to activate a media center panel from a current user interface (the user selects the command option 1713 on the command option area 1710, and in response to the user selecting the TV command option 1713 [receiving a request to activate] from the root page 1900 the system displays a TV portal 2000 [activate the media center panel] shown in the fig.20, once the TV portal 2000 is selected by the user, the service provider 110 accesses a content catalog or database 112 to obtain a listing of the collections of contents [after receiving the request determining a first request to activate a media center panel], content information associated with the television content and if the content items are not available in the content database 112 then pre-defined links are used to obtain the content items, para 0122) or if the request is not the first request to activate the media center panel from the current user interface; if the request is a first request: determining the type of media center panel requested (the user selects the command option 1713 on the command option area 1710, and in response to the user selecting the TV command option 1713 [receiving a request to activate] from the root page 1900 the system displays a TV portal 2000 [determining a type of media center panel] shown in the fig.20, para 0121, 0122; fig. 26 shows the user selects a movies option on the command option area 1710 and upon the selection the system displays 2700 [determining a type of media center panel] with a list of movies in fig.27 [based on the type of option selected by the user in the command option area a corresponding display panel is displayed interpreted as determining a type of media center panel requested], para 0130, 0131); retrieving, from memory, metadata based on the type of media center panel requested (fig.20 shows once the TV portal 2000 is selected by the user [based on the type of media center panel] the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated [retrieving, from memory, metadata] with the television content for selection from the TV portal 2000, the contents displayed includes an image, textual description of the TV content item displayed in the content item area 2020, para 0084, 0121, 0122); and displaying on the television display the retrieved metadata in the media center panel (fig.20 shows once the TV portal 2000 is selected by the user the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated with the television content for selection from the TV portal 2000, the contents displayed includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 [displaying on the television display retrieved metadata] and can be selected by using a selection box 2022, para 0084, 0121, 0122); if the request is not the first request: determining the type of media center panel last displayed in the current user interface; retrieving, from memory, metadata based on the type of media center panel last displayed in the current user interface; and displaying on the television display the retrieved metadata in the media center panel.

Regarding claims 15, 18, Yu further teaches wherein the processor is further operable to: receive a second request to launch a second media center panel based on a media item selected from one or more media items displayed in the media center panel (fig.20 shows once the TV portal 2000 is selected by the user [a first request], media contents are displayed which includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022 [receiving a second request to launch a second media center panel], upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 and the button 2122 enables the user to watch the selected content item, para 0121, 0124); determine the type of media center panel requested (fig.20 shows once the TV portal 2000 is selected by the user, media contents are displayed which includes an image, textual description of the TV content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122associated with the selected media content [determining the type of media center panel] and the button 2122 enables the user to watch the selected content item, para 0121, 0124); retrieve, from memory, metadata based on the type of the second media center panel (fig.20 shows once the TV portal 2000 is selected by the user [based on the type of media center panel] the service provider 110 accesses a content catalog or content database 112 to obtain a listing of collections of content, content information and metadata associated [retrieving, from memory, metadata] with the television content for selection from the TV portal 2000, para 0084; fig.20 shows the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 associated with the selected media content [second media center panel] and the button 2122 enables the user to watch the selected content item, para 0121, 0124); and display on the television display the retrieved metadata in the second media center panel (fig.20 shows the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100 [second media center panel], which provides a user selectable buttons 2124, 2122 associated with the selected media content [displaying on the television display in the second media center panel] and the button 2122 enables the user to watch the selected content item, para 0121, 0124).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055280

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 19, Yu further teaches, wherein the media center panel includes a first list of one or more related media items (fig.23 shows a user interface panel 2300 which includes detailed information area 2320 related to the actor selected, the area 2320 includes content items/movies related [first list of one or more related media items] to the actor selected, para 0126); and the second media center panel includes a second list of one or more related media (figs.29-30 shows a user interface panel 3000 [second media center panel] which includes detailed information area 3020 [second list of one or more related media] content items/movies related to the actor selected related to the actor selected in the window 2900, para 0135, 0136).

Regarding claim 20, Yu further teaches comprising: receiving a selection of a media item from one or more media items displayed in the media center panel (fig.20 shows once the TV portal 2000 is selected by the user, content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 associated with the selected media content and the button 2122 enables the user to watch [receiving a selection of a media item], listen or consume the selected content item, para 0121, 0124); and presenting content associated with the selected media item (upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 associated with the selected media content and the button 2122 enables the user to watch [enable the user to watch the content is interpreted as receiving a selection of a media item to present content associated], listen or consume the selected content item, para 0121, 0124).

Claim 8 lacks an inventive step under PCT Article 33(3) as being obvious over Yu.

Regarding claim 8, Yu further teaches comprising: receiving a selection of a media item displayed in the list (fig.20 shows once the TV portal 2000 is selected by the user, content item such as "Lost" is displayed in the content item area 2020 which is selected by using a selection box 2022, upon the selection the user is presented with a panel 2100, which provides a user selectable buttons 2124, 2122 associated with the selected media content and the button 2122 enables the user to watch [receiving a selection of a media item], listen or consume the selected content item, para 0121, 0124), but lacks the teaching of determining if the selected media item is stored on a connected storage medium or available to purchase or rent from a content provider if the selected media item is stored on the connected storage medium, presenting content associated with the selected media item; if the selected media item is available to purchase or rent, connecting to the content provider to purchase or rent the selected media item; and presenting content associated with the selected media item.
However, Yu teaches determining if the media item is stored on a connected storage medium (figs.33-35 shows a search page 3400 which is accessed by the user and the user enters a search query which is "12 Monkeys" and a search is performed to match the entered search query with content information associated with the content items in the database 112, and in fig.35 the matching search result 3521 is presented and the user can select the item positioning the selection box 3522 on the desired content item and upon activation displays the content, para 0140) and if the media item is stored on the connected storage medium, presenting content associated with the selected media item (figs.33-35 shows a search page 3400 which is accessed by the user and the user enters a search query which is "12 Monkeys" and a search is performed to match the entered search query with content information associated with the content items in the database 112, and in fig.35 the matching search result 3521 is presented and the user can select the item positioning the selection box 3522 on the desired content item and upon activation displays the content, para 0140).
Further, Yu teaches that media content may be rented or purchased (para 108), and presenting presenting content associated with the selected media item.(content for purchase or rent, para 128-130).
It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings to incorporate determining if the selected media item is stored on a connected storage medium or available to purchase or rent from a content provider if the selected media item is stored on the connected storage medium, presenting content associated with the selected media item into the invention of Yu. The motivation would have been to provide the users with an optimized user interface for better access to media contents.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 6583-490-PCT	Date of mailing *(day/month/year)* 13 NOV 2013 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US13/55383	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)
Applicant Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-490-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55383	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 9 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/55383

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 7/10 (2013.01)
USPC - 725/34
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06F 3/048; H04N 7/10, 5/445 (2013.01)
USPC: 715/854; 725/34, 37, 44, 47, 61

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); Google/Google Scholar; IEEE; DialogPRO; intelligent, television, TV, smart, interactive, user, action, request, schedule, event, predefined, defined, format, organize, arrange, list, relevant, related, associated, content, video, program, display, temporary, non-permanent, store, sqlite, database

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2012/0174039 A1 (RHOADS J et al.) July 5, 2012, paragraphs [0036], [0046], [0063], [0074], [0075], [0079]	1-6, 8 and 10-20 --- 7 and 9
Y	WO 2012/068438 A1 (CALVERT K) May 24, 2012, page 8, lines 30-31, page 10, lines 10-14	7
Y	US 2002/0152267 A1 (LENNON A) October 17, 2002, paragraph [0181]	9

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
05 November 2013 (05.11.2013)	13 NOV 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	13 NOV 2013
Applicant's or agent's file reference 6583-490-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55383	16 August 2013 (16.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 7/10 (2013.01)
USPC - 725/34

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	05 November 2013 (05.11.2013)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55383

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55383

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	7 and 9	YES
	Claims	1-6, 8 and 10-20	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-6, 8 and 10-20 lack novelty under PCT Article 33(2) as being anticipated by US 2012/0174039 A1 to Rhoads et al. (hereinafter 'Rhoads').

As per claim 1, Rhoads discloses a method of providing content for an Intelligent television (TV) (content provided to HDTV (intelligent television) or 3D display TV, paragraph [0053]), comprising: loading an internal content provider module responsive to a user action or a scheduled event on the Intelligent TV (provide program guides (scheduled events) on HDTV of a user, paragraphs [0053], [0075] and [0076]); communicating and receiving data relevant to the requested content from a corresponding subservice or a content provider module of the Intelligent TV (receiving content according to user request, paragraph [0036] and [0076]); organizing the received data as the content according to a pre-defined format (organize programs on a TV screen according to a media format such as a VOD format, figures 1 and 2 and paragraphs [0027]-[0030]); and providing the content to video hardware or display of the Intelligent TV or to a content provider module or application of the Intelligent TV (providing and displaying media content to a TV, paragraphs [0046], [0063], [0074] and [0079]).

As per claim 12, Rhoads discloses a data service system in an Intelligent Television (TV) (content provided by a server to HDTV (intelligent television) or 3D display TV, paragraphs [0053] and [0064]), comprising: an internal content provider module configured to provide content to video hardware or display of the in Intelligent TV or to a content provider module or application of the Intelligent TV (providing and displaying media content to a TV, paragraphs [0046], [0063], [0074] and [0079]); and a subservice configured to provide the internet content provider module with requested data for a pre-defined data model (a client-server internet connection with request from the user for a format like video on-demand content, paragraphs [0064] and [0067]), wherein the internal content provider module is loaded on the Intelligent TV responsive to a user action or a schedule event on the Intelligent TV (provide program guides (scheduled events) on HDTV of a user, paragraphs [0053], [0075] and [0076]), and wherein the internal content provider module organizes the received data from the subservice as the content according to a pre-defined format (organize programs on a TV screen according to a media format such as a VOD format, figures 1 and 2 and paragraphs [0027]-[0030]).

As per claim 19, Rhoads discloses an Intelligent Television (TV) comprising a data service system (content provided by a server to HDTV (intelligent television) or 3D display TV, paragraphs [0053] and [0064]), the data service system comprising: an internal content provider module configured to provide content to video hardware or display of the in Intelligent TV or to a content provider module or application of the Intelligent TV (providing and displaying media content to a TV, paragraphs [0046], [0063], [0074] and [0079]); and a subservice configured to provide the internet content provider module with requested data for a pre-defined data model (a client-server internet connection with request from the user for a format like video on-demand content, paragraphs [0064] and [0067]), wherein the internal content provider module is loaded on the Intelligent TV responsive to a user action or a schedule event on the Intelligent TV (provide program guides (scheduled events) on HDTV of a user, paragraphs [0053], [0075] and [0076]), and wherein the internal content provider module organizes the received data from the subservice as the content according to a pre-defined format (organize programs on a TV screen according to a media format such as a VOD format, figures 1 and 2 and paragraphs [0027]-[0030]).

As per claim 2, Rhoads further discloses wherein the pre-defined format comprises one of a VOD data model, an EPG data model, and a media data model (a video-on-demand (VOD) system, paragraph [0025]).

As per claim 3, Rhoads further discloses wherein the subservice comprises one of a VOD subservice, an EPG subservice, and a media subservice (a video-on-demand (VOD) system, paragraph [0025]).

As per claims 4, 13 and 20, Rhoads further discloses wherein the internal content provider module comprises an EPG data provider, a media data provider, a media browser, a media scanner, or a thumbnail engine (media provider, figure 2 and paragraphs [0028], [0030] and [0074]).

As per claims 5 and 14, Rhoads further discloses wherein the EPG data provider is configured to serve one or more applications of the Intelligent TV with EPG information in a read-only format (a program guide (format) that stored in read-only memory, paragraphs [0051], [0077] and [0078]).

As per claims 6 and 15, Rhoads further discloses wherein the media data provider is configured to provide media metadata personalized for a user (a metadata source for providing metadata to the user, paragraph [0139]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55383

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claims 13 and 20 are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof:
Claims 13 and 20, line 3, the phrase "and or" should read "and/or".

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55383

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fu lly supported by the description, are made:

Claims 1, 12 and 19 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claims 1, 12 and 19 are indefinite for the following reason(s):
Claim 1, line 5, the phrase "the requested content" lacks antecedent basis.
Claim 12, line 9, the phrase "the received data" lacks antecedent basis.
Claim 19, line 10, the phrase "the received data" lacks antecedent basis.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55383

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Box V: Citations and Explanations-***-

As per claims 8 and 16, Rhoads further discloses wherein the media browser is configured to provide a real-time view of media sources of the Intelligent TV (content displayed on a TV can be a live performance or live video, paragraphs [0025] and [0046]) and maintain a list of connected media sources of the Intelligent TV (media content listings displayed on a TV, paragraphs [0043] and [0046]).

As per claims 10 and 17, wherein the media scanner is configured to populate a media table using data retrieved by the media browser and rescan for new media periodically (a media navigator (scanner) from a list of media identifiers to transmit a query with the selected media identifier to retrieve additional media listings and/or media assets for presentation to the user and downloading media listings on a periodic basis, paragraphs [0055], [0056], [0064] and [0088]).

As per claims 11 and 18, Rhoads further discloses wherein the thumbnail engine is configured to provide thumbnails for media, applications, or other contents (small images displayed as a last row of the screen associated with media applications, figures 1 and 2 and paragraph [0028]).

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Rhoads in view of WO 2012/068438 A1 (Calvert).

As per claim 7, Rhoads does not teach wherein the media data provider is further configured to store the media metadata in a sqlite database. However, Calvert teaches wherein the media data provider is further configured to store the media metadata in a sqlite database (storing content metadata in a sqlite database, page 8, lines 30-31 and page 10, lines 10-14). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to improve Rhoads's system to include the media data provider is further configured to store the media metadata in a sqlite database, as taught by Calvert, to store the metadata in a specific database to protect an integrity of the metadata. .

Claim 9 lacks an inventive step under PCT Article 33(3) as being obvious over Rhoads in view of US 2002/0152267 A1 (Lennon).

As per claim 9, Rhoads does not teach wherein the media browser maintains a non-permanent storage. However, Lennon teaches the media browser maintains a non-permanent storage (media browser 101 determines whether the specified description is available (maintain) in the description cache (temporary storage), paragraph [0181]).Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to improve Rhoads's system to include the media browser maintains a non-permanent storage, as taught by Lennon, to provide a temporary storage in order to manage types of stored content.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: JASON H. VICK
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 6583-491-PCT	Date of mailing *(day/month/year)* 11 MAR 2014 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2013/055344	International filing date *(day/month/year)* 16 August 2013
Applicant FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-491-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055344	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055344

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 5/445 (2014.01)
USPC - 348/564
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06F3/048, G06F17/30, H04N5/00, H04N 5/445 (2014.01)
USPC - 348/564, 348/E5.105, 715/762, 725/39, 725/40, 725/41, 725/43, 725/44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06F3/0482, H04N21/4312, H04N21/4622, H04N21/4782 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents, Google, Dow Jones Factiva

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---- Y	US 2012/0147270 A1 (KIM et al) 14 June 2012 (14.06.2012) entire document	1, 6-10, 11, 16-20 ---------- 2-5, 12-15
Y	US 2004/0119815 A1 (SOLOFF) 24 June 2004 (24.06.2004) entire document	2-5, 12-15

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
16 February 2014	11 MAR 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JASON H. VICK
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	11 MAR 2014
Applicant's or agent's file reference 6583-491-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055344	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 5/445 (2014.01)
USPC - 348/564

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	16 February 2014	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US2013/055344

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055344

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2-5, 9, 12-15, 19	YES
	Claims	1, 6-8, 10, 11, 16-18, and 20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1, 6-8, 10, 11, 16-18, and 20 lack novelty under PCT Article 33(2) as being anticipated by Kim et al. (hereinafter Kim).

Regarding claim 1 Kim discloses a method of managing an application panel on an intelligent TV (abstract) comprising:
detecting a request to invoke the application panel (para. [0123], [0125], "Upon receipt of a return-to-home screen input, the controller 670 may control display of the home screen on the display 680...The home screen may further include an application menu including at least one application that can be executed.");
detecting one or more of displayed content on the intelligent TV and context information (para. [0123], "The home screen may include a plurality of card objects classified according to content sources.");
determining information to display in the application panel based on the one or more of displayed content on the intelligent TV and the context information (para. [0127], "When a card object is selected from among the card objects on the home screen, the controller 670 may control display of an image corresponding to the selected card object on the display 680.");
and displaying the application panel on a display of the intelligent TV including the determined information (para. [0132], "If an application view menu item is selected, the controller 670 may control display of applications or a list of applications that are present in the image display").

Regarding claim 11, Kim discloses a system to manage an application panel on an intelligent TV (abstract) comprising:
a processor adapted to detect a request to invoke the application panel (para. [0044], "application data processor 104);
a panel controller adapted to detect one or more of displayed content on the intelligent TV and context information (para. [0202]. "Through the application layer 1150, the user may navigate a desired menu by manipulating the remote controller while viewing a broadcast program.");
a silo application adapted to determine information to display in the application panel based on the one or more of displayed content on the intelligent TV and the context information (para. [0245], "The application list 1510 may include an icon representing each application and a brief description of the application.");
and a display controller adapted to display the application panel on a display of the intelligent TV including the determined information (para. [0132] If an application view menu item is selected, the controller 670 may control display of applications or a list of applications that are present in the image display device 600.").

Regarding claim 20. Kim discloses a system that manages an application panel on an intelligent TV (abstract) comprising:
means for detecting a request to invoke the application panel (para. [0123], [0125], "Upon receipt of a return-to-home screen input, the controller 670 may control display of the home screen on the display 680...The home screen may further include an application menu including at least one application that can be executed.");
means for detecting one or more of displayed content on the intelligent TV and context information (para. [0123], "The home screen may include a plurality of card objects classified according to content sources.");
means for determining information to display in the application panel based on the one or more of displayed content on the intelligent TV and the context information (para. [0127], "When a card object is selected from among the card objects on the home screen, the controller 670 may control display of an image corresponding to the selected card object on the display 680.");
and means for displaying the application panel on a display of the intelligent TV including the determined information (para. [0132], "If an application view menu item is selected, the controller 670 may control display of applications or a list of applications that are present in the image display").

Regarding claims 6, 16. Kim discloses further comprising determining and providing one or more sub-categories of information in the application panel (para. [0123], "The home screen may include a plurality of card objects classified according to content sources. The card objects may include at least one of a card object representing a thumbnail list of broadcast channels, a card object representing a broadcast program guide, a card object representing a program reservation list or a program recording list, or a card object representing a media list of a device connected to the image display device.").

Continued.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055344

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claims 7, 17, Kim discloses further comprising determining and providing one or more sub-categories of selectable information in the application panel (para. [0125] "The home screen may further include an application menu including at least one application that can be executed. Accordingly, the game application according to the one embodiment may be designed in a format selectable through the application menu of the above-described home screen.").

Regarding claims 8 and 18, Kim discloses wherein the application panel includes executable portions (para. [0125], "The home screen may further include an application menu including at least one application that can be executed.").

Regarding claim 10. Kim discloses a non-transitory computer readable information storage media having stored thereon instructions, that when executed by one or more processors, cause to be performed the method steps in claim 1 (para. [0217], "The platforms of FIGS. 11 and 12 may be stored or loaded in the memory 640, the controller 670, or any other processor (not shown)...To execute applications, an additional application processor (not shown) may be further provided.").

Claims 9 and 19 lack an inventive step under PCT Article 33(3) as being obvious over Kim et al. (hereinafter Kim).

Regarding claims 9 and 19, Kim teaches wherein the application panel includes an information portion (para. [0128] "The controller 670 may control display of an input broadcast image and an object representing information about the broadcast image in a card object representing broadcast images"), a new portion, a recommended portion, a genre portion, an electronic program guide (para. [0203], "The application layer...may further include at least one of a TV guide application"), a category portion [para. 0268], "Fig. 21 to Fig. 23 respectively illustrate process steps for categorizing downloaded applications and displaying the categorized applications in the network TV..."), a favorites portion (para. [0302], "a Favorite Applications group") and a search portion (para. [0211] Using the applications of the application layer 1155, a variety of functions such as an ...application search service may be performed through network access.").
Kim does not explicitly teach wherein the application panel includes a new portion, a recommended portion, or a genre portion.
At the time of the invention, it would have obvious to one of ordinary skill in the art to include a new portion, a recommended portion, and a genre portion as they are examples of other categories already taught by Kim such as "applications related to Games, applications related to News, applications related to Sports, applications related to Health, applications related to Convenient Lifestyles, and so on," (para. [0292]). The motivation would have been to include selections for the user based on interest.

Claims 2-5 and 12-15 lack an inventive step under PCT Article 33(3) as being obvious over Kim et al. (hereinafter Kim) in view of Soloff.

Regarding claims 2 and 12, Kim teaches wherein an image hovers above a background and is partially transparent (Fig. 23, para. [0271], "in order to ensure the user's visibility, the network TV may be designed so that one of the image data 2311 and the unique number 2312 can be semi-transparent.").
Kim does not explicitly teach that the image is the application panel.
Soloff, also in the field of interactive television, teaches an application panel hovering above background content and is partially transparent (Fig. 7, para. [0045], "The maximum screen image 130, represents the screen with the transparent bar across the top, with icons and user instructions.").
At the time of the invention, it would have obvious to one of ordinary skill in the art to extent the image transparency taught by Kim to the entire application panel as taught by Soloff to provide an informative, instructive, manageable and interactive user interface (Soloff, para. [0010]).

Regarding claim 3. Kim does not explicitly teach continuing to display active background content.
Soloff teaches continuing to display active background content (paras. [0032]-[0038], "a textual description of what image the current camera is showing.").
At the time of the invention, it would have obvious to one of ordinary skill in the art to continue to display active background content as taught by Soloff in the invention taught by Kim in order to "allow the user to seamlessly navigate between" the various menu options (Soloff, para. [0045]).

Regarding claim 13. Kim does not explicitly teach wherein active background content is displayed.
Soloff teaches wherein active background content is displayed (paras. [0032]-[0038], "a textual description of what image the current camera is showing.").
At the time of the invention, it would have obvious to one of ordinary skill in the art to display active background content as taught by Soloff in the invention taught by Kim in order to "allow the user to seamlessly navigate between" the various menu options (Soloff, para. [0045]).

Regarding claims 4 and 14, Kim does not explicitly teach wherein the background content is Live TV, on demand content, media center content, applications or content from other inputs.
Soloff teaches wherein the background content is Live TV, on demand content, media center content, applications or content from other inputs (paras. [0033-0034], "broadcast").
At the time of the invention, it would have obvious to one of ordinary skill in the art to use Live TV, on demand content, media center content, applications or content from other inputs as the background content as taught by Soloff with the invention taught by Kim to provide an informative, instructive, manageable and interactive user interface (Soloff, para. [0010]).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055344

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claims 5 and 15, Kim does not explicitly teach wherein the application panel is dynamically updated based on the background content.
Soloff teaches wherein the application panel is dynamically updated based on the background content (paras. [0040]-[0042], "One piece of information that will always be present in the menu is the Camera Placement screen 110, shown in FIG. 3, which allows the subscriber to know where the various cameras are situated within the venue.").
At the time of the invention, it would have obvious to one of ordinary skill in the art to dynamically update the application panel based on the background content as taught by Soloff in the invention taught by Kim to allow the user to access the information that was bundled along with the video information (Soloff, para. [0040]).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: JASON H. VICK
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing *(day/month/year)*	06 DEC 2013
Applicant's or agent's file reference 6583-492-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2013/055345	International filing date *(day/month/year)* 16 August 2013
Applicant FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-492-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055345	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 8 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 5

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055345

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 5/00 (2013.01)
USPC - 725/38
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H04N 5/00, 5/445, 7/173 (2013.01)
USPC -725/37, 38, 39, 60, 61

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - H04N 5/00, 5/445, 7/173 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Orbit, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2009/0210910 A1 (SMITH et al) 20 August 2009 (20.08.2009) entire document	1-20
Y	EP 1 865 723 A1 (MARTIN et al) 12 December 2007 (12.12.2007) entire document	1-20
A	US 2012/0069131 A1 (ABELOW) 22 March 2012 (22.03.3012) entire document	1-20
A	US 2007/0096939 A1 (WALRATH) 03 May 2007 (03.05.2007) entire document	1-20
A	WO 02/080552 A2 (VAN EE) 10 October 2002 (10.10.2002) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 November 2013	06 DEC 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JASON H. VICK
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	06 DEC 2013
Applicant's or agent's file reference 6583-492-PCT	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055345	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 5/00 (2013.01)
USPC - 725/38

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	12 November 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055345

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

   ☐ on paper

   ☐ in electronic form

   b. (time)

   ☐ in the international application as filed

   ☐ together with the international application in electronic form

   ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055345

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-20 lack an inventive step under PCT Article 33(3) as being obvious over Smith et al., hereinafter referred to as Smith and in view of Martin et al., hereinafter referred to as Martin.

Regarding claims 1, 11 and 20, Smith discloses a method of managing one or more silo on an intelligent TV [claim 1], a system to manage one or more silo on an intelligent TV [claims 11, 20] (high density interactive media guide interface for selection of a source [intelligent TV] from a dense array of available sources, abstract), comprising:
a processor adapted to detect a request to access a silo, the silo representing an application resident on either the intelligent TV or remotely (Grid Guide interface 200, para 0022, see fig. 2; user selects a particular cell 240 [request for the programme chosen], para 0024, see fig, 2);
a silo manager adapted to detect whether another silo is already active on the intelligent TV (top row icons 310 represent different types of programming guides, featured services, and PVR functions, recorded items list, web browser, music wherein the functions will change according to the current active mode and current focus item [detecting what is active on TV], fig. 3, para 0030);
a silo transition controller adapted to transition, using a sliding effect, to displaying the silo (upon left-click on another mode icon, transition to that mode, para 0035, see fig. 3; scrolling horizontally [sliding effect] channel column 105 remains fixed and the time slot header 108 and displayed elements 110 scroll horizontally, para 0020, see fig. 1).
Smith lacks the teaching of a user interface application adapted to enable content associated with the silo and display the silo on a display of the intelligent TV.
Martin is in the field of video-on-demand system (abstract, title) and teaches switching from one silo to another (select the electronic programme guide 44 or linear live TV stream 42, para 0068-0070, see fig. 4), user interface application adapted to enable content associated with the silo and display the silo on a display (once user selects the particular category of video-on-demand 46 in display page 40, using user interface 18 user scrolls programmes 62 and the selected video data of the video-on-demand programme is streamed, para 0075-0079, see fig. 5, 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Martin to incorporate silo features in the invention of Smith for the purpose of selecting a video-on-demand when a limited amount of linear live TV is available (Martin, para 0070).

Regarding claims 2 and 12, Smith lacks the teaching wherein the silo corresponds to Live TV, on demand content, media center content, applications or content from other inputs. Martin teaches wherein the silo corresponds to Live TV, on demand content (select the electronic programme guide 44 or linear live TV stream 42, para 0068-0070, see fig. 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Martin to incorporate silo features in the invention of Smith for the purpose of selecting a video-on-demand when a limited amount of linear live TV is available (Martin, para 0070).

Regarding claims 3 and 13, Smith teaches wherein available silo are displayed in a strip or grid (Grid Guide Interface 200, para 0022, see fig. 2).

Regarding claims 4 and 14, Smith teaches shrinking another silo into the strip or the grid and expanding a selected silo from the strip or the grid to full screen (use selected cell 240 causes it to expand [as scroll to next, that expands shrinking the previous selection], para 0024, see fig. 2).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055345

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding claims 5 and 15, Smith teaches maintaining an order of a plurality of silo displayed in a strip or a grid (the horizontal scrolling occurs for channel column with elements displayed for different time slots, para 0020, see fig. 1 [in a time order as Zena princess warrior in the 8:00-9:00PM slot and World news in 9:00-10:00Pm slot]).

Regarding claims 6 and 16, Smith teaches a notification panel that provides an indication of a selected silo (when a row is invoked, the currently selected/viewed mode is highlighted/pulsing 340 and displayed 350, para 0033, see fig. 3).

Regarding claims 7 and 17, Smith teaches displaying a placeholder image during the transitioning (individual entries in column 105 acts as visual tags or placeholders representing channels or sources, para 0015).

Regarding claims 8 and 18, Smith teaches enabling dynamic content within a displayed silo(as user moves back and forth between various mode icons 310, highlight and enlarge and possibly exhibit dynamic animated behaviors, para 0034).

Regarding claims 9 and 19, Smith lacks the teaching wherein the silo displays selectable content and the silo includes one or more subcategories of information.
Martin teaches wherein the silo displays selectable content (select the electronic programme guide 44 or linear live TV stream 42, para 0068-0070, see fig. 4), silo includes one or more subcategories of information (once user selects the particular category of video-on-demand 46 [subcategories in EPG 44 like TV series 46, game zone 48] in display page 40, using user interface 18 user scrolls programmes 62 and the selected video data of the video-on-demand programme is streamed, para 0075-0079, see fig. 5, 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Martin to incorporate silo features in the invention of Smith for the purpose of selecting a video-on-demand when a limited amount of linear live TV is available (Martin, para 0070).

Regarding claim 10, Smith teaches a non-transitory computer readable information storage media having stored thereon instructions, that when executed by one or more processors, cause to be performed the method steps in claim 1 (the Interactive Overview Visualization Model display interface for use with a computer, para 0086).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Jason H. Vick
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing *(day/month/year)*	08 NOV 2013
Applicant's or agent's file reference: 6583-493-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No.: PCT/US13/55371	International filing date *(day/month/year)*: 16 August 2013 (16.08.2013)
Applicant: Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-493-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55371	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 53

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/55371

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01)
USPC - 725/037, 39; 348/14.07
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8):G06T 15/00; G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01); USPC: 345/419; 725/037, 39; 348/14.03, 14.07

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); DialogPro (Derwent, INSPEC, NTIS, PASCAL, Current Contents Search, Dissertation Abstracts Online, Inside Conferences); IP.com; Google Scholar; intelligent, tv, television, smart, panel, display, detect, location, transparent, opaque, overlay, background, menu, guide

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,539,479 A (BERTRAM, R et al.) July 23, 1996, column 2, lines 38-40, column 33, lines 28-33, column 37, lines 52-66, column 38, lines 45-49, column 37, line 66 through column 38, line 2	1-20
A	US 6,661,468 B2 (ALTEN, J et al.) December 9, 2003, entire document	1, 11, 20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
23 October 2013 (23.10.2013)	08 NOV 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Jason H. Vick
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	08 NOV 2013
Applicant's or agent's file reference 6583-493-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55371	16 August 2013 (16.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01)
USPC - 725/037, 39; 348/14.07

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to th IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	23 October 2013 (23.10.2013)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55371

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

a. (means)

☐ on paper

☐ in electronic form

b. (time)

☐ in the international application as filed

☐ together with the international application in electronic form

☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55371

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	NONE	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by US 5,539,479 A Bertram.

As to claims 1, 11 and 20, Bertram discloses a method of managing a panel on an intelligent TV comprising (a system of menus (panels) which interact with the cursor (managing a panel/menu) on television receivers may be incorporated directly into which are here called intelligent television receivers, column 2, lines 38-40 and column 33, lines 28-33): detecting a location of the panel and one or more of: displayed content on the intelligent TV and context information (each menu level in the user interface is represented by a graphic and text display (display content) similar to a paper index card drawn on the screen. The title of the Card is "Menu 1" and the selectable items are "Weather" Selection A and "Sports" Selection B (context information), figures 11 and 12, column 37, lines 52-66); determining information to display in the panel based at least on the location of the panel (a paper index card (information displayed) drawn on the screen (location on a panel). The title of the Card is "Menu 1" and the selectable items are "Weather" Selection A, figures 11 and 12, column 37, lines 52-66); and displaying the panel on a display of the intelligent TV including the determined information (If "Weather" is selected, it creates Card2, since this is the action in the "Selection A" line. Card2 is a flow card which immediately displays Card3 since the condition "1=-1" is true, column 37, line 66 through column 38, line 2).

As to claims 2 and 12, Bertram discloses the method of claims 1 and 11, wherein the panel hovers above background content and is partially transparent (a user may cause a first level of menu to appear in overlay over the video stream (the panel hovers above background content) and where the comparator may also be used to provide a pixel plane effect, to give transparent colors (partially transparent), column 37, lines 61-62 and column 19, lines 43-46).

As to claims 3 and 13, Bertram discloses the method of claims 2 and 12, further comprising continuing to display active background content (a first level of menu (panel) to appear in overlay over (hovers above) the video stream image (active background content), column 37, lines 61-62).

As to claims 4 and 14, Bertram discloses the method of claims 2 and 12, wherein the background content is Live TV, on demand content, media center content, applications or content from other inputs (From the display of a full motion video image as received from a video/audio stream source such as broadcast television (live tv), a user may cause a first level of menu to appear in overlay over the video stream image, column 37, lines 58-60).

As to claims 5 and 15, Bertram discloses the method of claim 4, wherein the panel is dynamically updated based on the location and background content (the user may manipulate the cursor or pointer 135 (FIGS. 13 through 18) to be positioned over an indicated item, such as item 1 for "Weather", and again actuate the selection feature of the remote control 20. Thereupon the user interface will respond by creating the next level, Level 2, column 38, lines 2-7).

As to claims 6 and 16, Bertram discloses the method of claims 1 and 11, further comprising determining and providing one or more sub-categories of information in the panel (The application begins by displaying Card1. The title of the Card is "Menu 1" and the selectable items are "Weather" (Selection A) and "Sports" (Selection B). If "Weather" is selected, it creates Card2, since this is the action in the "Selection A" line. Card2 is a flow card which immediately displays Card3 since the condition "1=-1" is true, column 37, line 52 through column 38, line 2).

As to claims 7 and 17, Bertram discloses the method of claims 1 and 11, further comprising determining and providing one or more sub-categories of selectable information in the panel (The application begins by displaying Card1. The title of the Card is "Menu 1" and the selectable items are "Weather" (Selection A) and "Sports" (Selection B). If "Weather" is selected, it creates Card2, since this is the action in the "Selection A" line. Card2 is a flow card which immediately displays Card3 since the condition "1=-1" is true, column 37, line 52 through column 38, line 2).

As to claims 8 and 18, Bertram discloses the method of claims 1 and 11, wherein the panel includes executable portions (The title of the Card is "Menu 1" and the selectable (executable portions) items are "Weather" (Selection A) and "Sports" (Selection B), column 37, lines 64-66).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55371

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As to claims 9 and 19, Bertram discloses the method of claims 1 and 11, wherein the location of the panel is top, bottom, left side or right side (the human observer to move a cursor image to a menu item, select for displacement a menu item overlain by the cursor image, and move a selected menu item across the visual image (the panel can be moved to any location) displayed by the visual display device, column 40, lines 52-57).

As to claim 10, Bertram discloses a non-transitory computer readable information storage media having stored thereon instructions, that when executed by one or more processors, cause to be performed the method steps in claims 1 and 11 (the video processor 39, a video recording/ playback device 40 data storage device such as a disk drive for magnetic or optical disks, a tape backup drive, or the like. In the illustrated form, an upper bay 92 is adapted to receive peripheral drives of a first size (such as those known as 3.5 inch drives). A floppy disk drive, a removable media direct access storage device capable of receiving a diskette inserted there into and using the diskette to receive, store and deliver data, column 7, lines 50-51 and column 34, lines 1-8).

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 6583-494-PCT	Date of mailing *(day/month/year)* 10 MAR 2014 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US13/55389	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)
Applicant Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-494-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55389	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT PCT/US2013/055389 10.03.2014

International application No.
PCT/US13/55389

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 21/2343 (2014.01)
USPC - 348/E5.002; 725/37
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) Classification(s): H04N 21/2343, 21/436, 19/00 (2014.01)
USPC Classification(s): 348/E5.002, E5.096, 552; 725/37

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); ProQuest; IEEE; Google/Google Scholar

Keywords: Video on Demand, Intelligent TV, Set top box, Convert, Content Provider, Plug In

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2012/0086857 A1 (KIM, S. et al.), 12 April 2012; paragraphs [0065], [0066], [0083], [0097], [0110], [0175], [0176]	1-3, 5-6, 8-9, 12-18 --- 4, 7, 10-11, 19-20
Y	US 2012/0176546 A1 (YOON, J.), 12 July 2012; paragraphs [0339], [0341]	4
Y	WO 99/35849 A1 (WUGOFSKI, T.) 15 July 1999; page 8, lines 23-29	7
Y	US 2011/0125755 A1 (KAILA, A. et al.), 26 May 2011; paragraphs [0015], [0026], [0047], [0059]	10-11, 19-20
Y	US 2006/0064716 A1 (SULL, S. et al.), 23 March 2006; claims 1, 7, paragraph [0245]	10-11, 19-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
03 February 2014 (03.02.2014)	10 MAR 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	10 MAR 2014
Applicant's or agent's file reference 6583-494-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55389	16 August 2013 (16.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 21/2343 (2014.01)
USPC - 348/E5.002; 725/37

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	03 February 2014 (03.02.2014)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55389

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55389

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	4, 7, 10-11, 19-20	YES
	Claims	1-3, 5-6, 8-9, 12-18	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-3, 5-6, 8-9, and 12-18 lack novelty under PCT Article 33(2) as being anticipated by US 2012/0086857 A1 Kim et al. (hereinafter "Kim").

As to claim 1, Kim discloses a method of processing data from an external content provider for an intelligent television (TV), comprising: loading, on the Intelligent TV, a source plugin configured for processing the data from the external content provider (the service control manager/delivery manager on the smart TV (source plugin loaded on the Intelligent TV) takes control of received data from a content provider (from the external content provider), and feeds the data back to the server (configured for processing the data), paragraph [0066]); communicating and receiving, through the source plugin, the data from the external content provider (the service control manager/delivery manager (the source plug in) controls the received service data from a content provider (communicating and receiving the data from the external content provider), paragraphs [0065], [0066]); converting the received data from the external content provider into a data model format (the demodulation module performs demodulation and channel decoding of the received digital signal from a content provider (converting the received data from the external content provider) and outputs a video signal, an audio signal, and a data signal (into a data model format), paragraphs [0083], [0086]); processing the converted data by a subservice corresponding to the source plugin and the data model format (the video decoder receives video on demand data from the service control/delivery manager (a subservice corresponding to the source plugin and the data model format) decodes the multiplex video signal and performs scaling to output resolution (processing the converted data), paragraphs [0175], [0176]); and communicating with and providing the converted data to an internal content provider module configured to provide the converted data as content to the Intelligent TV (the video decoders performs the scaling of the data resolution (communicating with and providing the converted data) through the display module (to an internal content provider module) to be displayed as an image on the smart TV (configured to provide the converted data as content to the intelligent TV), paragraphs [0110], [0176]).

As to claim 12, Kim discloses a data service system in an intelligent television (TV), comprising: a source plugin, the source plugin configured to communicate with and receive data from an external content provider (the service control manager/delivery manager (a source plug in) controls the received service data from a content provider (communicating and receiving the data from the external content provider), paragraphs [0065], [0066]); and processing the received data into a data model format (the demodulation module performs demodulation and channel decoding of the received digital signal (processing the received data) and outputs a video signal, an audio signal, and a data signal (into a data model format), paragraphs [0083], [0086]); and a subservice corresponding to the source plugin, the subservice configured to communicate with and provide the converted data to an internal content provider module configured to provide the converted data as content to the Intelligent TV (the video decoder receives video on demand data from the service control/delivery manager (the subservice corresponding to the source plugin) decodes the multiplex video signal and performs scaling to output resolution through the display module (configured to communicate with and provide the converted data to an internal content provider module),to be displayed as an image on the smart TV (configured to provide the converted data as content to the intelligent TV), paragraphs [0110], [0175], [0176]).

As to claims 2, 13 and 15, Kim discloses the method of processing data of claim 1 and the data service system of claim 12. Kim further discloses a wherein the source plugin comprises one of a video-on-demand (VOD) source plugin, an electronic programming guide (EPG) source plugin, and a media source plugin (the service control/delivery manager provides video-on-demand (VOD) (wherein the source plugin comprises video-on-demand (VOD)), paragraph [0075]), wherein the data model format comprises one or a VOD data model, an EPG data model, and a media data model (the system receives data contents including VOD (wherein the data model format comprises VOD (paragraph [0097]), and wherein the subservice comprises one of a VOD subservice, an EPG subservice, and a media subservice (the video decoder decodes the multiplex video signal and performs scaling to output resolution (wherein the subservice) for VOD (comprises a VOD subservice), paragraphs [0097], [0175], [0176]).

As to claims 3 and 14, Kim discloses the method of processing data of claim 1 and the data service system of claim 12. Kim further discloses a method further comprising storing the received data or the converted data into a database by the source plugin or the subservice (the decoder (the subservice) makes a database for the service information and stores the database (storing the received data into a database), paragraph [0069]).

As to claims 5 and 16, Kim discloses the method of processing data of claim 1 and the data service system of claim 12. Kim further discloses a method of processing data wherein the source plugin is configured to work with an interface defined by the corresponding subservice (service/control delivery manager selects and controls (wherein the source plugin is configured to work) the VOD service using IGMP or RTSP interface (with an interface defined by the corresponding subservice), paragraph [0075]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55389

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claims 13 and 15 are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof:

Claim 13, line 3, recites "comprises one or a"; however, this appears to be a typographical error. For purposes of this opinion, the limitation is interpreted to recite "comprises one of a".

Claim 15 comprises the same limitations and has the same dependency as claim 13.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55389

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fu lly supported by the description, are made:

Claim 4 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because Claim 4 is indefinite for the following reason:

Claim 4 recites the limitation "the database" in line 1. There is insufficient antecedent basis for this limitation in the claim. However, claim 3 recites "a database", and thus for purposes of this opinion, claim 4 is interpreted to depend upon the method of processing data of claim 3.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55389

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Box V: Citations and Explanations-***-

As to claims 6 and 17, Kim discloses the method of processing data of claim 1 and the data service system of claim 12. Kim further discloses a method wherein the source plugin is configured to communicate with a plurality of different external content provider modules (the service control manager (source plugin) selects and controls the service (configured to communicate) from content providers such as a cable system operator, a multiple system operator, a satellite broadcaster (with a plurality of different external content providers) and selects the appropriate protocol (modules), paragraphs [0034], [0072], [0074], [0075]).

As to claim 8, Kim discloses the method of processing data of claim 6. Kim further discloses a method wherein the source plugin is configured to communicate with a number of different external content provider modules (the service control manager (source plugin) selects and controls the service (configured to communicate) from content providers such as a cable system operator, a multiple system operator, a satellite broadcaster (with a number of different external content providers) and selects the appropriate protocol (modules), paragraphs [0034], [0072], [0074], [0075]).

As to claims 9, and 18, Kim discloses the method of processing data of claim 1 and the data service system of claim 12. Kim further discloses a method further comprising communicating with a resource arbitrator to gain access and provide content to hardware of the Intelligent TV (the intelligent TV system includes a resource manager (communicating with a resource arbitrator) for efficient management of system resources, memory management, and interface for hardware, and schedule management (to gain access and provide content to hardware of the intelligent TV), paragraphs [0194], [0208]), wherein the hardware includes a local network, a cloud service, a display, and/or a video hardware (the intelligent TV system includes a network interface module that provides an interface for connecting the display device with a wireless LAN (wherein the hardware includes a local network), an interface to the Internet (a cloud service) a display device (a display), paragraphs [0041], [0094]).

Claim 4 lacks an inventive step under PCT Article 33(3) as being obvious over Kim in view of US 2012/0176546 A1 (Yoon).

As to claim 4, Kim discloses the method of processing data of claim 3. However, Kim fails to disclose a method wherein the database comprises a sqlite database. Yoon discloses a method wherein the database comprises a sqlite database (the library region (database) includes SQlite (comprises a sqlite database), paragraphs [0339], [0341]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Kim to include wherein the database comprises a sqlite database, as taught by Yoon, for the benefit of using an open source lightweight database.

Claim 7 lack an inventive step under PCT Article 33(3) as being obvious over Kim in view of WO 99/35849 A1 (Wugofski).

As to claim 7, Kim discloses the method of processing data of claim 6. However, Kim fails to disclose a method wherein the external content provider modules include providers for a particular service in one or more geographic zones. Wugofski discloses a method wherein the external content provider modules include providers for a particular service in one or more geographic zones (EPG content services module include content providers for EPG (Electronic Program Guide) (wherein the external content provider modules for a particular service); the channel region table identifies countries or local regions in which each channel is accessible (include providers in one or more geographic zones), page 8, lines 23-29). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Kim to include wherein the external content provider modules include providers for a particular service in one or more geographic zones, as taught by Wugofski, for the benefit of providing content from different geographic regions to the customer.

Claims 10-11 and 19-20 lack an inventive step under PCT Article 33(3) as being obvious over Kim in view of US 2011/0125755 A1 to Kaila et al. (hereinafter "Kaila"), and further in view of US 2006/0064716 A1 to Sull et al. (hereinafter "Sull").

As to claims 10 and 19, Kim discloses the method of processing data of claim 1 and the data service system of claim 12. Kim further discloses a method further comprising: thumbnail images associated with the received data (the thumbnail image may be generated from the demodulation stream signal output (thumbnail images associated with the received data), paragraph [0133]), a storage of the intelligent TV (the memory module (storage) of the display device (intelligent TV), paragraphs [0103], [0033]), configured to create and store the thumbnail images (channel browsing processor extracts image from the stream signal output to generate thumbnail image (configured to create the thumbnail images) and contents stored in the memory module (and store), paragraphs [0103], [0133]). However, Kim fails to disclose a method further comprising communicating with a thumbnail cache manager to manage thumbnail images, and storing the thumbnail images in a storage, wherein the thumbnail cache manager, and wherein the thumbnail images include movie thumbnails, posters, and TV channel logos. Kaila discloses a method further comprising communicating with a thumbnail cache manager to manage thumbnail images (users may sort and group images via a user interface(communicating with); thumbnail provider has a centralized cache to manage images (a thumbnail cache manager to manage thumbnail images), paragraphs [0015], [0026]) and storing the thumbnail images (thumbnails are stored in a storage device (storing the thumbnail images), paragraph [0059]), wherein the thumbnail cache manager (the thumbnail provider (the thumbnail cache manager), paragraphs [0015], [0026]). Sull discloses a method wherein the thumbnail images include movie thumbnails, posters, and TV channel logos (the thumbnail images generated (thumbnail images include) from video streams (movie thumbnails), a poster of the movie (posters), and TV channel logo), claims 1, 7, paragraph [0245]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Kim to include communicating with a thumbnail cache manager to manage thumbnail images, and storing the thumbnail images, wherein the thumbnail cache manager, as taught by Kaila, for the benefit of creating and storing thumbnail images for the viewer. Further, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Kim to include the thumbnail images include movie thumbnails, posters, and TV channel logos, as taught by Sull, for the benefit of creating appropriate thumbnails for the content.

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55389

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

-***-Continued from Previous Supplemental Box-***-

As to claim 11, the combination of Kim, Kaila, and Sull discloses the method of processing data of claim 10. However, Kim fails to disclose the method further comprising periodically purging a portion of the thumbnail images from the storage. Kaila discloses a method further comprising periodically purging a portion of the thumbnail images from the storage (the system may implement a cache clearing process to clear thumbnails from the cache (periodically purging a portion of the thumbnail images from the storage), paragraph [0047]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Kim to include periodically purging a portion of the thumbnail images from the storage, as taught by Kaila, for the benefit of keeping the thumbnail storage up to date.

As to claim 20, Kim discloses an intelligent television (TV) comprising a data service system, the data service system comprising: a source plugin, the source plugin configured for communicating with and receiving data from an external content provider (the service control manager/delivery manager (a source plug in) controls the received service data from a content provider (communicating and receiving the data from the external content provider), paragraphs [0065], [0066]); and processing the received data into a data model format (the demodulation module performs demodulation and channel decoding of the received digital signal (processing the received data) and outputs a video signal, an audio signal, and a data signal (into a data model format), paragraphs [0083], [0086]); a subservice corresponding to the source plugin, the subservice configured to communicate with and provide the converted data to an internal content provider module configured to provide the converted data as content to the Intelligent TV (the video decoder receives video on demand data from the service control/delivery manager (the subservice corresponding to the source plugin) decodes the multiplex video signal and performs scaling to output resolution through the display module (configured to communicate with and provide the converted data to an internal content provider module),to be displayed as an image on the smart TV (configured to provide the converted data as content to the intelligent TV), paragraphs [0110], [0175], [0176]); a database configured to store the received data or the converted data by the source plugin or the subservice (the decoder (the subservice) makes a database for the service information and stores the database (storing the received data into a database), paragraph [0069]); a resource arbitrator configured to provide access to the subservice to provide content to hardware of the Intelligent TV (the intelligent TV system includes a resource manager (a resource arbitrator) for efficient management of system resources, memory management, and interface for hardware, the decoder, and schedule management (to provide access to the sub service and provide content to hardware of the intelligent TV), paragraphs [0194], [0208]), wherein the hardware includes a local network, a cloud service, a display, and/or a video hardware (the intelligent TV system includes a network interface module that provides an interface for connecting the display device with a wireless LAN (wherein the hardware includes a local network), an interface to the Internet (a cloud service) a display device (a display), paragraphs [0041], [0094]); thumbnail images associated with the received data (the thumbnail image may be generated from the demodulation stream signal output (thumbnail images associated with the received data), paragraph [0133]), a storage of the intelligent TV (the memory module (storage) of the display device (intelligent TV), paragraphs [0103], [0033]), configured to create and store the thumbnail images (channel browsing processor extracts image from the stream signal output to generate thumbnail image (configured to create the thumbnail images) and contents stored in the memory module (and store), paragraphs [0103], [0133]). However, Kim fails to disclose an intelligent television comprising: and a thumbnail cache manager configured to manage thumbnail images and to store the thumbnail images, wherein the thumbnail images include movie thumbnails, posters, and TV channel logos. Kaila discloses a method further a thumbnail cache manager to manage thumbnail images (thumbnail provider has a centralized cache to manage images (a thumbnail cache manager to manage thumbnail images), paragraphs [0015], [0026]) and to store the thumbnail images (thumbnails are stored in a storage device (to store the thumbnail images), paragraph [0059]). Sull discloses a method wherein the thumbnail images include movie thumbnails, posters, and TV channel logos (the thumbnail images generated (thumbnail images include) from video streams (movie thumbnails), a poster of the movie (posters), and TV channel logo), claims 1, 7, paragraph [0245]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Kim to include a thumbnail cache manager to manage thumbnail images, and to store the thumbnail images, as taught by Kaila, for the benefit of managing and storing thumbnail images for the viewer. Further, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Kim to include the thumbnail images include movie thumbnails, posters, and TV channel logos, as taught by Sull, for the benefit of creating appropriate thumbnails for the content.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: DEAN N. REINHARDT
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 6583-495-PCT	Date of mailing *(day/month/year)* 04 MAR 2014 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2013/055283	International filing date *(day/month/year)* 16 August 2013
Applicant FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-495-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055283	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 9 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 15

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055283

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 30/00 (2014.01)
USPC - 715/810
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06F 3/00; G06Q 30/00; H04N 5/00, 7/00 (2014.01)
USPC - 725/1, 37, 46, 86

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06Q 30/00, H04N 5/00, 7/00 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, ProQuest, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2011/0289452 A1 (JORDAN et al) 24 November 2011 (24.11.2011) entire document	1-8, 11-18 ----- 9-10, 19-20
Y	WO 2000005884 A1 (WILF et al) 3 February 2000 (03.02.2000) entire document	10, 20
Y	EP 2439935 A1 (JEONG) 11 April 2012 (11.04.2012) entire document	9-10, 19-20
A	WO 2007137611 A1 (CONTIN et al) 06 December 2007 (06.12.2007) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 February 2014	0 4 MAR 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: DEAN N. REINHARDT
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	04 MAR 2014
Applicant's or agent's file reference 6583-495-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055283	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 30/00 (2014.01)
USPC - 715/810

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	19 February 2014	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055283

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

a. (means)

☐ on paper

☐ in electronic form

b. (time)

☐ in the international application as filed

☐ together with the international application in electronic form

☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055283

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	9-10, 19-20	YES
	Claims	1-8, 11-18	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-8, 11-18 lack novelty under PCT Article 33(2) as being anticipated by Jordan et al., hereinafter referred to as Jordan.

Regarding claim 1, Jordan discloses a non-transitory computer readable storage medium having stored thereon instructions that cause a processor to execute (fig. 25, para 127) a method for accessing media on a television (method for content browsing on television, abstract, Fig. 1, para 42; see Fig. 15), the method comprising the steps of: searching a network connected to the television to identify a plurality of media sources (step 1510, Fig. 15; para 97-98); determining a number of media items associated with the plurality of media sources (processing content information, step 1512, Fig. 15; para 97-98); identifying metadata associated with the determined number of media items (content information and metadata associated with the content, para 100, 33); storing the metadata in a memory (storing metadata, para 33); receiving a request from a user to display one or more of the media items (user requests search and selects content item, step 1514, Fig. 15, para 97-98); and displaying on the television display the one or more media items based on the stored metadata (selected item presented to user, step 1516, Fig. 15, para 98; para 33).

Regarding claim 11, Jordan discloses a television system (Fig. 1, para 42), comprising: a display (2510, Fig. 25); a memory (main memory 2504, Fig. 25); a processor in communication with the memory and the display (processor 2502, Fig. 25), the processor operable to: search a network connected to the television to identify a plurality of media sources (step 1510, Fig. 15; para 97-98); determine a number of media items associated with the plurality of media sources (processing content information, step 1512, Fig. 15; para 97-98); identify metadata associated with the determined number of media items (content information and metadata associated with the content, para 100, 33); store the metadata in the memory (storing metadata, para 33); receive a request from a user to display one or more of the media items (user requests search and selects content item, step 1514, Fig. 15, para 97-98); and display on the display the one or more media items based on the stored metadata (selected item presented to user, step 1516, Fig. 15, para 98; para 33).

Regarding claim 17, Jordan discloses a method for accessing media on a television (method for content browsing on television, abstract, Fig. 1, para 42; see Fig. 15), the method comprising: searching a network connected to the television to identify a plurality of media sources (step 1510, Fig. 15; para 97-98); the plurality of media sources comprising at least one of: a video server, an audio server, a digital video recorder, a set-top box, a social media site, a voice mail server, a source marked by the user, a content provider (see Fig. 1-2, content source from service provider, para 39-40), a compact disk player, a digital video device player, a cellular telephone, a personal digital assistant, a notebook, an audio player, a document server, a personal computer, a really simple syndication feed, a social media site, a universal serial bus device, an internet site (Netflix, para 42), and a tablet device; determining a number of media items associated with the plurality of media sources (processing content information, step 1512, Fig. 15; para 97-98); identifying metadata associated with the determined number of media items (content information and metadata associated with the content, para 100, 33); storing the metadata in a memory (storing metadata, para 33); receiving a request from a user to display one or more of the media items (user requests search and selects content item, step 1514, Fig. 15, para 97-98); and displaying on the television display the one or more media items based on the stored metadata (selected item presented to user, step 1516, Fig. 15, para 98; para 33).

Regarding claims 2, 12, 18, Jordan discloses receiving a search request from the user for an individual media item (user search request, step 1514, Fig. 15); identifying multiple media sources in the plurality of media sources that have the individual media item (content gathered from multiple media sources, para 97-98, 33, Fig. 15); presenting a list of offers from the multiple media sources to the user for the individual item (content item displayed to user, Fig. 15-16, para 97-98; content items offered to consumer, para 71); receiving a selection by the user of an individual offer from the list of offers (para 71, 97-98); and providing access to the individual item (access content items offered, para 71).

Regarding claims 3, 13, Jordan discloses wherein the list of offers comprises at least one of: an offer to play the individual media item, an offer to view the individual media item, a pay per view offer to view the individual media item, an offer to rent the individual media item, an offer to purchase a ticket to a movie theater showing the individual media item, an offer to purchase the individual media item, a trial access offer to the individual media item, an offer to check out the individual media item, and an offer to access the individual media item on a social media site (enable a consumer to browse, access, purchase, and download particular content items offered by the particular content source 130, para 71, Fig. 8).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055283

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding claims 4, 14, Jordan discloses wherein the plurality of media sources comprises at least two of: a video server, an audio server, a digital video recorder, a set-top box, a social media site, a voice mail server, a source marked by the user, a content provider (see Fig. 1-2, content source from service provider, para 39-40), a compact disk player, a digital video device player, a cellular telephone, a personal digital assistant, a notebook, an audio player, a document server, a personal computer, a really simple syndication feed, a social media site, a universal serial bus device, an internet site (Netflix, para 42), and a tablet device.

Regarding claims 5-6, 15-16, Jordan discloses wherein at least one of the media sources is a device that can be temporarily connected to the network, and wherein one of the at least one temporarily connected devices is not connected to the network (devices such as network attached storage device, or computer, para 42, Fig. 1-2).

Regarding claim 7, Jordan discloses wherein the one or more media items displayed includes at least one recommended media item based on the stored metadata (recommendation of content items, para 60, 65-66).

Regarding claim 8, Jordan discloses after receiving the request, identifying the user associated with the request, wherein the one or more media items displayed are based on stored metadata related to the identified user (content items recommended based on user behavior and user profile information, para 66-68).

Claims 9, 19 lack an inventive step under PCT Article 33(3) as being obvious over Jordan in view of Jeong.

Regarding claims 9, 19, Jordan discloses the invention above, but fails to disclose wherein identifying metadata comprises: performing a first scan of the determined number of media items; retrieving basic metadata associated with the determined number of media items; identifying media items that need a second scan; and performing the second scan after the first scan is completed. Jeong is in the field of Television signal processing and smart tv's in general and presents methods for accessing multimedia documents ([0054)] performing a first scan of the determined number of media items ([0111] The external device interface module 135 is connected to external devices such as Digital Versatile Disks (DVD), Blu-rays, game devices, cameras, camcorders, computers (e.g., notebook computers), etc. through wire/wireless cables.); retrieving basic metadata associated with the determined number of media items ([0097] The metadata manager 712 manages metadata related to the service and stores the metadata in the SI and Metadata DB 711); identifying media items that need a second scan; and performing the second scan after the first scan is completed ([0190] Fig. 9 shows a communication procedure performed between a display device and one or more other devices. As illustrated in Fig. 9, display device 100 can perform communication with a broadcasting station 210, a network server 220, or an external device 230). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Jeong and incorporate the above features in the invention of Jordan in order to provide a system for providing multitude of ways in which multimedia content can be accessed (Jeong, [0110] The external device interface module 135 may connect an external device to the display device 100. To this end, external device interface module 135 may include an A/V input/output unit (not shown) or a wireless communication unit).

Claims 10, 20 lack an inventive step under PCT Article 33(3) as being obvious over Jordan in view of Wilf et al., hereinafter referred to as Wilf, and further in view of Jeong.

Regarding claims 10, 20, Jordan discloses the invention above, but fails to disclose wherein storing the metadata in memory comprises: assigning a unique media source identifier to each of the plurality of media sources; assigning a unique media item identifier to each of the determined number of media items; creating a personal metadata table to record media items viewed and media items tagged as a favorite; creating a media source table to record metadata for all connected and disconnected media sources; and creating a media data table to record all other identified metadata. Wilf is in the field of accessing media on a television (Fig. 11 – Television Signal)and teaches assigning a unique media source identifier to each of the plurality of media sources (Pg. 18 Lines 8 to 11, As mentioned above, the method for computing attribute-specific indexing data and for querying these attributes can be implemented by methods known in the art.); assigning a unique media item identifier to each of the determined number of media items (Pg. 17 Lines 21 to 29, The search menu consists of a set of content-based attributes such as visual attributes 710. audio attributes 720, topic-related attributes 730, and special attributes 740 such as breaking news or explosions.); creating a personal metadata table to record media items viewed and media items tagged as a favorite (Pg. 20 Lines 3 to 27; Pg. 21 Lines 9 to 17); and creating a media data table to record all other identified metadata (Pg. 21 Lines 9 to 17, Interactive television systems establish a database of viewer preferences based on particular characteristics previously delivered to the viewer.). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the metadata identifier features as taught in Wilf with the invention of Jordan in order to tag favorite content items.
Jeong is in the field of Television signal processing and smart tv's in general and presents methods for accessing multimedia documents ([0054)] wherein storing the metadata in memory comprises (Fig. 5, Block 711 – SI & Metadata DB & Block 712 – Metadata Manager; [0097]: The metadata manager 712 manages metadata related to the service and stores the metadata in the SI and Metadata DB 711. The SI and Metadata DB 711 stores the service information decoded by the PSI and (PSIP and/or SI) decoder 704, the metadata managed by the metadata manager 712, and the information required to select the service provider provided by the service discovery manager 710.) ; creating a media source table to record metadata for all connected and disconnected media sources ([0097] The metadata manager 712 manages metadata related to the service and stores the metadata in the SI and Metadata DB 711. The SI and Metadata DB 711 stores the service information decoded by the PSI and (PSIP and/or SI) decoder 704, the metadata managed by the metadata manager 712, and the information required to select the service provider provided by the service discovery manager 710.);
It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Jeong and incorporate the above features in the invention of Jordan in order to add additional aspects of storing of metadata and providing enhanced services (Jeong, Fig. 5, Block 711 – SI & Metadata DB & Block 712 – Metadata Manager; [0097]).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* 22 NOV 2013
Applicant's or agent's file reference 6583-496-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US13/55564	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)
Applicant Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450	Authorized officer Shane Thomas
Facsimile No. 571-273-3201	Telephone No. PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-496-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55564	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 8 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 15

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/55564

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 7/00 (2013.01)
USPC - 725/141
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06F 3/048; H04N 7/00 (2013.01)
USPC: 715/854; 725/55, 141

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); Google Scholar; IEEE; DialogPRO; television, intelligent, TV, smart, interactive, high-definition, HDTV, aggregate, combine, sum, electronic, programming, guide, EPG, poll, search, collect, update, modify, change, manage, control, relevant, related, retrieve

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2012/0174039 A1 (RHOADS J et al.) July 5, 2012, paragraphs [0025], [0028]-[0035], [0043], [0053], [0075], [0077], [0127], [0128], [0131], [0145], [0148]	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
14 November 2013 (14.11.2013)	22 NOV 2013

Name and mailing address of the ISA/US	Authorized officer:
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	22 NOV 2013
Applicant's or agent's file reference 6583-496-PCT	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55564	19 August 2013 (19.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 7/00 (2013.01)
USPC - 725/141

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to th IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	14 November 2013 (14.11.2013)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55564

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55564

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	NONE	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by US 2012/0174039 A1 to Rhoads et al. (hereinafter 'Rhoads').

As per claim 1, Rhoads discloses a method of managing Electronic Programming Guide (EPG) information for an Intelligent television (TV) (a control circuitry for controlling (managing) a television program guide for a HDTV (intelligent TV), paragraphs [0025], [0043], [0053], [0075] and [0077]), comprising: polling and retrieving a plurality of EPG sources for updated EPG information (navigating (polling) and retrieving updated program guide information, paragraphs [0127], [0128], [0131], [0145] and [0148]); aggregating the EPG information from the plurality of EPG sources (combining (aggregating) media guidance data for content from different types of content sources, paragraph [0031]); and providing a relevant portion of the EPG information to an application of the Intelligent TV (providing options within the region 126 is related (relevant) to features in program listings (applications) of the grid 102 in the HDTV, paragraphs [0035], [0043] and [0053]).

As per claim 9, Rhoads discloses an EPG data service for an Intelligent TV (a control circuitry for controlling a television program guide for a HDTV (intelligent TV), paragraphs [0025], [0043], [0053], [0075] and [0077]), comprising: a plurality of source plugins configured to poll and retrieve updated EPG information from a plurality of respective EPG information sources (media sources for navigating (polling) and retrieving updated program guide information, paragraphs [0056], [0127], [0128], [0131], [0145] and [0148]); and an EPG subservice configured to receive the EPG information retrieved by the plurality of source plugins (media sources retrieve plurality of program guide information, paragraphs [0056], [0064], [0088] and [0108]), aggregate the EPG information (combining (aggregating) media guidance data for content from different types of content sources, paragraph [0031]), and provide a relevant portion of the EPG information to an application of the Intelligent TV (providing options within the region 126 is related (relevant) to features in program listings (applications) of the grid 102 in the HDTV, paragraphs [0035], [0043] and [0053]).

As per claim 17, Rhoads discloses an Intelligent TV (a HDTV (intelligent TV), paragraphs [0043] and [0053]) comprising: an EPG display application configured to generate an EPG display for the Intelligent TV (a TV program guide displayed on a HDTV screen, figure 1 and paragraphs [0028]-[0035] and [0092]); and an EPG data service (television program guide that receives program guide data, paragraph [0075]), the EPG data service comprises a plurality of source plugins configured to poll and retrieve updated EPG information from a plurality of respective EPG information sources (media sources for navigating (polling) and retrieving updated program guide information, paragraphs [0056], [0127], [0128], [0131], [0145] and [0148]) and an EPG subservice configured to receive the EPG information retrieved by the plurality of source plugins (media sources retrieve plurality of program guide information, paragraphs [0056], [0064], [0088] and [0108]), aggregate the EPG information (combining (aggregating) media guidance data for content from different types of content sources, paragraph [0031]), and provide a relevant portion of the EPG information to the EPG display application (providing options within the region 126 is related (relevant) to features in program listings (applications) of the grid 102 in the HDTV, paragraphs [0035], [0043] and [0053]).

As per claims 2 and 10, Rhoads further discloses wherein for an EPG source with substantially no updated EPG information (a regular daily broadcast TV programs like ABC or HOB programs that needed no to be updated, paragraph [0074]), the polling and retrieving step/ the respective source plugin comprises associating the EPG information from the EPG source with dummy EPG data (a content source 416 is the originator of content (dummy EPG data) such as a television broadcaster, a Webcast provider or is not originator of content such as an on demand content provider, an Internet provider of content of broadcast programs for downloading, wherein the content source 416 may include cable sources, satellite providers, on-demand providers, Internet providers, over-the-top content providers, or other providers of content, paragraph [0074]).

As per claim 3, Rhoads further discloses wherein the polling and retrieving step is activated by the Intelligent TV at a default or user-defined interval (the navigating and retrieving HDTV programs is selected (activated) by a user-defined action, paragraphs [0028], [0043] and [0053]).

As per claim 4, Rhoads further discloses wherein the polling and retrieving step is activated after a channel scanning operation by the Intelligent TV (a navigating and retrieving of TV program happened after the HDTV display the favorite channels (scanning operation by the Intelligent TV), paragraphs [0043] and [0053]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55564

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
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-***-Continued from Previous Supplemental Box-***-

As per claim 5, Rhoads further discloses wherein the polling and retrieving step comprises sending to an Internet or cloud EPG source a channel name list of the Intelligent TV (a list of channels of the HDTV is provided on cloud source or on an internet, paragraphs [0035], [0043], [0053], [0078], [0083]-[0086], [0090] and [0092]) and retrieving EPG information from the Internet or cloud EPG source that matches channels in the channel name list (acquiring the channels from list or menu that that match user-defined list of channels, paragraphs [0035], [0043], [0053], [0078], [0083]-[0086], [0090] and [0092], [0117] and [0118]).

As per claim 6, Rhoads further discloses wherein the polling and retrieving step further comprises retrieving EPG information for only selected programs and/or channels from the EPG sources (displaying descriptive information of the selected channels programs, paragraphs [0051], [0056], [0088], [0096], [0101] and [0110]).

As per claims 7 and 15, Rhoads further discloses wherein the aggregating step/the EPG subservice comprises aggregating the updated EPG information from the plurality of EPG sources (combining (aggregating) new or updated media guidance data for content from different types of content sources, paragraphs [0031], [0127] and [0128]) and resolving conflicts between duplicate EPG information from the plurality of EPG sources according to a plurality of rules (a condition (rule) is set when a user desires to traverse a same path that led the user to a media asset, paragraphs [0025], [0063] and [0137]).

As per claims 8 and 16, Rhoads further discloses wherein the resolving conflicts step/ the EPG subservice comprises using EPG information from a first EPG source as a primary source (a media source that displays a main TV program menu, paragraph [0035]) and overwriting conflicting EPG information from the primary source with a second EPG source that is considered more reliable (replacing or updating a TV program menu from one media source with another TV program menu from different media source, paragraphs [0053], [0056], [0127], [0128], [0131], [0145] and [0148]).

As per claims 11 and 18, Rhoads further discloses wherein one or more of the plurality of source plugins is configured to poll and retrieve the updated EPG information at a default or user-defined interval (TV programs are retrieved from media sources using TV programs selected (activated) by a user-defined action, paragraphs [0028], [0043], [0053], [0056], [0127], [0128], [0131], [0145] and [0148]).

As per claim 12, Rhoads further discloses one or more of the plurality of source plugins is configured to poll and retrieve the updated EPG information after a channel scanning operation by the Intelligent TV (using the media source, a navigating and retrieving of TV program happened after the HDTV display the favorite channels (scanning operation by the Intelligent TV), paragraphs [0043], [0053], [0056], [0127], [0128], [0131], [0145] and [0148]).

As per claims 13 and 19, Rhoads further discloses wherein an Internet or cloud source plugin of the plurality of source plugins is configured to send to an Internet or cloud EPG source a channel name list of the Intelligent TV (using media source, a list of channels of the HDTV is provided on cloud source or on an internet, paragraphs [0035], [0043], [0053], [0056], [0078], [0083]-[0086], [0090], [0092], [0127], [0128], [0131], [0145] and [0148]).

As per claim 14, Rhoads further discloses wherein one or more of the plurality of source plugins are configured to poll and retrieve the updated EPG information for only selected programs and/or channels from the EPG sources (using media source, displaying descriptive information of the selected channels programs, paragraphs [0051], [0053], [0056], [0088], [0096], [0101] and [0110], [0127], [0128], [0131], [0145] and [0148]).

As per claim 20, Rhoads further discloses a tangible and non-transient computer readable medium comprising microprocessor executable instructions that, when executed by the microprocessor, perform the steps of claim 1 (microprocessor for executing instructions stored in a memory, paragraphs [0049] and [0077]).

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-497-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55379	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 17

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/55379

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04W 80/04 (2013.01)
USPC - 370/331
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H04W 80/04; H04W 92/04; H04W 36/00; H04N 21/00; G06F 15/16; G06F 15/173 (2013.01)
USPC - 709/231; 370/331; 709/219; 709/227; 709/224; 707/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); Google/ Google patents; IEEE; Proquest.

Keywords: DLNA; Status; UPnP

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2009/0129340 A1 (HANDA, M) 21 May 2009; Abstract; Paragraphs [0008], [0036], [0037], [0047], [0050], [0054], [0055], [0078]-[0080], [0099], [0140], [0209], [0214], [0219], [0220].	1, 5-8, 13 and 15-18 --- 2-4, 9-12, 14, 19 and 20
Y	US 2012/0151006 A1 (MCINERNEY, J et al.) 14 June 2012; Abstract; Paragraphs [0016], [0021], [0044], [0050], [0055].	2-4, and 14
Y	US 2010/0306402 A1 (RUSSELL, R et al.) 2 December 2010; Abstract; Paragraphs [0039], [0040], [0043], [0073], [0133], [0136].	9-12, 19 and 20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
7 November 2013 (07.11.2013)	06 DEC 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	06 DEC 2013
Applicant's or agent's file reference 6583-497-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55379	16 August 2013 (16.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04W 80/04 (2013.01)
USPC - 370/331

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	7 November 2013 (07.11.2013)	Shane Thomas PCT Helpdesk: 571-272-4300. PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55379

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55379

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2-4, 9-12, 14, 19 and 20	YES
	Claims	1, 5-8, 13 and 15-18	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1, 5-8, 13 and 15-18 lack novelty under PCT Article 33(2) as being anticipated by US 2009/0129340 A1 (Handa).

As per Claims 1, 8 and 13, Handa discloses a method, an intelligent television (TV) and DLNA subservice module, comprising: a Digital Living Network Alliance (DLNA) subservice module (the service determination unit 301a (DLNA subservice module) of the controller sends a confirm message to the digital television and the storage server in reply to live status confirmation, paragraph [0209]) configured to retrieve status data from a plurality of DLNA devices connected through a network (the system includes controllers 12 and 32 that may be integrally constituted by an apparatus that provides a data receiving service, such as the digital television 11 (Intelligent TV) that has a digital media player and digital media server (DLNA devices) that is connected to a home network having a network interface via a controlling protocol DLNA and by a service determination unit 301a that determines the status of the connected DLNA devices (status data), with respect to the digital television and the storage devices, paragraphs [0008], [0036], [0037], [0047], [0050], [0065], [0209]); updating an internal status data for the external devices in the Intelligent TV using the retrieved status (the storage server (external device) is connected to a home network to which the digital television 11 provides the service data retrieved from the DLNA control protocol and the service determination unit 301a (DLNA subservice module) of the controller that determines the status of the network connection (status data) and sends a confirm message to the digital television and the storage server in reply to live status confirmation, paragraphs [0038], [0065], [0209]); and notifying an internal content provider module of the Intelligent TV with the updated internal status data (the controller 12, which may be integrally constituted with the digital television (intelligent TV), has a SIP control unit (internal content provider) that sends a signal for ending confirmation data request in response to information from the service determination unit 301a (notification) that a DLNA device is unavailable (internal status data), paragraphs [0054], [0055], [0080], [0099], [0140], [0214]).

As per Claims 5 and 16, Handa discloses the method and DLNA subservice of claims 1 and 13, wherein the external device is a Digital Living Network Alliance (DLNA) device and communicates with the Intelligent TV using the Universal Plug and Play (UPnP) protocol (the storage server (external device) communicates with the controller that may be integrally constituted by an apparatus that provides a data receiving service, such as the digital television 11 (Intelligent TV) via DLNA in which UPnP is used to recognize each device connected to home network 1, paragraphs [0037], [0047], [0078], [0079]).

As per Claims 6 and 17, Handa discloses the method and DLNA subservice of claims 1 and 13, wherein the retrieved status data is sent by the external device on one or more of a connection of the external device to the network, a disconnection of the external device from the network, and a change of status to the external device (a SIP control unit in the controller adds information data request (update internal status data) that it receives from the DLNA control protocol via SIP session control protocol that is used to communicate between the storage devices on the storage server (external device) and the digital television; it further sends signal to connect the storage server (external device) with the home network and sends a disconnect signal to end the service request to the storage server (external device), paragraphs [0054], [0055], [0099], [0140], [0219], [0220]).

As per Claims 7 and 18, Handa discloses the method and DLNA subservice of claims 1 and 13, wherein the status data comprises one or more of device discovery data, device disconnection data, and media data (service determination unit 301a determines whether DLNA devices connected to the network are available or disconnected (device discovery and disconnection data), paragraphs [0038], [0065], [0209]-[0213]).

As per Claim 15, Handa discloses the DLNA subservice of claim 13, wherein the internal content provider module comprises one or more of a media scanner and a media browser (SIP control unit (internal content provider module) communicates with respect to the availability of DLNA devices on the home networks (media scanner), paragraphs [0008], [0039], [0052], [0054], [0080], [0214]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55379

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
Claims 14 - 20 are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof: Claims 14 - 20 have a typo error ("DNLA"). It should be DLNA.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55379

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
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-***-Continued from Previous Supplemental Box-***-

Claims 2-4 and 14 lack an inventive step under PCT Article 33(3) as being obvious over Handa in view of US 2012/0151006 A1 to McInerney et al. (hereinafter 'McInerney').

As per Claims 2 and 14, Handa discloses the method and DLNA subservice module of managing external devices of claims 1 and 13. Handa fails to disclose further comprising aggregating the updated internal status data with status data for other devices connected through the network as a unified data. McInerney disclose further comprising aggregating the updated internal status data with status data for other devices connected through the network as a unified data (the method providing a status list (aggregating) may have update data (unified data) of DLNA rendering devices (external devices) that reflects changes to the list (internal status data) that may originate from the mobile content relay device which can be a digital media player or from another device in the local network (such as a DLNA server or controller) based on the local network status of the DLNA renderer devices (external devices), paragraphs [0016], [0044], [0050]). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Handa's method and DLNA subservice module to manage external devices include wherein aggregating the updated internal status data with status data for other devices connected through the network as a unified data, as taught by McInerney, for the advantage of centralizing status data for all connected devices, allowing more efficient management of external devices.

As per Claim 3, the combination of Handa and McInerney discloses the method of managing external devices of claim 2. However, Handa fails to disclose wherein the aggregating the updated internal status data with status data for other devices connected through the network is performed by an internal content provider module of the Intelligent TV. McInerney further discloses wherein the aggregating the updated internal status data with status data for other devices connected through the network is performed by an internal content provider module of the Intelligent TV (a method providing the status list (aggregating) that may have update data of DLNA rendering devices (external devices) that reflects changes to the list (internal status data) that may originate from the mobile content relay device which can be a digital media player (Intelligent TV) based on the local network status of the DLNA renderer devices (external devices) and the mobile content relay device which includes a presence status monitor (internal content provider module) can communicate the received content list with the DLNA server, paragraphs [0016], [0031], [0044], [0050], [0055]). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Handa's method to manage external devices include wherein the aggregating the updated internal status data with status data for other devices connected through the network is performed by an internal content provider module of the Intelligent TV, as taught by McInerney, for the advantage of centralizing status data for all connected devices, allowing more efficient management of external devices.

As per Claim 4, Handa discloses the method of claim 3, wherein the internal content provider module comprises one or more of a media scanner and a media browser (SIP control unit (internal content provider module) communicates with respect to the availability of DLNA devices on the home networks (media scanner), paragraphs [0008], [0039], [0052], [0054], [0080], [0214]).

Claims 9-12, 19 and 20 lack an inventive step under PCT Article 33(3) as being obvious over Handa in view of US 2010/0306402 A1 to Russell et al. (hereinafter 'Russell').

As per Claims 9 and 19, Handa disclose the Intelligent TV and DLNA subservice module of claims 8 and 15. Handa further fails to disclose wherein the internal content provider module comprises a media browser configured to provide a real-time view of media sources of the Intelligent TV. Russell discloses wherein the internal content provider module comprises a media browser configured to provide a real-time view of media sources of the Intelligent TV (the method and apparatus include content providers (internal content provider module) that are used to download media data on the client devices such as set-top box connected to TV (Intelligent TV) in the home network that support DLNA, downloads content from media providers and makes the content available to PlayStation via DLNA in which the media can be searched using Content browser (media browser) and the game client (media sources) that may be integrated within a TV to provide video in real time via the Internet, paragraphs [0039], [0040], [0043], [0073], [0133], [0136]). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Handa's system that includes an Intelligent TV wherein the internal content provider module comprises a media browser configured to provide a real-time view of media sources of the Intelligent TV as taught by Russell, for the advantage of displaying to the user in a friendly fashion the available media sources.

As per Claim 10, the combination of Handa and Russell discloses the Intelligent TV of claim 9. Handa fails to disclose wherein the media browser comprises a plug-in configured to retrieve metadata from the plurality of DLNA devices that are DLNA content servers. Russell further discloses wherein the media browser comprises a plug-in configured to retrieve metadata from the plurality of DLNA devices that are DLNA content servers (the method and apparatus include content providers that are used to download media data on the client devices such as set-top box connected to TV (Intelligent TV) or home computer (DLNA devices) in the home network that support DLNA, downloads content from media providers and makes the content available to PlayStation via DLNA in which the media can be searched using Content browser (media browser) that includes information described in the Content source information (plug-in) that can access other servers (DLNA content servers) with information regarding media, such as Media Metadata database, paragraphs [0043], [0073]). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Handa's system that includes the Intelligent TV wherein the media browser comprises a plug-in configured to retrieve metadata from the plurality of DLNA devices that are DLNA content servers as taught by Russell, for the advantage of providing easier access to connected DLNA media sources.

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55379

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As per Claims 11 and 20, the combination of Handa and Russell discloses the Intelligent TV and DLNA subservice module of claims 9 and 19. Handa fails to disclose further comprising a media scanner configured to populate a media table using data retrieved by the media browser. Russell discloses further comprising a media scanner configured to populate a media table using data retrieved by the media browser (the media data on the client devices such as set-top box connected to TV (Intelligent TV) or home computer (DLNA devices) downloads content from media providers and makes the content available to PlayStation via DLNA in which the media can be searched using Content browser (media browser) which includes content source information accessed through Content Manager 610 (media scanner) that determines how to retrieve content for the user that can be obtained from internal media library 606 (media table), or from the Internet via Content Loader (DLNA subservice module), paragraphs [0043], [0070], [0073]). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Handa's system that includes an Intelligent TV further comprising a media scanner configured to populate a media table using data retrieved by the media browser as taught by Russell, for the advantage of entire media monitoring process.

As to Claim 12, the combination of Handa and Russell discloses the Intelligent TV of Claim 11. Handa fails to disclose wherein the media scanner is further configured to aggregate data of DLNA and non-DLNA devices as a unified metadata. Russell discloses wherein the media scanner is further configured to aggregate data of DLNA and non-DLNA devices as a unified metadata (Content Manager 610 contains information about available media on local sources, network sources which may be DLNA devices, and internet sources (non-DLNA devices), through centralized media metadata, paragraphs [0043], [0069], [0073]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Intelligent TV disclosed in Handa to include wherein the media scanner is further configured to aggregate data of DLNA and non-DLNA devices as a unified metadata, as taught in Russell, for the benefit of centralizing media information, improving efficiency of access.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-498-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055349	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 36

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055349

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 5/445 (2013.01)
USPC - 725/39
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H04N 5/445, 7/173 (2013.01)
USPC - 348/E5.104, E5.105, E5.112; 725/39, 40, 43, 44, 47

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - H04N 5/45, 5/44543, 21/47, 21/482, 21/4316, 21/4626 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents, Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0067376 A1 (MARTIN et al) 06 June 2002 (06.06.2002) entire document	1-20
A	US 2001/0056577 A1 (GORDON et al) 27 December 2001 (27.12.2001) entire document	1-20
A	US 2011/0145860 A1 (WEI) 16 June 2011 (16.06.2011) entire document	1-20
A	US 8,220,021 B1 (LOOK et al) 10 July 2012 (10.07.2012) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 November 2013	29 NOV 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: THAINE LENNOX-GENTLE
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	29 NOV 2013
Applicant's or agent's file reference 6583-498-PCT	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055349	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 5/445 (2013.01)
USPC - 725/39

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	20 November 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055349

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

a. (means)

☐ on paper

☐ in electronic form

b. (time)

☐ in the international application as filed

☐ together with the international application in electronic form

☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055349

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	None	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by Martin et al. hereinafter referred to as Martin.
Regarding Claim 1, Martin discloses a method, comprising: running, via a processor associated with an intelligent television (TV) (Para. [0049] regarding processor; Para. [0005] regarding systems and methods described herein relate to a portal for simultaneously viewing video channels, launching interactive applications, and/or interfacing with locally or remotely stored content), a live TV application, wherein the live TV application is configured to control one or more interactive user functions of the intelligent TV (Para. [0055] regarding Central processor 220 may be adapted to run a number of applications defining the functionality of STB; Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed with details on the selected subject); presenting, simultaneously via a display of the intelligent TV, live TV broadcast content (Fig. 7A regarding talkshow video 700; Para. [0088] regarding A given page may display a composite program consisting entirely of live video cells, a composite program containing some live video combined with locally displayed content), wherein the live TV broadcast content is presented to a first portion of the display (Fig. 7A regarding talkshow video 700 over the entire display); receiving a live TV application input at the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed); determining, by the processor and in response to receiving the live TV application input, a live TV application feature to present via the display, wherein the one or more interactive user functions of the intelligent TV are controlled via the live TV application feature (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed); and presenting, via the display, the live TV application feature to a second portion of the display (Fig. 7A regarding info content 704, 706, 708 within semitransparent bar 702; Fig. 7B regarding info cell 710, overlay 712), wherein the second portion of the display overlaps at least a portion of the presented live TV broadcast content (Para. [0122] regarding a semi-transparent bar 702 across the bottom of the screen that includes an information icon... the text may be in a semi-transparent background overlaid in the upper left comer of screen 700).

Regarding Claim 2, Martin discloses the method of claim 1, and further discloses wherein the live TV broadcast content includes at least one of a TV episode, a TV special, a movie, a sport event, and a radio program (Fig. 7A regarding talkshow video 700).

Regarding Claim 3, Martin discloses the method of claim 1, and further discloses wherein the live TV application input is provided automatically via the processor associated with the intelligent TV (Para. [0051] regarding Central processor 220 generally handles the processing of data within STB 1140. In the case of received audio and video signals, the MPEG packets containing these signals are demultiplexed and filtered).

Regarding Claim 4, Martin discloses the method of claim 1, and further discloses wherein live TV application input is provided by a user via a remote control associated with the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed).

Regarding Claim 5, Martin discloses the method of claim 1, and further discloses wherein presenting the live TV application feature further comprises presenting views and dialogs via the display of the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed with details on the selected subject; Para. [0055] regarding program guide applications).

Regarding Claim 6, Martin discloses the method of claim 1, and further discloses wherein the one or more interactive user functions of the intelligent TV include at least one of channel changing, channel viewing, program information viewing, setting reminders, clearing reminders, setting favorites, and clearing favorites (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed with details on the selected subject; Para. [0055] regarding program guide applications).

Regarding Claim 7, Martin discloses the method of claim 1, and further discloses wherein the live TV application is configured to communicate with at least one manager and provider of an operating system framework associated with the intelligent TV (Para. [0054] regarding a virtual machine interacting via an interface layer with a lower level operating system implemented in the hardware components... a device manager layer 304).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055349

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding Claim 8, Martin discloses the method of claim 1, and further discloses wherein the live TV application is configured to communicate with a system user interface (UI) application associated with the intelligent TV (Para. [0084] regarding All of the control data for configuring the mosaic is input via a graphical user interface).

Regarding Claim 9, Martin discloses the method of claim 8, wherein the system UI application is configured to automatically format one or more applications for use by the live TV application (Para. [0084] regarding The portal computer generates an MPEG-2 private mosaic table and injects it into the MPEG transport along with the composite program).

Regarding Claim 10, Martin discloses a tangible, non-transitory computer readable medium having instructions stored thereon that, when executed by a processor (Para. [0049] regarding processor; Para. [0051] regarding The memory of STB 1140 may include EEPROM, host RAM, flash memory for software and data), perform the method comprising: running, via a processor associated with an intelligent television (TV), a live TV application, wherein the live TV application is configured to control one or more interactive user functions of the intelligent TV (Para. [0055] regarding Central processor 220 may be adapted to run a number of applications defining the functionality of STB; Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed with details on the selected subject); presenting, simultaneously via a display of the intelligent TV, live TV broadcast content (Fig. 7A regarding talkshow video 700; Para. [0088] regarding A given page may display a composite program consisting entirely of live video cells, a composite program containing some live video combined with locally displayed content), wherein the live TV broadcast content is presented to a first portion of the display (Fig. 7A regarding talkshow video 700 over the entire display); receiving a live TV application input at the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed); determining, by the processor and in response to receiving the live TV application input, a live TV application feature to present via the display, wherein the one or more interactive user functions of the intelligent TV are controlled via the live TV application feature (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed); and presenting, via the display, the live TV application feature to a second portion of the display (Fig. 7A regarding info content 704, 706, 708 within semitransparent bar 702; Fig. 7B regarding info cell 710, overlay 712), wherein the second portion of the display overlaps at least a portion of the presented live TV broadcast content (Para. [0122] regarding a semi-transparent bar 702 across the bottom of the screen that includes an information icon... the text may be in a semi-transparent background overlaid in the upper left comer of screen 700).

Regarding Claim 11, Martin discloses the tangible, non-transitory computer readable medium of claim 10, and further discloses wherein the live TV broadcast content includes at least one of a TV episode, a TV special, a movie, a sport event, and a radio program (Fig. 7A regarding talkshow video 700).

Regarding Claim 12, Martin discloses the tangible, non-transitory computer readable medium of claim 10, and further discloses wherein the live TV application input is provided automatically via the processor associated with the intelligent TV (Para. [0051] regarding Central processor 220 generally handles the processing of data within STB 1140. In the case of received audio and video signals, the MPEG packets containing these signals are demultiplexed and filtered).

Regarding Claim 13, Martin discloses the tangible, non-transitory computer readable medium of claim 10, and further discloses wherein live TV application input is provided by a user via a remote control associated with the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed).

Regarding Claim 14, Martin discloses the tangible, non-transitory computer readable medium of claim 10, and further discloses wherein presenting the live TV application feature further comprises presenting views and dialogs via the display of the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed with details on the selected subject; Para. [0055] regarding program guide applications).

Regarding Claim 15, martin discloses the tangible, non-transitory computer readable medium of claim 10, and further discloses wherein the one or more interactive user functions of the intelligent TV include at least one of channel changing, channel viewing, program information viewing, setting reminders, clearing reminders, setting favorites, and clearing favorites (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed with details on the selected subject; Para. [0055] regarding program guide applications).

Regarding Claim 16, Martin discloses the tangible, non-transitory computer readable medium of claim 10, and further discloses wherein the live TV application is configured to communicate with at least one manager and provider of an operating system framework associated with the intelligent TV (Para. [0054] regarding a virtual machine interacting via an interface layer with a lower level operating system implemented in the hardware components... a device manager layer 304).

Regarding Claim 17, Martin discloses the tangible, non-transitory computer readable medium of claim 10, and further discloses wherein the live TV application is configured to communicate with a system user interface (UI) application associated with the intelligent TV (Para. [0084] regarding All of the control data for configuring the mosaic is input via a graphical user interface).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055349

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding Claim 18, Martin discloses the tangible, non-transitory computer readable medium of claim 17, and further discloses wherein the system UI application is configured to automatically format one or more applications for use by the live TV application (Para. [0084] regarding The portal computer generates an MPEG-2 private mosaic table and injects it into the MPEG transport along with the composite program).

Regarding Claim 19, Martin discloses a system, comprising: an intelligent television (TV) having a display (Para. [0005] regarding systems and methods described herein relate to a portal for simultaneously viewing video channels, launching interactive applications, and/or interfacing with locally or remotely stored content) and a tuner (Para. [0050] regarding STB 1140 also includes a tuner 24), wherein the tuner is configured to receive and convert broadcast content signals to be displayed by the display (Para. [0050] regarding STB 1140 also includes a tuner 242 and demodulator 244 (e.g., a 256 QAM demodulator) to receive and demodulate the received transmissions which are then filtered and demultiplexed by unit 240); an input device associated with the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed); a memory (Para. [0049] regarding STB 1140 includes a central processor 220 including associated memory elements); and a microprocessor (Para. [0049] regarding STB 1140 includes a central processor 220 including associated memory elements and adapted to receive input data from...remote) operable to: run a live TV application (Para. [0049] regarding processor; Para. [0005] regarding systems and methods described herein relate to a portal for simultaneously viewing video channels, launching interactive applications, and/or interfacing with locally or remotely stored content), wherein the live TV application is configured to control one or more interactive user functions of the intelligent TV (Para. [0055] regarding Central processor 220 may be adapted to run a number of applications defining the functionality of STB; Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed with details on the selected subject); present, simultaneously via the display of the intelligent TV, live TV broadcast content (Fig. 7A regarding talkshow video 700; Para. [0088] regarding A given page may display a composite program consisting entirely of live video cells, a composite program containing some live video combined with locally displayed content), wherein the live TV broadcast content is presented to a first portion of the display (Fig. 7A regarding talkshow video 700 over the entire display); receive a live TV application input at the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed); determine, in response to receiving the live TV application input, a live TV application feature to present via the display, wherein the one or more interactive user functions of the intelligent TV are controlled via the live TV application feature (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed); and present, via the display, the live TV application feature to a second portion of the display (Fig. 7A regarding info content 704, 706, 708 within semitransparent bar 702; Fig. 7B regarding info cell 710, overlay 712), wherein the second portion of the display overlaps at least a portion of the presented live TV broadcast content (Para. [0122] regarding a semi-transparent bar 702 across the bottom of the screen that includes an information icon... the text may be in a semi-transparent background overlaid in the upper left corner of screen 700).

Regarding Claim 20, Martin discloses the system of claim 19, and further discloses wherein live TV application input is provided by a user via the input device associated with the intelligent TV (Para. [0122] regarding When an entry is selected using "OK" key 330 on remote control 230, a new overlay 712 is displayed).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus industrial applicability has been met because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-499-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055312	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055312

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 17/00 (2013.01)
USPC - 725/9
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H04L 67/22; H04N 7/16, 7/173, 17/00, 21/20, 21/23, 21/47 (2013.01)
USPC - 348/180; 725/9, 14, 39, 61

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - H04L 41/509, 67/22; H04N 21/4667 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents, Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	WO 01/06784 A2 (KNEE et al) 25 January 2001 (25.01.2001) entire document	1, 9, 10, 16 ---- 2-8, 11-15, 17-20
Y	US 4,284,849 A (ANDERSON et al) 18 August 1981 (18.08.1981) entire document	2, 15, 17, 18
Y	US 2011/0273552 A1 (WANG et al) 10 November 2011 (10.11.2011) entire document	3, 4, 11, 12
Y	US 5,964,839 A (JOHNSON et al) 12 October 1999 (12.10.1999) entire document	5-7, 14, 19, 20
Y	WO 03/044755 A1 (KUTZIK et al) 30 May 2003 (30.05.2003) entire document	8, 13

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
18 November 2013	05 DEC 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	05 DEC 2013
Applicant's or agent's file reference 6583-499-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055312	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 17/00 (2013.01)
USPC - 725/9

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	18 November 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055312

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055312

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2-8, 11-15, 17-20	YES
	Claims	1, 9, 10, 16	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1, 9, 10, 16 lack novelty under PCT Article 33(2) as being anticipated by Knee et al. (hereafter Knee).

Regarding claim 1, Knee discloses a method of electronic component operation (Title and Abstract), whereby the component (server 36 or server 56; pg. 10, ln. 30 – pg. 11, ln. 28) performs:
capturing data associated with an activity of a television (Fig. 10, step 134; pg. 10, ln. 30 – pg. 11, ln. 28 describes collecting data on the user's activities with respect to the interactive television applications, which is part of the monitoring of Fig. 10, step 134, described in pg. 25, lns. 7-10);
storing the data (Fig. 10, step 134 describes monitoring the user's activities, where data can be stored on control circuitry 92 as described on pg. 19, lns. 30-32);
generating a report aggregating the data (Fig. 10, step 136 shows the user may be provided with an opportunity to authorize the submission of a report containing information on the user's interactions with the interactive television program guide and other user activities, described in pg. 25, lns. 11-15); and
transmitting the report (Fig. 10, step 138 shows transmitting the report as described on pg. 25, ln. 17-21).

Regarding claim 9, Knee discloses an electronic device (Fig. 1 & 6), comprising:
an activity monitor (control circuitry 92 includes circuitry to monitor interactive television applications as described on pg. 19, lns. 11-32);
a storage (control circuitry 94 can include memory or other storage device as described on pg. 19, lns. 11-32);
a report generator (Fig. 10, step 136 shows a means for providing a user the opportunity to authorize the submission of a report, where the report can be automatically generated in the form shown in Fig. 11 and described on pg. 25, ln. 25 – pg. 26, ln. 4);
a transmitter (Fig. 10, step 138 shows a means for transmitting the report to the data collection facility, described on pg. 25, lns. 5-21);
wherein the activity monitor (92) is operable to identify an activity of a television (display 100; Fig. 6; pg. 20, lns. 1-8) and store information associated with the activity in the storage (94; Fig. 6; pg. 19, lns. 11-32 describes using the control circuitry 92 for monitoring the interactive television applications, where the information may be stored on the storage control circuitry 94);
wherein the report generator is operable to accesses the information in the storage (94) and generate a usage report (pg. 25, lns. 5-21 describes monitoring the television activities, and automatically generating a report based upon the data from the monitoring as described on pg. 25, ln. 25 – pg. 26, ln. 4); and
wherein the transmitter is operable to transmit the usage report to a receiver (Fig. 10, step 138 shows a transmission of the report where it is received by a data collection facility, described on pg. 25, lns. 5-21).

Regarding claim 10, Knee discloses the device of claim 9, and Knee further discloses a television (display 100; Fig. 6; pg. 20, lns. 1-8 describes the display 100 may be a television).

Regarding claim 16, Knee discloses an electronic system (Fig. 1 & 6), comprising:
a television (display 100; Fig. 6; pg. 20, lns. 1-8), operable to execute at least one application (pg. 19, ln. 11 – pg. 20, ln. 8 describes the display 100 can be a television to display an interactive television application);
an activity monitor (control circuitry 92), operable to monitor an activity of the application (control circuitry 92 includes circuitry to monitor interactive television applications as described on pg. 19, lns. 11-32; Fig. 6);
a storage (control circuitry 94), operable to store information about the activity (control circuitry 94 can include memory or other storage device as described on pg. 19, lns. 11-32; Fig. 6);
a report generator, operable to access the stored information and generate a report (Fig. 10, step 136 shows a means for providing a user the opportunity to authorize the submission of a report using the data from monitoring, where the report can be automatically generated in the form shown in Fig. 11 and described on pg. 25, ln. 25 – pg. 26, ln. 4); and
a transmitter, operable to transmit the report to a server (data collection facility 13 in Fig. 1; Fig. 10, step 138 shows a means for transmitting the report to the data collection facility, described on pg. 25, lns. 5-21).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055312

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Claims 2, 15, 17, 18 lack an inventive step under PCT Article 33(3) as being obvious over Knee et al. (hereafter Knee) in view of Anderson et al. (hereafter Anderson).

Regarding claim 2, Knee discloses the method of claim 1, but Knee fails to explicitly disclose upon completion of the transmitting of the report, receiving a failure indicator associated with transmitting the report; and
determining a number of attempted retransmissions is below a previously determined threshold and (i) retransmitting the report and (ii) incrementing the number of attempted retransmissions.
Anderson teaches of a monitoring and signaling system, comprising upon completion of the transmitting of a report (col. 10, ln. 23 – col. 11, ln. 17 describes using a sensor S and signals to monitor the status of a television receiver), receiving a failure indicator associated with transmitting the report (col. 13, lns. 26-66 describes an activity timer that measures the signals from the sensors and sounds an alarm via the CPU if a criteria is met, described in col. 14, lns. 32-50, where the alarm is a type of report; col. 17, lns. 3-44 describes using the CPU to reach the centralized communications center CCC, where several attempts can be made to establish communication with the CCC to provide the alarm; a reattempt at communication would indicate that transmitting the alarm had failed); and
determining a number of attempted retransmissions is below a previously determined threshold and (i) retransmitting the report and (ii) incrementing the number of attempted retransmissions (col. 17, lns. 3-44 describes making repeated attempts at communication with the CCC, where the number of attempts are counted; after eight attempts, the system stops trying to communicate with the CCC using a first telephone number).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include determining a transmission has failed and retransmitting up to a predetermined number of times as taught by Anderson as this allows the system to retransmit the report after a failure occurs, but does not continue to keep retransmitting in the same way if multiple failures continue to occur.

Regarding claim 15, Knee discloses the device of claim 9, but Knee fails to explicitly disclose wherein the transmitter transmits the usage report to a receiver upon a trigger event associated with, at least one of, the passage of time and a number of attempted transmissions of the report.
Anderson teaches of a monitoring and signaling system, wherein a transmitter (central processing unit CPU) transmits a usage report to a receiver (centralized communications center CCC) upon a trigger event associated with, at least one of, the passage of time (col. 10, ln. 23 – col. 11, ln. 17 describes using a sensor S and signals to monitor the status of a television receiver; col. 13, lns. 26-66 describes an activity timer that measures the signals from the sensors and sounds an alarm via the CPU if a criteria is met based upon the activity timer AT, described in col. 14, lns. 32-50, where the alarm is a type of report; col. 17, lns. 3-44 describes using the CPU to reach the centralized communications center CCC) and a number of attempted transmissions of the report.
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include transmitting the report based upon a trigger as taught by Anderson as this allows the report to be transmitted at the appropriate time, rather than at a less useful time.

Regarding claims 17, 18, Knee discloses the device of claim 16, but Knee fails to explicitly disclose [claim 17] wherein the storage is further operable to store reports that were unsuccessfully transmitted to the server; and,
[claim 18] a trigger operable to cause the transmitter to retransmit stored reports in the storage.
Anderson teaches of a monitoring and signaling system, [claim 17] wherein a storage (memory 20; col. 12, ln. 41 – col. 13, ln. 24 describes the memory 20 storing information related to the sensor system) is further operable to store reports that were unsuccessfully transmitted to a server (centralized communications center CCC; Fig. 1 & 2; col. 10, ln. 23 – col. 11, ln. 17 describes using a sensor S and signals to monitor the status of a television receiver; col. 13, lns. 26-66 describes an activity timer that measures the signals from the sensors and sounds an alarm via the CPU if a criteria is met, described in col. 14, lns. 32-50, where the alarm is a type of report; col. 17, lns. 3-44 describes using the CPU to reach the centralized communications center CCC, where several attempts can be made to establish communication with the CCC to provide the alarm; essentially, the memory 20 would store the alarm information until communication with the CCC is established); and,
[claim 18] a trigger operable to cause the transmitter (CPU) to retransmit stored reports in the storage (20; col. 17, lns. 3-44 describes making repeated attempts at communication with the CCC, where the number of attempts are counted; the trigger would be a failure to establish communication with the CCC, in which case communication would be reattempted).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include storing the reports until a trigger causes a retransmit of the reports as taught by Anderson as this allows the reports to remain intact until they are finally transmitted correctly, rather than lose the report if a transmission fails on an initial attempt.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055312

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Claims 3, 4, 11, 12 lack an inventive step under PCT Article 33(3) as being obvious over Knee et al. (hereafter Knee) in view of Wang et al. (hereafter Wang).

Regarding claims 3, 4, Knee discloses the method of claim 1, but Knee fails to explicitly disclose [claim 3] wherein capturing the data further comprises capturing a most used application activity of the television; and,
[claim 4] wherein capturing the data further comprises capturing a last used application activity of the television.
Wang teaches of a method for accessing exercise while watching TV, [claim 3] wherein capturing data further comprises capturing a most used application activity of a television (40; Fig. 1 & 2; para. 0024 describes providing shortcuts on a remote to play the last used or most user exercise program; playing a selected program functions in the same manner as an application, while having a shortcut button to play a last used or most used program inherently captures data related to the television usage, as the last used and most used programs can only be determined by collecting data related to said programs); and,
[claim 4] wherein capturing data further comprises capturing a last used application activity of a television (40; Fig. 1 & 2; para. 0024 describes providing shortcuts on a remote to play the last used or most user exercise program; playing a selected program functions in the same manner as an application, while having a shortcut button to play a last used or most used program inherently captures data related to the television usage, as the last used and most used programs can only be determined by collecting data related to said programs).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include capturing the most used and last used application activity of the TV as taught by Wang as this allows the system to understand the habits of the user based upon application use. This information can then be used to provide advertising and other content based upon the known habits of the television user.

Regarding claims 11, 12, Knee discloses the device of claim 9, but Knee fails to explicitly disclose [claim 11] wherein the activity monitor identifies a most used activity of the television; and,
[claim 12] wherein the activity monitor identifies a last used activity of the television.
Wang teaches of a method for accessing exercise while watching TV, [claim 11] wherein an activity monitor identifies a most used activity of a television (40; Fig. 1 & 2; para. 0024 describes providing shortcuts on a remote to play the last used or most user exercise program; in order to determine the most used and last used programs, the activity of playing said programs must inherently be monitored); and,
[claim 12] wherein an activity monitor identifies a last used activity of the television (40; Fig. 1 & 2; para. 0024 describes providing shortcuts on a remote to play the last used or most user exercise program; in order to determine the most used and last used programs, the activity of playing said programs must inherently be monitored).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include capturing the most used and last used application activity of the TV as taught by Wang as this allows the system to understand the habits of the user based upon application use. This information can then be used to provide advertising and other content based upon the known habits of the television user.

Claims 5-7, 14, 19, 20 lack an inventive step under PCT Article 33(3) as being obvious over Knee et al. (hereafter Knee) in view of Johnson et al. (hereafter Johnson).

Regarding claims 5, 6, Knee discloses the method of claim 1, but Knee fails to explicitly disclose [claim 5] wherein capturing the data further comprises capturing an uninstalled application activity of the television; and,
[claim 6] wherein, upon the capturing of an uninstalled application activity, triggering the generating of the report and the transmitting of the report.
Johnson teaches of a method for monitoring information flow and performing data collection, [claim 5] wherein capturing data further comprises capturing an uninstalled application activity of a television (Fig. 1 shows the system for data collection, including activities from a television 36 and a cable television system 52, described in col. 4, lns. 30-67; col. 5, lns. 56 – 63 describes how the specifics of data communication can applied to the devices of Fig. 1; col. 14, lns. 1-8 describes how after an application has been removed, the application's activity record is updated); and,
[claim 6] wherein, upon the capturing of an uninstalled application activity, triggering a generating of a report and transmitting of the report (Fig. 1 shows the system for data collection, including activities from a television 36 and a cable television system 52, described in col. 4, lns. 30-67; col. 5, lns. 56 – 63 describes how the specifics of data communication can applied to the devices of Fig. 1; col. 14, lns. 1-8 describes how after an application has been removed, the application's activity record is updated and the record is transferred to disk; the activity record is essentially the report and its transfer to disk is the transmission of said report).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include capturing an uninstalled application activity data and transmitting a report of said data as taught by Johnson as this allows data related to the uninstalled application to be sent to be analyzed. This can allow the reason for the application being removed to be determined, such as said application was rarely used.

Regarding claim 7, Knee discloses the method of claim 1, but Knee fails to explicitly disclose wherein capturing the data further comprises capturing an availability application associated with installed applications of the television.
Johnson teaches of a method for monitoring information flow and performing data collection, wherein capturing data further comprises capturing an availability application associated with installed applications of a television (Fig. 1 shows the system for data collection, including activities from a television 36 and a cable television system 52, described in col. 4, lns. 30-67; col. 5, lns. 56 – 63 describes how the specifics of data communication can applied to the devices of Fig. 1; col. 13, ln. 54 – col. 14, ln. 8 describes an application list that determines what applications have been added or removed, which in turn allows the system to determine the installed applications and each application's activity information).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include capturing the availability of installed applications as taught by Johnson as this can help determine what type of applications the user installs, to get a better sense of the habits of said user.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055312

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 14, Knee discloses the device of claim 9, but Knee fails to explicitly disclose wherein the activity monitor identifies an uninstalled application activity of the television.
Johnson teaches of a method for monitoring information flow and performing data collection, wherein an activity monitor identifies an uninstalled application activity of a television (Fig. 1 shows the system for data collection, including activities from a television 36 and a cable television system 52, described in col. 4, lns. 30-67; col. 5, lns. 56 – 63 describes how the specifics of data communication can applied to the devices of Fig. 1; col. 14, lns. 1-8 describes how after an application has been removed, the application's activity record is updated).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include capturing an uninstalled application activity data as taught by Johnson as this allows data related to the uninstalled application to be sent to be analyzed. This can allow the reason for the application being removed to be determined, such as said application was rarely used.

Regarding claims 19, 20, Knee discloses the electronic system of claim 16, but Knee fails to explicitly disclose [claim 19] wherein the activity monitor is operable to monitor the activity of the application further comprises monitoring, at least one of, the installation of the application on the television and the removal of the application from the television; and,
[claim 20] wherein, upon the activity monitor monitoring the, at least one of, the installation of the application on the television and the removal of the application from the television, causing the report generator to generate a report and the transmitter to transmit the report.
Johnson teaches of a method for monitoring information flow and performing data collection, [claim 19] wherein an activity monitor is operable to monitor an activity of an application further comprises monitoring, at least one of, the installation of the application on the television and the removal of the application from the television (Fig. 1 shows the system for data collection, including activities from a television 36 and a cable television system 52, described in col. 4, lns. 30-67; col. 5, lns. 56 – 63 describes how the specifics of data communication can applied to the devices of Fig. 1; col. 13, ln. 54 – col. 14, ln. 8 describes an application list that determines what applications have been added or removed, as well as monitoring each application's activity information); and,
[claim 20] wherein, upon the activity monitor monitoring the, at least one of, the installation of the application on the television and the removal of the application from the television (Fig. 1 shows the system for data collection, including activities from a television 36 and a cable television system 52, described in col. 4, lns. 30-67; col. 5, lns. 56 – 63 describes how the specifics of data communication can applied to the devices of Fig. 1; col. 13, ln. 54 – col. 14, ln. 8 describes an application list that determines what applications have been added or removed, as well as monitoring each application's activity information),
causing a report generator to generate a report and a transmitter to transmit the report (col. 14, lns. 1-8 describes how after an application has been removed, the application's activity record is updated and the record is transferred to disk using the system of Fig. 1; the activity record is essentially the report and its transfer to disk is the transmission of said report).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include capturing an uninstalled application activity data and transmitting a report of said data as taught by Johnson as this allows data related to the uninstalled application to be sent to be analyzed. This can allow the reason for the application being removed to be determined, such as said application was rarely used.

Claims 8, 13 lack an inventive step under PCT Article 33(3) as being obvious over Knee et al. (hereafter Knee) in view of Kutzik et al. (hereafter Kutzik).

Regarding claim 8, Knee discloses the method of claim 1, but Knee fails to explicitly disclose upon transmitting of the report, resetting a reporting period.
Kutzik teaches of monitoring a daily living activity and analyzing data related, comprising upon transmitting of a report, resetting a reporting period (pg. 35, lns. 9-30 describes monitoring of TV habits; pg. 23, ln. 24 – pg. 24, ln. 4 describes providing scheduled periodic user activity reports based upon information gathered from any of the monitored activities).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include resetting a reporting period after transmitting a report as taught by Kutzik as this allows reports to be sent on a schedule, at pre-determined times, in an automatic fashion.

Regarding claim 13, Knee discloses the device of claim 9, but Knee fails to explicitly disclose wherein the activity monitor identifies a duration of a last activity of the television.
Kutzik teaches of monitoring a daily living activity and analyzing data related, wherein an activity monitor identifies a duration of a last activity of a television (pg. 35, lns. 9-30 describes monitoring of TV habits so as to log the duration of television viewing throughout the day; pg. 23, ln. 24 – pg. 24, ln. 4 describes providing scheduled periodic user activity reports based upon information gathered from any of the monitored activities).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include monitoring a duration of the last activity of the television as taught by Kutzik as this information is also used to determine the habits of the user, for later use in advertisements and personalized content.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Jason H. Vick
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 6583-500-PCT	Date of mailing *(day/month/year)* 12 NOV 2013 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US13/55374	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)
Applicant Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-500-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55374	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/55374

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 21/47 (2013.01)
USPC - 715/825
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06F 17/00; H04H 60/33; H04N 21/47 (2013.01)
USPC - 715/825; 725/14; 725/39

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); Google Patents, DialogPro, IEEE, Google Scholar; smart tv, icon, menu, usage, set top box, statistics, metric

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2007/0050733 A1 (LEE, S et al.) 1 March 2007; Abstract, Figure 1, Paragraphs [0035], [0043], [0044], [0049], [0053], and [0061].	1-4, 7, 10-14, 17 and 20 --- 5, 6, 8, 9, 15, 16, 18 and 19
Y	US 2012/0096264 A1 (TRAVERSAT, B et al.) 19 April 2012; Abstract, Paragraphs [0019]-[0021], [0036], [0046], [0053] and [0068].	5, 6, 8, 9, 15, 16, 18 and 19

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
29 October 2013 (29.10.2013)	12 NOV 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Jason H. Vick
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	12 NOV 2013
Applicant's or agent's file reference: 6583-500-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55374	16 August 2013 (16.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 21/47 (2013.01)
USPC - 715/825

Applicant: Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	29 October 2013 (29.10.2013)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55374

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55374

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	5, 6, 8, 9, 15, 16, 18 and 19	YES
	Claims	1-4, 7, 10-14, 17 and 20	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-4, 7, 10-14, 17 and 20 lack novelty under PCT Article 33(2) as being anticipated by 2007/0050733 Al, Lee, et al. (hereinafter 'Lee').

As per Claims 1, 11 and 20, Lee discloses a method and systems to assemble and manage usage information with usage statistics provider in an intelligent TV comprising: assembling one or more of usage information and installation information (a set-top box associated with the television (intelligent TV) detects (assembles) which option is frequently executed (usage information) while using the videophone (usage statistics provider) wherein the application options are based on use frequency (usage statistics), paragraphs [0035], [0061]); querying the one or more of usage information and installation information to populate one or more of icons and information in a view on the intelligent TV (the set-top box associated with a television (intelligent TV) receives a user command (query) that detects the current application and accordingly arranges application in order of use frequency; a list is prepared based on the same with corresponding menu options (one or more icons), paragraphs [0061], [0067]); assembling the one or more of icons and information into a requested view and displaying the view on a display of the intelligent TV when user chooses button for dynamic menu construction (requested view), (when user chooses button for dynamic menu construction (requested view) the list of preferred applications are arranged in order of use frequency with corresponding menu options (one or more icons) and displays that menu accordingly, paragraphs [0060], [0061], [0067]).

As per Claim 2 and 12, Lee discloses the method and system of claims 1 and 11. Lee further discloses wherein the view includes a master view, a collection view and a detail view (an application related map (view) include upper executable applications (master view), the applications executable while in operation (collection view), such as Photo album and adding additional options when doing certain tasks (detail view) in an application, paragraphs [0055], [0056], [0065], [0066]).

As per Claims 3 and 13, Lee discloses the method and system of claims 1 and 11. Lee further discloses a method and system further comprising monitoring and tracking usage information for the intelligent TV (a set-top box associated with a television (intelligent TV) detects (assembles) which option is frequently executed (track usage information) while using the videophone, paragraphs [0035], [0061]).

As per Claims 4 and 14, Lee discloses the method and system of claims 1 and 11. Lee further discloses a method and system further comprising monitoring and tracking usage information for one or more applications installed on the intelligent TV (the set-top box detects which option is frequently executed (track usage information) while using the videophone (usage statistics provider) for selected applications, paragraphs [0043], [0044], [0061], [0067]).

As per Claims 7 and 17, Lee discloses the method of claims 1 and 11. Lee further discloses a method and system comprising a silo manager adapted to sort information in the view based at least on the one or more of usage information and installation information (a history of user application is listed (sorting information) in the order of use frequency (usage information) can be determined by a system manager (sorting or silo manager), paragraphs [0046], [0053]).

As per Claim 10, Lee discloses Claim 1. Lee further discloses a non-transitory computer readable information storage media having stored thereon instructions, that when executed by one or more processors, cause to be performed the method steps in Claim 1 (the set-top box 100 with controller 120 (computer) and internal storage 101 (non-transitory computer readable media) performs the steps of claim 1, paragraphs [0035], [0042]-[0044]).

Claims 5, 6, 8, 9, 15, 16, 18 and 19 lack an inventive step under PCT Article 33(3) as being obvious over Lee in view of US 2012/0096264 A1 Traversat et al. (hereinafter 'Traversat').

As per Claims 5 and 15, Lee discloses the method and system of claims 1 and 14. Lee fails to disclose further a method and system further comprising a system report handler adapted for reporting the usage information to one or more remote servers. Traversat discloses a method and system further comprising a system report handler adapted for reporting the usage information to one or more remote servers (the client usage data is obtained from the network device and the warehouse that has one or more servers (report handler) uses this client usage data to generate trends (report), paragraphs [0020], [0021], [0068]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system disclosed in Lee to include a method and system further comprising a system report handler adapted for reporting the usage information to one or more remote servers, as taught in Traversat, for the benefit of allowing third parties such as application providers to adapt to customer usage.

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55374

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claim 18 is objected to under PCT Rule 66.2(a)(iii) as containing the following defect in the form or contents thereof: Claim 18 appears to be missing the word 'to' between the words 'adapted' and 'sort'. Claim 18 has been best understood to read, in relevant part, "a silo manager adapted to sort information".

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55374

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As per Claims 6 and 16, Lee discloses the method and system of claims 1 and 11. Lee fails to further disclose a method and system comprising assembling a notification when a package is installed. Traversat discloses a method and system comprising assembling a notification when a package is installed (the application metrics (170) indicates (notification) information related to the number of times an application (package) has been installed or reinstalled, paragraph [0019], [0020], and [0021]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system disclosed in Lee to include a method and system comprising assembling a notification when a package is installed, as taught in Traversat, for the benefit of allowing third parties such as application providers to adapt to customer usage.

As per Claims 8 and 18, Lee discloses the method of claims 1 and 11. Lee further discloses a method and system further comprising a silo manger adapted to sort information in at least one panel based at least on the one or more of usage information and installation information (a history of user application is listed (sorting information) in the order of use frequency (usage information) can be determined by a system manager (sorting or silo manager), paragraphs [0046], [0053]), but fails to disclose the at least one panel including a plurality of icons each representing an available app or content. Traversat discloses at least one panel including a plurality of icons each representing an available app or content (the application information will display when a user hovers over one or more icons associated with the application, paragraph [0036]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system disclosed in Lee to include at least one panel including a plurality of icons each representing an available app or content, as taught in Traversat, for the benefit of indicating application function to a user visually as well as textually.

As per Claims 9 and 19, Lee discloses the method of claims 1 and 11. Lee further discloses a method and system comprising sorting information in at least one panel subcategory based at least on the one or more of usage information and installation information (a history of user application is listed (sorting information) in the order of use frequency (usage information) paragraphs [0046], [0053]), but fails to disclose the at least one subpanel panel including a plurality of icons each representing an available app or content. Traversat discloses the at least one subpanel panel including a plurality of icons each representing an available app or content (the application information will display when a user hovers over one or more icons associated with the application, paragraph [0036]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system disclosed in Lee to include the at least one subpanel panel including a plurality of icons each representing an available app or content, as taught in Traversat, for the benefit of indicating application function to a user visually as well as textually.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Jason H. Vick
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 6583-501-PCT	Date of mailing *(day/month/year)* 10 MAR 2014 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US13/55542	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)
Applicant Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-501-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55542	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 7 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT PCT/US2013/055542 10.03.2014

International application No.
PCT/US13/55542

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 21/431 (2014.01)
USPC - 725/44
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) Classification(s): G06F 3/048; H04N 21/431, 21/482 (2014.01)
USPC Classification(s): 725/43, 44, 46, 47

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); ProQuest; IEEE; Google/Google Scholar
Keywords: Smart TV, Display, Icon, Widget, Application, Third Party, Programs, Usage, Order

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	WO 2012/094247 A2, (DODSON, C. et al.), 12 July 2012; paragraphs [0034], [0035], [0040], [0047], [0051], [0057], [0058], [0102], [0154], [0190].	1, 10 --- 2-9, 11-20
Y	US 2011/0252446 A1, (JEONG Y. et al.), 13 October 2011; figures 15a, 16b, paragraphs [0048], [0144], [0242], [0275], [0278], [0442], [0443], [0444], [0475], [0492].	2-9, 11-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
04 February 2014 (04.02.2014)	10 MAR 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Jason H. Vick
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	10 MAR 2014
Applicant's or agent's file reference 6583-501-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55542	19 August 2013 (19.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 21/431 (2014.01)
USPC - 725/44

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [x] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	04 February 2014 (04.02.2014)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55542

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55542

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2-9, 11-20	YES
	Claims	1, 10	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1 and 10 lack novelty under PCT Article 33(2) as being anticipated by WO 2012/094247 A2 to Dodson et al. (hereinafter "Dodson").

As to claim 1, Dodson discloses a method to manage and display third party applications on an intelligent TV (a method for media guidance display on a smart TV (method to manage and display third party applications on an intelligent TV), paragraphs [0034], [0035], [0040) comprising: monitoring installation and usage of one or more third party applications on the intelligent TV (user activity or accesses on the smart TV is monitored to determine user preferences (monitoring installation and usage of one or more third party applications on the intelligent TV), paragraph [0047]); updating a most recently installed app value (any suitable mechanism for updating media identifiers may be used by filtering the media identifiers with additional criteria (updating a most recently installed app value), paragraph [0187]); detecting selection of a view (detect whether the location coordinates of a cursor are approaching the center (detecting selection) of a selectable media identifier (of a view), paragraph [0153]); applying a sort order to a plurality of icons each representing one of the one or more third party applications on the intelligent TV at least based on a usage value and the most recently installed app value (any suitable approach for determining the popularity or trending (applying a sort order) of media content may be used to select media content for display in the trending region on the smart TV display (to a plurality of icons representing one of the one or more third party applications on the intelligent TV) based on user activity (usage value) and filtering the media identifiers with additional criteria (and the most recently installed app value), paragraphs [0047], [0101], [0187]); populating the view with the plurality of icons (present the user with a two-dimensional selection region (populating the view) associated with a plurality of media identifiers (with the plurality of icons), paragraph [0057]); and displaying the plurality of icons on a display (displaying the media identifiers (displaying the plurality of icons) on a display screen (on a display), paragraphs [0057], [0058]).

As to claim 10, Dodson discloses a non-transitory computer readable information storage media having stored thereon instructions, that when executed by one or more processors, cause to be performed the method steps in claim 1 (processing circuitry of one or more processing units (one or more processors) execute the instructions (a non-transitory computer readable information) for a media guidance method (cause to be performed the method steps in claim 1) application stored in memory (storage media having stored thereon), paragraph [0051]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55542

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claim 13 is objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof:

Claim 13, recites "input even dispatcher ", however, this appears to be a typographical error. For purposes of this opinion, the limitation is interpreted to recite " input event dispatcher ".

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55542

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

-***-Continued from Box V: Citations and Explanations-***-

Claims 2-9 and 11-20 lack an inventive step under PCT Article 33(3) as being obvious over Dodson in view of US 2011/0252446 A1 to Jeong et al. (hereinafter "Jeong").

As to claims 11 and 20, Dodson discloses a system to manage and display third party applications on an intelligent TV comprising (a system for media guidance display on a smart TV (system) to manage and display third party applications on an intelligent TV), paragraphs [0034], [0035], [0040]): a third party application support module adapted to monitor installation and usage of one or more third party applications on the intelligent TV (a media guidance application (a third party application support module) user activity or accesses on the smart TV is monitored to determine user preferences (to monitor installation and usage of one or more third party applications on the intelligent TV), paragraph [0047]); a processor adapted to detect selection of a view (a processor (processor) detect whether the location coordinates of a cursor are approaching the center (detecting selection) of a selectable media identifier (of a view), paragraphs [0051] [0153]); However, Dodson fails to disclose a system comprising: and update a most recently installed app value; and apply a sort order to a plurality of icons each representing one of the one or more third party applications on the intelligent TV at least based on a usage value and the most recently installed app value; and a panel manager and a silo manager that populate the view with the plurality of icons and display the plurality of icons on a display. Jeong discloses a system comprising: and update a most recently installed app value (the image display apparatus may arrange the applications which are recently downloaded (update a most recently app value), paragraph [0444]); and apply a sort order to a plurality of icons each representing one of the one or more third party applications on the intelligent TV (the image display apparatus displays the applications as icons (to a plurality of icons each representing one of the one or more third party applications) that can be arranged by different arrangement orders (apply a sort order) on the smart TV (on the intelligent TV), paragraphs [0422], [0492])at least based on a usage value and the most recently installed app value (the image display apparatus may arrange the application menu corresponding to applications most frequently used by the user (based on a usage value) or by applications recently downloaded (and the most recently installed app value), paragraph [0444]); and a panel manager and a silo manager that populate the view with the plurality of icons and display the plurality of icons on a display (the display manager apparatus (a panel manager and a silo manager) shows the screen in a first display of the application icons (panel) and a second display area displaying a card object representing a list of connected external devices (silo) and display icons associated with applications (display the plurality of icons on a display), paragraphs [0144], [0443], [0475]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Dodson to include and update a most recently installed app value; and apply a sort order to a plurality of icons each representing one of the one or more third party applications on the intelligent TV at least based on a usage value and the most recently installed app value; and a panel manager and a silo manager that populate the view with the plurality of icons and display the plurality of icons on a display, as taught by Jeong, for the benefit of changing the display order based on various parameters.

As to claims 2 and 12, Dodson discloses the method of claim 1 and Dodson and Jeong disclose the system of claim 11. However, Dodson fails to disclose a method further comprising placing fixed third party application and pre-installed applications first. Jeong discloses method further comprising placing fixed third party application and pre-installed applications first (applications may be categorized into user-undeletable applications (fixed third party applications); the content provider may provide various applications (pre-installed applications); the image display apparatus can set the display order based on installation order of applications (placing applications first), paragraphs [0048], [0242], [0422]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include placing fixed third party application and pre-installed applications first, as taught by Jeong, for the benefit of displaying the fixed and pre-installed applications first.

As to claim 3, Dodson discloses the method of claim 1. However, Dodson fails to disclose a method further comprising allowing selection of an icon for execution of a third party application. Jeong discloses a method further comprising allowing selection of an icon for execution of a third party application (selecting an application icon using a pointer (selection of an icon); the selected third party application is executed (for execution of a third party application), figure 16b, paragraphs [0275], [0278], [0423]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include allowing selection of an icon for execution of a third party application, as taught by Jeong, for the benefit of allowing a user to initiate execution of a third party application by selecting an icon.

As to claim 4, Dodson discloses the method of claim 1. However, Dodson fails to disclose a method further comprising detecting an uninstallation of one of the one or more third party applications. Jeong discloses a method further comprising detecting an uninstallation of one of the one or more third party applications (applications can be deleted (uninstallation) an application list is displayed from the applications stored in the image display apparatus (detecting an uninstallation of one or more of the third party applications), paragraphs [0042], [0277]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include detecting an uninstallation of one of the one or more third party applications, as taught by Jeong, for the benefit of updating the display of the installed applications.

As to claims 5 and 15, Dodson discloses the method of claim 1 and Dodson and Jeong disclose the system of claim 11. However, Dodson fails to disclose a method further comprising wherein the view is a master view, a collection view or a detail view. Jeong discloses a method further comprising wherein the view is a master view, a collection view or a detail view (application list may include an icon and a brief description of the application (wherein the view is a detail view), figure 15a, paragraph [0275]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include wherein the view is a master view, a collection view or a detail view, as taught by Jeong, for the benefit of offering view options to the user.

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55542

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As to claim 6, Dodson discloses the method of claim 1. However, Dodson fails to disclose a method further comprising updating information in a panel. Jeong discloses a method further comprising updating information in a panel (a second display area (panel) is changed upon receiving a command to change (comprising updating information), paragraph [0010]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include updating information in a panel, as taught by Jeong, for the benefit of updating the panel display.

As to claims 7 and 17, Dodson discloses the method of claim 1 and Dodson and Jeong disclose the system of claim 11. However, Dodson fails to disclose a method wherein an application framework supports the one or more third party applications. Jeong discloses a method wherein an application framework supports the one or more third party applications (the framework (wherein the application framework) includes programs on which applications are based and is compatible with any application (supports the one or more third party applications), paragraph [0240]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include wherein an application framework supports the one or more third party applications, as taught by Jeong, for the benefit of allowing third party applications to be displayed and executed in the display apparatus.

As to claims 8 and 18, Dodson discloses the method of claim 1 and Dodson and Jeong disclose the system of claim 11. However, Dodson fails to disclose a method wherein a list of the one or more third party applications is dynamically updated. Jeong discloses a method wherein a list of the one or more third party applications is dynamically updated. (when the user selects the application list view, the list of applications stored in the image display apparatus is displayed (wherein a list of the one or more third party applications is dynamically updated), paragraph [0277]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include wherein a list of the one or more third party applications is dynamically updated, as taught by Jeong, for the benefit of displaying the current updated list of third party applications.

As to claims 9 and 19, Dodson discloses the method of claim 1 and Dodson and Jeong disclose the system of claim 11. However, Dodson fails to disclose a method wherein a preference value persist at least two last installed third party applications or at least two last used applications or at least two most frequently used applications. Jeong discloses a method wherein a preference value persist at least two last installed third party applications or at least two last used applications or at least two most frequently used applications (the application items set by the user may be edited as frequently used application items (wherein a value persist at least two most frequently used applications), paragraph [0350]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Dodson to include wherein a preference value persist at least two last installed third party applications or at least two last used applications or at least two most frequently used applications, as taught by Jeong, for the benefit of displaying the applications based on frequency of use or newness.

As to claim 13, Dodson and Jeong disclose the system of claim 11. However Dodson fails to disclose a system further comprising an input event dispatcher that allows selection of an icon for execution of a third party application. Jeong discloses a system further comprising an input event dispatcher that allows selection of an icon for execution of a third party application (the middleware mad mediate between different hardware devices or different software programs (an input event dispatcher); upon selecting an application icon the selected third party application is executed (that allows selection of an icon for execution of a third party application), figure 16b, paragraphs [0231], [0275], [0278], [0423]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Dodson to include an input event dispatcher that allows selection of an icon for execution of a third party application, as taught by Jeong, for the benefit of launching the execution of an application after a user selects an icon.

As to claim 14, Dodson and Jeong disclose the system of claim 11. However, Dodson fails to disclose a system further comprising an application framework adapted to detect an uninstallation of one of the one or more third party applications. Jeong discloses a system further comprising an application framework adapted to detect an uninstallation of one of the one or more third party applications (the framework includes programs adapted to be displayed in the image display apparatus (wherein the application framework adapted to detect); applications can be deleted (uninstallation) an application list is displayed from the applications stored in the image display apparatus (detecting an uninstallation of one or more of the third party applications), paragraphs [0042], [0240], [0241], [0277]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Dodson to include an application framework adapted to detect an uninstallation of one of the one or more third party applications, as taught by Jeong, for the benefit of keeping the display of installed third party applications up to date.

As to claim 16, Dodson and Jeong disclose the system of claim 11. However, Dodson fails to disclose a system further comprising a panel manager adapted to update information in a panel. Jeong discloses a system further comprising a panel manager adapted to update information in a panel (the display manager apparatus (a panel manager) shows the screen in a first display of the application icons (panel); when the user selects the application list view, the list of applications stored in the image display apparatus is displayed (adapted to update information in a panel), paragraph [0277], paragraphs [0475]). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Dodson to include a panel manager adapted to update information in a panel, as taught by Jeong, for the benefit of keeping the display of icons current.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Scott Weitzel
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, CO 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing *(day/month/year)*	24 JAN 2014
Applicant's or agent's file reference: 6583-502-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No.: PCT/US13/55315	International filing date *(day/month/year)*: 16 August 2013 (16.08.2013)
Applicant: Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-502-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55315	International filing date *(day/month/year)* 16 August 2013 (16.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 9 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language**, the international search was carried out on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

   ☒ the text is approved as submitted by the applicant.

   ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

   ☒ the text is approved as submitted by the applicant.

   ☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

   a. the figure of the **drawings** to be published with the abstract is Figure No. 14

   ☒ as suggested by the applicant.

   ☐ as selected by this Authority, because the applicant failed to suggest a figure.

   ☐ as selected by this Authority, because this figure better characterizes the invention.

   b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

PCT/US2013/055315 24.01.2014

International application No.
PCT/US13/55315

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06F 12/00, 3/48; H04N 5/00 (2014.01)
USPC - 715/ 838, 722, 825
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) Classification(s): G06F 12/00, 17/00, 3/00; H04N 5/00 (2014.01)
USPC Classification(s): 711/118; 707/740; 715/ 838, 722, 825

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US Granted, US Applications, EP-A, EP-B, WO, JP, DE-G, DE-A, DE-T, DE-U, GB-A, FR-A); ProQuest (Derwent, INSPEC, NTIS, PASCAL, Current Contents Search, Dissertation Abstracts Online, Inside Conferences); IP.com; IEEE.com; Google Scholar, DVR, playlist, thumbnail generator, time stamp, video, expire, delete, unwatched recording

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2006/0280449 A1 (OGAWA, H. et al.) December 14, 2006; Abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147].	1-3, 5-6, 8, 12-14, 17-19 --- 4, 7, 9-11, 15-16, 20
Y	US 2012/0002951 A1 (REISMAN, R.) January 5, 2012; Figures 4 and 5, paragraphs [0022]-[0031], [0046]-[0048], [0094]-[0100], [0136]-[0166].	4, 7, 9, 15-16, 20
Y	US 8,006,201 B2 (BHATTACHARYA, S.) August 23, 2011; Abstract, figure 2A, column 1, line 40- column 2, line 25; column 4, line 20- column 6, line 34.	10-11

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
6 January 2014 (06.01.2014)	24 JAN 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Scott Weitzel
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, CO 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	24 JAN 2014

Applicant's or agent's file reference	FOR FURTHER ACTION
6583-502-PCT	See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55315	16 August 2013 (16.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06F 12/00, 3/48; H04N 5/00 (2014.01)
USPC - 715/ 838, 722, 825

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	6 January 2014 (06.01.2014)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55315

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55315

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	4, 7, 9-11, 15-16, 20	YES
	Claims	1-3, 5-6, 8, 12-14, 17-19	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-3, 5-6, 8, 12-14, and 17-19 lack novelty under PCT Article 33(2) as being anticipated by US 2006/0280449 A1 to Ogawa, et al. (Hereinafter Ogawa).

As for claim 1, Ogawa discloses the method of operation of a thumbnail engine of an electronic device (thumbnail forming unit 118 within video display device 100, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]), comprising: accessing, by a processor associated with the electronic device (central processing unit 102 or 204 in the video display device 100, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]), a thumbnail image in a storage (thumbnails are stored in thumbnail storage unit 112, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]), the thumbnail image being associated with a media file (the thumbnail in storage unit 112 has related content in storage unit 110, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]); and upon the occurrence of a thumbnail expiration event, marking the thumbnail image for deletion (at step S416, when there is no user operation for the prescribed time period (occurrence of a thumbnail expiration event), then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]); and upon the occurrence of a delete event and determining the thumbnail image is identified for deletion, deleting the thumbnail image from the storage (at step S416, when there is no user operation for the prescribed time period (occurrence of a thumbnail expiration event), then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 2, Ogawa discloses the method of claim 1, further comprising retrieving a stored thumbnail image by a thumbnail identifier (at step S300 the central processing unit 204 determines whether a thumbnail request signal from the video display device has been received or not, and at S302 transmits the list of contents to the video display device with the content identification at step S306, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 3, Ogawa discloses the method of claim 2, further comprising: receiving requests for the thumbnail image; storing a timestamp of the receive request associated with the thumbnail image; and returning the thumbnail image (when the data and content identification is received on the side of the video display device 100 at step 406 (receiving requests for the thumbnail image), then at step S408 the thumbnail image is formed including the time point recorded at S410, at step S416 (storing a timestamp of the receive request associated with the thumbnail image), (returning the thumbnail image), when there is no user operation for the prescribed time period, then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 5, Ogawa discloses the method of claim 1, wherein the expiration event occurs upon determining the last access of the thumbnail image was prior to a threshold expiration value (at step S416, when there is no user operation for the prescribed time period (last access of the thumbnail image was prior to a threshold expiration value), then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 6, Ogawa discloses the method of claim 1, wherein the expiration event further comprises determining that the time the thumbnail was last accessed prior to the time another thumbnail was accessed at step S416, when there is no user operation for the prescribed time period (last accessed prior to the time another thumbnail was accessed), then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 8, Ogawa discloses the method of claim 1, further comprising: associating the thumbnail image with a media type in accord with a category associated with the media; and wherein marking the thumbnail image for deletion, further comprises, marking the thumbnail image for deletion upon determining the thumbnail image in accord with the media type (thumbnails for copy-never contents (media type) can be considered part of the contents (associated in accord with a category associated with the media) are deleted when a predetermined condition is satisfied, such as time passing from the last user operation within a prescribed time period (marketing the thumbnail image for deletion upon determining the thumbnail image in accord with the media), abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55315

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Box V: Citations and Explanations-***-

As for claim 12, Ogawa discloses an electronic device (thumbnail forming unit 118 within video display device 100, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]), comprising: a storage (central processing unit 102 or 204 in the video display device 100, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]); a processor (central processing unit 102 or 204 in the video display device 100, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]); wherein the storage contains a thumbnail associated with the media file (the thumbnail in storage unit 112 has related content in storage unit 110, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]); and wherein the processor automatically marks the thumbnail for deletion upon the determination of an expiration event (at step S416, when there is no user operation for the prescribed time period (occurrence of a thumbnail expiration event), then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 13, Ogawa discloses the device of claim 12, wherein the processor retrieves the thumbnail upon receiving a request associated with an identifier associated with the thumbnail (at step S300 the central processing unit 204 determines whether a thumbnail request signal from the video display device has been received or not, and at S302 transmits the list of contents to the video display device with the content identification at step S306, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 14, Ogawa discloses the device of claim 12, wherein the processor automatically marks the thumbnail for deletion upon the determination of an expiration event associated with a category of the media (for no-copy media (category of the media) at step S416, when there is no user operation for the prescribed time period (occurrence of a thumbnail expiration event), then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 17, Ogawa discloses a non-transitory computer readable medium with instructions thereon to cause a computer to perform: creating a thumbnail image associated with a media (thumbnail forming unit 118 within video display device 100 forms thumbnails associated with content received thru transmission unit 108, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147); storing a thumbnail image in a storage associated with the electronic device (thumbnails are stored in thumbnail storage unit 112, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]); associating the thumbnail image with the media (the thumbnail in storage unit 112 has related content in storage unit 110, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]); and upon the occurrence of a thumbnail expiration event marking the thumbnail image for deletion (at step S416, when there is no user operation for the prescribed time period (occurrence of a thumbnail expiration event), then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 18, Ogawa discloses the medium of claim 17, further comprising instructions to retrieve a stored thumbnail image by a thumbnail identifier (at step S300 the central processing unit 204 determines whether a thumbnail request signal from the video display device has been received or not, and at S302 transmits the list of contents to the video display device with the content identification at step S306, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

As for claim 19, Ogawa discloses the medium of claim 17, further comprising instructions to: receive a request for the thumbnail image; store a timestamp of the receive request associated with the thumbnail image; and return the thumbnail image (when the data and content identification is received on the side of the video display device 100 at step 406 (receiving requests for the thumbnail image), then at step S408 the thumbnail image is formed including the time point recorded at S410, at step S416 (storing a timestamp of the receive request associated with the thumbnail image), (returning the thumbnail image), when there is no user operation for the prescribed time period, then at step S418, the thumbnails are deleted, abstract, figures 9-12, paragraphs [0012]-[0035], [0058]-[0063], [0110]-[0147]).

Claims 4, 7, 9, 15-16, and 20 lack an inventive step under PCT Article 33(3) as being obvious over Ogawa in view of US 2012/0002951 A1 to Reisman (Hereinafter Reisman).

As for claim 4, Ogawa discloses the method of claim 1, but Ogawa fails to disclose wherein the expiration event occurs upon determining the amount of free space in the storage is below a threshold free space value. However, Reisman discloses wherein the expiration event occurs upon determining the amount of free space in the storage is below a threshold free space value (progression deletion for media content to manage storage space and choose which content is deleted to managed the storage space, including deleting part of a cache or degrading quality of media to free storage space, the storage can be managed by profiles to specify the decay rate and endpoints based off the content such as time sensitive TV broadcasts such as the news, versus routine TV broadcasts or movies, figures 4 and 5, paragraphs [0022]-[0031], [0046]-[0048], [0136]-[0166]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Ogawa to include the free space determination of Reisman for the advantage of adaptively freeing space as needed based on the content desire and need to erase the content to get the maximum use out of storage space.

As for claim 7, Ogawa discloses the method of claim 1, but Ogawa fails to disclose wherein the expiration event further comprises determining the thumbnail image is associated with a media that has been deleted. However, Reisman discloses wherein the expiration event further comprises determining the thumbnail image is associated with a media that has been deleted (the media may be deleted layer by layer until the metadata, such as the thumbnail, is marked for deletion, with the content being progressively deleted as needed, figures 4 and 5, paragraphs [0022]-[0031], [0046]-[0048], [0094]-[0100], [0136]-[0166]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Ogawa to include the free space determination of Reisman for the advantage of adaptively freeing space as needed based on the content desire and need to erase the content to get the maximum use out of storage space.

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55315

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

-***-Continued from Previous Supplemental Box-***-

As for claim 9, Ogawa discloses the method of claim 8, but Ogawa fails to disclose wherein the category associated with the media is at least one of text, audio, video frame, a plurality of video frames, live programming, media provider, media creator, still image and interactive content. However, Reisman discloses wherein the category associated with the media is at least one of text, audio, video frame, a plurality of video frames, live programming, media provider, media creator, still image and interactive content (progression deletion for media content to manage storage space and choose which content is deleted to managed the storage space, including deleting part of a cache or degrading quality of media to free storage space, the storage can be managed by profiles to specify the decay rate and endpoints based off the content such as time sensitive TV broadcasts such as the news, versus routine TV broadcasts or movies, figures 4 and 5, paragraphs [0022]-[0031], [0046]-[0048], [0136]-[0166]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Ogawa to include the free space determination of Reisman for the advantage of adaptively freeing space as needed based on the content desire and need to erase the content to get the maximum use out of storage space.

As for claim 15, Ogawa discloses the device of claim 12, but Ogawa fails to disclose wherein the processor automatically marks the thumbnail for deletion upon the determination that the associated media has been deleted. However, Reisman discloses wherein the processor automatically marks the thumbnail for deletion upon the determination that the associated media has been deleted (the media may be deleted layer by layer until the metadata, such as the thumbnail, is marked for deletion, with the content being progressively deleted as needed, figures 4 and 5, paragraphs [0022]-[0031], [0046]-[0048], [0094]-[0100], [0136]-[0166]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Ogawa to include the free space determination of Reisman for the advantage of adaptively freeing space as needed based on the content desire and need to erase the content to get the maximum use out of storage space.

As for claim 16, Ogawa discloses the device of claim 12, but Ogawa fails to disclose wherein the processor deletes the thumbnail upon determining that the thumbnail is marked for deletion and the free space in the storage is below a threshold. However, Reisman discloses wherein the processor deletes the thumbnail upon determining that the thumbnail is marked for deletion and the free space in the storage is below a threshold (progression deletion for media content to manage storage space and choose which content is deleted to managed the storage space, marking the files for deletion but not deleting until the data is actually reassigned and overwritten, including deleting part of a cache or degrading quality of media to free storage space, the storage can be managed by profiles to specify the decay rate and endpoints based off the content such as time sensitive TV broadcasts such as the news, versus routine TV broadcasts or movies, figures 4 and 5, paragraphs [0022]-[0031], [0046]-[0048], [0136]-[0166]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Ogawa to include the free space determination of Reisman for the advantage of adaptively freeing space as needed based on the content desire and need to erase the content to get the maximum use out of storage space.

As for claim 20, Ogawa discloses the medium of claim 17, but Ogawa fails to disclose further comprising instructions to cause the deletion of the thumbnail image upon determining the thumbnail image is marked for deletion and amount of free space in the storage is below a threshold free space value. However, Reisman discloses wherein the processor deletes the thumbnail upon determining that the thumbnail is marked for deletion and the free space in the storage is below a threshold (progression deletion for media content to manage storage space and choose which content is deleted to managed the storage space, marking the files for deletion but not deleting until the data is actually reassigned and overwritten, including deleting part of a cache or degrading quality of media to free storage space, the storage can be managed by profiles to specify the decay rate and endpoints based off the content such as time sensitive TV broadcasts such as the news, versus routine TV broadcasts or movies, figures 4 and 5, paragraphs [0022]-[0031], [0046]-[0048], [0136]-[0166]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the medium of Ogawa to include the free space determination of Reisman for the advantage of adaptively freeing space as needed based on the content desire and need to erase the content to get the maximum use out of storage space.

Claims 10 and 11 lack an inventive step under PCT Article 33(3) as being obvious over Ogawa in view of US 8,006,201 B2 to Bhattacharya (Hereinafter Bhattacharya).

As for claim 10, Ogawa discloses the method of claim 1, but Ogawa fails to disclose further comprising: scanning the media; extracting a raw thumbnail image from the scanned media; processing the raw thumbnail image; and performing the creating of the thumbnail image from the processed raw thumbnail image. However, Bhattacharya discloses scanning the media (at step 210 one or more parameters for thumbnails are displayed and the user starts the generation of thumbnails from a video file or files, then at step 215 the frames are extracted from the video for the thumbnails, abstract, figure 2A, column 1, line 40- column 2, line 25; column 4, line 20- column 6, line 34); extracting a raw thumbnail image from the scanned media (at step 215 the frames are extracted from the video for the thumbnails, abstract, figure 2A, column 1, line 40- column 2, line 25; column 4, line 20- column 6, line 34); processing the raw thumbnail image (one or more parses and decoders can be used for extracting the frames for each thumbnail, abstract, figure 2A, column 1, line 40- column 2, line 25; column 4, line 20- column 6, line 34); and performing the creating of the thumbnail image from the processed raw thumbnail image (at step 220 or step 255 the thumbnails are stored in a buffer for the video files, abstract, figure 2A, column 1, line 40- column 2, line 25; column 4, line 20- column 6, line 34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Ogawa to include the thumbnail processing of Bhattacharya for the advantage of being able to automate the thumbnail process to extract raw images from a video or media clip and create a thumbnail without human intervention.

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55315

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As for claim 11, Ogawa, in view of Bhattacharya, discloses the method of claim 10, wherein the processing of the raw thumbnail image comprises at least one of scaling, cropping and rotating. However, Bhattacharya discloses processing of the raw thumbnail image comprises at least one of scaling, cropping and rotating (the size of the thumbnail and the screen size can be configured for example the X and Y coordinates can be varied for the screen and thumbnail (cropping), abstract, figure 2A, column 1, line 40- column 2, line 25; column 4, line 20- column 6, line 34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Ogawa to include the thumbnail processing of Bhattacharya for the advantage of being able to automate the thumbnail process to extract raw images from a video or media clip and create a thumbnail without human intervention.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* 02 DEC 2013
Applicant's or agent's file reference 6583-503-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2013/055317	International filing date *(day/month/year)* 16 August 2013
Applicant FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-503-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055317	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

PCT/US2013/055317 02.12.2013

International application No.
PCT/US2013/055317

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 7/00 (2013.01)
USPC - 725/46
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H04N 7/00, 7/025, 7/10 (2013.01)
USPC -725/37, 46, 50

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - H04N 7/00, 7/025, 7/10 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Orbit, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/0022309 A1 (BEGEJA et al) 24 January 2008 (24.01.2008) entire document	1-20
Y	EP 1 770 956 A1 (BRITISH TELECOMMUNICATIONS) 04 April 2007 (04.04.2007) entire document	1-20
Y	US 2010/0161506 A1 (BOSENICK et al) 24 June 2010 (24.06.2010) entire document	6, 8, 14, 20
A	US 2005/0188318 A1 (TAMIR et al) 25 August 2005 (25.08.2005) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 November 2013	02 DEC 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	02 DEC 2013
Applicant's or agent's file reference 6583-503-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055317	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 7/00 (2013.01)
USPC - 725/46

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	17 November 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055317

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055317

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-5, 7, 9-13, 15-19 lack an inventive step under PCT Article 33(3) as being obvious over Begeja et al., hereinafter referred to as Begeja and in view of British Telecommunications, hereinafter referred to as British Telecom.

Regarding claim 1, Begeja discloses a method (a method for providing a personalized channel, abstract, fig. 1, 3), comprising:
a time period value, of a television (personalized TV channel for a customer using a TV 236 with a set-top box 332, para 0041, see fig. 3 [server 243 indirectly coupled to the TV 236, see fig. 3]; the broadcast server 243 will begin to track the viewing habit of the viewer, over a period of time [configurable reporting period value], para 0044);
recording indicia of a number of events associated with the television (viewing habit tracks the channels the customer dwells at, para 0044);
formatting indicia of the number of events (developing a predictive model for the specific viewer, para 0044);
storing the information (storing the predictive model in the profile database 350 [user activity information], para 0044).
Begeja lacks the teaching of setting a configurable reporting period value; setting a period value to an initial value for formatting a report; upon determining the reporting period has ended, sending the report to a server.
British Telecom is in the field of context aware computing and provides activity based information (abstract) and teaches setting a configurable period value to an initial value for formatting a report; upon determining the reporting period has ended, sending the report to a server (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day [configurable data as its end of day or when a process is triggered], para 0052).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

Regarding claim 12, Begeja discloses a system for reporting television activity (system for providing a personalized channel [channel is personalized based on customer preferences so reporting television activity], abstract, fig. 1), comprising:
a television (personalized TV channel for a customer using a TV 236 with a set-top box 332, para 0041, see fig. 3);
a server (broadcast server 243, para 0044);
a network, operable to enable data communication between the television and the server (server 243 indirectly coupled to the TV 236, see fig. 3);
the television, further comprising (the TV 236 along with the whole set top box and server comprise, see fig. 3):
an activity monitor (service provider gathers sufficient channel selection information, para 0044);
a information generator (service provider develops a predictive e model for the specific viewer, para 0044); and
a storage (profile database 350, para 0044);
wherein the activity monitor collects activity data associated with the television (service provider gathers sufficient channel selection information [associated with the television), para 0044);
wherein the information generator generates information, each information being associated with collected activity data during a activity tracking period (predictive model developed based on the sufficient channel selection to determine user interest in variety of programs, para 0044);
wherein the storage is operable to store information (storing the predictive model in the profile database 350, para 0044).
Begeja lacks the teaching of a report generation, wherein the television is operable to send stored reports to the server.
British Telecom is in the field of context aware computing and provides activity based information (abstract) and teaches storing multiple reports (the device 301 store activity related data for multiple locations [different reports for different locations], para 0052), sending the report to a server (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day, para 0052).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055317

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 16, Begeja teaches a television device (TV 236 with set top box, broadcast server, see fig. 1, 3), comprising:
a processor (set top box has a processor, para 0039);
a storage (profile database 350, para 0044);
a network connection (IP/MPLS core network 210, see fig. 3);
wherein the processor is operable to detect a number of user activities and cause an indicia of the user activities to be stored (personalized TV channel for a customer using a TV 236 with a set-top box 332, para 0041, see fig. 3; the broadcast server 243 will begin to track the viewing habit of the viewer, over a period of time [configurable reporting period value], para 0044);
wherein the processor is further operable to generate information of the stored user activities determined to be associated with a activity period (the broadcast server 243 will begin to track the viewing habit of the viewer, over a period of time and a predictive model is generated, para 0044); and
wherein the network connection is operable to connect to a network (server 243 indirectly coupled to the TV 236, see fig. 3; IP/MPLS core network 210, see fig. 3).
Begeja lacks the teaching of transmitting a report to a server.
British Telecom teaches sending a report to a server (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day, para 0052).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

Regarding claim 2, Begeja lacks the teaching upon determining the reporting period has ended, performing the formatting of the report and then performing the sending of the report.
British Telecom teaches upon determining the reporting period has ended, performing the sending of the report (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day, para 0052) and also teaches formatting the report (updating [formatting] the standard template periodically, para 0052). Furthermore, defining the formatting to occur in a specific way would have been a matter of design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

Regarding claim 3, Begeja lacks the teaching wherein determining the reporting period has ended occurs upon startup of the television.
However, Begeja teaches determining the reporting occurs on a television (personalized TV channel for a customer using a TV 236 with a set-top box 332, para 0041, see fig. 3; the broadcast server 243 will begin to track the viewing habit of the viewer, over a period of time, para 0044). Further, British Telecom teaches determining the reporting period has ended based on the start of a new process (new process activated on the device triggers a report to be sent to the server [every time a new process starts, a report is sent i.e. a new report or an older report being ended], para 0052). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

Regarding claim 4, Begeja lacks the teaching of receiving, by the television, a new reporting period value; and setting the configurable reporting period value in accord with the updated reporting period value.
However, Begeja teaches period value, of a television (personalized TV channel for a customer using a TV 236 with a set-top box 332, para 0041, see fig. 3; the broadcast server 243 will begin to track the viewing habit of the viewer, over a period of time [configurable reporting period value], para 0044).
Further, British Telecom teaches setting a configurable reporting period value and updating the reporting period value (new process activated may trigger the report this to the server 304 [based on the time duration of the new process being triggered, the report is real-time so the reporting period is variable and configurable]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate updated reporting features in the invention of Begeja for real time reporting.

Regarding claim 5, Begeja teaches storing of information in a database (storing the predictive model in the profile database 350, para 0044). Begeja lacks the teaching wherein the storing of the report, further comprises, the storing of the report in a database along with an additional report associated with an additional reporting period that is different from the reporting period.
British Telecom teaches storing of multiple reports with different reporting periods (standard template is updated periodically and forwarded to a server after a period, each report is sent for every time a process is triggered [all these are periodic updates so each is reporting at a different period], para 0052). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

Regarding claim 7, Begeja lacks the teaching wherein sending further comprises sending the report and the additional report. British Telecom teaches sending the report and additional report (the recorded processes are time stamped sending to the server [multiple reports], para 0052). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

Regarding claim 9, Begeja lacks the teaching of adding a sequential number to the report.
British Telecom teaches adding a sequential number to each report (the recorded processes are time stamped [time stamped is that they are in a sequential order] sending to the server [multiple reports], para 0052). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055317

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 10, Begeja lacks the teaching of determining a timestamp of the report based on at least one of (i) the time the report was sent to the server, (ii) the sequential number and (iii) the configurable reporting period value.
British Telecom teaches time stamping the report based on the time the report was sent to the server (the report is time stamped in order to aid processing by the central server, and the data sent includes the length of time the process was active, para 0052). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the timestamp feature in the invention of Begeja for the purpose of aiding the processing by the central server (British Telecom, para 0052).

Regarding claim 11, Begeja lacks the teaching of determining a timestamp of the report based on at the difference between the sequential number of the report and the sequential number of another report. British Telecom teaches time stamping the report based on the time the report was sent to the server (the report is time stamped in order to aid processing by the central server, and the data sent includes the length of time the process was active, para 0052). Furthermore, defining a timestamp based on a specific condition would have been a matter of design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the timestamp feature in the invention of Begeja for the purpose of aiding the processing by the central server (British Telecom, para 0052).

Regarding claim 13, Begeja lacks the teaching wherein the report generator is further operable to generate ones of the number of reports with a sequential report number.
British Telecom teaches adding a sequential number to each report (the recorded processes are time stamped [time stamped is that they are in a sequential order] sending to the server [multiple reports], para 0052). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

Regarding claim 15, Begeja lacks the teaching of a receiver, operable to receive a new reporting period value from the server; and the generator is further operable to set the reporting period in accord with the new reporting period.
However, Begeja teaches period value, of a television (personalized TV channel for a customer using a TV 236 with a set-top box 332, para 0041, see fig. 3; the broadcast server 243 will begin to track the viewing habit of the viewer, over a period of time [configurable reporting period value], para 0044).
Further, British Telecom teaches setting a configurable reporting period value and updating the reporting period value (new process activated may trigger the report this to the server 304 [based on the time duration of the new process being triggered, the report is real-time so the reporting period is variable and configurable]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate updated reporting features in the invention of Begeja for real time reporting.

Regarding claim 17, Begeja lacks the teaching of a receiver, operable to receive a new reporting period and causing the reporting period to be set to a value in accord with the new reporting period.
However, Begeja teaches a period value, of a television (personalized TV channel for a customer using a TV 236 with a set-top box 332, para 0041, see fig. 3; the broadcast server 243 will begin to track the viewing habit of the viewer, over a period of time [configurable reporting period value], para 0044).
Further, British Telecom teaches setting a configurable reporting period value and updating the reporting period value (new process activated may trigger the report this to the server 304 [based on the time duration of the new process being triggered, the report is real-time so the reporting period is variable and configurable]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate updated reporting features in the invention of Begeja for real time reporting.

Regarding claim 18, Begeja lacks the teaching wherein the processor is further operable to generate a report incremented from the last report generated.
British Telecom teaches generate a report incremented from the last report generated (the report is time stamped in order to aid processing by the central server [timestamped is a report incremented from last report], and the data sent includes the length of time the process was active, para 0052). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the timestamp feature in the invention of Begeja for the purpose of aiding the processing by the central server (British Telecom, para 0052).

Regarding claim 19, Begeja teaches wherein the storage is operable to store the information (storing the predictive model in the profile database 350, para 0044).
Begeja lacks the teaching of a report generation.
British Telecom is in the field of context aware computing and provides activity based information (abstract) and teaches sending the report to a server (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day, para 0052).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055317

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Claims 6, 8, 14, 20 lack an inventive step under PCT Article 33(3) as being obvious over Begeja and in view of British Telecom and further in view of Bosenick et al., hereinafter referred to as Bosenick.

Regarding claim 6, Begeja lacks the teaching upon determining the available storage is below a threshold, deleting at least one report in the database.
Bosenick is in the field of providing logging and reporting of user-device interaction (abstract, title) and teaches deleting logfiles after determining the server successfully received the logfiles (all existing logfiles are deleted on the mobile device after uploading the logfiles on the mobile device to the server, para 0051). Furthermore, deleting a file based on low storage space was well known in the art and the specifics would have been a matter of design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Bosenick to incorporate the deleting features in the invention of Begeja for the purpose of installing new application program or configuration files on the mobile device (Bosenick, para 0051).

Regarding claim 8, Begeja lacks the teaching wherein upon determining the server has successfully received the report, deleting the report.
British Telecom teaches sending the report to a server (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day, para 0052).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).
Further, Bosenick is in the field of providing logging and reporting of user-device interaction (abstract, title) and teaches deleting logfiles after determining the server successfully received the logfiles (all existing logfiles are deleted on the mobile device after uploading the logfiles on the mobile device to the server, para 0051). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Bosenick to incorporate the deleting features in the invention of Begeja for the purpose of installing new application program or configuration files on the mobile device (Bosenick, para 0051).

Regarding claim 14, Begeja lacks the teaching wherein the television is further operable to delete from storage any of the stored reports successfully sent to the server.
British Telecom teaches sending the report to a server (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day, para 0052).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).
Further, Bosenick is in the field of providing logging and reporting of user-device interaction (abstract, title) and teaches deleting logfiles after determining the server successfully received the logfiles (all existing logfiles are deleted on the mobile device after uploading the logfiles on the mobile device to the server, para 0051). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Bosenick to incorporate the deleting features in the invention of Begeja for the purpose of installing new application program or configuration files on the mobile device (Bosenick, para 0051).

Regarding claim 20, Begeja lacks the teaching wherein the report is deleted from the storage upon the network connection successfully transmitting the report to the server.
British Telecom teaches sending the report to a server (the activity related data is accumulated over a period and forwarded to the server after a period [that is end of period is detected and then start of next period i.e. initial is detected], device 301 storing activity related data and then uploading the data to the central server 304 at the end of the day, para 0052).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of British Telecom to incorporate the reporting features in the invention of Begeja for the purpose of uploading activity related data to the central server periodically (British Telecom, para 0052).
Further, Bosenick is in the field of providing logging and reporting of user-device interaction (abstract, title) and teaches deleting logfiles after determining the server successfully received the logfiles (all existing logfiles are deleted on the mobile device after uploading the logfiles on the mobile device to the server, para 0051). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Bosenick to incorporate the deleting features in the invention of Begeja for the purpose of installing new application program or configuration files on the mobile device (Bosenick, para 0051).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing *(day/month/year)*	09 JAN 2014
Applicant's or agent's file reference: 6583-504-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No.: PCT/US2013/055318	International filing date *(day/month/year)*: 16 August 2013
Applicant: FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-504-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055318	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 9 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 14

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055318

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 17/00 (2013.01)
USPC - 725/9
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H04L 67/22; H04N 7/16, 7/173, 17/00, 21/20, 21/23, 21/47 (2013.01)
USPC - 348/180; 725/9, 14, 39, 61

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - H04L 41/509, 67/22; H04N 21/4667 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents, Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 01/06784 A2 (KNEE et al) 25 January 2001 (25.01.2001) entire document	1-20
Y	US 7,822,716 B2 (LEE et al) 26 October 2010 (26.10.2010) entire document	1-20
Y	US 2007/0028282 A1 (KOOIJMANS et al) 01 February 2007 (01.02.2007) entire document	2, 3, 11, 12
Y	US 2005/0232210 A1 (KARAOGUZ et al) 20 October 2005 (20.10.2005) entire document	4, 5, 13, 14

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 December 2013	09 JAN 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	09 JAN 2014
Applicant's or agent's file reference 6583-504-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055318	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 17/00 (2013.01)
USPC - 725/9

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	19 December 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055318

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055318

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1, 6-10, 15-20 lack an inventive step under PCT Article 33(3) as being obvious over Knee et al. (hereafter Knee) in view of Lee et al. (hereafter Lee).

Regarding claim 1, Knee discloses a method of reporting status of a television (display 100 in Fig. 6 can be a television as described on pg. 20, lns. 1-8; pg. 10, ln. 30 – pg. 11, ln. 28 describes collecting data on the user's activities with respect to the interactive television applications, which is part of the monitoring of Fig. 10, step 134, described in pg. 25, lns. 7-10), comprising:
formatting a report having at least one attribute of the television (Fig. 10, step 136; pg. 25, lns. 11-21 regarding a report containing information on the user's interactions with the interactive television program guide and other user activities; one television attribute is the user's interaction with it);
storing the report in a non-volatile memory (control circuitry 94 can include memory or other storage devices, such as a hard disk or random-access memory, both of which are types of non-volatile memory, described on pg. 19, lns. 11-32) associated with the television (100; Fig. 6; pg. 19, lns. 11-32 describes using the control circuitry 92 for monitoring the interactive television applications, where the information may be stored on the storage control circuitry 94);
transmitting the report to a receiver (data collection facility 13; Fig. 10, step 138 shows a transmission of the report where it is received by a data collection facility, described on pg. 25, lns. 5-21).
Knee fails to explicitly disclose upon successfully transmitting the report to the receiver, deleting the report from the non-volatile memory.
Lee teaches of a method for deleting user metadata for a TV-Anytime system, upon successfully transmitting a report to a receiver, deleting the report from a non-volatile memory (Fig. 1 shows metadata related to the usage of a TV-Anytime system, described in col. 3, lns. 27-34, where a user has the ability to delete transmitted data; Fig. 2 shows the transmission for data between the metadata service and a user client, while Fig. 8 shows code for deleting user information that has been already transmitted to a server as described in col. 5, lns. 26-39; the metadata is the report, the receiver is the client, and the metadata service includes memory to store the data; common memory is a hard disk or flash memory as part of a server, where these types of memory are considered nonvolatile).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include deleting a successfully transmitted report as taught by Lee as this frees up the memory by removing the report data. Furthermore, once the data is successfully transmitted, there is generally no reason to keep it within the TV memory, especially since the receiver is generally backed up in case of data loss.

Regarding claim 6, Knee as modified discloses the method of claim 1, and Knee further discloses wherein the report comprises one or more sets of data (Fig. 10, step 136; pg. 25, lns. 11-21 regarding a report containing information on the user's interactions with the interactive television program guide and other user activities),
the sets of data selected from network information (pg. 7, lns. 17-27 describes the communication network 34 can be formed from different suitable types, such as the internet, the public switched telephone network, and a packet-based network; pg. 11, lns. 17-28 describes collecting the information on the user's equipment and reporting it back for processing; as is common with data reports, the settings of the user's equipment has generally included in data sets, so that the processing facility knows what equipment and settings the data was gathered),
running application information (pg. 11, lns. 9-12 regarding information may also be gathered on which selectable on-screen interactive television application options the user selects when interacting with interactive television applications; this information can go into the report of Fig. 10, step 136 as described on pg. 25, lns. 11-21), and
media consumption information (pg. 25, lns. 5-10 regarding the user's interactions with the interactive television program guide and other activities (e.g., television watching activities) may be monitored; this information can go into the report of Fig. 10, step 136 as described on pg. 25, lns. 11-21).

Regarding claim 7, Knee as modified discloses the method of claim 6, and Knee further discloses wherein network information, further comprises, one or more of connection type, connection sub-type, and IP address of the television (pg. 7, lns. 17-27 describes the communication network 34 can be formed from different suitable connection types, such as the internet, the public switched telephone network, and a packet-based network; pg. 11, lns. 17-28 describes collecting the information on the user's equipment and reporting it back for processing; as is common with data reports, the settings of the user's equipment has generally included in data sets, so that the processing facility knows what equipment and settings the data was gathered).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055318

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 11-15 and 17-20 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claims 11-15 and 17-20 are indefinite for the following reason(s):

Claims 11-15 are directed to a "method", but depend upon claim 10, which recites a "television", while "method" claims 17-20 depend upon claim 16, which is directed to a "non-transitory computer medium". In this written opinion, claims 11-15 are corrected by replacing "method" with --television--, while claims 17-20 are corrected by replacing "method" with --computer medium--.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055318

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 8, Knee as modified discloses the method of claim 6, and Knee further discloses wherein the running application information, further comprises, one or more of package name, application name, application version, last used information, last used duration, cumulative use, installed timestamp, uninstalled timestamp, last updated timestamp, storage size of the application, and storage size of user data associated with the application (pg. 11, lns. 9-12 describes information may also be gathered on which selectable on-screen interactive television application options the user selects when interacting with interactive television applications; some examples of application names are shown in Fig. 7).

Regarding claim 9, Knee as modified discloses the method of claim 6, and Knee further discloses wherein the media consumption information, further comprises, one or more of cumulative channel viewing time, last watched events, last watched videos, and cumulative usage (pg. 25, lns. 5-10 regarding the user's interactions with the interactive television program guide and other activities (e.g., television watching activities) may be monitored; pg. 11, lns. 1-9 describes information may be gathered regarding which television channels the user tunes to and the times at which the user watches each television channel to monitor the user's viewing habits).

Regarding claim 10, Knee discloses a television (display 100; Fig. 6; pg. 20, lns. 1-8 describes the display 100 may be a television), comprising:
a processor (control circuitry 94; Fig. 6; pg. 19, lns. 11-13 regarding control circuitry 94 may be based on any suitable processor such as a microprocessor, microcontroller, etc);
a non-volatile memory (control circuitry 94 can include memory or other storage devices, such as a hard disk or random-access memory, both of which are types of non-volatile memory, described on pg. 19, lns. 11-32);
a network connection (communications network 34; pg. 7, lns. 17-27);
whereby the processor (94) is operable to format a report having at least one attribute of the television (100; Fig. 10, step 136; pg. 25, lns. 11-21 regarding a report containing information on the user's interactions with the interactive television program guide and other user activities; one television attribute is the user's interaction with it) and store the report in a non-volatile memory (94) associated with the television (100; Fig. 6; pg. 19, lns. 11-32 describes using the control circuitry 92 for monitoring the interactive television applications, where the information may be stored on the storage control circuitry 94);
the network connection (34) is operable to transmit the report to a server (data collection facility 13 in Fig. 1; Fig. 10, step 138 shows a means for transmitting the report to the data collection facility, described on pg. 25, lns. 5-21).
Knee fails to explicitly disclose upon successfully transmitting the report to the receiver, the processor causes the report to be deleted from the non-volatile memory.
Lee teaches of a method for deleting user metadata for a TV-Anytime system, upon successfully transmitting a report to a receiver, deleting the report from a non-volatile memory (Fig. 1 shows metadata related to the usage of a TV-Anytime system, described in col. 3, lns. 27-34, where a user has the ability to delete transmitted data; Fig. 2 shows the transmission for data between the metadata service and a user client, while Fig. 8 shows code for deleting user information that has been already transmitted to a server as described in col. 5, lns. 26-39; the metadata is the report, the receiver is the client, and the metadata service includes memory to store the data; common memory is a hard disk or flash memory as part of a server, where these types of memory are considered nonvolatile).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include deleting a successfully transmitted report as taught by Lee as this frees up the memory by removing the report data. Furthermore, once the data is successfully transmitted, there is generally no reason to keep it within the TV memory, especially since the receiver is generally backed up in case of data loss.

Regarding claim 15, Knee as modified discloses the television of claim 10, and Knee further discloses wherein the report comprises one or more sets of data (Fig. 10, step 136; pg. 25, lns. 11-21 regarding a report containing information on the user's interactions with the interactive television program guide and other user activities),
the sets of data selected from network information (pg. 7, lns. 17-27 describes the communication network 34 can be formed from different suitable types, such as the internet, the public switched telephone network, and a packet-based network; pg. 11, lns. 17-28 describes collecting the information on the user's equipment and reporting it back for processing; as is common with data reports, the settings of the user's equipment has generally included in data sets, so that the processing facility knows what equipment and settings the data was gathered),
running application information (pg. 11, lns. 9-12 regarding information may also be gathered on which selectable on-screen interactive television application options the user selects when interacting with interactive television applications; this information can go into the report of Fig. 10, step 136 as described on pg. 25, lns. 11-21), and
media consumption information (pg. 25, lns. 5-10 regarding the user's interactions with the interactive television program guide and other activities (e.g., television watching activities) may be monitored; this information can go into the report of Fig. 10, step 136 as described on pg. 25, lns. 11-21).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US2013/055318

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 16, Knee discloses a non-transitory computer medium with instructions thereof that when executed by a machine cause the machine to perform (pg. 19, lns. 11-19):
formatting a report having at least one attribute of the television (Fig. 10, step 136; pg. 25, lns. 11-21 regarding a report containing information on the user's interactions with the interactive television program guide and other user activities; one television attribute is the user's interaction with it);
storing the report in a non-volatile memory (control circuitry 94 can include memory or other storage devices, such as a hard disk or random-access memory, both of which are types of non-volatile memory, described on pg. 19, lns. 11-32) associated with the television (100; Fig. 6; pg. 19, lns. 11-32 describes using the control circuitry 92 for monitoring the interactive television applications, where the information may be stored on the storage control circuitry 94);
transmitting the report to a receiver (data collection facility 13; Fig. 10, step 138 shows a transmission of the report where it is received by a data collection facility, described on pg. 25, lns. 5-21).
Knee fails to explicitly disclose upon successfully transmitting the report to the receiver, deleting the report from the non-volatile memory.
Lee teaches of a method for deleting user metadata for a TV-Anytime system, upon successfully transmitting a report to a receiver, deleting the report from a non-volatile memory (Fig. 1 shows metadata related to the usage of a TV-Anytime system, described in col. 3, lns. 27-34, where a user has the ability to delete transmitted data; Fig. 2 shows the transmission for data between the metadata service and a user client, while Fig. 8 shows code for deleting user information that has been already transmitted to a server as described in col. 5, lns. 26-39; the metadata is the report, the receiver is the client, and the metadata service includes memory to store the data; common memory is a hard disk or flash memory as part of a server, where these types of memory are considered nonvolatile).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include deleting a successfully transmitted report as taught by Lee as this frees up the memory by removing the report data. Furthermore, once the data is successfully transmitted, there is generally no reason to keep it within the TV memory, especially since the receiver is generally backed up in case of data loss.

Regarding claims 17-20, it is noted that these claims have same limitations as claims 6-9, repectively. Therefore, Knee modified by Lee similarly disclose claims 17-20 as discussed for claims 6-9, respectively.

Claims 2, 3, 11, 12 lack an inventive step under PCT Article 33(3) as being obvious over Knee et al. (hereafter Knee) in view of Lee et al. (hereafter Lee) and in further view of Kooijmans et al. (hereafter Kooijmans).

Regarding claim 2, Knee as modified discloses the method of claim 1, but Knee fails to explicitly disclose formatting the report with one-time data, the first-time data being associated with an initial power-up of the television.
Kooijmans teaches of a startup method for a television apparatus, comprising formatting a report with one-time data (Fig. 2 shows a TV system with a processor 10, non-volatile memory 20, and memory 40; para. 0019 describes meta-data associated with the last channel played on the TV, where the meta-data is stored in memory 20 as described in para. 0025; the meta-data is the report), the first-time data being associated with an initial power-up of the television (Fig. 1B shows a startup sequence of a TV, where the meta-data is retrieved from the memory 20 as described in para. 0025).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include a report with data associated with the power-up of the TV as taught by Kooijmans as this allows the settings of the TV to be sent upon startup in order to start the TV correctly.

Regarding claim 3, Knee as modified discloses the method of claim 2, but Knee fails to explicitly disclose upon determining the report contains first-time data, omitting the deleting of the report from the non-volatile memory.
Kooijmans teaches of a startup method for a television apparatus, upon determining the report contains first-time data, omitting the deleting of the report from the non-volatile memory (Fig. 1B shows the Point B, where meta-data is retrieved form memory 20, which remains in memory for a period of time until Point C where the user gains full control of the TV; in essence, the meta-data remains in memory for the power-up period, and is not deleted until Point C, when the meta-data is no longer needed as part of the power-up).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include omitting a deletion of a report from memory during the power up as taught by Kooijmans as this data is needed during the initial power-up, therefore it does not make sense to delete the data until it is no longer needed.

Regarding claim 11, Knee as modified discloses the computer medium of claim 10, but Knee fails to explicitly disclose the processor formatting the report with one-time data, the first-time data being associated with an initial power-up of the television.
Kooijmans teaches of a startup method for a television apparatus, comprising a processor (10) formatting a report with one-time data (Fig. 2 shows a TV system with a processor 10, non-volatile memory 20, and memory 40; para. 0019 describes meta-data associated with the last channel played on the TV, where the meta-data is stored in memory 20 as described in para. 0025; the meta-data is the report), the first-time data being associated with an initial power-up of a television (Fig. 1B shows a startup sequence of a TV, where the meta-data is retrieved from the memory 20 as described in para. 0025).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include a report with data associated with the power-up of the TV as taught by Kooijmans as this allows the settings of the TV to be sent upon startup in order to start the TV correctly.

Regarding claim 12, Knee as modified discloses the computer medium of claim 11, but Knee fails to explicitly disclose upon the processor determining the report contains first-time data, the processor omits the deleting of the report from the non-volatile memory.
Kooijmans teaches of a startup method for a television apparatus, upon the processor (10) determining the report contains first-time data, the processor omits the deleting of the report from the non-volatile memory (Fig. 1B shows the Point B, where meta-data is retrieved form memory 20, which remains in memory for a period of time until Point C where the user gains full control of the TV; in essence, the meta-data remains in memory for the power-up period, and is not deleted until Point C, when the meta-data is no longer needed as part of the power-up).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include omitting a deletion of a report from memory during the power up as taught by Kooijmans as this data is needed during the initial power-up, therefore it does not make sense to delete the data until it is no longer needed.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055318

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Claims 4, 5, 13, 14 lack an inventive step under PCT Article 33(3) as being obvious over Knee et al. (hereafter Knee) in view of Lee et al. (hereafter Lee) and in further view of Karaoguz et al. (hereafter Karaoguz).

Regarding claims 4, 5, Knee as modified discloses the method of claim 1, but Knee fails to explicitly disclose [claim 4] wherein the report further comprises a set core data associated with substantially static attributes of the television; and,
[claim 5] wherein the substantially static attributes of the television comprise one or more of software version, model, make, manufacturer, device identifier, and MAC address.
Karaoguz teaches of aggregation of multimedia storage, [claim 4] wherein a report further comprises a set core data associated with substantially static attributes of a television (Fig. 1; para. 0022 describes using a television over a broadband gateway for the aggregation of multimedia information storage; para. 0088 describes providing information identifying a storage resource such as a MAC address, manufacturer identifier, and model identifier; essentially, the information is the reported data, where information related to the storage can be the storage on different devices, including a television); and,
[claim 5] wherein the substantially static attributes of the television comprise one or more of software version, model, make, manufacturer, device identifier, and MAC address (Fig. 1; para. 0022 describes using a television over a broadband gateway for the aggregation of multimedia information storage; para. 0088 describes providing information identifying a storage resource such as a MAC address, manufacturer identifier, and model identifier; essentially, the information is the reported data, where information related to the storage can be the storage on different devices, including a television).
It would have been obvious to one of skill in the art at the time of invention to modify the invention of Knee to include report data that includes a MAC address, manufacturer and model as taught by Karaoguz as this allows the data to include a point of reference from which knowledge can be gained from analyzing the data. For instance, by knowing the basic data of the television being used, the analysis of data can determine bugs in the system, correlations between what type of programs are watched by purchasers of certain TVs, and so forth.

Regarding claims 13 and 14, it is noted that these claims have same limitations as claims 4 and 5, repectively. Therefore, Knee modified by Lee sand in further view of Karaoguz similarly disclose claims 13 and 14 as discussed for claims 4 and 5, respectively.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* 11 MAR 2014
Applicant's or agent's file reference 6583-505-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2013/055319	International filing date *(day/month/year)* 16 August 2013
Applicant FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-505-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055319	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 15

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055319

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 7/00 (2014.01)
USPC - 725/115
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06F 11/14; G06Q 30/00; H04N 5/00, 7/00 (2014.01)
USPC - 386/291; 725/9, 37, 115

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06F 11/14; H04N 5/00, 7/00 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2010/0086277 A1 (CRANER) 08 April 2010 (08.04.2010) entire document.	1, 2, 8, 9, 15, 16 ---- 3-7, 10-14, 17-20
Y	US 2012/0079096 A1 (COWAN et al) 29 March 2012 (29.03.2012) entire document.	3, 10, 17
Y	EP 1031929 A2 (LARNER et al) 30 August 2000 (30.08.2000) entire document.	4-7, 11-14, 18-20
Y	EP 1067458 A1 (BEUQUE et al) 10 January 2001 (10.01.2001) entire document.	6, 7, 13, 14, 20
A	US 2007/0143809 A1 (CHEN et al) 21 June 2007 (21.06.2007) entire document.	1-20
A	US 2009/0293078 A1 (PIRANI et al) 26 November 2009 (26.11.2009) entire document.	1-20
A	US 2010/0180292 A1 (EPSTEIN et al) 15 July 2010 (15.07.2010) entire document.	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 February 2014	11 MAR 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

	Date of mailing *(day/month/year)* 11 MAR 2014
Applicant's or agent's file reference 6583-505-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055319	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 7/00 (2014.01)
USPC - 725/115

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	15 February 2014	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055319

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

   ☐ on paper

   ☐ in electronic form

   b. (time)

   ☐ in the international application as filed

   ☐ together with the international application in electronic form

   ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055319

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2-7, 9-14, 16-20	YES
	Claims	1, 8, 15	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1, 8, 15 lack novelty under PCT Article 33(2) as being anticipated by Craner.

Regarding claims 1, 8, 15 Craner discloses a method of managing television usage reports (The present invention relates to managing recorded television programs [managing television programs is interpreted as managing television usage reports. Report includes data associated with use of TV, users, applications and other aspects, see PCT application, para.0155], and more particularly to deleting viewed portions of recorded programs, para.0001, 0002), comprising:
[Claim 8] A television (User equipment 110 includes television equipment such as a television, para.0036), comprising a processor (the user equipment 110 includes a control circuitry 116 comprising processors, para.0040, Fig.1); and a storage (the user equipment 110 includes a recording device 118 [interpreted as storage] for storing content, para.0041, Fig.1);
[Claim 15] A non-transitory computer readable medium with instructions that when executed by a machine (the control circuitry 116 includes memory storing instructions executed by the hardware, para.0040), cause the machine to perform:
storing a number of reports on a data storage device associated with a television (the user equipment 110 is a television which includes a recording device 118 [interpreted as data storage device] for storing television programs or video-on-demand content [i.e. storing reports associated with a television], para.0037, 0042, Fig.1);
determining the number of reports in the data storage device has reached a threshold (recorded programs are stored on recording device 118. A storage space indicator 532 shows the amount of storage space available for storing programs. It can be determined if the available storage space falls below a certain threshold, para.0064, 0123, Fig.5) and deleting an older report from the data storage device (if it is determined, that the background record causes the available storage space to fall below certain threshold, the media guidance application apply delete viewed portions settings and automatically identify and delete the viewed portions of one or more programs [i.e. deleting older programs i.e. older reports] stored on recording device, para.0123).

Claims 2, 9, 16 lack an inventive step under PCT Article 33(3) as being obvious over Craner.

Regarding claims 2, 9, 16 Craner teaches determining of the number of reports in the data storage device has reached the threshold (recorded programs are stored on recording device 118. A storage space indicator 532 shows the amount of storage space available for storing programs. It can be determined if the available storage space falls below a certain threshold, para.0064, 0123, Fig.5) and deleting an older report from the data storage device (if it is determined, that the background record causes the available storage space to fall below certain threshold, the media guidance application apply delete viewed portions settings and automatically identify and delete the viewed portions of one or more programs [i.e. deleting older programs i.e. older reports] stored on recording device, para.0123) but lacks the teaching of iteratively looping through the process. However, performing the process iteratively was a well-known practice in the art and the specifics would have been a matter of design choice.
It would have been obvious to one of ordinary skill in the art at the time of the invention to use perform the process iteratively in the invention of Craner.
The motivation would have been for performing operation continuously without requiring user command or intervention and thereby providing user convenience.

Claims 3, 10, 17 lack an inventive step under PCT Article 33(3) as being obvious over Craner in view of Cowan et al., hereinafter referred to as Cowan.

Regarding claims 3, 10, 17 Craner teaches retaining one of the number of reports associated with the television (the media guidance application maintains one of the recorded programs based on the interest of the user. The media guidance application maintain a portion of the recorded program that is of interest to the user and deletes the remaining portion of the recorded program, para.0143, 0146; user can select to delete viewed portions of the recorded program and retain a small portion of the recorded program, para.0106) but lacks the teaching of retaining first-time data.
Cowan discloses a method of managing information in utility monitoring system (Abstract) and teaches retaining first-time data (the system automatically deletes data fields when the storage space allocated for the memory platform is used up. The first time data such as commissioning and configuration data can be retained and held from deletion, by designating it as critical data field, para.0052).
It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Cowan for retaining first-time data in the invention of Craner.
The motivation would have been for retaining and saving first data as it provides more simplified and expeditious device restoration (para.0010, 0038, Cowan).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055319

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Claims 4, 5, 11, 12, 18, 19 lack an inventive step under PCT Article 33(3) as being obvious over Craner in view of Larner et al., hereinafter referred to as Larner.

Regarding claims 4, 11, 18 Craner teaches writing a report to the data storage device (television programs or video-on-demand content is stored on the recording device [recording device is interpreted as data storage device and storing programs on recording device is interpreted writing reports on the storage device], para.0042) but lacks the teaching that the report comprises a serial number.
Larner discloses deleting old data for adding new data when a memory segment is full (Abstract) and teaches serial number associated with stored data (the data which is stored in the memory includes a serial number determined at the manufacturing time, para.0014).
It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Larner for associating a serial number with data to be stored in the invention of Craner.
The motivation would have been for providing efficient maintenance using stored serial number data (para.0014, Larner).

Regarding claims 5, 12, 19 Craner teaches deleting an older report from the data storage device (if it is determined, that the background record causes the available storage space to fall below certain threshold, the media guidance application apply delete viewed portions settings and automatically identify and delete the viewed portions of one or more programs [i.e. deleting older programs i.e. older reports] stored on recording device, para.0123) but lacks the teaching of deleting a report with an earlier serial number.
Larner teaches deleting data with earlier serial number (the data which is stored in the memory includes a serial number determined at the manufacturing time. New type of data is added by deleting old type of data [i.e. data with old or earlier serial number], para.0012, 0014; during adding new parameter, oldest segment having lower sequence number is selected and the old segment is erased [i.e. erasing or deleting segment with oldest or earlier serial number], para.0024, 0025, Fig.2B, 2D).
It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Larner for deleting data with an earlier serial number in the invention of Craner.
The motivation would have been for deleting oldest data for adding new data (para.0012, Larner).

Claims 6, 7, 13, 14, 20 lack an inventive step under PCT Article 33(3) as being obvious over Craner in view of Larner and in view of Beuque et al., hereinafter referred to as Beuque.

Regarding claims 6, 13 Craner lacks the teaching wherein the report further comprises testing data.
Beuque discloses testing and debugging an application for digital television (Abstract) and teaches testing data (once an application has been created, it can be tested by running it on processor. As a result of testing, changes are made to the application and the files are updated with the changes and stored in the directory [i.e. storing testing data], 0098, 0102).
It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Beuque for incorporating testing data in the invention of Craner.
The motivation would have been for storing results of tested application or data for efficient running or working of the created application (para.0098, 0102, Beuque).

Regarding claims 7, 14, 20 Craner lacks the teaching wherein the report further comprises debugging data.
Beuque teaches debugging data (a debugger 430 is provided for debugging applications running on receiver 226, para.0093; the debugger 430 monitors and modifies variable values in the application [i.e. debugging data], para.0129).
It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Beuque for incorporating debugging data in the invention of Craner.
The motivation would have been for giving the operator the ability to see what effect of setting variables to different values can have (para.0129, Beuque).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-506-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055321	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 15

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055321

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 30/00 (2013.01)
USPC - 705/14.52
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06Q 30/00, 30/02, H04N 21/472 (2013.01)
USPC - 705/14.52, 14.64, 26.1, 27.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06Q 30/02, 30/0254, 30/0277 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Orbit, Google Patents, Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	WO 2012/073027 A2 (HUNTER) 07 June 2012 (07.06.2012) entire document	1-4, 7, and 12-16 --- 5-6, 8-11, and 17-20
Y	US 2011/0060661 A1 (CHAI et al) 10 March 2011 (10.03.2011) entire document	5-6 and 17
Y	US 2011/0213700 A1 (SANT'ANSELMO) 01 September 2011 (01.09.2011) entire document	8-11 and 18-20
A	US 2004/0103120 A1 (FICKLE et al) 27 May 2004 (27.05.2004) entire document	1-20
A	WO 01/06784 A2 (KNEE et al) 25 January 2001 (25.01.2001) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 November 2013	06 DEC 2013

Name and mailing address of the ISA/US	Authorized officer:
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: SCOTT WEITZEL
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	06 DEC 2013
Applicant's or agent's file reference 6583-506-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055321	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 30/00 (2013.01)
USPC - 705/14.52

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	21 November 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055321

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055321

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	5-6, 8-11, and 17-20	YES
	Claims	1-4, 7, and 12-16	NO
Inventive step (IS)	Claims	1-20	YES
	Claims	None	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-4, 7, and 12-16 lack novelty under PCT Article 33(2) as being anticipated by Hunter.

Regarding Claim 1, Hunter teaches a method, comprising: executing a reporting function of a television (page 184, lines 1-20 for preparing a report with usage data and page 185, lines 1-10 for routing the usage reports to the correct content provider); querying (page 167, lines 25-35 for having means to query the metadata associated with a fragment), by the reporting function (figure 94 element a content provider application that has access the entitlements cache and the metadata element 232 and page 1-10 for reporting information on metadata such as usage), a statistics content provider of an application of the television for usage statistics (figure 94 for having a content provider application and page 38, lines 20-30 for logging usage for channels, along with claim 122 for using usage statistics); and creating, by the reporting function, a report incorporating the queried usage statistics (page 185, lines 1-10 for compiling or creating a usage report and sending the usage data to a content provider).

Regarding Claim 2, Hunter teaches wherein the querying the statistics content provider further comprises querying the statistics content provider via an application programming interface of the application (figure 94 for having an content provider application that interfaces with the content provider, and page 90, lines 25-40 for having an application programming interface that allows the application to query information from a cache).

Regarding Claim 3, Hunter teaches wherein the application is at least one of a live television application operable to present broadcast television content, an on-demand application operable to present on-demand television content and a media center application operable to present user provided content (page 39, lines 1-20 for having an on demand player element 270 that allows viewing of on demand content from different providers for universality between players).

Regarding Claim 4, Hunter teaches wherein the querying of the statistics content provider causes the application to return at least one of name of the application, package name comprising the application, last session timestamp, and cumulative usage (pages 10, lines 25-35 for having a search service that searches the electronic program guide along with all the metadata associated with the electronic program guide and figure 63 top right corner for getting package information and having product metadata that shows the Package with the price).

Regarding Claim 7, Hunter teaches wherein the querying of the statistics content provider causes the application to return (figure 94 element a content provider application that has access the entitlements cache and the metadata element 232) at least one of code version, version name, first install timestamp, last update timestamp (page 98, lines 1-25 for having a code version for the manufacturer's software, and page 55, lines 1-25 for means to look up information by time stamps for schedule).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055321

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding Claim 12, Hunter discloses a television (page 185, lines 15-25 for having an IPTV service and lines 1-5 for using linear service on a television along with on-demand programming), comprising: a processor (page 18, lines 45-55 for having a means to process metadata); a data storage (page 73, lines 40-50 for having memory means such as flash memory and hard drive for storing the platform software); an application executable by the processor (page 185, lines 10-30 for having an IPTV service and having on demand portal service with figure 94 for having an content provider application on the device element 130); and wherein the processor is operable to (a) execute a reporting function of the television (page 184, lines 1-20 for preparing a report with usage data and page 185, lines 1-10 for routing the usage reports to the correct content provider), (b) query a statistics content provider of the application for usage statistics (figure 94 for having a content provider application and page 38, lines 20-30 for logging usage for channels, along with claim 122 for using usage statistics along with page 167, lines 25-35 for having means to query the metadata associated with a fragment), (c) create a report incorporating the queried usage statistics (page 185, lines 1-10 for creating a usage report and sending the usage data to a content provider), and (d) store the report in the data storage (paragraph 185, lines 1-10 for creating a usage report and claim 122 for having access to previous usage statistics or means to store the usage statistics).

Regarding Claim 13, Hunter discloses wherein the querying the statistics content provider further comprises querying the statistics content provider application programming interface (figure 94 for having an content provider application that interfaces with the content provider, and page 90, lines 25-40 for having an application programming interface that allows the application to query information from a cache).

Regarding Claim 14, Hunter discloses wherein the application is at least one of a live television application operable to present broadcast television content, an on-demand application operable to present on-demand television content, and a media center application operable to present user provided content (page 39, lines 1-20 for having an on demand player element 270 that allows viewing of on demand content from different providers for universality between players).

Regarding Claim 15, Hunter discloses wherein the query causes the application to return at least one of name, package name, last session timestamp, and cumulative usage (pages 10, lines 25-35 for having a search service that searches the electronic program guide along with all the metadata associated with the electronic program guide and figure 63 top right corner for getting package information and having product metadata that shows the Package with the price).

Regarding Claim 16, Hunter discloses wherein the query causes the application to return (figure 94 element a content provider application that has access the entitlements cache and the metadata element 232) at least one of code version, version name, first install timestamp, last update timestamp (page 98, lines 1-25 for having a code version for the manufacturer's software, and page 55, lines 1-25 for means to look up information by time stamps for schedule).

Claims 5-6 and 17, lack an inventive step under PCT Article 33(3) as being obvious over Hunter in view of Chai et al, hereinafter Chai.

Regarding Claim 5, Hunter teaches wherein the querying of the statistics content provider query the application (page 87, line 45 to page 88, line 15 for having available package data). Hunter does not explicitly teach to return the package size. Chai has method to provide gift media (abstract) and teaches to return the package size information (paragraph 51 for returning software or application package size information for a module associated with an ASIC for certain operations). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the size data as taught by Chai in the reporting method of Hunter in order to determine a composite score based on reach, influence, and engagement (Chai, paragraph 51).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055321

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding Claim 6, Hunter teaches wherein the querying of the statistics content provider causes the application to return the size of user data associated with the application (page 70, lines 35-45 for having a data and configuration repository that has setting for application data and tracks storage limits for applications using disk space based on user preferences). Hunter does not explicitly teach package size. Chai has method to provide gift media (abstract) and teaches the package size (paragraph 51 for returning software or application package size information for a module associated with an ASIC for certain operations). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the size data as taught by Chai in the reporting method of Hunter in order to determine a composite score based on reach, influence, and engagement (Chai, paragraph 51).

Regarding Claim 17, Hunter discloses wherein the query causes the application to return package data (page 87, line 45 to page 88, line 15 for having available package data). Hunter does not explicitly teach to return the at least one of the package size and the size of user data. Chai has method to provide gift media (abstract) and teaches to return the at least one of the package size and the size of user data (paragraph 51 for returning software or application package size information for a module associated with an ASIC for certain operations). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the size data as taught by Chai in the reporting method of Hunter in order to determine a composite score based on reach, influence, and engagement (Chai, paragraph 51).

Claims 8-11 and 18-20 lack an inventive step under PCT Article 33(3) as being obvious over Hunter in view of Sant' Anselmo.

Regarding Claim 8, Hunter teaches wherein creating the report (figure 94 element a content provider application that has access the entitlements cache and the metadata element 232 and page185, lines 1-10 for reporting information on metadata such as usage), further comprising: generating a serial number (page 186, lines 20-50 for having unique identifiers for accessing metadata); and storing the report in a data storage associated with the television (page 185 lines 1-10 for compiling a usage report and claim 122 for having previous usage statistics or means to store the usage statics for the media content as well as page 15, lines 20-26 for the media client device element 130 having local storage and an interface to the content provider element 1000). Hunter does not explicitly teach incorporating the serial number into the report. Sant' Anselmo has a computer having a time retrieval unit to connect to an official time provider (abstract) and teaches incorporating the serial number into the report (paragraph 243 for embedding a serial number into the machine readable data and paragraph 146 for printing the identifier into the body of the document). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifiers as taught by Sant' Anselmo in the reporting method of Hunter in order to electronically transmit the data by direct quick application (Sant' Anselmo, paragraph 146).

Regarding Claim 9, Hunter teaches retrieving the report from the storage (page 185 lines 1-10 for compiling a usage report and claim 122 for having previous usage statistics or means to store the usage statics for the media content as well as page 15, lines 20-26 for the media client device element 130 having local storage and a content provide application that interfaces with the content provider element 1000); and sending the report to a remote server (page 185 for sending the usage report that has been compiled to the content provider or a remote server and figure 94, element 130 connecting to the remote content provider element 1000).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055321

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding Claim 10, Hunter teaches upon successfully delivering the report to the remote server (page 185 for sending the usage report that has been compiled to the content provider or a remote server and figure 94, element 130 connecting to the remote content provider element 1000). Hunter does not explicitly teach deleting the report. Sant' Anselmo has a computer having a time retrieval unit to connect to an official time provider (abstract) and teaches deleting the report (paragraph 150 for using the method with both internet and non-internet document control systems that include file management processes, and paragraph 446 for shredding the document or deleting a document and using software to timestamp the document prior to ejection). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifiers as taught by Sant' Anselmo in the reporting method of Hunter in order to electronically transmit the data by direct quick application (Sant' Anselmo, paragraph 146).

Regarding Claim 11, Hunter teaches upon determining the free space of the storage is below a threshold (page 70, lines 10-25 for having an application manager that handles the lifecycle of applications by monitoring the amount of memory used and releasing memory after an application has terminated to ensure the stability of the device). Hunter does not explicitly teach deleting a first report stored in the storage with a prior serial number than a second report stored in the storage. Sant' Anselmo has a computer having a time retrieval unit to connect to an official time provider (abstract) and teaches deleting a first report stored in the storage (paragraph 150 for using the method with both internet and non-internet document control systems that include file management processes, and paragraph 446 for shredding the document or deleting a document and using software to timestamp the document prior to ejection) with a prior serial number than a second report stored in the storage (paragraph 472 for automatically activating time stamped documents it would be obvious to deavtivate or delete a document by the same process, and ordering documents and paragraphs 478-486 for ordering documents by indentifiers such as time stamps). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifiers as taught by Sant' Anselmo in the reporting method of Hunter in order to electronically transmit the data by direct quick application (Sant' Anselmo, paragraph 146).

Regarding Claim 18, Hunter teaches method, comprising: querying an application manager of a television (figure 94 for having a content provider application and page 38, lines 20-30 for logging usage for channels, along with claim 122 for using usage statistics along with page 167, lines 25-35 for having means to query the metadata associated with a fragment with figure 94 for having an content provider application with an interface to the content provider element 1000 on the user device element 130), the application manager having records of a number of applications of the television (page 70, lines 10-25 for having an application manager that handles the lifecycle of applications including priorities and reducing delays for launching the application or having records of the running applications); returning, by the application manager, indicia associated with currently installed applications (page 73 lines 10-25 for having software updates that include the Application Program Interface version number or indicia associated with the application interface). Hunter does not explicitly teach and returning, by the application manager, indicia associated with removed applications. Sant' Anselmo has a computer having a time retrieval unit to connect to an official time provider (abstract) and teaches and returning, by the application manager, indicia associated with removed applications (paragraph 490 for using the identifier process with internet applications for usage with, paragraph 492 for having the identifier expire after a certain period of time or be removed, paragraphs 481-486 for organizing and retrieving documents using identifiers). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifiers as taught by Sant' Anselmo in the reporting method of Hunter in order to time stamp the usage of applications (Sant' Anselmo, paragraph 480).

Regarding Claim 19, Hunter teaches the method as shown above. Hunter does not explicitly teach returning, by the application manager, a last used timestamp of the at least one application. Sant' Anselmo has a computer having a time retrieval unit to connect to an official time provider (abstract) and teaches teach returning, by the application manager, a last used timestamp of the at least one application (paragraph 490 for using the identifier process with internet applications for usage with, paragraph 492 for having the identifier expire after a certain period of time or be removed using the identifier of the time stamp, paragraphs 481-486 for organizing and retrieving documents using identifiers). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifiers as taught by Sant' Anselmo in the reporting method of Hunter in order to time stamp the usage of applications (Sant' Anselmo, paragraph 480).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055321

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding Claim 20, Hunter teaches storing in a data storage of the television (page 185 lines 1-10 for compiling a usage report and claim 122 for having previous usage statistics or means to store the usage statics for the media content as well as page 15, lines 20-26 for the media client device element 130 having local storage and a content provide application that interfaces with the content provider element 1000). Hunter does not explicitly teach a report comprising the query results and a serial number of the report. Sant' Anselmo has a computer having a time retrieval unit to connect to an official time provider (abstract) and a report comprising the query results and a serial number of the report (paragraph 243 for embedding a serial number into the machine readable data and paragraph 146 for printing the identifier into the body of the document with paragraph 441 for using the system with searches). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifiers as taught by Sant' Anselmo in the reporting method of Hunter in order to electronically transmit the data by direct quick application (Sant' Anselmo, paragraph 146).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: **100101**

A0601,Huibin Building
No.8,Beichen Dong(East) Street Chao Yang District Beijing,China

LIU，SHEN&ASSOCIATES

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* **21 Nov. 2013 (21.11.2013)**
Applicant's or agent's file reference **F13W4861**	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. **PCT/CN2013/081630**	International filing date *(day/month/year)* **16 Aug. 2013(16.08.2013)**
Applicant **FLEXTRONICS AP, LLC et al.**	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20,Switzerland, Facsimile No.:+41 22 338 82 70

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
   - ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
   - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later);otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088	Authorized officer **KANG, Kai**
Facsimile No. (86-10)62019451	Telephone No. (86-10)**62413998**

Form PCT/ISA/220 (July 2009) *(See notes on accompanying sheet)*

EX. 1002
LG Electronics, Inc. / Page 3357 of 3523

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under Article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*.

In these Notes, "Article," "Rule" and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report and the written opinion of the International Searching Authority, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only (see *PCT Applicant's Guide*).

The attention of the applicant is drawn to the fact that amendments to the claims under Article 19 are not allowed where the International Searching Authority has declared, under Article 17(2), that no international search report would be established (see *PCT Applicant's Guide*, paragraph 296).

What parts of the international application may be amended ?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Preliminary Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When ? Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments ?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How ? Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet or sheets containing a complete set of claims in replacement of all the claims previously filed must be submitted.

Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively in Arabic numerals (Section 205(a)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments ?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

(i) the claim is unchanged;
(ii) the claim is cancelled;
(iii) the claim is new;
(iv) the claim replaces one or more claims as filed;
(v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

If a demand for international preliminary examination is made, the written opinion of the International Searching Authority will, except in certain cases where the International Preliminary Examining Authority did not act as International Searching Authority and where it has notified the International Bureau under Rule 66.1*bis*(b), be considered to be a written opinion of the International Preliminary Examining Authority. If a demand is made, the applicant may submit to the International Preliminary Examining Authority a reply to the written opinion together, where appropriate, with amendments before the expiration of 3 months from the date of mailing of FormPCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later (Rule 43*bis*.1(c)).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.
For further details on the requirements of each designated/elected Office, see the *PCT Applicant's Guide* , National Chapters.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
F13W4861		
International application No.	International filing date *(day/month/year)*	(Earliest)Priority date *(day/month/year)*
PCT/CN2013/081630	16 Aug. 2013(16.08.2013)	17 Aug. 2012(17.08.2012)
Applicant		
FLEXTRONICS AP, LLC et al.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and /or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

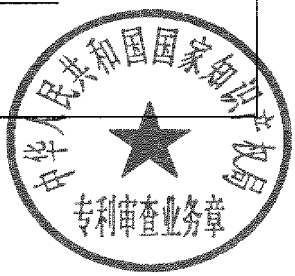
a. The figure of the **drawings** to be published with the abstract is Figure No. 16A

☐ as suggested by the applicant

☒ as selected by this Authority, because the applicant failed to suggest a figure

☐ as selected by this Authority, because this figure better characterizes the invention

b. ☐ none of the figures is to be published with the abstract



Form PCT/ISA/210(first sheet)(July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2013/081630

A. CLASSIFICATION OF SUBJECT MATTER

See the extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: H04N, H04H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT, CNKI, EPODOC, WPI, IEEE:

EPG, program????, guide, favorite, reminder, list, channel, add, new, delete, remove, clear, user?

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 101472102 A (KONKA GROUP CO., LTD.) 01 July 2009(01.07.2009) description, page 1, last three paragraphs, page 2, paragraphs 8-9, page 4, paragraphs 19-21 figure 2	1,6-9,14-16,19-20
Y		2-5,10-13,17-18
Y	CN 1832534 A (SHENZHEN DIWEITE DIGITAL VIDEO TECHNOLOG CORP.) 13 September 2006(13.09.2006) abstract	2-5,10-13,17-18
A	US 2001/0010097 A1 (LEE, Kyuheon) 26 July 2001(26.07.2001) the whole document	1-20
A	US 2003/0225777 A1 (MARSH, David J.) 04 December 2003(04.12.2003) the whole document	1-20

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
02 November 2013	**21 Nov. 2013 (21.11.2013)**
Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Authorized officer KANG, Kai Telephone No. (86-10)62413998

Form PCT/ISA /210 (second sheet) (July 2009)

EX. 1002
LG Electronics, Inc. / Page 3361 of 3523

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2013/081630

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 101472102 A	01.07.2009	None	
CN 1832534 A	13.09.2006	None	
US 2001/0010097 A1	26.07.2001	KR 2001-0073903 A	03.08.2001
US 2003/0225777 A1	04.12.2003	None	

Form PCT/ISA /210 (patent family annex) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2013/081630

A. CLASSIFICATION OF SUBJECT MATTER

H04H 60/72 (2008.01) i

H04N 5/445 (2011.01) i

Form PCT/ISA /210 (extra sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

100101

A0601,Huibin Building No.8,Beichen Dong(East) Street Chao Yang District Beijing,China

LIU, SHEN&ASSOCIATES

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43 *bis*.1)

Date of mailing *(day/month/year)*	21 Nov. 2013 (21.11.2013)
Applicant's or agent's file reference: F13W4861	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/CN2013/081630	16 Aug. 2013(16.08.2013)	17 Aug. 2012(17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
See the Supplemental Box

Applicant
FLEXTRONICS AP, LLC et al.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No.II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No.VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No.VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of **3** months from the date of mailing of Form PCT/ISA/220 or before the expiration of **22** months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/CN	Date of completion of this opinion	Authorized officer
The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	12 Nov. 2013 (12.11.2013)	KANG, Kai Telephone No. (86-10)62413998

Form PCT/ISA/237(cover sheet)(July 2009)

EX. 1002
LG Electronics, Inc. / Page 3364 of 3523

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/CN2013/081630

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.
   ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91(Rule 43bis.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application ,this opinion has been established on the basis of :

   a. a sequence listing filed or furnished
      ☐ on paper
      ☐ in electronic form

   b. time of filing or furnishing
      ☐ contained in the applicant as filed
      ☐ filed together with the application in electronic form
      ☐ furnished subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/CN2013/081630

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement:

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations

Reference is made to the following documents:

D1: CN 101472102 A, 01 July 2009(01.07.2009);

D2: CN 1832534 A, 13 September 2006(13.09.2006).

I. Novelty and Inventive step

Claim 1 claims a method of presenting EPG, the document D1 is regarded as the closest prior art to the subject-matter of claim 1, and discloses (see description, page 1, last three paragraphs, figure 2): analyzing the information in EPGs (displaying a EPG on TV means presenting live television content and programming guide, and the programming guide comprising channels and programs), indicating the favorite program of users; adding the favorite program to a remind list; displaying the remind to the user when the program will begin in a predetermined time. The document D1 also discloses (see description, page 2, paragraphs 8-9): searching the EPG by the name of a program. The subject-matter of claim 1 therefore differs from D1 in that: 1. receiving a selection from a user indicating a reminder or a favorite; 2. searching the programming guide by channel; 3. removing the reminder dialog. The subject-matter of claim 1 is therefore novel (Article 33(2) PCT). Claims 2-8 are dependent on claim 1, and as such are also novel (Article 33(2) PCT). However, the document D1 also discloses (see description, page 4, paragraphs 19-21): setting the reminder list automatically, so the users don't have to manually set, which implies the users need to select the reminder in the prior arts. Therefore, it would be obvious to the person skilled in the art to receiving a selection from a user indicating a reminder or a favorite before set the reminder list. Channel and name are common information of a program, searching a program by channel or name is widely used. At last, it's well-known that a dialog should be removed when the users had already seen it, and it would be obvious to the person skilled in the art to remove the dialog when the users select a future program, or the users cancel the dialog, or on user input occurrences with in a predetermined time. The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Claims 2-5 are dependent on claim 1, further comprises setting or clearing the favorite of programs already favorite or not favorite. The document D2 discloses (see abstract): the users can set or clear the favorite list conveniently. D2 discloses setting or clearing the favorite list to maintenance the favorite list. It would be obvious for the person skilled in the art to apply the teaching of D2 to D1. Therefore, the subject matter of claims 2-5 cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 6 is dependent on claim 1. Document D1 already discloses displaying a reminder dialog when the program will begin with a predetermined time (see description, page 1, last three paragraphs, figure 2), and searching the matched program by name (see description, page 2, paragraphs 8-9). Document D1 fail to disclose searching by channel; however, searching a program by channel or name is widely used. The solution proposed in claim 6 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 7 is dependent on claim 6. It would be obvious to the person skilled in the art to store the reminder in data storage and delete the past reminder. The solution proposed in claim 7 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 8 is dependent on claim 1. It would be obvious to the person skilled in the art to search a program by time of day. The solution proposed in claim 8 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

See the Supplemental Box

EX. 1002
LG Electronics, Inc. / Page 3366 of 3523

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**

Continuation of : Citations and explanations

Claim 9 claims a television, the document D1 is regarded as the closest prior art to the subject-matter of claim 9, and discloses (see description, page 1, last three paragraphs, figure 2): analyzing the information in EPGs (displaying a EPG on TV means presenting live television content and programming guide, and the programming guide comprising channels and programs), indicating the favorite program of users; adding the favorite program to a remind list; displaying the remind to the user when the program will begin in a predetermined time. The document D1 also discloses (see description, page 2, paragraphs 8-9): searching the EPG by the name of a program. The subject-matter of claim 9 therefore differs from D1 in that: 1.processor and storage; 2. receiving a selection from a user indicating a reminder or a favorite; 3. searching the programming guide by channel; 4. removing the reminder dialog. The subject-matter of claim 9 is therefore novel (Article 33(2) PCT). Claims 10-15 are dependent on claim 9, and as such are also novel (Article 33(2) PCT). However, the document D1 also discloses (see description, page 4, paragraphs 19-21): setting the reminder list automatically, so the users don't have to manually set, which implies the users need to select the reminder in the prior arts. Therefore, it would be obvious to the person skilled in the art to receiving a selection from a user indicating a reminder or a favorite before set the reminder list. Channel and name are common information of a program, searching a program by channel or name is widely used. It's well-known that a dialog should be removed when the users had already seen it, and it would be obvious to the person skilled in the art to remove the dialog when the users select a future program, or the users cancel the dialog, or on user input occurrences with in a predetermined time. At last, processor and storage are common parts of a television. The solution proposed in claim 9 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Claims 10-13 are dependent on claim 9, further comprises setting or clearing the favorite of programs already favorite or not favorite. The document D2 discloses (see abstract): the users can set or clear the favorite list conveniently. D2 discloses setting or clearing the favorite list to maintenance the favorite list. It would be obvious for the person skilled in the art to apply the teaching of D2 to D1. Therefore, the subject matter of claims 10-13 cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 14 is dependent on claim 9. Document D1 already discloses displaying a reminder dialog when the program will begin with a predetermined time (see description, page 1, last three paragraphs, figure 2), and searching the matched program by name (see description, page 2, paragraphs 8-9). Document D1 fail to disclose searching by channel; however, searching a program by channel or name is widely used. The solution proposed in claim 14 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 15 is dependent on claim 14. It would be obvious to the person skilled in the art to store the reminder in data storage and delete the past reminder. The solution proposed in claim 15 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 16 claims a non-transitory medium with instructions, the instructions are correspoding to the method of claim 1 when executed, based on the opinion of claim 1, claim 6 is also novel (Article 33(2) PCT). But cannot be considered as involving an inventive step (Article 33(3) PCT). Claims 17-20 are dependent on claim 16, and as such are also novel (Article 33(2) PCT).

Claims 17-18 are dependent on claim 16, further comprises setting or clearing the favorite of programs already favorite or not favorite. The document D2 discloses (see abstract): the users can set or clear the favorite list conveniently. D2 discloses setting or clearing the favorite list to maintenance the favorite list. It would be obvious for the person skilled in the art to apply the teaching of D2 to D1. Therefore, the subject matter of claims 17-18 cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 19 is dependent on claim 18. It would be obvious to the person skilled in the art to store the reminder in data storage and delete the past reminder. The solution proposed in claim 19 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Claim 20 is dependent on claim 16. It would be obvious to the person skilled in the art to search a program by time of day. The solution proposed in claim 20 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

II. Industrial applicability

Claims 1-20 can find industrial applicability in the technical field of data printing, and thus meet the requirements of Article 33(4) PCT.

Continuation of : International Patent Classification (IPC) or both national classification and IPC

H04H 60/72 (2008.01) i

H04N 5/445 (2011.01) i

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: THAINE LENNOX-GENTLE
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* 29 NOV 2013
Applicant's or agent's file reference 6583-509-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US2013/055298	International filing date *(day/month/year)* 16 August 2013
Applicant FLEXTRONICS AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-509-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/055298	International filing date *(day/month/year)* 16 August 2013	(Earliest) Priority Date *(day/month/year)* 17 August 2012
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 34

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/055298

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 7/173 (2013.01)
USPC - 725/27
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06F 3/00; H04N 7/16, 173 (2013.01)
USPC -715/ 709, 738, 760; 725/27

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06F 3/00; H04N 7/16, 173 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Google, Orbit, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/0022309 A1 (BEGEJA et al) 24 January 2008 (24.01.2008) entire document	1-20
Y	US 2010/0180292 A1 (EPSTEIN e al) 15 July 2010 (15.07.2010) entire document	1-20
A	US 2011/0289419 A1 (YU et al) 24 November 2011 (24.11.2011) entire document	1-20
A	US 2012/0200574 A1 (HILL et al) 09 August 2012 (09.08.2012) entire document	1-20
A	WO 99/21308 A1 (MUGURA et al) 29 April 1999 (29.04.1999) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 November 2013	29 NOV 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: THAINE LENNOX-GENTLE
SHERIDAN ROSS P.C.
1560 BROADWAY
SUITE 1200
DENVER, CO 80202

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	29 NOV 2013

Applicant's or agent's file reference	**FOR FURTHER ACTION** See paragraph 2 below
6583-509-PCT	

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/055298	16 August 2013	17 August 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04N 7/173 (2013.01)
USPC - 725/27

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	11 November 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055298

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

   ☐ on paper

   ☐ in electronic form

   b. (time)

   ☐ in the international application as filed

   ☐ together with the international application in electronic form

   ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055298

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-20 lack an inventive step under PCT Article 33(3) as being obvious over Begeja et al., hereinafter referred to as Begeja in view of Epstein et al., hereinafter referred to as Epstein.

Regarding claims 1, 10, 19 Begeja discloses a method, comprising (a method for providing a personalized channel to a customer using a TV 236 and a set top box 332 to access broadcast channels over the network 230, abstract, fig.3, para 0041), a tangible, non-transitory computer readable medium having instructions stored thereon that, when executed by a processor, perform the method [claim 10] (fig.5 shows a processor element 502, a memory 504, [the memory includes instructions to be executed], para 0061, 0062)
a system, comprising: an intelligent television (TV) having a display and a tuner, wherein the tuner is configured to receive and convert broadcast content signals to be displayed by the display; an input device associated with the intelligent TV; a memory; and a microprocessor operable [claim 19] (a method for providing a personalized channel to a customer using a TV 236 and a set top box 332 to access broadcast channels over the network 230, and a remote control to allow the user to click on the desired programs, abstract, fig.3, para 0039, 0047; fig.5 shows a processor element 502, a memory 504, [the memory includes instructions to be executed], and includes input devices keyboard, mouse, para 0061, 0062):
detecting a first signal source change made at an intelligent television (TV) (fig.4 shows the step 450 wherein the method determines if the user provides a feedback, the feedback is a change of program, if the customer indicates changing to a movie program at step 450 then the result is "yes" and the method goes to step 410 then the users profile of interest is updated, para 0059, 0051; a customer using a TV 236 and a set top box 332 to access broadcast channels over the network 230 [TV accessing set top box and further a user is provided with an option provide feedback through the TV it is interpreted as intelligent television], fig.3, para 0041);
sending a first notification of the first signal source change detected to a live TV application (fig.4 shows at step 450 when a change is detected then the method proceeds to step 410 to update the user preferences in the users profile [updating the user profile upon a change of channel detection is interpreted as sending a first notification of the first signal source change], para 0059, 0051, 0052; a customer clicks through a plurality of channels quickly and further dwells on a particular channel for some time and further upon seeing a commercial clicks through a plurality of channels [interpreted as live TV application], para 0044), wherein the first notification includes first viewing information associated with the first signal source change (fig.4 shows at step 450 when a change is detected then the method proceeds to step 410 to update the user preferences in the users profile [updating the user preferences is interpreted as first viewing information associated], para 0059, 0051, 0052; fig.4 shows in step 430 the user profile is updated , if a viewer is watching a basketball game and the user is presented with an option of changing to another basketball games through the program guide, further the users feedback [first viewing information associated with the first signal source change] is determined if the user has changed to another channel, if yes this information is then used to update the users profile of interest, para 0055, 0056);
storing, in a memory associated with the intelligent TV, the first viewing information associated with the first signal source change (fig.3 shows a profile data base 350 [storing in a memory] at the service provider which stores users profile, para 0044; fig.4 shows in step 430 the user profile is updated , if a viewer is watching a basketball game and the user is presented with an option of changing to another basketball games through the program guide, further the users feedback [first viewing information associated with the first signal source change] is determined if the user has changed to another channel, if yes this information is then used to update the users profile of interest [the profile database 350 which includes the users profile is updated], para 0055, 0056);
and associating the first viewing information with a user of the intelligent TV (fig.4 shows in step 430 the user profile is updated , if a viewer is watching a basketball game and the user is presented with an option of changing to another basketball games through the program guide, further the users feedback is determined if the user has changed to another channel, if yes this information is then used to update the users profile of interest [updating the profile of a user based on the users feedback is interpreted as associating the first viewing information with a user], para 0055, 0056), but lacks the teaching of storing, in a memory associated with the intelligent TV, the first viewing information.
Epstein is in the field of a television widget running on a processor providing video images and identifying an operating state of the television (abstract) and teaches storing, in a memory associated with the intelligent TV, the information (fig.1 shows a TV 20 which includes a processor 72, a RAM 78, ROM 80 and a storage disc 92 for mass storage for storing large program files, para 0025; relevant videos are stored within the memory 82 or 90 in the television which are accessed, para 0037). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Epstein to incorporate storing, in a memory associated with the intelligent TV, the first viewing information into the invention of Begeja. The motivation would have been to provide a simple and less complex functionality mechanism for a television device to optimize user experience (see Epstein para 0020).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055298

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claims 2, 11, 20, Begeja further teaches wherein the first signal source change is made by the user (fig.4 shows the step 450 wherein the method determines if the user provides a feedback, the feedback is a change of program, if the customer indicates changing to a movie program at step 450 then the result is "yes" and the method goes to step 410 then the users profile of interest is updated, para 0059, 0051).

Regarding claims 3, 12, Begeja further teaches comprising: detecting a second signal source change made at the intelligent TV (a customer clicks through a plurality of channels and dwells for some time at a particular channel [first signal source change], and the again clicks through a plurality of channels quickly to another program channel [second signal source change], and the set top box gathers the information of the users viewing selections for each program channel for a period of time, para 0044; fig.4 shows the step 450 wherein the method determines if the user provides a feedback, the feedback is a change of program, if the customer indicates changing to a movie program at step 450 then the result is "yes" and the method goes to step 410 then the users profile of interest is updated, para 0059, 0051); sending a second notification of the second signal source change detected to the live TV application (fig.4 shows at step 450 when a change is detected then the method proceeds to step 410 to update the user preferences in the users profile [updating the user profile upon a change of channel detection is interpreted as sending a notification of the signal source change], para 0059, 0051, 0052; a customer clicks through a plurality of channels and dwells for some time at a particular channel [first signal source change], and the again clicks through a plurality of channels quickly to another program channel [second signal source change], and the set top box gathers the information of the users viewing selections [a second notification of the second signal source change] for each program channel for a period of time, para 0044), wherein the second notification includes second viewing information associated with the second signal source change (fig.4 shows at step 450 when a change is detected then the method proceeds to step 410 to update the user preferences in the users profile [updating the user preferences is interpreted as first viewing information associated], para 0059, 0051, 0052; a customer clicks through a plurality of channels and dwells for some time at a particular channel [first signal source change], and the again clicks through a plurality of channels quickly to another program channel [second signal source change], and the set top box gathers the information of the users viewing selections [second viewing information] for each program channel for a period of time, para 0044); storing, in the memory, the second viewing information associated with the second signal source change (a customer clicks through a plurality of channels and dwells for some time at a particular channel [first signal source change], and the again clicks through a plurality of channels quickly to another program channel [second signal source change], and the set top box gathers the information [storing, in the memory the second viewing] of the users viewing selections for each program channel for a period of time, para 0044;fig.3 shows a profile data base 350 [storing in a memory] at the service provider which stores users profile, para 0044; fig.4 shows in step 430 the user profile is updated , if a viewer is watching a basketball game and the user is presented with an option of changing to another basketball games through the program guide, para 0055, 0056); and associating the second viewing information with the user of the intelligent TV (a customer clicks through a plurality of channels and dwells for some time at a particular channel [first signal source change], and the again clicks through a plurality of channels quickly to another program channel [second signal source change], and the set top box gathers the information [storing, in the memory the second viewing] of the users viewing selections for each program channel for a period of time and is used to determine the users interest in variety of programs [interpreted as associating the second viewing information with the user], para 0044), but lacks the teaching of storing, in the memory associated with the intelligent TV.
Epstein is in the field of a television widget running on a processor providing video images and identifying an operating state of the television (abstract) and teaches storing, in a memory associated with the intelligent TV, the information (fig.1 shows a TV 20 which includes a processor 72, a RAM 78, ROM 80 and a storage disc 92 for mass storage for storing large program files, para 0025; relevant videos are stored within the memory 82 or 90 in the television which are accessed, para 0037). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Epstein to incorporate storing, in a memory associated with the intelligent TV, the first viewing information into the invention of Begeja. The motivation would have been to provide a simple and less complex functionality mechanism for a television device to optimize user experience (see Epstein para 0020).

Regarding claims 4, 13, Begeja further teaches comprising: comparing, via a processor associated with the intelligent TV, the stored first viewing information with the stored second viewing information (a customer clicks through a plurality of channels and dwells for some time at a particular channel [first signal source change], and the again clicks through a plurality of channels quickly to another program channel [second signal source change], and the set top box gathers the information [storing, in the memory the second viewing] of the users viewing selections for each program channel for a period of time, para 0044; fig.4 shows a method 400 which at step 430 is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check is made and if the feedback is a change which is "yes" i.e. change in the current channel to another channel then the personalized user preferences data is updated [the step 450 to determine the feedback includes a new channel/change is interpreted as comparing], para 0055, 0056, 0059); and determining, via the processor, at least one match between the :first and second viewing information (fig.4 shows a method 400 which at step 430 is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check is made and if the feedback does not include a change which is "no" the process returns to step 460, further in step 450 the users feedback is noted, if the feedback is a change which is "yes" i.e. change in the current channel to another channel then the personalized user preferences data is updated [interpreted as a matching between first and second viewing information], para 0055, 0056, 0059).

Regarding claims 5, 14, Begeja further teaches comprising: determining, based at least partially on the determined at least one match, a user viewing behavior associated with the user (fig.4 shows a method 400 which at step 430 is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check is made and if the feedback does not include a change which is "no" the process returns to step 460, further in step 450 the users feedback is noted, if the feedback is a change which is "yes" i.e. change in the current channel to another channel then the personalized user preferences data is updated [interpreted as an user viewing behavior], para 0055, 0056, 0059).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/055298

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claims 6, 15, Begeja further teaches wherein the at least one match is at least one of a time associated with the first and second signal source change, a channel associated with the first and second signal source change (fig.4 shows a method 400 which at step 430 is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check is made and if the feedback does not include a change which is "no" the process returns to step 460, further in step 450 the users feedback is noted, if the feedback is a change which is "yes" i.e. change in the current channel to another channel [channel associated with first and second signal source change] then the personalized user preferences data is updated, para 0055, 0056, 0059), TV content associated with the first and second signal source change, and a viewing time of the TV content associated with the first and second signal source.

Regarding claims 7, 16, Begeja further teaches wherein detecting the first signal source change further comprises: setting a listener associated with the live TV application of the intelligent TV (fig.4 shows a method 400 which at step 430 is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check [interpreted as setting a listener] is made and if the feedback does not include a change which is "no" the process returns to step 460, further in step 450 the users feedback is noted, if the feedback is a change which is "yes" i.e. change in the current channel to another channel then the personalized user preferences data is updated, para 0055, 0056, 0059; a customer clicks through a plurality of channels quickly and further dwells on a particular channel for some time and further upon seeing a commercial clicks through a plurality of channels [interpreted as live TV application], para 0044); monitoring, via the listener, an event associated with at least one signal source of the intelligent TV, wherein the event includes changing from a first signal source to a second signal source of the intelligent TV (fig.4 shows a method 400 which at step 430 is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check [interpreted as setting a listener] is made and if the feedback does not include a change which is "no" the process returns to step 460, further in step 450 the users feedback is noted, if the feedback is a change which is "yes" i.e. change in the current channel to another channel [changing from a first signal source to a second signal source] then the personalized user preferences data is updated, para 0055, 0056, 0059) and identifying, via the live TV application, an occurrence of the event associated with the at least one signal source of the intelligent TV (fig.4 shows a method 400 which at step 430 is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check [interpreted as setting a listener] is made and if the feedback does not include a change which is "no" the process returns to step 460, further in step 450 the users feedback is noted, if the feedback is a change which is "yes" [identifying an occurrence of the event] i.e. change in the current channel to another channel [changing from a first signal source to a second signal source] then the personalized user preferences data is updated, para 0055, 0056, 0059).

Regarding claims 8, 17, Begeja further teaches wherein the first signal source corresponds to a first live TV channel and the second signal source corresponds to a second live TV channel (a customer clicks through a plurality of channels and dwells for some time at a particular channel [first signal source change], and the again clicks through a plurality of channels quickly [interpreted as live TV channels] to another program channel [second signal source change], and the set top box gathers the information [storing, in the memory the second viewing] of the users viewing selections for each program channel for a period of time, para 0044) .

Regarding claims 9, 18, Begeja further teaches wherein the listener is set automatically via the live TV application (fig.4 shows a method 400 which at step 430 a viewer is watching a basketball game and is presented with another program channel of interest to the user which the user may select, in step 450 the users feedback is noted, a feedback check [interpreted as setting a listener] is made and if the feedback does not include a change which is "no" the process returns to step 460, further in step 450 the users feedback is noted, if the feedback is a change which is "yes" i.e. change in the current channel to another channel then the personalized user preferences data is updated [as the updating is performed based on the users feedback for the live channels it is interpreted as listener is set via the live TV application], para 0055, 0056, 0059).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 6583-519-PCT	Date of mailing *(day/month/year)* 20 DEC 2013 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US13/55567	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)
Applicant Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-519-PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55567	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant FLEXTRONICS AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 7 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 15

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT PCT/US2013/055567 20.12.2013

International application No.
PCT/US13/55567

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01)
USPC - 725/037, 39; 348/14.07
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8):G06T 15/00; G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01); USPC: 345/419; 725/037, 39; 348/14.03, 14.07

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); ProQuest/DialogPro (Derwent, INSPEC, NTIS, PASCAL, Current Contents Search, Dissertation Abstracts Online, Inside Conferences); IP.com; Google Scholar; intelligent, tv, television, smart, panel, display, detect, location, transparent, opaque, overlay, background, menu, electronic, program, guide, EPG, plugin, source, application

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011/0276995 A1 (ALTEN, J et al.) November 10, 2011, paragraph [0022], paragraph [0099], paragraph [0084], paragraph [0081]	1-20
A	US 2006/0117337 A1 (SHIVAJI RAO, V et al.) June 1, 2006, entire document	1, 8 and 14
A	US 2012/0210355 A1 (KIM, U et al.) August 16, 2012, entire document	1, 8 and 14

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
2 November 2013 (02.11.2013)	20 DEC 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	20 DEC 2013
Applicant's or agent's file reference 6583-519-PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55567	19 August 2013 (19.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01)
USPC - 725/037, 39; 348/14.07

Applicant FLEXTRONICS AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	2 November 2013 (02.11.2013)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55567

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55567

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	NONE	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by US 2011/0276995 A1 to Alten et al. (hereinafter 'Alten').

As to claim 1, Alten discloses an EPG data service (electronic program guide to operate as a shell or window to provide the user with the capability to access other applications, paragraph [0022]) for an Intelligent TV (television receiver 27), comprising: a plurality of source plugins configured to receive EPG information from a plurality of respective EPG information sources (the electronic program guide (EPG) to operate as a shell or window to provide the user with the capability to access other applications (plugins) or information systems (information sources) which are not part of the electronic program guide application or data, paragraph [0022]); an EPG subservice configured to aggregate the EPG information received by the plurality of source plugins (Each of these keys indicates to the program schedule system a distinct user-created "Channel Preference" or "Favorite Channel" list, which is a listing of a specific subset (EPG subservice) of channels for a particular user, arranged in the sequential order that the user wishes to view during operation of the program schedule system, paragraph [0099]); an EPG database configured to store the aggregated EPG information from the EPG subservice (electronic program guide (EPG) application software updates, is stored in a read only memory (ROM) 17. The microcontroller 16 uses the received program schedule information to build a database (EPG database) by storing the data in appropriately organized records (aggregated EPG information), paragraph [0084]); and an EPG provider configured to provide a relevant portion of the aggregated EPG information to an application of the Intelligent TV (The data provider is a program information provider, the satellite uplink manager, a local cable operator, or a combination of these sources, and the data stream contains program schedule information for all television programs and other services available, paragraph [0081]).

As to claim 2, Alten discloses the EPG data service of claim 1, wherein the EPG database is configured to store the aggregated EPG information relevant to programs within a pre-defined time interval (The microcontroller 16 uses the received program schedule information to build a database by storing the data in appropriately organized records in dynamic random access memory (DRAM) 18. The stored schedule information can be updated on a periodic basis, such as hourly, daily or weekly, or at any time when changes in scheduling or other factors warrant an update, paragraph [0084]).

As to claim 3, Alten discloses the EPG data service of claim 1, wherein the aggregated EPG information comprises data fields that includes one or more of an identifier, a name description, a start date and/or time, and a duration (The schedule information presented includes the name of the program and program start/stop time, paragraph [0113]).

As to claim 4, Alten discloses the EPG data service of claim 1, further comprising a tag subservice configured to receive notification from a second application of the Intelligent TV to set or unset tags for programs or channels, store the tag in a database, and serve the EPG subservice with information regarding tagged programs or channels (The REMINDER message 130 (notification) queries the user as to whether the system should remind the user, at a predetermined time before the start of the selected program (tagged program), that he or she would like to view the selected program, as shown in FIG. 13. If the user responds affirmatively, the microcontroller 16 stores reminder data consisting of at least the channel, time and day of the selected program in a reminder buffer, which contains similar schedule information for all programs for which the user has set a reminder, paragraph [0115]).

As to claim 5, Alten discloses the EPG data service of claim 4, wherein, on startup of the Intelligent TV, the tag subservice is configured to reschedule alarms in an alarm manager of the Intelligent TV for programs or channels tagged as a reminder, wherein the alarm manager is configured to notify the tag subservice when a time for a scheduled reminder is reached, and wherein the tag subservice is configured to notify the second application regarding the scheduled reminder (The REMINDER message 130 (notification/alarm) queries the user as to whether the system should remind the user, at a predetermined time (time for a scheduled reminder) before the start of the selected program (tagged program), that he or she would like to view the selected program, as shown in FIG. 13. If the user responds affirmatively, the microcontroller 16 stores reminder data consisting of at least the channel, time and day of the selected program in a reminder buffer, which contains similar schedule information for all programs for which the user has set a reminder, paragraph [0115]).

As to claim 6, Alten discloses the EPG data service of claim 1, further comprising a thumbnail cache manager configured to store thumbnails in a database and serve the thumbnails to the application (All Listings icon (thumbnail) in the top horizontal bar 61 of FIG. 6 identifies a "Category Listing" mode in which program schedule information is displayed and categorized by program content, as shown in FIG. 19. The particular listing shown in FIG. 19 includes the categories of Movies, Sports, News and Children 190A-190D. The database record stored for each listing contains a content-specific identifier (icon/thumbnail) so the microcontroller can search the database and categorize the information by content for purposes of displaying it in the Category Listing mode, paragraph [0125]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55567

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claims 8, 12, and 18 contain the following defects in the form or contents thereof:

Claim 8, line 2, change "Intelligenttelevision" to "Intelligent Television".

Claim 12, line 2, delete "a".

Claim 18, line 3, delete "a".

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55567

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 4, 11-12, and 17 are objected to under PCT Article 6 as lacking clarity, because claim 4, 11-12, and 17 are indefinite for the following reason(s):

Claims 4, 11, and 17, lines 3, 3, and 5 respectively, "the tag" lacks antecedent basis. It is unclear which tag of the previously recited "tags" is intended.

Claim 12, lines 3-4, "the tag subservice" lacks antecedent basis.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55567

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

-***-Continued from Box V: Citations and Explanations-***-

As to claim 7, Alten discloses the EPG data service of claim 6, wherein the EPG subservice is configured to serve to the application a uniform resource identifier (URI) for each thumbnail in the aggregated EPG information, and wherein the thumbnail cache manager is configured to serve a thumbnail to the application based on the URI (The particular listing shown in FIG. 19 includes the categories of Movies, Sports, News and Children 190A-190D (EPG subservice). The database record stored for each listing contains a content-specific identifier so the microcontroller can search the database and categorize the information by content for purposes of displaying it in the Category Listing mode, paragraph [0125]).

As to claim 8, Alten discloses a method of managing Electronic Programming Guide (EPG) information (electronic program guide to operate as a shell or window to provide the user with the capability to access other applications, paragraph [0022]) for an Intelligent television (TV) (television receiver 27), comprising: receiving EPG information from a plurality of EPG sources (the electronic program guide (EPG) to operate as a shell or window to provide the user with the capability to access other applications or information systems (information sources) which are not part of the electronic program guide application or data, paragraph [0022]); aggregating the EPG information from the plurality of EPG sources (Each of these keys indicates to the program schedule system a distinct user-created "Channel Preference" or "Favorite Channel" list, which is a listing of a specific subset (EPG subservice) of channels for a particular user, arranged in the sequential order that the user wishes to view during operation of the program schedule system, paragraph [0099]); storing the aggregated EPG information in a database (electronic program guide (EPG) application software updates, is stored in a read only memory (ROM) 17. The microcontroller 16 uses the received program schedule information to build a database (EPG database) by storing the data in appropriately organized records (aggregated EPG information), paragraph [0084]); and providing a relevant portion of the aggregated EPG information to an application of the Intelligent TV (The data provider is a program information provider, the satellite uplink manager, a local cable operator, or a combination of these sources, and the data stream contains program schedule information for all television programs and other services available, paragraph [0081]).

As to claim 9, Alten discloses the method of claim 8, wherein the storing step comprises storing the aggregated EPG information relevant to programs within a pre-defined time interval (The microcontroller 16 uses the received program schedule information to build a database by storing the data in appropriately organized records in dynamic random access memory (DRAM) 18. The stored schedule information can be updated on a periodic basis, such as hourly, daily or weekly, or at any time when changes in scheduling or other factors warrant an update, paragraph [0084]).

As to claim 10, Alten discloses the method of claim 8, the aggregated EPG information comprises data fields that include one or more of an identifier, a name description, a start date and/or time, and a duration (The schedule information presented includes the name of the program and program start/stop time, paragraph [0113]).

As to claim 11, Alten discloses the method of claim 8, further comprising receiving notification from a second application of the Intelligent TV to set or unset tags for programs or channels, storing the tag in a second database, and retrieving EPG information from the database based on information regarding tagged programs or channels (The REMINDER message 130 (notification/alarm) queries the user as to whether the system should remind the user, at a predetermined time (time for a scheduled reminder) before the start of the selected program (tagged program), that he or she would like to view the selected program, as shown in FIG. 13. If the user responds affirmatively, the microcontroller 16 stores reminder data consisting of at least the channel, time and day of the selected program in a reminder buffer, which contains similar schedule information for all programs for which the user has set a reminder, paragraph [0115]).

As to claim 12, Alten discloses the method of claim 11, further comprising, on a startup of the Intelligent TV, rescheduling alarms in an alarm manager of the Intelligent TV for programs or channels tagged as a reminder, wherein the alarm manager is configured to notify the tag subservice when a time for a scheduled reminder is reached; and notifying the second application regarding the scheduled reminder (The REMINDER message 130 (notification/alarm) queries the user as to whether the system should remind the user, at a predetermined time (time for a scheduled reminder) before the start of the selected program (tagged program), that he or she would like to view the selected program, as shown in FIG. 13. If the user responds affirmatively, the microcontroller 16 stores reminder data consisting of at least the channel, time and day of the selected program in a reminder buffer, which contains similar schedule information for all programs for which the user has set a reminder, paragraph [0115]).

As to claim 13, Alten discloses the method of claim 8, further comprising serving to the application a uniform resource identifier (URI) for each thumbnail in the aggregated EPG information; and serving a thumbnail to the application based on the URI (The particular listing shown in FIG. 19 includes the categories of Movies, Sports, News and Children 190A-190D (EPG subservice). The database record stored for each listing contains a content-specific identifier so the microcontroller can search the database and categorize the information by content for purposes of displaying it in the Category Listing mode, paragraph [0125]).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55567

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As to claim 14, Alten discloses an Intelligent TV comprising an application configured to display EPG information on the Intelligent TV and an EPG data service, the EPG data service comprising (the television receiver or display (intelligent TV) of schedule information in any of the operating modes of the electronic program guide (EPG), paragraph [0171]): a plurality of source plugins configured to receive EPG information from a plurality of respective EPG information sources (the electronic program guide (EPG) to operate as a shell or window to provide the user with the capability to access other applications (plugins) or information systems (information sources) which are not part of the electronic program guide application or data, paragraph [0022]); an EPG subservice configured to aggregate the EPG information received by the plurality of source plugins (Each of these keys indicates to the program schedule system a distinct user-created "Channel Preference" or "Favorite Channel" list, which is a listing of a specific subset (EPG subservice) of channels for a particular user, arranged in the sequential order that the user wishes to view during operation of the program schedule system, paragraph [0099]); an EPG database configured to store the aggregated EPG information from the EPG subservice (electronic program guide (EPG) application software updates, is stored in a read only memory (ROM) 17. The microcontroller 16 uses the received program schedule information to build a database (EPG database) by storing the data in appropriately organized records (aggregated EPG information), paragraph [0084]); and an EPG provider configured to provide a relevant portion of the aggregated EPG information to the application (The data provider is a program information provider, the satellite uplink manager, a local cable operator, or a combination of these sources, and the data stream contains program schedule information for all television programs and other services available, paragraph [0081]).

As to claim 15, Alten discloses the Intelligent TV of claim 14, wherein the EPG database is configured to store the aggregated EPG information relevant to programs within a pre-defined time interval (The microcontroller 16 uses the received program schedule information to build a database by storing the data in appropriately organized records in dynamic random access memory (DRAM) 18. The stored schedule information can be updated on a periodic basis, such as hourly, daily or weekly, or at any time when changes in scheduling or other factors warrant an update, paragraph [0084]).

As to claim 16, Alten discloses the Intelligent TV of claim 14, wherein the aggregated EPG information comprises data fields that includes one or more of an identifier, a name description, a start date and/or time, and a duration (The schedule information presented includes the name of the program and program start/stop time, paragraph [0113]).

As to claim 17, Alten discloses the Intelligent TV of claim 14, further comprising a second application configured to output and receive user input regarding tags for programs and channels, wherein the EPG data service further comprises a tag subservice configured to receive notification from the second application to set or unset tags for programs or channels, store the tag in a database, and serve the EPG subservice with information regarding tagged programs or channels (The REMINDER message 130 (notification) queries the user as to whether the system should remind the user, at a predetermined time before the start of the selected program (tagged program), that he or she would like to view the selected program, as shown in FIG. 13. If the user responds affirmatively, the microcontroller 16 stores reminder data consisting of at least the channel, time and day of the selected program in a reminder buffer, which contains similar schedule information for all programs for which the user has set a reminder, paragraph [0115]).

As to claim 18, Alten discloses the Intelligent TV of claim 17, further comprising an alarm manager, wherein, on startup of the Intelligent TV, the tag subservice is configured to reschedule alarms in an alarm manager of the Intelligent TV for programs or channels tagged as a reminder, wherein the alarm manager is configured to notify the tag subservice when a time for a scheduled reminder is reached, and wherein the tag subservice is configured to notify the second application regarding the scheduled reminder (The REMINDER message 130 (notification/alarm) queries the user as to whether the system should remind the user, at a predetermined time (time for a scheduled reminder) before the start of the selected program (tagged program), that he or she would like to view the selected program, as shown in FIG. 13. If the user responds affirmatively, the microcontroller 16 stores reminder data consisting of at least the channel, time and day of the selected program in a reminder buffer, which contains similar schedule information for all programs for which the user has set a reminder, paragraph [0115]).

As to claim 19, Alten discloses the Intelligent TV of claim 14, wherein the EPG data service further comprises a thumbnail cache manager configured to store thumbnails in a database and serve the thumbnails to the application (All Listings icon (thumbnail) in the top horizontal bar 61 of FIG. 6 identifies a "Category Listing" mode in which program schedule information is displayed and categorized by program content, as shown in FIG. 19. The particular listing shown in FIG. 19 includes the categories of Movies, Sports, News and Children 190A-190D. The database record stored for each listing contains a content-specific identifier (icon/thumbnail) so the microcontroller can search the database and categorize the information by content for purposes of displaying it in the Category Listing mode, paragraph [0125]).

As to claim 20, Alten discloses the Intelligent TV of claim 19, wherein the EPG subservice is configured to serve to the application a uniform resource identifier (URI) for each thumbnail in the aggregated EPG information, and wherein the thumbnail cache manager is configured to serve a thumbnail to the application based on the URI (The particular listing shown in FIG. 19 includes the categories of Movies, Sports, News and Children 190A-190D (EPG subservice). The database record stored for each listing contains a content-specific identifier so the microcontroller can search the database and categorize the information by content for purposes of displaying it in the Category Listing mode, paragraph [0125]).

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

	Date of mailing *(day/month/year)* 22 NOV 2013
Applicant's or agent's file reference 6583-520-PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US13/55570	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)
Applicant Flextronics AP, LLC	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 Telephone No. PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2010)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6583-520-PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US13/55570	International filing date *(day/month/year)* 19 August 2013 (19.08.2013)	(Earliest) Priority Date *(day/month/year)* 17 August 2012 (17.08.2012)
Applicant Flextronics AP, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 17

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/55570

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01)
USPC - 725/037, 39, 40; 348/14.07
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06T 15/00; G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01); USPC: 345/419; 725/037, 39, 40; 348/14.03, 14.07

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); ProQuest/DialogPro (Derwent, INSPEC, NTIS, PASCAL, Current Contents Search, Dissertation Abstracts Online, Inside Conferences); IP.com; Google Scholar; intelligent, tv, television, smart, panel, display, detect, location, transparent, opaque, overlay, background, menu, electronic, program, guide, EPG, plugin, source, application, tag, favorite, shows, screen, channel

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7174126 B2 (MCELHATTEN, D et al.) February 6, 2007, Figure 23, Figure 31, Figure 24, column 16, lines 30-32, column 14, lines 7-8, column 32, lines 42-43, column 26, line 64 through column 27, line 4, column 17, lines 3-10	1-20
A	US 2011/0276995 A1 (ALTEN, J et al.) November 10, 2011, Figure 11, paragraph [0029], paragraph [0099], paragraph [0110], paragraph [0099], paragraph [0024]	1, 10 and 11
A	US 2006/0117337 A1 (SHIVAJI RAO, V et al.) June 1, 2006, entire document	1, 10 and 11
A	US 2012/0210355 A1 (KIM, U et al.) August 16, 2012, entire document	1, 10 and 11

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 November 2013 (11.11.2013)	22 NOV 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Yiu F. Au
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, Colorado 80202
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	22 NOV 2013
Applicant's or agent's file reference 6583-520-PCT	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US13/55570	19 August 2013 (19.08.2013)	17 August 2012 (17.08.2012)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06F 3/00, 13/00; H04N 5/445, 7/14 (2013.01)
USPC - 725/037, 39, 40; 348/14.07

Applicant Flextronics AP, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to th IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	11 November 2013 (11.11.2013)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55570

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55570

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	NONE	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by US 7,174,126 B2 McElhatten et al. (hereinafter "McElhatten").

As to claim 1, McElhatten discloses a method of displaying Electronic Programming Guide (EPG) information on an Intelligent television (TV), comprising: (accessing and locating the desired program from the interactive program guide (electronic programming guide EPG) is a menu including different reservation options for selections is displayed on the TV screen (intelligent television), column 16, lines 30-32 and column 14, lines 7-8) displaying an in-use portion on a screen of the Intelligent TV (GUI 1900 comprises window 1903 which displays thereon an in-progress HBO program, Figure 31, column 32, lines 42-43); and displaying a partial portion on the screen, comprising displaying a favorite channel portion showing EPG information for a plurality of favorite tagged channels (A channel may be designated as a "Favorite Channel" by selecting "Favorite Channels" from the Favorites menu 1420 or by pressing FAV key 980 of remote control 900. Once a user has defined one or more Favorite channels, the user can toggle interactive program guide 1020 to display only Favorite channels and re-toggle back to the full list of channels, Figure 24, column 26, line 64 through column 27, line 4) and a favorite show portion showing EPG information for a plurality of favorite tagged shows (Reserve GUI 5520 is displayed, providing the user with two reserve options (5530): (1) reserve the program, and (2) select a season pass. The program reserve option which is highlighted as the default choice enables a user to select a program to be added to a user's Favorite Show list which becomes available for viewing after the program has broadcast. Program guide 5510b is then redisplayed, Figure 23, column 17, lines 3-10).

As to claim 2, McElhatten discloses the method of claim 1, wherein the partial portion overlays the in-use portion (GUI 1900 comprises window 1903 (overlays) which displays thereon an in-progress HBO program, Figure 31, column 32, lines 42-43).

As to claim 3, McElhatten discloses the method of claim 1, wherein the in-use portion comprises a currently playing TV program (GUI 1900 comprises window 1903 which displays thereon an in-progress HBO program (currently playing TV program), Figure 31, column 32, lines 42-43).

As to claim 4, McElhatten discloses the method of claim 1, wherein the partial portion resizes the in-use portion (GUI 1900 comprises window 1903 (resized into smaller corner window) which displays thereon an in-progress HBO program (currently playing TV program), Figure 31, column 32, lines 42-43).

As to claim 5, McElhatten discloses the method of claim 1, wherein the plurality of favorite tagged shows is a plurality of shows that are currently airing (Users can reserve programs that are currently being broadcast while they are watching the program or from an interactive program guide, Figure 23, column 15, lines 37-42).

As to claim 6, McElhatten discloses the method of claim 1, wherein the partial portion is generated by an EPG display application of the Intelligent TV (GUI 1900 comprises window 1903 (overlays) which displays thereon an in-progress HBO program, Figure 31, column 32, lines 42-43).

As to claim 7, McElhatten discloses the method of claim 6, wherein the EPG display application is configured to retrieve the EPG information for the plurality of favorite tagged channels and the plurality of favorite tagged shows through an EPG subservice, wherein the EPG subservice is configured to retrieve channels and shows tagged as favorite through a tag subservice (By accessing Home GUI 1030, a user is prompted to select one of the programming features listed in menu 1110. By selecting Favorites feature 1410 of menu 1110, the user accesses Favorites submenu 1420 on Favorites GUI 1400 which offers several choices concerning the Favorites feature. For example, in this instance the user can choose from: creating a new profile, deleting an existing profile, adding parameters to an existing profile, finding favorite channels or shows and excluding channels, Figure 23, column 25, line 64 through column 26, line 6).

As to claim 8, McElhatten discloses the method of claim 7, wherein a second application is configured to set and clear favorite tags for channels and shows through the tag subservice (By selecting Favorites feature 1410 of menu 1110, the user accesses Favorites submenu 1420 on Favorites GUI 1400 which offers several choices concerning the Favorites feature. For example, in this instance the user can choose from: creating (set) a new profile, deleting (clear) an existing profile, adding parameters to an existing profile, finding favorite channels or shows and excluding channels, Figure 23, column 25, line 65 through column 26, line 6).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55570

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As to claim 9, McElhatten discloses the method of claim 6, wherein the EPG display is configured to retrieve and display thumbnails for channels and shows through a thumbnail cache manager, wherein uniform resource identifiers (URIs) for each thumbnail is in the EPG information retrieved through the EPG subservice, and wherein the thumbnail cache manager is configured to serve each thumbnail using the respective URI (Figure 31, What's Hot feature to reserve certain HBO programs (channel) through their promotional previews, the user may select a "What's Hot!" option, denoted 1925. Similar to a What's Hot preview, a thumbnail preview, denoted 1931, may be used to reserve the program (show) e.g., "The Gathering Storm" featured in the preview in advance of the broadcast of the program e.g., on April 27. To make such a reservation, the user may highlight and select preview 1931, Figure 31, column 32, line 63 through column 33, line 5).

As to claim 10, McElhatten discloses a display for an Intelligent television (TV), comprising a live TV display and an Electronic Programming Guide (EPG) display, the EPG display is positioned at a side of the live TV display (GUI 1900 comprises window 1903 which displays thereon an in-progress HBO program, Figure 31, column 32, lines 42-43) and comprising: a favorite channel portion showing EPG information for a plurality of favorite tagged channels (A channel may be designated as a "Favorite Channel" by selecting "Favorite Channels" from the Favorites menu 1420 or by pressing FAV key 980 of remote control 900. Once a user has defined one or more Favorite channels, the user can toggle interactive program guide 1020 to display only Favorite channels and re-toggle back to the full list of channels, Figure 24, column 26, line 64 through column 27, line 4); and a favorite show portion showing EPG information for a plurality of favorite tagged shows, wherein an EPG display application is configured to generate the EPG display portion and retrieve the EPG information for the plurality of favorite tagged channels and the plurality of favorite tagged shows through an EPG subservice, wherein the EPG subservice is configured to retrieve channels and shows tagged as favorite through a tag subservice (Reserve GUI 5520 is displayed, providing the user with two reserve options (5530): (1) reserve the program, and (2) select a season pass. The program reserve option which is highlighted as the default choice enables a user to select a program to be added to a user's Favorite Show list which becomes available for viewing after the program has broadcast. Program guide 5510b is then redisplayed, Figure 23, column 17, lines 3-10), and wherein a second application is configured to set and clear favorite tags for channels and shows through the tag subservice (By selecting Favorites feature 1410 of menu 1110, the user accesses Favorites submenu 1420 on Favorites GUI 1400 which offers several choices concerning the Favorites feature. For example, in this instance the user can choose from: creating (set) a new profile, deleting (clear) an existing profile, adding parameters to an existing profile, finding favorite channels or shows and excluding channels, column 25, line 65 through column 26, line 6).

As to claim 11, McElhatten discloses a display for an Intelligent television TV, comprising a partial-screen display on an in-use display of the Intelligent TV, the partial-screen display comprising a favorite channel portion showing Electronic Programming Guide EPG information for a plurality of favorite tagged channels (A channel may be designated as a "Favorite Channel" by selecting "Favorite Channels" from the Favorites menu 1420 or by pressing FAV key 980 of remote control 900. Once a user has defined one or more Favorite channels, the user can toggle interactive program guide 1020 to display only Favorite channels and re-toggle back to the full list of channels, Figure 24, column 26, line 64 through column 27, line 4) and a favorite show portion showing EPG information for a plurality of favorite tagged shows (Reserve GUI 5520 is displayed, providing the user with two reserve options (5530): (1) reserve the program, and (2) select a season pass. The program reserve option which is highlighted as the default choice enables a user to select a program to be added to a user's Favorite Show list which becomes available for viewing after the program has broadcast. Program guide 5510b is then redisplayed, Figure 23, column 17, lines 3-10).

As to claim 12, McElhatten discloses the EPG display of claim 11, wherein the partial-screen display overlays the in-use display of the Intelligent TV (GUI 1900 comprises window 1903 (overlays) which displays thereon an in-progress HBO program, Figure 31, column 32, lines 42-43).

As to claim 13, McElhatten discloses the EPG display of claim 11, wherein the in-use display comprises a currently playing TV program (GUI 1900 comprises window 1903 which displays thereon an in-progress HBO program (currently playing TV program), Figure 31, column 32, lines 42-43).

As to claim 14, McElhatten discloses the EPG display of claim 11, wherein the partial-screen display resizes the in-use display (GUI 1900 comprises window 1903 (resized into smaller corner window) which displays thereon an in-progress HBO program (currently playing TV program), Figure 31, column 32, lines 42-43).

As to claim 15, McElhatten discloses the EPG display of claim 11, wherein the plurality of favorite tagged shows is a plurality of shows that are currently airing (Users can reserve programs that are currently being broadcast while they are watching the program or from an interactive program guide, Figure 23, column 15, lines 37-42).

As to claim 16, McElhatten discloses the EPG display of claim 11, wherein an EPG display application is configured to generate the partial-screen display (GUI 1900 comprises window 1903 (overlays) which displays thereon an in-progress HBO program, Figure 31, column 32, lines 42-43).

As to claim 17, McElhatten discloses the EPG display of claim 16, wherein the EPG display application is configured to retrieve the EPG information for the plurality of favorite tagged channels and the plurality of favorite tagged shows through an EPG subservice, wherein the EPG subservice is configured to retrieve channels and shows tagged as favorite through a tag subservice (By accessing Home GUI 1030, a user is prompted to select one of the programming features listed in menu 1110. By selecting Favorites feature 1410 of menu 1110, the user accesses Favorites submenu 1420 on Favorites GUI 1400 which offers several choices concerning the Favorites feature. For example, in this instance the user can choose from: creating a new profile, deleting an existing profile, adding parameters to an existing profile, finding favorite channels or shows and excluding channels, Figure 23, column 25, line 64 through column 26, line 6).

-***-Continued Within the Next Supplemental Box-***-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US13/55570

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
-***-Continued from Previous Supplemental Box-***-

As to claim 18, McElhatten discloses the EPG display of claim 17, wherein a second application is configured to set and clear favorite tags for channels and shows through the tag subservice (By selecting Favorites feature 1410 of menu 1110, the user accesses Favorites submenu 1420 on Favorites GUI 1400 which offers several choices concerning the Favorites feature. For example, in this instance the user can choose from: creating (set) a new profile, deleting (clear) an existing profile, adding parameters to an existing profile, finding favorite channels or shows and excluding channels, Figure 23, column 25, line 65 through column 26, line 6).

As to claim 19, McElhatten discloses the EPG display of claim 16, wherein the EPG display application is configured to retrieve and display thumbnails for channels and shows through a thumbnail cache manager, wherein uniform resource identifiers (URIs) for each thumbnail is in the EPG information retrieved through the EPG subservice, and wherein the thumbnail cache manager is configured to serve each thumbnail using the respective URI (Figure 31, What's Hot feature to reserve certain HBO programs (channel) through their promotional previews, the user may select a "What's Hot!" option, denoted 1925. Similar to a What's Hot preview, a thumbnail preview, denoted 1931, may be used to reserve the program (show) e.g., "The Gathering Storm" featured in the preview in advance of the broadcast of the program e.g., on April 27. To make such a reservation, the user may highlight and select preview 1931, Figure 31, column 32, line 63 through column 33, line 5).

As to claim 20, McElhatten discloses a tangible and non-transient computer readable medium comprising microprocessor executable instructions that, when executed by the microprocessor, perform the steps of claim 1 (processor 109 while processing TV program 201 may locate the corresponding program guide data to create in real time the metadata file associated with TV program 201. The metadata file thus created includes such data as the title, rating, names of the producer, director, and actors, duration of the program, program type, etc, column 7, lines 5-12).

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

Electronic Acknowledgement Receipt

EFS ID:	18695386
Application Number:	13968884
International Application Number:	
Confirmation Number:	1062
Title of Invention:	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS
First Named Inventor/Applicant Name:	Mohammed Selim
Customer Number:	111285
Filer:	Douglas W. Swartz/Robert Roe-Pachirat
Filer Authorized By:	Douglas W. Swartz
Attorney Docket Number:	6583-445
Receipt Date:	07-APR-2014
Filing Date:	16-AUG-2013
Time Stamp:	17:30:04
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	Non Patent Literature	6583-487-PCT_ISR-WO_11-28-2013.pdf	718366 0f8c12e1bfc5b984f265ef84092014983076 41cc	no	10

Warnings:	
Information:	

2	Non Patent Literature	6583-488-PCT_ISR-WO_12-05-2013.pdf	473518 91b44a82ee37b5649f34be13ebfe1ee67116f6fd	no	8
Warnings:					
Information:					
3	Non Patent Literature	6583-489-PCT_ISR-WO_01-10-2014.pdf	681319 0ae32d0ad33aea52f184c38b6dd2dfd7713f6ad5	no	10
Warnings:					
Information:					
4	Non Patent Literature	6583-490-PCT_ISR-WO_11-13-2013.pdf	397458 2c0682afb521907316c6ed00e3ed72f1804913a8	no	9
Warnings:					
Information:					
5	Non Patent Literature	6583-491-PCT_ISR-WO_03-11-2014.pdf	421827 4c1c782f2029304d1d64aebe489394e16a86107d	no	8
Warnings:					
Information:					
6	Non Patent Literature	6583-492-PCT_ISR-WO_12-06-2013.pdf	351402 d8cf8457583907262af8e1a2ed8bc782b8f761ef	no	7
Warnings:					
Information:					
7	Non Patent Literature	6583-493-PCT_ISR-WO_11-08-2013.pdf	352023 03b4bbbd531dccb6b0707e88f6f87ae4ea8f117e	no	7
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Information:					
8	Non Patent Literature	6583-494-PCT_ISR-WO_03-10-2014.pdf	604754 f0d1e6ef4e78b612a2156731302f486d1ad06f21	no	10
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9	Non Patent Literature	6583-495-PCT_ISR-WO_03-04-2014.pdf	438222 92d1047f8faf7958749f2e7cb5c952f1f39c0644	no	7
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Information:					
10	Non Patent Literature	6583-496-PCT_ISR-WO_11-22-2013.pdf	389487 bf38477d820b0506c7175b186941665262dac91c	no	7
Warnings:					
Information:					

11	Non Patent Literature	6583-497-PCT_ISR-WO_12-06-2013.pdf	410723 006584e78faa845c5e005a88c00b1ac14a5a1ac1	no	8
Warnings:					
Information:					
12	Non Patent Literature	6583-498-PCT_ISR-WO_11-29-2013.pdf	407950 d6f7c0e0bdb8bb57b74c0a429c9bec1ef1553dc1	no	7
Warnings:					
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13	Non Patent Literature	6583-499-PCT_ISR-WO_12-05-2013.pdf	532094 e1d29b1d3b0b4610159830ca125e72be8e20416c	no	8
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Information:					
14	Non Patent Literature	6583-500-PCT_ISR-WO_11-12-2013.pdf	388530 c7130d43624edfcde1b0e36bb25b22242328d648	no	8
Warnings:					
Information:					
15	Non Patent Literature	6583-501-PCT_ISR-WO_03-10-2014.pdf	555137 1f3f7909542f1161039b44dc1a68e716325c11ab	no	9
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16	Non Patent Literature	6583-502-PCT_ISR-WO_01-24-2014.pdf	601510 1f4cf6f58e52111f04894e2a240a6bcaca39694c	no	9
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Information:					
17	Non Patent Literature	6583-503-PCT_ISR-WO_12-02-2013.pdf	645177 28adc34670d0db669c5b51151c5c9a91bbc3faf4	no	9
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18	Non Patent Literature	6583-504-PCT_ISR-WO_01-09-2014.pdf	584401 ef6db3b749b8b040720204186927f86ec68bfdeb	no	10
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Information:					
19	Non Patent Literature	6583-505-PCT_ISR-WO_03-11-2014.pdf	388550 2db3e38c742eef6a92473398c0e3d4a38f0ab622	no	7
Warnings:					
Information:					

20	Non Patent Literature	6583-506-PCT_ISR-WO_12-06-2013.pdf	463348 49292447fb7427af1df28cf0723baf2a7fea069c	no	9
Warnings:					
Information:					
21	Non Patent Literature	6583-507-PCT_ISR-WO_11-21-2013.pdf	737114 cd71f9e52f933a1e8b44f943d41543580fcd928f	no	11
Warnings:					
Information:					
22	Non Patent Literature	6583-509-PCT_ISR-WO_11-29-2013.pdf	532190 4ce372f45cab0daab5ba84c30717fe69fc4cd965	no	8
Warnings:					
Information:					
23	Non Patent Literature	6583-519-PCT_ISR-WO_12-20-2013.pdf	591817 35f58988546c84333c13045c863896a9a13a1c2c	no	10
Warnings:					
Information:					
24	Non Patent Literature	6583-520-PCT_ISR-WO_11-22-2013.pdf	475124 737058906109c9a2da5214c4bcf2508a31c1c5ea	no	8
Warnings:					
Information:					
25	Non Patent Literature	6583-425_OA_11-27-2013.pdf	610346 35acd0b77bdff61f8404a41dff229a7f924b0c15	no	17
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Information:					
26	Non Patent Literature	6583-469_OA_03-12-2014.pdf	385794 3914dcbf106dbd95a61366c78770b3824d35cde7	no	12
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		Total Files Size (in bytes):	13138181		

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New International Application Filed with the USPTO as a Receiving Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/968,884	08/16/2013	Mohammed Selim	6583-445

CONFIRMATION NO. 1062

111285
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, CO 80202

PUBLICATION NOTICE

OC000000066853809

Title:ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS

Publication No.US-2014-0059612-A1
Publication Date:02/27/2014

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/.

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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 http://pair.uspto.gov/. 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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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/968,884	08/16/2013	Mohammed Selim	6583-445

CONFIRMATION NO. 1062

111285
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, CO 80202

POA ACCEPTANCE LETTER

OC000000064999753

Date Mailed: 11/20/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/11/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/lchau/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/968,884

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	19 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 420 =	0.00
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).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1600

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/968,884	08/16/2013	2425	1740	6583-445	19	3

CONFIRMATION NO. 1062

UPDATED FILING RECEIPT

111285
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, CO 80202

OC00000064999788

Date Mailed: 11/20/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Mohammed Selim, Oakville, CANADA;

Applicant(s)

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Assignment For Published Patent Application

Flextronics AP, LLC, San Jose, CA

Power of Attorney: The patent practitioners associated with Customer Number 111285

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/684,672 08/17/2012
and claims benefit of 61/702,650 09/18/2012
and claims benefit of 61/697,710 09/06/2012
and claims benefit of 61/700,182 09/12/2012
and claims benefit of 61/736,692 12/13/2012
and claims benefit of 61/798,821 03/15/2013
and claims benefit of 61/804,942 03/25/2013
and claims benefit of 61/804,998 03/25/2013
and claims benefit of 61/804,971 03/25/2013
and claims benefit of 61/804,990 03/25/2013
and claims benefit of 61/805,003 03/25/2013
and claims benefit of 61/805,053 03/25/2013
and claims benefit of 61/805,030 03/25/2013
and claims benefit of 61/805,027 03/25/2013
and claims benefit of 61/805,042 03/25/2013
and claims benefit of 61/805,038 03/25/2013

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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If Required, Foreign Filing License Granted: 09/05/2013
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/968,884**
Projected Publication Date: 02/27/2014
Non-Publication Request: No
Early Publication Request: No
Title

ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS

Preliminary Class

725

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: Yes

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Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

Doc Code: PA..

Document Description: Power of Attorney

PTO/AIA/82A (07-12)

Approved for use through 11/30/2014. OMB 0651-0035

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 displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B or equivalent) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5. If the Power of Attorney by Applicant form is not accompanied by this transmittal form or an equivalent, the Power of Attorney will not be recognized in the application.

Application Number	13/968,884
Filing Date	August 16, 2013
First Named Inventor	Mohammed Selim
Title	On Screen Method and System for Changing Television Channels
Art Unit	2425
Examiner Name	Not yet assigned
Attorney Docket Number	6583-445

SIGNATURE of Applicant or Patent Practitioner

Signature	/Tadd F. Wilson/	Date	2013-11-11
Name	Tadd F. Wilson	Telephone	303-863-9700
Registration Number	54,544		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications.

■ *Total of 2 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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. **SEND TO: Commissioner for Patents, 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.

Doc Code: PA..

Document Description: Power of Attorney

PTO/AIA/82B(07-12)
Approved for use through 11/30/2014. OMB 0651-0035
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 displays a valid OMB control number.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in the attached transmittal letter.

☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

111285

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

Name	Registration Number	Name	Registration Number

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to:

☒ The address associated with the above-mentioned Customer Number.

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant:

☐ Inventor or Joint Inventor

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor

☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (*e.g.*, a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

SIGNATURE of Applicant for Patent

Signature	Timothy L. Stewart	Date	03/26/2013
Name	Timothy L. Stewart	Telephone	408-576-7746
Title and Company	Secretary, Flextronics AP, LLC		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below *

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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. SEND TO: **Commissioner for Patents, 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.

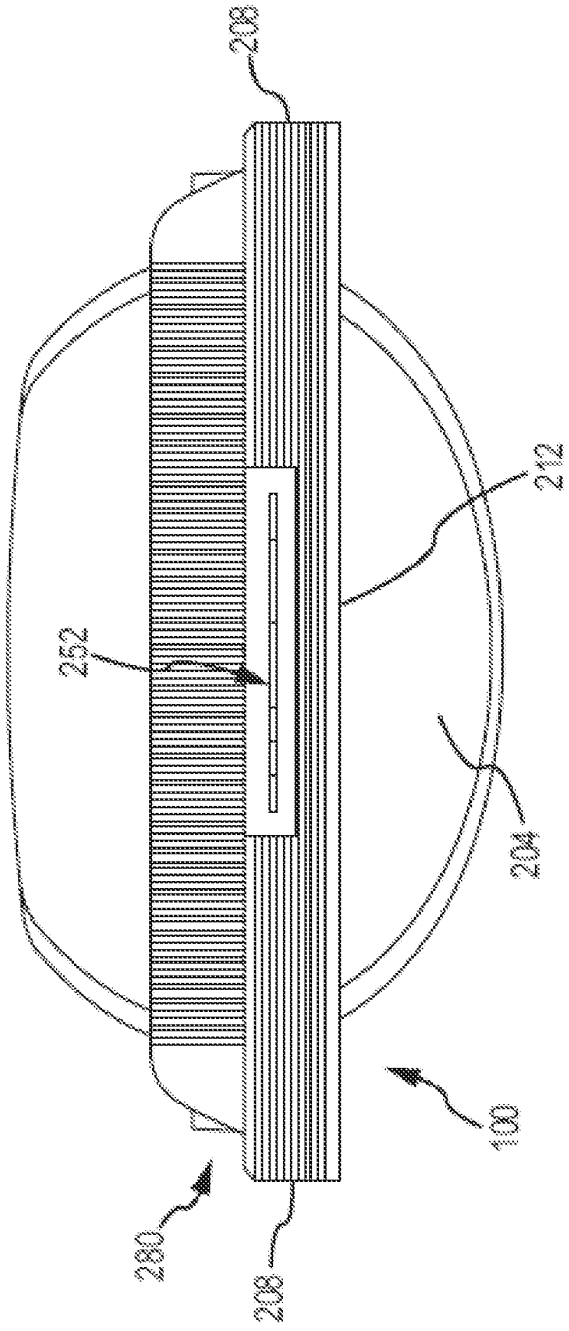


Fig. 2D

Electronic Acknowledgement Receipt

EFS ID:	17364762
Application Number:	13968884
International Application Number:	
Confirmation Number:	1062
Title of Invention:	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS
First Named Inventor/Applicant Name:	Mohammed Selim
Customer Number:	111285
Filer:	Tadd Fjelp Wilson/Amy Duarte
Filer Authorized By:	Tadd Fjelp Wilson
Attorney Docket Number:	6583-445
Receipt Date:	11-NOV-2013
Filing Date:	16-AUG-2013
Time Stamp:	14:08:39
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	Applicant Response to Pre-Exam Formalities Notice	Response_to_Corrected_Papers.pdf	111091 c81964aeb72d86f10a2c6cffd65fa06fca5da333	no	1

Warnings:	
Information:	

2	Oath or Declaration filed	Executed_Declaration-445.pdf	135594 92260858621018f9b8b1115316216798d67a8553	no	1
Warnings:					
Information:					
3	Power of Attorney	FlexAP_GenPOA.pdf	520553 778d7bcf8a40aa97e452ab48cb655740c7650a88	no	2
Warnings:					
Information:					
4	Drawings-only black and white line drawings	Replacement_Fig_2D.pdf	45325 45f571037c9acfead7b2418ee3f96bb5d55452fc	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	812563		

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.

<u>New Applications Under 35 U.S.C. 111</u>
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.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
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.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
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

In Re the Application of:	Group Art Unit: 2425
SELIM, Mohammed	Confirmation No.: 1062
Serial No.: 13/968,884	Examiner: Not yet assigned
Filed: August 16, 2013	
Atty. File No.: 6583-445	
Entitled: "ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS"	***Submitted Via EFS-Web***

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

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Dear Sir/Madam:

In response to the Notice to File Corrected Application Papers mailed September 9, 2013, in connection with the above-identified application, submitted herewith is a Replacement Sheet for Fig. 2D. Also submitted herewith is an executed Declaration by the inventor and a Power of Attorney.

Although no fees are believed to be due with this submission, please charge any underpayment or credit any overpayment to Deposit Account No. 19-1970.

Respectfully submitted,

SHERIDAN ROSS P.C.

By: /Tadd F. Wilson/
Tadd F. Wilson
Registration No. 54544
1560 Broadway, Suite 1200
Denver, Colorado 80202-5141
(303) 863-9700

Date: November 11, 2013

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
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 displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 13/968,884

filed on August 16, 2013.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Mohammed Selim Date (Optional) :

Signature:

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/968,884

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	19 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 420 =	0.00
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).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1600

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/968,884	08/16/2013	Mohammed Selim	6583-445

CONFIRMATION NO. 1062

111285
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, CO 80202

FORMALITIES LETTER

OC000000063605955

Date Mailed: 09/10/2013

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings are not in compliance with 37 CFR 1.84 because figures 2D contain figure or view numbers that have incorrect orientation. Reference characters, sheet numbers, and view numbers must be oriented in the same direction as the view. See 37 CFR 1.84(p)(1).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Items Required To Avoid Processing Delays:

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Mohammed Selim
  Applicant may submit the inventor's oath or declaration at any time before the Notice of Allowance and Fee(s) Due, PTOL-85, is mailed.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/ygizaw/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/968,884	08/16/2013	2425	1740	6583-445	19	3

CONFIRMATION NO. 1062

111285
Sheridan Ross P.C.
1560 Broadway
Suite 1200
Denver, CO 80202

FILING RECEIPT

OC000000063605954

Date Mailed: 09/10/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Mohammed Selim, Oakville, CANADA;

Applicant(s)

Flextronics AP, LLC, San Jose, CA

Assignment For Published Patent Application

Flextronics AP, LLC, San Jose, CA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/684,672 08/17/2012
and claims benefit of 61/702,650 09/18/2012
and claims benefit of 61/697,710 09/06/2012
and claims benefit of 61/700,182 09/12/2012
and claims benefit of 61/736,692 12/13/2012
and claims benefit of 61/798,821 03/15/2013
and claims benefit of 61/804,942 03/25/2013
and claims benefit of 61/804,998 03/25/2013
and claims benefit of 61/804,971 03/25/2013
and claims benefit of 61/804,990 03/25/2013
and claims benefit of 61/805,003 03/25/2013
and claims benefit of 61/805,053 03/25/2013
and claims benefit of 61/805,030 03/25/2013
and claims benefit of 61/805,027 03/25/2013
and claims benefit of 61/805,042 03/25/2013
and claims benefit of 61/805,038 03/25/2013

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 09/05/2013
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/968,884**
Projected Publication Date: To Be Determined - pending completion of Corrected Papers
Non-Publication Request: No
Early Publication Request: No
Title

ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS

Preliminary Class

725

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: Yes

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-445
	Application Number	
Title of Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Mohammed		Selim	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Oakville	Country of Residence i	CA

Mailing Address of Inventor:

Address 1	2488 Oakhaven Drive		
Address 2			
City	Oakville	**State/Province**	ON
Postal Code	L6M 4B9	**Country** i	CA

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	111285		
Email Address	flexpatents@sheridanross.com	Add Email	Remove Email

Application Information:

Title of the Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS		
Attorney Docket Number	6583-445	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	31	**Suggested Figure for Publication (if any)**	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-445
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Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	111285		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/684672	2012-08-17
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/702650	2012-09-18
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/697710	2012-09-06
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/700182	2012-09-12
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/736692	2012-12-13
Prior Application Status	Pending		Remove

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-445
	Application Number	
Title of Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS	

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/798821	2013-03-15
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/804942	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/804998	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/804971	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/804990	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/805003	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/805053	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/805030	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/805027	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/805042	2013-03-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/805038	2013-03-25
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.			Add

Foreign Priority Information:

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-445
	Application Number	
Title of Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS	

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) [i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Access Code [i] (if applicable)

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☒ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-445
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Title of Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. [X]

Organization Name	Flextronics AP, LLC		
Mailing Address Information:			
Address 1	6201 America Center Drive		
Address 2			
City	San Jose	**State/Province**	CA
Country [i]	US	Postal Code	95134
Phone Number		Fax Number	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-445
	Application Number	
Title of Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS	

Email Address	flexpatents@sheridanross.com

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).

Remove

If the Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/Thaine Lennox-Gentle/			Date (YYYY-MM-DD)	2013-08-16
First Name	Thaine	Last Name	Lennox-Gentle	Registration Number	65260

Additional Signature may be generated within this form by selecting the Add button. Add

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-445
	Application Number	
Title of Invention	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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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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.

ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS

CROSS REFERENCE TO RELATED APPLICATION

[0001] The present application claims the benefits of and priority, under 35 U.S.C. § 119(e), to U.S. Provisional Application Serial Nos. 61/684,672 filed August 17, 2012, "Smart TV"; 61/702,650 filed September 18, 2012, "Smart TV"; 61/697,710 filed September 6, 2012, "Social TV"; 61/700,182 filed September 12, 2012, "Social TV Roadmap"; 61/736,692 filed December 13, 2012, "SmartTV"; 61/798,821 filed March 15, 2013, "SmartTV"; 61/804,942 filed March 25, 2013, "SmartTV"; 61/804,998 filed March 25, 2013, "SmartTV"; 61/804,971 filed March 25, 2013, "SmartTV"; 61/804,990 filed March 25, 2013, "SmartTV"; 61/805,003 filed March 25, 2013, "SmartTV"; 61/805,053 filed March 25, 2013, "SmartTV"; 61/805,030 filed March 25, 2013, "SmartTV"; 61/805,027 filed March 25, 2013, "SmartTV"; 61/805,042 filed March 25, 2013, "SmartTV"; and 61/805,038 filed March 25, 2013, "SmartTV." Each of the aforementioned documents is incorporated herein by reference in their entirety for all that they teach and for all purposes.

BACKGROUND

[0002] Consolidation of device features or technological convergence is in an increasing trend. Technological convergence describes the tendency for different technological systems to evolve toward performing similar tasks. As people use more devices, the need to carry those devices, charge those devices, update software on those devices, etc. becomes more cumbersome. To compensate for these problems, technology companies have been integrating features from different devices into one or two multi-functional devices. For example, cellular phones are now capable of accessing the Internet, taking photographs, providing calendar functions, etc.

[0003] The consolidation trend is now affecting the design and functionality of devices generally used in the home. For example, audio receivers can access the Internet, digital video recorders can store or provide access to digital photographs, etc. The television in home audio/video systems remains a cornerstone device because the display function cannot be integrated into other devices. As such, consolidating home devices leads to integrating features and functionality into the television. The emergence of the Smart Television (Smart TV) is evidence of the trend to consolidate functionality into the television.

[0004] A Smart TV is generally conceived as a device that integrates access to the Internet and Web 2.0 features into television sets. The Smart TV represents the trend of technological

convergence between computers and television sets. The Smart TV generally focuses on online interactive media, Internet TV, on-demand streaming media, and generally does not focus on traditional broadcast media. Unfortunately, most Smart TVs have yet to provide seamless and intuitive user interfaces for navigating and/or executing the various features of the Smart TV. As such, there are still issues with the consolidation of features and the presentation of these features in Smart TVs.

SUMMARY

[0005] There is a need for an Intelligent TV with intuitive user interfaces and with seamless user interaction capability. These and other needs are addressed by the various aspects, embodiments, and/or configurations of the present disclosure. Also, while the disclosure is presented in terms of exemplary embodiments, it should be appreciated that individual aspects of the disclosure can be separately claimed.

[0006] A method is provided that can include the steps:

[0007] receiving, wirelessly by an infrared and/or radio frequency module of a television and from a remote control, a request to change a programming channel;

[0008] displaying, by a microprocessor executable application framework and on a television screen, an on screen channel changer, the on screen channel changer comprising electronic program guide ("EPG") information and a number input bar comprising digits;

[0009] receiving, by the application framework and from the remote control, a channel selection based on digits using the on screen channel changer; and

[0010] changing, by the application framework, to the selected channel.

[0011] A television is provided that can include:

[0012] a television screen;

[0013] a local computer readable medium;

[0014] an infrared and/or radio frequency module configured to receive wirelessly requests from a remote control of a user, the requests comprising a selected channel or program from a displayed listing; and

[0015] a microprocessor executable application framework configured to receive a request to change a programming channel, display, on the television screen, an on screen channel changer, the on screen channel changer comprising electronic program guide ("EPG") information and a

number input bar comprising digits, receive, from the remote control, a channel selection based on digits using the on screen channel changer, and change to the selected channel.

[0016] A tangible and non-transient computer readable medium is provided that includes microprocessor executable instructions that, when executed, are configured to perform operations that can include:

[0017] receive, from a remote control of a user, a request to change a programming channel;

[0018] display, on a television screen, an on screen channel changer, the on screen channel changer comprising electronic program guide ("EPG") information and a number input bar comprising digits;

[0019] receive, from the remote control, a channel selection based on digits using the on screen channel changer; and

[0020] change to the selected channel.

[0021] The digits can range from 0 to 9.

[0022] The remote control can select the digits using non-numeric keys.

[0023] The EPG information can correspond to multiple programs and/or channels.

[0024] The EPG information can comprise, for each program, airtime, program name, program channel, and program description.

[0025] Each of the digits can be selected using one or more arrow keys and a select button.

[0026] The remote control cannot have a key corresponding to each of the digits.

[0027] The on screen channel changer can include a thumbnail preview containing EPG information corresponding to an in focus channel and/or program and a graphical image.

[0028] The EPG information in the thumbnail preview can include, for the in focus channel and/or program, airtime, program name, program channel, and program description.

[0029] The graphical image in the thumbnail preview can be one of a captured frame of a program associated with the in focus program, a picture associated with the in focus program, and a photograph associated with the in focus program.

[0030] As the user selects each digit, the application framework can update the EPG information to include only those programs and/or channels selectable from the selected digits.

[0031] The EPG information and graphical image in the thumbnail preview can change as the in focus EPG information changes.

[0032] The present disclosure can provide a number of advantages depending on the particular aspect, embodiment, and/or configuration. The on screen channel changer can not only increase user convenience but also provide a quick interface to select channels. The absence of a number pad on the remote control can provide a simple, convenient, and compact handheld device for controlling television operations. The display of the graphical image provided by or derived from metadata associated with the programming can provide meaningful information without needing to wait for the channel change to be activated fully. This can improve the channel changing experience as all channels can show a full screen channel preview while tuning takes place. This can enable the user to flip quickly through channels to see what is on without needing to wait for the tuner to catch up. The header bar can provide further useful information during channel changing.

[0033] These and other advantages will be apparent from the disclosure.

[0034] The phrases "at least one", "one or more", and "and/or" are open-ended expressions that are both conjunctive and disjunctive in operation. For example, each of the expressions "at least one of A, B and C", "at least one of A, B, or C", "one or more of A, B, and C", "one or more of A, B, or C" and "A, B, and/or C" means A alone, B alone, C alone, A and B together, A and C together, B and C together, or A, B and C together.

[0035] The term "a" or "an" entity refers to one or more of that entity. As such, the terms "a" (or "an"), "one or more" and "at least one" can be used interchangeably herein. It is also to be noted that the terms "comprising", "including", and "having" can be used interchangeably.

[0036] The term "automatic" and variations thereof, as used herein, refers to any process or operation done without material human input when the process or operation is performed. However, a process or operation can be automatic, even though performance of the process or operation uses material or immaterial human input, if the input is received before performance of the process or operation. Human input is deemed to be material if such input influences how the process or operation will be performed. Human input that consents to the performance of the process or operation is not deemed to be "material."

[0037] A "blog" (a blend of the term ***web log***) is a type of website or part of a website supposed to be updated with new content from time to time. Blogs are usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse-chronological order.

[0038] A "blogging service" is a blog-publishing service that allows private or multi-user blogs with time-stamped entries.

[0039] The term "cable TV" refers to a system of distributing television programs to subscribers via radio frequency (RF) signals transmitted through coaxial cables or light pulses through fiber-optic cables. This contrasts with traditional broadcast television (terrestrial television) in which the television signal is transmitted over the air by radio waves and received by a television antenna attached to the television.

[0040] The term "channel" or "television channel," as used herein, can be a physical or virtual channel over which a television station or television network is distributed. A physical cannel in analog television can be an amount of bandwidth, typically 6, 7, or 8 MHz, that occupies a predetermine channel frequency. A virtual channel is a representation, in cable or satellite television, of a data stream for a particular television media provider (e.g., CDS, TNT, HBO, etc.).

[0041] The term "computer-readable medium," as used herein, refers to any tangible storage and/or transmission medium that participate in providing instructions to a processor for execution. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media includes, for example, NVRAM, or magnetic or optical disks. Volatile media includes dynamic memory, such as main memory. Common *form*s of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium, magneto-optical medium, a CD-ROM, any other optical medium, punch cards, paper tape, any other physical medium with patterns of holes, a RAM, a PROM, and EPROM, a FLASH-EPROM, a solid state medium like a memory card, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read. A digital file attachment to e-mail or other self-contained information archive or set of archives is considered a distribution medium equivalent to a tangible storage medium. When the computer-readable media is configured as a database, it is to be understood that the database may be any type of database, such as relational, hierarchical, object-oriented, and/or the like. Accordingly, the disclosure is considered to include a tangible storage medium or distribution medium and prior art-recognized equivalents and successor media, in which the software implementations of the present disclosure are stored.

[0042] The term "enhanced television" (ETV) refers to a collection of specifications developed under the OpenCable project of CableLabs (Cable Television Laboratories, Inc.) that define an ETV Application consisting of resources (files) adhering to the Enhanced TV Binary Interchange Format (EBIF) content format as well as PNG images, JPEG images, and PFR downloadable fonts. An ETV application is normally delivered through an MPEG transport stream and accompanies an MPEG program containing video and audio elementary streams. An "ETV Application" is a collection of resources (files) that include one or more EBIF resources that represent viewable information in the form of pages. Two forms of a given ETV Application may be distinguished: (1) an interchange form and (2) an execution form. The interchange form of an ETV Application consists of the resources (files) that represent the compiled application prior to its actual execution by an ETV User Agent. The execution form of an ETV Application consists of the stored, and possibly mutated forms of these resources while being decoded, presented, and executed by an ETV User Agent. An "ETV User Agent" is a software component that operates on a set-top box, a television, or any other computing environment capable of receiving, decoding, presenting, and processing an ETV Application. This component usually provides, along with its host hardware environment, one or more mechanisms for an end-user to navigate and interact with the multimedia content represented by ETV Applications.

[0043] The term "high-definition television" (HDTV) provides a resolution that is substantially higher than that of standard-definition television. HDTV may be transmitted in various formats, namely 1080p - 1920×1080p: 2,073,600 pixels (approximately 2.1 megapixels) per frame, 1080i (which is typically either 1920×1080i: 1,036,800 pixels (approximately 1 megapixel) per field or 2,073,600 pixels (approximately 2.1 megapixels) per frame or 1440×1080i:[1] 777,600 pixels (approximately 0.8 megapixels) per field or 1,555,200 pixels (approximately 1.6 megapixels) per frame), or 720p - 1280×720p: 921,600 pixels (approximately 0.9 megapixels) per frame. As will be appreciated, "frame size" in pixels is defined as number of horizontal pixels × number of vertical pixels, for example 1280 × 720 or 1920 × 1080. Often the number of horizontal pixels is implied from context and is omitted, as in the case of 720p and 1080p, "scanning system" is identified with the letter "p" for progressive scanning or "i" for interlaced scanning, and "frame rate" is identified as number of video frames per second. For interlaced systems an alternative form of specifying number of fields per second is often used. For purposes of this disclosure,

"high-definition television" is deemed to include other high-definition analog or digital video formats, including ultra high definition television.

[0044] The term "internet television" (otherwise known as Internet TV, Online Television, or Online TV) is the digital distribution of television content via the Internet. It should not be confused with Web television - short programs or videos created by a wide variety of companies and individuals, or Internet protocol television (IPTV) - an emerging internet technology standard for use by television broadcasters. Internet Television is a general term that covers the delivery of television shows and other video content over the internet by video streaming technology, typically by major traditional television broadcasters. It does not describe a technology used to deliver content (see Internet protocol television). Internet television has become very popular through services such as RTÉ Player in Ireland; BBC iPlayer, 4oD, ITV Player (also STV Player and UTV Player) and Demand Five in the United Kingdom; Hulu in the United States; Nederland 24 in the Netherlands; ABC iview and Australia Live TV in Australia; Tivibu in Turkey; and iWanTV! in the Philippines.

[0045] The term "internet protocol television" (IPTV) refers to a system through which television services are delivered using the Internet protocol suite over a packet-switched network such as the Internet, instead of being delivered through traditional terrestrial, satellite signal, and cable television formats. IPTV services may be classified into three main groups, namely live television, with or without interactivity related to the current TV show; time-shifted television: catch-up TV (replays a TV show that was broadcast hours or days ago), start-over TV (replays the current TV show from its beginning); and video on demand (VOD): browse a catalog of videos, not related to TV programming. IPTV is distinguished from Internet television by its on-going standardization process (e.g., European Telecommunications Standards Institute) and preferential deployment scenarios in subscriber-based telecommunications networks with high-speed access channels into end-user premises via set-top boxes or other customer-premises equipment.

[0046] The term "silo," as used herein, can be a logical representation of an input, source, or application. An input can be a device or devices (e.g., DVD, VCR, etc.) electrically connected to the television through a port (e.g., HDMI, video/audio inputs, etc.) or through a network (*e.g.*, LAN WAN, etc.). Rather than a device or devices, the input could be configured as an electrical or physical connection to one or more devices. A source, particularly a content source, can be a

data service that provides content (e.g., a media center, a file system, etc.). An application can be a software service that provides a particular type of function (e.g., Live TV, Video on Demand, User Applications, photograph display, etc.). The silo, as a logical representation, can have an associated definition or property, such as a setting, feature, or other characteristic.

[0047] The term "panel," as used herein, can mean a user interface displayed in at least a portion of the display. The panel may be interactive (e.g., accepts user input) or informational (e.g., does not accept user input). A panel may be translucent whereby the panel obscures but does not mask the underlying content being displayed in the display. Panels may be provided in response to a user input from a button or remote control interface.

[0048] The term "screen," as used herein, refers to a physical structure that includes one or more hardware components that provide the device with the ability to render a user interface and/or receive user input. A screen can encompass any combination of gesture capture region, a touch sensitive display, and/or a configurable area. The device can have one or more physical screens embedded in the hardware. However a screen may also include an external peripheral device that may be attached and detached from the device. In embodiments, multiple external devices may be attached to the device. For example, another screen may be included with a remote control unit that interfaces with the Intelligent TV.

[0049] The term "media" of "multimedia," as used herein, refers to content that may assume one of a combination of different content forms. Multimedia can include one or more of, but is not limited to, text, audio, still images, animation, video, or interactivity content forms.

[0050] The term "Intelligent TV," as used herein, refers to a television configured to provide one or more intuitive user interfaces and interactions based on a unique application platform and architecture. The Intelligent TV utilizes processing resources associated with the television to integrate Internet connectivity with parallel application functionality. This integration allows a user the ability to intuitively access various sources of media and content (e.g., Internet, over-the-top content, on-demand streaming media, over-the-air broadcast media, and/or other forms of information) via the Intelligent TV in a quick and efficient manner. Although the Intelligent TV disclosed herein may comprise one or more components of a "smart TV," it is an aspect of the Intelligent TV to provide expanded intuitive user interaction capability for navigating and executing the various features of the television. A "smart TV," sometimes referred to as a connected TV, or hybrid TV (not to be confused with IPTV, Internet TV, or with Web TV),

describes a trend of integration of the Internet and Web 2.0 features into television sets and set-top boxes, as well as the technological convergence between computers and these television sets/set-top boxes. The smart TV devices have a higher focus on online interactive media, Internet TV, over-the-top content, as well as on-demand streaming media, and less focus on traditional broadcast media than traditional television sets and set-top boxes. As can be appreciated, the Intelligent TV encompasses a broader range of technology than that of the smart TV defined above.

[0051] The term "television" is a telecommunication medium, device (or set) or set of associated devices, programming, and/or transmission for transmitting and receiving moving images that can be monochrome (black-and-white) or colored, with or without accompanying sound. Different countries use one of the three main video standards for TVs, namely PAL, NTSC or SECAM. Television is most commonly used for displaying broadcast television signals. The broadcast television system is typically disseminated via radio transmissions on designated channels in the 54–890 MHz frequency band. A common television set comprises multiple internal electronic circuits, including those for receiving and decoding broadcast signals. A visual display device which lacks a tuner is properly called a video monitor, rather than a television. A television may be different from other monitors or displays based on the distance maintained between the user and the television when the user watches the media and based on the inclusion of a tuner or other electronic circuit to receive the broadcast television signal.

[0052] The term "Live TV," as used herein, refers to a television production broadcast in real-time, as events happen, in the present.

[0053] The term "standard-definition television" (SDTV) is a television system that uses a resolution that is not considered to be either high-definition television (HDTV 720p and 1080p) or enhanced-definition television (EDTV 480p). The two common SDTV signal types are 576i, with 576 interlaced lines of resolution, derived from the European-developed PAL and SECAM systems; and 480i based on the American National Television System Committee NTSC system. In the US, digital SDTV is broadcast in the same 4:3 aspect ratio as NTSC signals. However, in other parts of the world that used the PAL or SECAM analog standards, standard-definition television is now usually shown with a 16:9 aspect ratio. Standards that support digital SDTV broadcast include DVB, ATSC and ISDB. Television signals are transmitted in digital form, and

their pixels have a rectangular shape, as opposed to square pixels that are used in modern computer monitors and modern implementations of HDTV. The table below summarizes pixel aspect ratios for various kinds of SDTV video signal. Note that the actual image (be it 4:3 or 16:9) is always contained in the center 704 horizontal pixels of the digital frame, regardless of how many horizontal pixels (704 or 720) are used. In case of digital video signal having 720 horizontal pixels, only the center 704 pixels contain actual 4:3 or 16:9 image, and the 8 pixel wide stripes from either side are called nominal analogue blanking and should be discarded before displaying the image. Nominal analogue blanking should not be confused with overscan, as overscan areas are part of the actual 4:3 or 16:9 image.

[0054] The term "video on demand (VOD)," as used herein, refers to systems and processes which allow users to select and watch/listen to video or audio content on demand. VOD systems may stream content, to view the content in real time, or download the content to a storage medium for viewing at a later time.

[0055] The term "satellite positioning system receiver" refers to a wireless receiver or transceiver to receive and/or send location signals from and/or to a satellite positioning system, such as the Global Positioning System ("GPS") (US), GLONASS (Russia), Galileo positioning system (EU), Compass navigation system (China), and Regional Navigational Satellite System (India).

[0056] The term "display," as used herein, refers to at least a portion of a screen used to display the output of the television to a user. A display may be a single-screen display or a multi-screen display, referred to as a composite display. A composite display can encompass the touch sensitive display of one or more screens. A single physical screen can include multiple displays that are managed as separate logical displays. Thus, different content can be displayed on the separate displays although part of the same physical screen.

[0057] The term "displayed image," as used herein, refers to an image produced on the display. A typical displayed image is a television broadcast or menu. The displayed image may occupy all or a portion of the display.

[0058] The term "display orientation," as used herein, refers to the way in which a rectangular display is oriented by a user for viewing. The two most common types of display orientation are portrait and landscape. In landscape mode, the display is oriented such that the width of the display is greater than the height of the display (such as a 4:3 ratio, which is 4 units wide and 3

units tall, or a 16:9 ratio, which is 16 units wide and 9 units tall). Stated differently, the longer dimension of the display is oriented substantially horizontal in landscape mode while the shorter dimension of the display is oriented substantially vertical. In the portrait mode, by contrast, the display is oriented such that the width of the display is less than the height of the display. Stated differently, the shorter dimension of the display is oriented substantially horizontal in the portrait mode while the longer dimension of the display is oriented substantially vertical.

[0059] The term "module," as used herein, refers to any known or later developed hardware, software, firmware, artificial intelligence, fuzzy logic, or combination of hardware and software that is capable of performing the functionality associated with that element.

[0060] The terms "determine," "calculate" and "compute," and variations thereof, as used herein, are used interchangeably and include any type of methodology, process, mathematical operation or technique.

[0061] The term "touch screen" or "touchscreen" refer to screen that can receive user contact or other tactile input, such as a stylus. The touch screen may sense user contact in a number of different ways, such as by a change in an electrical parameter (e.g., resistance or capacitance), acoustic wave variations, infrared radiation proximity detection, light variation detection, and the like. In a resistive touch screen, for example, normally separated conductive and resistive metallic layers in the screen pass an electrical current. When a user touches the screen, the two layers make contact in the contacted location, whereby a change in electrical field is noted and the coordinates of the contacted location calculated. In a capacitive touch screen, a capacitive layer stores electrical charge, which is discharged to the user upon contact with the touch screen, causing a decrease in the charge of the capacitive layer. The decrease is measured, and the contacted location coordinates determined. In a surface acoustic wave touch screen, an acoustic wave is transmitted through the screen, and the acoustic wave is disturbed by user contact. A receiving transducer detects the user contact instance and determines the contacted location coordinates.

[0062] The term "web television" is original television content produced for broadcast via the World Wide Web. Some major distributors of web television are YouTube, Myspace, Newgrounds, Blip.tv, and Crackle.

[0063] The terms "instant message" and "instant messaging" refer to a form of real-time text communication between two or more people, typically based on typed text.

[0064] The term "internet search engine" refers to a web search engine designed to search for information on the World Wide Web and FTP servers. The search results are generally presented in a list of results often referred to as SERPS, or "search engine results pages". The information may consist of web pages, images, information and other types of files. Some search engines also mine data available in databases or open directories. Web search engines work by storing information about many web pages, which they retrieve from the html itself. These pages are retrieved by a Web crawler (sometimes also known as a spider) — an automated Web browser which follows every link on the site. The contents of each page are then analyzed to determine how it should be indexed (for example, words are extracted from the titles, headings, or special fields called meta tags). Data about web pages are stored in an index database for use in later queries. Some search engines, such as Google™, store all or part of the source page (referred to as a cache) as well as information about the web pages, whereas others, such as AltaVista™, store every word of every page they find.

[0065] The terms "online community", "e-community", or "virtual community" mean a group of people that primarily interact via a computer network, rather than face to face, for social, professional, educational or other purposes. The interaction can use a variety of media formats, including wikis, blogs, chat rooms, Internet forums, instant messaging, email, and other forms of electronic media. Many media formats are used in social software separately or in combination, including text-based chatrooms and forums that use voice, video text or avatars.

[0066] The term "remote control" refers to a component of an electronics device, most commonly a television set, DVD player and/or home theater system for operating the device wirelessly, typically from a short line-of-sight distance. Remote control normally uses infrared and/or radio frequency (RF) signaling and can include WiFi, wireless USB, Bluetooth™ connectivity, motion sensor enabled capabilities and/or voice control. A touchscreen remote control is a handheld remote control device which uses a touchscreen user interface to replace most of the hard, built-in physical buttons used in normal remote control devices.

[0067] The term "satellite TV" refers to television programming delivered by the means of communications satellites and received by an outdoor antenna, usually a parabolic reflector generally referred to as a satellite dish, and as far as household usage is concerned, a satellite receiver either in the form of an external set-top box or a satellite tuner module built into a TV set.

[0068] The term "social network service" is a service provider that builds online communities of people, who share interests and/or activities, or who are interested in exploring the interests and activities of others. Most social network services are web-based and provide a variety of ways for users to interact, such as e-mail and instant messaging services.

[0069] The term "social network" refers to a web-based social network.

[0070] The term "gesture" refers to a user action that expresses an intended idea, action, meaning, result, and/or outcome. The user action can include manipulating a device (e.g., opening or closing a device, changing a device orientation, moving a trackball or wheel, etc.), movement of a body part in relation to the device, movement of an implement or tool in relation to the device, audio inputs, etc. A gesture may be made on a device (such as on the screen) or with the device to interact with the device.

[0071] The term "gesture capture" refers to a sense or otherwise a detection of an instance and/or type of user gesture. The gesture capture can occur in one or more areas of the screen. A gesture region can be on the display, where it may be referred to as a touch sensitive display or off the display where it may be referred to as a gesture capture area.

[0072] The term "electronic address" refers to any contactable address, including a telephone number, instant message handle, e-mail address, Universal Resource Locator (URL), Universal Resource Identifier (URI), Address of Record (AOR), electronic alias in a database, like addresses, and combinations thereof.

[0073] It shall be understood that the term "means," as used herein, shall be given its broadest possible interpretation in accordance with 35 U.S.C., Section 112(f). Accordingly, a claim incorporating the term "means" shall cover all structures, materials, or acts set forth herein, and all of the equivalents thereof. Further, the structures, materials or acts and the equivalents thereof shall include all those described in the summary of the invention, brief description of the drawings, detailed description, abstract, and claims themselves.

[0074] The preceding is a simplified summary of the disclosure to provide an understanding of some aspects of the disclosure. This summary is neither an extensive nor exhaustive overview of the disclosure and its various aspects, embodiments, and/or configurations. It is intended neither to identify key or critical elements of the disclosure nor to delineate the scope of the disclosure but to present selected concepts of the disclosure in a simplified form as an introduction to the more detailed description presented below. As will be appreciated, other aspects, embodiments,

and/or configurations of the disclosure are possible utilizing, alone or in combination, one or more of the features set forth above or described in detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0075] Fig. 1A includes a first view of an embodiment of an environment or a intelligent television;

[0076] Fig. 1B includes a second view of an embodiment of an environment or a intelligent television;

[0077] Fig. 2A includes a first view of an embodiment of a intelligent television;

[0078] Fig. 2B includes a second view of an embodiment of a intelligent television;

[0079] Fig. 2C includes a third view of an embodiment of a intelligent television;

[0080] Fig. 2D includes a fourth view of an embodiment of a intelligent television;

[0081] Fig. 3 is a block diagram of an embodiment of the hardware of the intelligent television;

[0082] Fig. 4 is a block diagram of an embodiment of the intelligent television software and/or firmware;

[0083] Fig. 5 is a second block diagram of an embodiment of the intelligent television software and/or firmware;

[0084] Fig. 6 is a third block diagram of an embodiment of the intelligent television software and/or firmware;

[0085] Fig. 7 is a plan view of an embodiment of a handheld remote control;

[0086] Fig. 8 is a side view of an embodiment of a remote control;

[0087] Fig. 9A is a bottom view of an embodiment of a remote control with a joystick in a neutral position;

[0088] Fig. 9B is a bottom view of an embodiment of a remote control with the joystick in a lower position;

[0089] Fig. 9C is a bottom view of an embodiment of a remote control with the joystick in an upper position;

[0090] Fig. 10 is a plan view of another embodiment of a handheld remote control;

[0091] Fig. 11A is a front view of an embodiment of an Intelligent TV screen;

[0092] Fig. 11B is a front view of an embodiment of an Intelligent TV screen;

[0093] Fig. 11C is a front view of an embodiment of an Intelligent TV screen;

EX. 1002
LG Electronics, Inc. / Page 3441 of 3523

[0094] Fig. 12 is a block diagram of an embodiment of a handheld remote control of either Figs. 7 or 10;

[0095] Fig. 13 is a block diagram of an embodiment of a content data service;

[0096] Fig. 14 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0097] Fig. 15 is a partial screen shot of the Intelligent TV screen according to an embodiment;

[0098] Fig. 16 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0099] Fig. 17 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0100] Fig. 18 is a partial screen shot of the Intelligent TV screen according to an embodiment;

[0101] Fig. 19 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0102] Fig. 20 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0103] Fig. 21 is a partial screen shot of the Intelligent TV screen according to an embodiment;

[0104] Fig. 22 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0105] Fig. 23 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0106] Fig. 24 is a screen shot of the Intelligent TV screen according to according to an embodiment;

[0107] Fig. 25 is a flow chart according to an embodiment;

[0108] Fig. 26 is a flow chart according to an embodiment; and

[0109] Fig. 27 is a series of partial screen shots of the Intelligent TV screen according to an embodiment.

[0110] In the appended figures, similar components and/or features may have the same reference label. Further, various components of the same type may be distinguished by following the reference label by a letter that distinguishes among the similar components. If only the first reference label is used in the specification, the description is applicable to any one of the

similar components having the same first reference label irrespective of the second reference label.

[0111] DETAILED DESCRIPTION

[0112] Presented herein are embodiments of a device. The device can be a network-enabled telecommunications device, such as a television, an electronic visual display device, or other smart device. The device can include one or more screens, or sections of a screen, that are configured to receive and present information from a number of sources. Further, the device can receive user input in unique ways. The overall design and functionality of the device provides for an enhanced user experience making the device more useful and more efficient.

[0113] Intelligent Television (TV) Environment:

[0114] Referring to Figs. 1A and 1B, an Intelligent TV, or device, 100 is shown. It is anticipated that the Intelligent TV 100 may be used for entertainment, business applications, social interaction, content creation and/or consumption, and to organize and control one or more other devices that are in communication with the Intelligent TV 100. As can be appreciated, the Intelligent TV can be used to enhance the user interactive experience whether at home or at work.

[0115] In some embodiments, the Intelligent TV 100 may be configured to receive and understand a variety of user and/or device inputs. For example, a user may interface with the Intelligent TV 100 via one or more physical or electrical controls, such as buttons, switches, touch sensitive screens/regions (e.g., capacitive touch, resistive touch, etc.), and/or other controls associated with the Intelligent TV 100. In some cases, the Intelligent TV 100 may include the one or more interactive controls. Additionally or alternatively, the one or more controls may be associated with a remote control. The remote control may communicate with the Intelligent TV 100 via wired and/or wireless signals. As can be appreciated, the remote control may operate via radio frequency (RF), infrared (IR), and/or a specific wireless communications protocol (e.g., Bluetooth™, Wi-Fi, etc.). In some cases, the controls, whether physical or electrical, may be configured (e.g., programmed) to suit a user's preferences.

[0116] Additionally or alternatively, smart phones, tablets, computers, laptops, netbooks, and other smart devices may be used to control the Intelligent TV 100. For example, control of the Intelligent TV 100 may be achieved via an application running on a smart device. The application may be configured to present a user with various Intelligent TV 100 controls in an

intuitive user interface (UI) on a screen associated with the device 100. The screen may be a touch sensitive, or touch screen, display. Selections input by a user via the UI may be configured to control the Intelligent TV 100 by the application accessing one or more communication features associated with the smart device.

[0117] It is anticipated that the Intelligent TV 100 can receive input via various input devices including, but in no way limited to, video, audio, radio, light, tactile, and combinations thereof. Among other things, these input devices may be configured to allow the Intelligent TV 100 to see, recognize, and react to user gestures. For instance, a user may talk to the Intelligent TV 100 in a conversational manner. The Intelligent TV 100 may hear and understand voice commands in a manner similar to a smart device's intelligent personal assistant and voice-controlled navigator application (*e.g.*, Apple's Siri, Android's Skyvi, Robin, Iris, and other applications).

[0118] The Intelligent TV 100 may also be a communications device which can establish network connections 104 through many alternate means, including wired 108 or wireless 112 means, over cellular networks 116 to connect via cellular base antenna 142 to telephone networks operated by telephone company 146, and by using a telephone line 120 to connect to telephone networks operated by telephone company 146. These connections 104 enable the Intelligent TV 100 to access one or more communication networks 132. The communication networks may comprise any type of known communication medium or collection of communication media and may use any type of protocols to transport messages or signals between endpoints. The communication networks may include wired and/or wireless communication technologies. The Internet is an example of a communication network 132 that constitutes an Internet Protocol (IP) network consisting of many computers, computing networks, and other communication devices located all over the world, which are connected through many telephone systems and other means.

[0119] Other examples of the communication network 132 include, without limitation, a standard Plain Old Telephone System (POTS), an Integrated Services Digital Network (ISDN), the Public Switched Telephone Network (PSTN), a Local Area Network (LAN), a Wide Area Network (WAN), a cellular network, and any other type of packet-switched or circuit-switched network known in the art. In addition, it can be appreciated that the communication network 132 need not be limited to any one network type, and instead may be comprised of a number of different networks and/or network types.

[0120] In some embodiments, the Intelligent TV 100 may be equipped with multiple communication means. The multiple communication means may allow the Intelligent TV 100 to communicate across Local Area Networks (LANs) 124, wireless local area networks (WLANs) 128, and other networks 132. The networks 132 may be connected in a redundant manner to ensure network access. In other words, if one connection is interrupted, the intelligent TV 100 can use an alternate communications path to reestablish and/or maintain the network connection 104. Among other things, the Intelligent TV 100 may use these network connections 104 to send and receive information, interact with an electronic program guide (EPG) 136, receive software updates 140, contact customer service 144 (e.g., to receive help or service, etc.), and/or access remotely stored digital media libraries 148. In addition, these connections can allow the Intelligent TV 100 to make phone calls, send and/or receive email messages, send and/or receive text messages (such as email and instant messages), surf the Internet using an internet search engine, post blogs by a blogging service, and connect/interact with social media sites and/or an online community (e.g., Facebook™, Twitter, LinkedIn™, Pinterest™, GooglePlus™, MySpace™, and the like) maintained by a social network service. In combination with other components of the Intelligent TV 100 described in more detail below, these network connections 104 also enable the Intelligent TV 100 to conduct video teleconferences, electronic meetings, and other communications. The Intelligent TV 100 may capture and store images and sound, using associated cameras, microphones, and other sensors. Additionally or alternatively, the Intelligent TV 100 may create and save screen shots of media, images, and data displayed on a screen associated with the Intelligent TV 100.

[0121] Further, as shown in Fig. 1B, the Intelligent TV 100 can interact with other electronic devices 168 by either by the wired 108 and/or wireless 112 connections. As described herein, components of the Intelligent TV 100 allow the device 100 to be connected to devices 168 including, but not limited to, DVD players 168a, BluRay players 168b, portable digital media devices 168c, smart phones 168d, tablet devices 168e, personal computers 168f, external cable boxes 168g, keyboards 168h, pointing devices 168i, printers 168j, game controllers and/or game pads 168k, satellite dishes 168l, external display devices 168m, and other universal serial bus (USB), local area network (LAN), Bluetooth™, or high-definition multimedia interface (HDMI) compliant devices, and/or wireless devices. When connected to an external cable box 168g or satellite dish 168l, the Intelligent TV 100 can access additional media content. Also, as further

described below, the Intelligent TV 100 is capable of receiving digital and/or analog signals broadcast by TV stations. The Intelligent TV 100 can be configured as one or more of a standard-definition television, enhanced television, and high-definition television. It may operate as one or more of cable, Internet, Internet Protocol, satellite, web, and/or smart television. The Intelligent TV 100 may also be used to control the operation of, and may interface with, other smart components such as security systems 172, door/gate controllers 176, remote video cameras 180, lighting systems 184, thermostats 188, refrigerators 192, and other appliances.

[0122] Intelligent TV:

[0123] Figs. 2A-2D illustrate components of the Intelligent TV 100. In general, as shown by Fig. 2A, the Intelligent TV 100 can be supported by a removable base or stand 204 that is attached to a frame 208. The frame 208 surrounds edges of a display screen 212, leaving a front surface of the display screen 212 uncovered. The display screen 212 may comprise a Liquid Crystal Display (LCD) screen, a plasma screen, Light Emitting Diode (LED) screen, or other screen types. In embodiments, the entire front surface of the screen 212 may be touch sensitive and capable of receiving input by the user touching the front surface of the screen 212.

[0124] The Intelligent TV 100 may include integrated speakers 216 and at least one microphone 220. A first area of the frame 208 may comprise a horizontal gesture capture region 224 and second areas comprise vertical gesture capture regions 228. The gesture capture regions 224, 228 may comprise areas or regions that are capable of receiving input by recognizing gestures made by the user, and in some examples, without the need for the user to actually touch the screen 212 surface of the Intelligent TV 100. However, the gesture capture regions 224, 228 may not include pixels that can perform a display function or capability.

[0125] One or more image capture devices 232, such as a camera, can be included for capturing still and/or video images. The image capture device 232 can include or be associated with additional elements, such as a flash or other light source 236 and a range finding device 240 to assist focusing of the image capture device. In addition, the microphone 220, gesture capture regions 224, 228, image capture devices 232, and the range finding device 240 may be used by the Intelligent TV 100 to recognize individual users. Additionally or alternatively, the Intelligent TV 100 may learn and remember preferences associated with the individual users. In some

embodiments, the learning and remembering (i.e., identifying and recalling stored information) may be associated with the recognition of a user.

[0126] An IR transmitter and receiver 244 may also be provided to connect the Intelligent TV 100 with a remote control device (not shown) or other IR devices. Additionally or alternatively, the remote control device may transmit wireless signals via RF, light, and/or a means other than IR. Also shown in Fig. 2A is an audio jack 248, which may be hidden behind a panel that is hinged or removable. The audio jack 248 accommodates a tip, ring, sleeve (TRS) connector, for example, to allow the user to utilize headphones, a headset, or other external audio equipment.

[0127] The Intelligent TV 100 can also include a number of buttons 252. For example, Fig. 2A illustrates the buttons 252 on the top of the Intelligent TV 100, although the buttons could be placed at other locations. As shown, the Intelligent TV 100 includes six buttons 252a-f, which can be configured for specific inputs. For example, the first button 252a may be configured as an on/off button used to control overall system power to the Intelligent TV 100. The buttons 252 may be configured to, in combination or alone, control a number of aspects of the Intelligent TV 100. Some non-limiting examples include, but are not limited to, overall system volume, brightness, the image capture device, the microphone, and initiation/termination of a video conference. Instead of separate buttons, two of the buttons may be combined into a rocker button. This rocker button arrangement may be useful in situations where the buttons are configured to control features such as volume or brightness. In some embodiments, one or more of the buttons 252 are capable of supporting different user commands. By way of example, a normal press has a duration commonly of less than about 1 second and resembles a quick input. A medium press has a duration commonly of 1 second or more but less than about 12 seconds. A long press has a duration commonly of about 12 seconds or more. The function of the buttons is normally specific to the application that is active on the Intelligent TV 100. In the video conference application for instance and depending on the particular button, a normal, medium, or long press can mean end the video conference, increase or decrease the volume, increase a rate speed associated with a response to an input, and toggle microphone mute. Depending on the particular button, a normal, medium, or long press can also control the image capture device 232 to increase zoom, decrease zoom, take a photograph, or record video.

[0128] In support of communications functions or capabilities, the Intelligent TV 100 can include one or more shared or dedicated antennae 256 and wired broadband connections 260 as

shown in Fig. 2B. The antennae 256 also enable the Intelligent TV 100 to receive digital and/or analog broadcast TV channels. The wired broadband connections 260 are, for example, a Digital Subscriber Line (DSL), an optical line, an Ethernet port, an IEEE 1394 interface, or other interfaces. The Intelligent TV 100 also has a telephone line jack 262 to further provide communications capability.

[0129] In addition to the removable base 204, the Intelligent TV 100 may include hardware and mounting points 264 on a rear surface to facilitate mounting the Intelligent TV 100 to a surface, such as a wall. In one example, the Intelligent TV 100 may incorporate at least one Video Equipment Standards Association (VESA) mounting interface for attaching the device 100 to the surface.

[0130] As shown in Fig. 2C, the Intelligent TV 100 may include docking interfaces or ports 268. The docking ports 268 may include proprietary or universal ports to support the interconnection of the Intelligent TV 100 to other devices or components, which may or may not include additional or different capabilities from those integral to the Intelligent TV 100. In addition to supporting an exchange of communication signals between the Intelligent TV 100 and a connected device or component, the docking ports 268 can support the supply of power to the connected device or component. The docking ports 268 can also comprise an intelligent element that comprises a docking module for controlling communications or other interactions between the Intelligent TV 100 and the connected device or component.

[0131] The Intelligent TV 100 also includes a number of card slots 272 and network or peripheral interface ports 276. The card slots 272 may accommodate different types of cards including subscriber identity modules (SIM), secure digital (SD) cards, MiniSD cards, flash memory cards, and other cards. Ports 276 in embodiments may include input/output (I/O) ports, such as universal serial bus (USB) ports, parallel ports, game ports, and high-definition multimedia interface (HDMI) connectors.

[0132] An audio/video (A/V) I/O module 280 can be included to provide audio to an interconnected speaker or other device, and to receive audio input from a connected microphone or other device. As an example, the audio input/output interface 280 may comprise an associated amplifier and analog to digital converter.

[0133] Hardware Features:

[0134] Fig. 3 illustrates components of a Intelligent TV 100 in accordance with embodiments of the present disclosure. In general, the Intelligent TV 100 includes a primary screen 304. Screen 304 can be a touch sensitive screen and can include different operative areas.

[0135] For example, a first operative area, within the screen 304, may comprise a display 310. In some embodiments, the display 310 may be touch sensitive. In general, the display 310 may comprise a full color, display.

[0136] A second area within the screen 304 may comprise a gesture capture region 320. The gesture capture region 320 may comprise an area or region that is outside of the display 310 area, and that is capable of receiving input, for example in the form of gestures provided by a user. However, the gesture capture region 320 does not include pixels that can perform a display function or capability.

[0137] A third region of the screen 304 may comprise a configurable area 312. The configurable area 312 is capable of receiving input and has display or limited display capabilities. In embodiments, the configurable area 312 may present different input options to the user. For example, the configurable area 312 may display buttons or other relatable items. Moreover, the identity of displayed buttons, or whether any buttons are displayed at all within the configurable area 312 of a screen 304, may be determined from the context in which the Intelligent TV 100 is used and/or operated.

[0138] In an exemplary touch sensitive screen 304 embodiment, the touch sensitive screen 304 comprises a liquid crystal display extending across at least those regions of the touch sensitive screen 304 that are capable of providing visual output to a user, and a capacitive input matrix over those regions of the touch sensitive screen 304 that are capable of receiving input from the user.

[0139] One or more display controllers 316 may be provided for controlling the operation of the screen 304. The display controller 316 may control the operation of the touch sensitive screen 304, including input (touch sensing) and output (display) functions. The display controller 316 may also control the operation of the screen 304 and may interface with other inputs, such as infrared and/or radio input signals (e.g., door/gate controllers, alarm system components, etc.). In accordance with still other embodiments, the functions of a display controller 316 may be incorporated into other components, such as a processor 364.

[0140] The processor 364 may comprise a general purpose programmable processor or controller for executing application programming or instructions. In accordance with at least some embodiments, the processor 364 may include multiple processor cores, and/or implement multiple virtual processors. In accordance with still other embodiments, the processor 364 may include multiple physical processors. As a particular example, the processor 364 may comprise a specially configured application specific integrated circuit (ASIC) or other integrated circuit, a digital signal processor, a controller, a hardwired electronic or logic circuit, a programmable logic device or gate array, a special purpose computer, or the like. The processor 364 generally functions to run programming code or instructions implementing various functions of the Intelligent TV 100.

[0141] In support of connectivity functions or capabilities, the Intelligent TV 100 can include a module for encoding/decoding and/or compression/decompression 366 for receiving and managing digital television information. Encoding/decoding compression/decompression module 366 enables decompression and/or decoding of analog and/or digital information dispatched by a public television chain or in a private television network and received across antenna 324, I/O module 348, wireless connectivity module 328, and/or other wireless communications module 332. The television information may be sent to screen 304 and/or attached speakers receiving analog or digital reception signals. Any encoding/decoding and compression/decompression is performable on the basis of various formats (e.g., audio, video, and data). Encrypting module 368 is in communication with encoding/decoding compression/decompression module 366 and enables the confidentiality of all the data received or transmitted by the user or supplier.

[0142] In support of communications functions or capabilities, the Intelligent TV 100 can include a wireless connectivity module 328. As examples, the wireless connectivity module 328 can comprise a GSM, CDMA, FDMA and/or analog cellular telephony transceiver capable of supporting voice, multimedia and/or data transfers over a cellular network. Alternatively or in addition, the Intelligent TV 100 can include an additional or other wireless communications module 332. As examples, the other wireless communications module 332 can comprise a Wi-Fi, Blutooth™, WiMax, infrared, or other wireless communications link. The wireless connectivity module 328 and the other wireless communications module 332 can each be associated with a shared or a dedicated antenna 324 and a shared or dedicated I/O module 348.

[0143] An input/output module 348 and associated ports may be included to support communications over wired networks or links, for example with other communication devices, server devices, and/or peripheral devices. Examples of an input/output module 348 include an Ethernet port, a Universal Serial Bus (USB) port, Thunderbolt™ or Light Peak interface, Institute of Electrical and Electronics Engineers (IEEE) 1394 port, or other interface.

[0144] An audio input/output interface/device(s) 344 can be included to provide analog audio to an interconnected speaker or other device, and to receive analog audio input from a connected microphone or other device. As an example, the audio input/output interface/device(s) 344 may comprise an associated amplifier and analog-to-digital converter. Alternatively or in addition, the Intelligent TV 100 can include an integrated audio input/output device 356 and/or an audio jack for interconnecting an external speaker or microphone. For example, an integrated speaker and an integrated microphone can be provided, to support near talk or speaker phone operations.

[0145] A port interface 352 may be included. The port interface 352 may include proprietary or universal ports to support the interconnection of the device 100 to other devices or components, such as a dock, which may or may not include additional or different capabilities from those integral to the device 100. In addition to supporting an exchange of communication signals between the device 100 and another device or component, the docking port 136 and/or port interface 352 can support the supply of power to or from the device 100. The port interface 352 also comprises an intelligent element that comprises a docking module for controlling communications or other interactions between the Intelligent TV 100 and a connected device or component. The docking module may interface with software applications that allow for the remote control of other devices or components (e.g., media centers, media players, and computer systems).

[0146] An Intelligent TV 100 may also include memory 308 for use in connection with the execution of application programming or instructions by the processor 364, and for the temporary or long term storage of program instructions and/or data. As examples, the memory 308 may comprise RAM, DRAM, SDRAM, or other solid state memory. Alternatively or in addition, data storage 314 may be provided. Like the memory 308, the data storage 314 may comprise a solid state memory device or devices. Alternatively or in addition, the data storage 314 may comprise a hard disk drive or other random access memory.

[0147] Hardware buttons 358 can be included for example for use in connection with certain control operations. One or more image capture interfaces/devices 340, such as a camera, can be included for capturing still and/or video images. Alternatively or in addition, an image capture interface/device 340 can include a scanner, code reader, or motion sensor. An image capture interface/device 340 can include or be associated with additional elements, such as a flash or other light source. The image capture interfaces/devices 340 may interface with a user ID module 350 that assists in identifying users of the Intelligent TV 100.

[0148] The Intelligent TV 100 can also include a global positioning system (GPS) receiver 336. In accordance with embodiments of the present invention, the GPS receiver 336 may further comprise a GPS module that is capable of providing absolute location information to other components of the Intelligent TV 100. As will be appreciated, other satellite-positioning system receivers can be used in lieu of or in addition to GPS.

[0149] Power can be supplied to the components of the Intelligent TV 100 from a power source and/or power control module 360. The power control module 360 can, for example, include a battery, an AC to DC converter, power control logic, and/or ports for interconnecting the Intelligent TV 100 to an external source of power.

[0150] Communication between components of the Intelligent TV 100 is provided by bus 322. Bus 322 may comprise one or more physical buses for control, addressing, and/or data transmission. Bus 322 may be parallel, serial, a hybrid thereof, or other technology.

[0151] Firmware and Software:

[0152] An embodiment of the software system components and modules 400 is shown in Fig. 4. The software system 400 may comprise one or more layers including, but not limited to, an operating system kernel 404, one or more libraries 408, an application framework 412, and one or more applications 416. The one or more layers 404-416 can communicate with each other to perform functions for the Intelligent TV 100.

[0153] An operating system (OS) kernel 404 contains the primary functions that allow the software to interact with hardware associated with the Intelligent TV 100. Kernel 404 can include a collection of software that manages the computer hardware resources and provides services for other computer programs or software code. The operating system kernel 404 is the main component of the operating system and acts as an intermediary between the applications and data processing done with the hardware components. Part of the operating system kernel

404 can include one or more device drivers 420. A device driver 420 can be any code within the operating system that helps operate or control a device or hardware attached to or associated with the Intelligent TV. The driver 420 can include code for operating video, audio, and/or other multimedia components of the Intelligent TV 100. Examples of drivers include display, camera, flash, binder (IPC), keypad, WiFi, and audio drivers.

[0154] Library 408 can contain code or other components that may be accessed and implemented during the operation of the software system 400. The library 408 may contain one or more of, but is not limited to, an operating system runtime library 424, a TV services hypertext application language (HAL) library 428, and/or a data service library 432. The OS runtime library 424 may contain the code required by the operating system kernel 404 or other operating system functions to be executed during the runtime of the software system 400. The library can include the code that is initiated during the running of the software system 400.

[0155] The TV services hypertext application language library 428 can include code required by TV services either executed in the application framework 412 or an application 416. The TV services HAL library 428 is specific to the Intelligent TV 100 operations that control different functions of the Intelligent TV. The TV service HAL library 428 can also be formed from other types of application languages or embodiments of different types of code or formats for code beyond the hypertext application language.

[0156] The data services library 432 can include the one or more components or codes to implement components for the data services function. The data services function can be implemented in the application framework 412 and/or applications layer 416. An embodiment of a function of the data services and the type of components that may be included is shown in Fig. 6.

[0157] The application framework 412 can include a general abstraction for providing functionality that can be selected by one or more application 416 to provide specific application functions or software for those applications. Thus, the framework 412 can include one or more different services, or other applications, that can be accessed by the applications 416 to provide general functions across two or more applications. Such functions include, for example, management of one or more of windows or panels, surfaces, activities, content, and resources, The application framework 412 can include one or more, but is not limited to, TV services 434, TV services framework 440, TV resources 444, and user interface component 448.

[0158] The TV services framework 440 can provide an additional abstraction for different TV services. TV services framework 440 allows for the general access and function of services that are associated with the TV functionality. The TV services 436 are general services provided within the TV services framework 440 that can be accessed by applications in the applications layer 416. The TV resources 444 provide code for accessing TV resources 444 including any types of storage, video, audio, or other functionality provided with the Intelligent TV 100. The TV resources 444, TV services 436, and TV services framework 440 provide for the different implementations of TV functionality that may occur with the Intelligent TV 100.

[0159] One or more user interface components 448 can provide general components for display of the Intelligent TV 100. The user interface components 448 might be general components that may be accessed by different applications provided in the application framework 412. The user interface components 448 may be accessed to provide for panels and silos as described in conjunction with Fig. 5.

[0160] The applications layer 416 can both contain and execute applications associated with the Intelligent TV 100. Applications layer 416 may include one or more of, but is not limited to, a live TV application 452, a video on demand application 456, a media center application 460, an application center application 464, and a user interface application 468. The live TV application 452 can provide live TV over different signal sources. For example, the live TV application, 452, can provide TV from input from cable television, over air broadcasts, from satellite services, or other types of live TV services. Live TV application 452 may then present the multimedia presentation or video and audio presentation of the live television signal over the display of the Intelligent TV 100.

[0161] The video on demand application 456 can provide for video from different storage sources. Unlike Live TV application 452, video on demand 456 provides for display of videos that are accessed from some memory source. The sources of the video on demand can be associated with users or with the Intelligent TV or some other type of service. For example, the video on demand 456 may be provided from an iTunes library stored in a cloud, from a local disc storage that contains stored video programs, or from some other source.

[0162] The media center application 460 can provide application for different types of media presentation. For example, the media center 460 can provide for displaying pictures or audio that is different from, but still accessible by the user and different from live TV or video on

demand. The media center 460 allows for the access of different sources to obtain the media in the display of such media on the Intelligent TV 100.

[0163] The application center 464 allows for the provision, storage and use of applications. An application can be a game, a productivity application, or some other application generally associated with computer systems or other devices, but may be operated within the Intelligent TV. An application center 464 may obtain these applications from different sources, store them locally and then execute those types of applications for the user on the Intelligent TV 100.

[0164] User interface application 468 provides for the specific user interfaces associated with the Intelligent TV 100. These user interfaces can include the silos and panels that are described in Fig. 5. An embodiment of the user interface software 500 is shown in Fig. 5. Here the application framework 412 contains one or more code components which help control the user interface events while one or more applications in the applications layer 416 affects the user interface use for the Intelligent TV 100. The application framework 412 can include a silo transition controller 504 and/or an input event dispatcher 508. There may be more or fewer code components in the application framework 412 than those shown in Fig. 5. The silo transition controller 504 contains the code and language that manages the transitions between one or more silos. A silo can be a vertical user interface feature on the Intelligent TV that contains information for user. The transition controller 504 can manage the changes between two silos when an event occurs in the user interface. The input event dispatcher 508 can receive user interface events that may be received from the operating system and provided to the input event dispatcher 508. These events can include selections of buttons on a remote control or on the TV or other types of user interface inputs. The input event dispatcher 508 may then send these events to a silo manager 532 or panel manager 536 depending on the type of the event. The silo transition controller 504 can interface with the silo manager 532 to affect changes in the silos.

[0165] The application layer 416 can include a user interface application 468 and/or a silo application 512. The application layer 416 can include more or fewer user interface applications as necessary to control the user interface of the Intelligent TV 100 than those shown in Fig. 5. The user interface application 468 can include a silo manager 532, a panel manager 536, and one or more types of panels 516-528. The silo manager 532 manages the display and/or features of silos. The silo manager 532 can receive or send information from the silo transition controller

504 or the input event dispatcher 508 to change the silos displayed and/or to determine types of input received in the silos.

[0166] A panel manager 536 is operable to display panels in the user interface to manage transitions between those panels or to affect user interface inputs received in the panel. The panel manager 536 may thus be in communication with different user interface panels such as a global panel 516, a volume panel 520, a settings panel 524, and/or a notification panel 528. The panel manager 536 can display these types of panels depending on the inputs received from the input event dispatcher 508. The global panel 516 may include information that is associated with the home screen or top level hierarchal information for the user. A volume panel 520 may display information about an audio volume control or other settings for volume. A settings panel 524 can include information displayed about the settings of the audio or video, or other settable characteristics of the Intelligent TV 100. A notification panel 528 can provide information about notifications to a user. These notifications can be associated with information, such as, video on demand displays, favorites, currently provided programs, or other information. Notifications can be associated with the media or with some type of setting, or operation or the Intelligent TV 100. The panel manager 536 may be in communication with a panel controller 552 of the silo application 512.

[0167] The panel controller 552 may operate to control portions of the panels of the types described previously. Thus, the panel controller 552 may be in communication with a top panel application 540, an application panel 544, and/or bottom panel 548. These types of panels may be differently displayed in the user interface of the Intelligent TV 100. The panel control thus may be based on the configuration of the system or the type of display being used currently, put the types of panels 516-528 into a certain display orientation governed by the top panel application 540, application panel 544, or bottom panel application 548.

[0168] An embodiment of the data service 432 and the operation of the data management is shown in Fig. 6. The data management 600 can include one or more code components that are associated with different types of data. For example, there may be code components within the data service 432 that execute and are associated with video on demand, the electronic program guide, or media data. There may be more or fewer types of data service 432 components than those shown in Fig. 6. Each of the different types of data may include a data model 604-612. The data models govern what information is to be stored and how that information will be stored

by the data service. Thus, the data model can govern regardless of where the data comes from, how the data will be received or managed within the Intelligent TV system. Thus, the data model 604, 608, and/or 612, can provide a translation ability or affect the ability to translate data from one form to another to be used by the Intelligent TV 100.

[0169] The different types of data services (video on demand, electronic programming guide, media) each have a data subservice 620, 624, and/or 628 that is in communication with one or more internal and/or external content providers 616. The data subservices 620, 624, and 628 that communicate with the content providers 616 to obtain data that may then be stored in databases 632, 636, and 640. The subservices 620, 624, and 628 may communicate with and initiate or enable one or more source plug-ins 644, 648, and 652 to communicate with the content provider. For each content provider 616, there may be a different source plug-in 644, 648, and 652. Thus, if there is more than one source of content for the data, each of the data subservice 620, 624, and 628 may determine and then enable or initiate a different source plug-in 644, 648, and/or 652. The content providers 616 may also provide information to a resource arbitrator 656 and/or thumbnail cache manager 660. The resource arbitrator 656 may operate to communicate with resources 664 that are external to the data service 432. Thus, the resource arbitrator 656 may communicate with cloud based storage, network based storage, or other types of external storage in the resources 664. This information may then be provided through the content provider module 616 to the data subservices 620, 624, 628. Likewise, a thumbnail cache manager 660 may obtain thumbnail information from one of the data subservices 620, 624, 628 and store that information in the thumbnail database668. Further the thumbnail cache manager 660 may extract or retrieve that information from the thumbnails database 668 to provide to one of the data subservices 620, 624, 628.

[0170] An exemplary content aggregation architecture 1300 is shown in Fig. 13. The architecture can include a user interface layer 1304 and content aggregation layer 1308. The user interface layer 1304 may include a TV application 1312, media player 1316, and application(s) 1320. The TV application 1312 enables the viewer to view channels received via an appropriate transmission medium, such as cable, satellite, and/or the Internet. The media player 1316 views other types of media received via an appropriate transmission medium, such as the Internet. The application(s) 1320 include other TV-related (pre-installed) applications,

such as content viewing, content searching, device viewing, and setup algorithms, and coordinates with the media player 1316 to provide information to the viewer.

[0171] The content source layer 1308 includes, as data services, a content source service 1328, a content aggregation service 1332 and a content presentation service 1336. The content source service 1328 can manage content source investigators, including local and/or network file system(s), digital network device manager (which discovers handheld and non-handheld devices (e.g., digital media servers, players, renderers, controllers, printers, uploaders, downloaders, network connectivity functions, and interoperability units) by known techniques, such as a multicast universal plug and play or UPnP discovery techniques, and, for each discovered device, retrieves, parses, and encodes device descriptors, notifies the content source service of the newly discovered device, and provides information, such as an index, on previously discovered devices), Internet Protocol Television or IPTV, digital television or DTV (including high definition and enhanced TV), third party services (such as those referenced above), and applications (such as Android applications).

[0172] Content source investigators can track content sources and are typically configured as binaries. The content source service 1328 starts content source investigators and maintains open and persistent channels for communications. The communications include query or command and response pairs. The content aggregation service 1332 can manage content metadata fetchers, such as for video, audio, and/or picture metadata. The content presentation service 1336 may provide interfaces to the content index 1340, such as an Android application interface and digital device interfaces.

[0173] The content source service 1328 can send and receive communications 1344 to and from the content aggregation service 1332. The communications can include notifications regarding new and removed digital devices and/or content and search queries and results. The content aggregation service 1332 can send and receive communications 1348 to and from the content presentation service 1336 including device and/or content lookup notifications, content-of-interest advisories and notifications, and search queries and results.

[0174] When a search is performed, particularly when the user is searching or browsing content, a user request may be received from the user interface layer 1300, by the content presentation service 1336, which responsively opens a socket and sends the request to the content aggregation service 1332. The content aggregation service 1332 first returns results from

the local database 1340. The local database 1340 includes an index or data model and indexed metadata. The content source service 1328 further issues search and browse requests for all content source investigators and other data management systems. The results are forwarded to the content aggregation service 1332, which updates the database 1340 to reflect the further search results and provides the original content aggregation database search results and the data updates, reflecting the additional content source service search results, over the previously opened socket to the content presentation service 1336. The content presentation service 1336 then provides the results to one or more components in the user interface layer 1300 for presentation to the viewer. When the search session is over (e.g., the search session is terminated by the user or by an action associated with user), the user interface layer 1300 disconnects the socket. As shown, media can be provided directly by the content aggregation service 1332 to the media player 1316 for presentation to the user.

[0175] Remote Control:

[0176] A handheld remote control can be provided to enable user interaction with the Intelligent TV 100. An exemplary handheld remote control is shown in Figs.7-9. The remote control 700 can include one or more of, but is not limited to, top, side and bottom housings 704, 708, and 712, an (on/off) power button 716, an input source button 720 (to select input source such as Live TV, video on demand, media center, application center, high definition multimedia interface or HDMI, component or COMP, audio/Video or A/V, digital or analog television or DTV/ATV, and video graphics array (VGA)), a (volume) mute button 724, a Live TV button 728 (to activate or select the Live TV silo), a video on demand (VOD) button 732 (to activate or select the video on demand silo), a media center button 736 (to activate or select the media center application or silo, which access various types of media such as music, TV programming, videos, and the like), an application center button 740 (to activate or select the application center application or silo), a global panel button 744, an application panel button 748, a back button 752 (to select a prior user operation or Intelligent TV state and/or navigate up a hierarchy of any displayed image or object(s) (in which case the back button 752 does not navigate within application panels or across application silos), a play button 756 (to play or pause media), a D-pad 760 (which includes north, east, west, and south directional arrows to navigate among displayed images and/or move between levels of an application's or object's hierarchy such as application view navigation, panel navigation, and collection navigation), an OK (or select)

button 764 (to select a highlighted displayed image (such as displayed speed control, rewind, forward, play, and pause objects and/or objects on menu bar or in a menu box) and/or navigate down a hierarchy of any displayed image or object(s)), a rocker-type volume-up and volume-down button 768 (to adjust the volume), a menu/guide button 772 (to select for display a menu or guide of programming), a 0-9 (number) button 776 (to display a number pad on the TV screen), a settings button 780 (which launches an application to access current and change TV settings (such as channel settings and settings used to adjust picture and sound effects (e.g., image mode (e.g., standard, playground, game, cinema, concert, and studio), brightness, contrast, saturation, color temperature, energy savings, 3D noise reduction, hue, sharpness, zoom mode (e.g., full screen, standard, smart zoom, and dot-to-dot), picture position, 3D mode, for picture, and sound retrieval system or SRS TruSurround, sound mode (e.g., standard, live 1, live 2, theatre, music, speech, user equalizer mode, Left/Right speaker balance, auto volume control, Sony/Philips Interconnect Format or S/PDIF (off, auto, pulse code modulation or PCM) for sound) and system settings (such as system (e.g., selected language for graphical user interface, user geographical and/or geopolitical location information, input method, area settings, and sleep time), network (e.g., WiFi, WiFi hotspot, WiFi direct, Point-to-Point Protocol over Ethernet or PPPoE (asymmetric digital subscriber line or ADSL), Ethernet) settings (e.g., enabled and disabled and selected and non-selected) and information (e.g., network information (e.g., electronic address such as Internet Protocol or IP address, subnet mask, gateway, domain name server information, domain name, Media Access Control or MAC address, service set identification or SSID, security information, and password information) and inline status), manage applications (e.g., currently installed applications, currently executing applications, and internal and external computer readable medium usage), and view user information regarding the Intelligent TV 100)), a rocker-type channel-up and channel-down button 784 (to increment or decrement the selected channel), and first, second, third and fourth hotkeys 788, 792, 794, and 796, and/or a moveable joystick 900 on a bottom of the remote control 700. The first, second, third, and fourth hotkeys are generally assigned different colors, which color indexing is depicted as visual indicia on a selected panel to show the currently assigned function, if any, for each hotkey. As can be seen, the actuator layout can provide a highly efficient, satisfactory, and easily usable experience to the end user.

[0177] Unlike the functional associations and functions of many of the actuators, those of some of the actuators are not readily apparent. A number of examples will now be discussed by way of illustration.

[0178] The media center button 736, when selected, can provide information regarding music, videos, photographs, collections or groupings of music, videos, and/or photographs, and internal and external computational devices (such as personal computers, laptops, tablet computers, wireless phones, removable computer readable media, and the like), which can be grouped in a selected manner (such as favorites, most recently viewed, most watched or viewed, and most recently added). The information can includes previews (which can include selected portions of the media content, duration, file size, date created, date last watched, times watched or viewed, and audio and/or video format information).

[0179] The application center button 740, when selected, may provide information regarding pre-installed and downloaded applications. Unlike downloaded applications, pre-installed applications cannot be removed by the user or manually updated. Exemplary pre-installed applications include web browser, settings control, and content search algorithms. By way of illustration, the application center button 740 can provide a scrollable graphical grid of icons (each icon being associated with an application) currently available in the application center.

[0180] The global panel button 744, when selected, can provide the user, via one or more panels or windows, with access to one or more of, but not limited to, silos, notifications, a web browser, system settings, and/or information associated therewith. For example, the global panel button 744 can enable the user to determine what external devices are currently connected to and/or disconnected from the Intelligent TV 100, determine what inputs (e.g., HDMI ports) are currently available for connecting to external devices, determine a connection and/or operational status of a selected external device and/or network (e.g., WiFi connected, Ethernet connected, and offline), assign a custom (or user selected) name to each input source, determine what content is currently being offered on Live TV, on demand, the media center, and/or the application center, access vendor messages and notifications to the user (e.g., system and/or application updates are available), activate the Internet browser, and/or access shortcuts on a displayed shortcut bar to more frequently used and desired applications. Common shortcuts are Internet browser (e.g., Internet search engine), system settings, and notifications. The common types of panels are for information (which is typically information related to a currently

displayed image and/or content (e.g., title, date/time, audio/visual indicator, rating, and genre), browse requests, and/or search requests (such as search term field)). Each of the panel types may include a panel navigation bar, detailed information or relevant content to the panel function, operation and/or purpose, and a hotkey bar (defining currently enabled functional associations of hotkeys).

[0181] The application panel button 748, when selected, can display an application window or panel. One application panel may be an information panel regarding a selected (pre-installed or previously downloaded) application icon. The information panel can one or more of identify the selected application, provide a description of the functionality (including application developer and/or vendor, version, release, and/or last update date and a category or type of application based on the application's functionality) and user ratings and/or degree of other user downloading of the application (e.g., a star rating assigned based on one or more of the foregoing inputs), provide the option to launch, remove, update, and add to favorites the identified application, and provide a listing of selectable links of other (not yet downloaded) recommended applications that provide similar functionality to the identified application. The latter listing can, in turn, provide a description of the functionality (including application developer and/or vendor, version, release, and/or last update date and a category or type of application based on the application's functionality) and user ratings and/or degree of other user downloading of the application (e.g., a star rating assigned based on one or more of the foregoing inputs).

[0182] The functions of the first, second, third, and fourth hotkeys 788, 792, 794, and 796 can change depending on system state, context, and/or, within a selected screen and/or panel, based on a content or currently selected portion of (or relative cursor position on) the screen. Commonly, a currently assigned function of any of the first, second, third, and fourth hotkeys 788, 792, 794, and 796 depends on a currently accessed silo and/or panel (with which the user is currently interacting within the silo). In other words, a first function of one of the first, second, third, and fourth hotkeys 788, 792, 794, and 796 is activated by the respective hotkey in a first system state while a different second function is activated by the respective hotkey in a different second system state. In another example, a third function of one of the first, second, third, and fourth hotkeys 788, 792, 794, and 796 is activated by the respective hotkey when a user focus (or currently selected cursor position or screen portion) is at a first screen position while a different fourth function is activated by the respective hotkey when a user focus (or currently selected

cursor position or screen portion) is at a different second screen position. The first screen position can, for instance, be within an icon while the second screen position is outside of the icon. Hotkey functionality that could be enabled when in the first screen position may be "configure" and "remove" and disabled is "add", and, when in the second position hotkey functionality enabled can be "add" and disabled is "configure" and "remove". Generally, the states of hotkeys can include normal (for enabled actions or functions), disabled (when an action or function is temporarily disabled), pressed (when selected by a user to command an action or function to be performed), and unavailable (when no association between the hotkey and an action or function is currently available). While examples of hotkey functions are discussed below, it is to be understood that these are not intended to be exhaustive or limiting examples.

[0183] The first hotkey 788, when selected in a first system state, can enable the user to assign, change, or edit a name of an input source. It is typically enabled only when the input source of HDMI, Comp/YPbPr (e.g., component video cables), video output, and VGA is in focus. When selected in a second system state, the first hotkey 788 can return the user to a top of a scrollable collection of objects, such as application icons.

[0184] The second hotkey 792 may show all or less. In other words, the hotkey 792 can allow the user to show all inputs, including the unconnected/undetected ones and to hide the unconnected/undetected inputs, e.g., to expand and collapse the silo/input list. Each input source can have one of two states, namely connected/detected and unconnected/undetected. Some input sources, including Live TV, video on demand, media center, and application center are always connected/detected.

[0185] The moveable joystick 900 on the bottom of the remote control 700, when manipulated, can cause a displayed image on the Intelligent TV 100 screen to be displaced a proportional amount. In other words, the displayed image is displaced substantially simultaneously with displacement of the joystick 900 within the joystick aperture 904 in the bottom housing 712 of the remote control. As shown in Figs. 9B-C, the joystick 900 moves or slides between forward and reverse positions. Releasing the joystick 900 causes the joystick 900 to return to the center position of Fig. 9A, and the window to move or slide upwardly (when the joystick is released from the joystick position of Fig. 9B) or downwardly (when the joystick is released from the joystick position of Fig. 9C) until it disappears from view as shown in Fig. 11A . The effect on the screen of the Intelligent TV 100 is shown in Figs. 11A-C. In Fig. 11A, video content, such as

TV programming, a video, movie, and the like, is being displayed by front surface of the screen 212. In Fig, 11B, the joystick 900 is moved or slid to the upper position of Fig. 9B, and a drop down window or panel 1100 moves or slides down (at the substantially the same rate of joystick 900 movement) at the top of the screen 212. In Fig, 11C, the joystick 900 is moved or slid to the lower position of Fig. 9C, and a drop up window or panel 1100 moves or slides up (at the substantially the same rate of joystick 900 movement) at the bottom of the screen 212. The window 1100 partially covers the video content appearing on the remainder of the screen 212 and/or causes a portion of the screen 212 displaying video content to move and/or compress up or down the height of the window 1100.

[0186] The window 1100 can include one or more of information (which is typically information related to a currently displayed image and/or content (e.g., panel navigation bar, detailed information (e.g., title, date/time, audio/visual indicator, rating, and genre), and hotkey bar (defining current functional associations of hotkeys)), browse requests, and/or search requests. Commonly, the window 1100 includes suitable information about the content (such as name, duration, and/or remaining viewing duration of content), settings information, TV or system control information, application (activation) icons (such as for pre-installed and/or downloaded applications such as application center, media center and Web browser), and/or information about input source(s), When the joystick 900 is in either the forward or reverse position, the user can select an actuator on the front of the remote control, such as the OK button 764, and be taken, by displayed images on the screen 212, to another location in the user interface, such as a desktop. This process can be done in a nonintrusive manner and without affecting the flow of content that is pushed up or down. The joystick 900 could be moved, additionally or differently, from side-to-side to cause the window to appear at the left or right edge of the screen 212.

[0187] An alternative actuator configuration is shown in Fig. 10. The actuators are substantially the same as those of Figs. 7-9 except that the social network button 1000, when selected, can automatically select content and publish, via a social network service or other social media, the content to a social network or online community. User or viewer comments and/or other messages can be included in the outbound message. For example, all or one or frames or portions of media content (such as a video, music, a photograph, a picture, or text) can be provided automatically to a predetermined or selected group of people via Linked-In™,

Myspace™, Twitter™, YouTube™, DailyMotion™, Facebook™, Google+™ or Second Life™. The user, upon activating the button 1000 could, in response, select a social forum or media upon which the selected content (which is the content displayed to the user when the social network button 1000 is activated) is to be posted and/or a predetermined group within that social media to which the content is to be posted. Alternatively, these selections could be preconfigured or preselected by the user.

[0188] The social network button can also be used to "turn up" or "turn down" a social volume visualization. The Intelligent TV 100 can create dynamically a visualization of aggregated connections (and inbound and/or outbound messages) from a variety of social networks. The aggregation (and inbound and outbound messages) can be depicted graphically on the screen as a volume of connections to influence the viewer user. With a social volume visualization, selected contents of each linked social network profile of a social contact (and inbound and/or outbound messages from or to the linked social network contact and/or current activity of the social contact (such as watching the same programming or content the viewer is currently watching) can be presented in a separate tile (or visually displayed object). The size of the tile can be related to any number of criteria, including a relationship of the linked social contact (e.g., a relative degree of importance or type of relationship can determine the relative size of the tile, a degree of influence of the linked social contact to the current viewer, a geographic proximity of the linked social contact to the current viewer, a degree to which the currently provided media content is of interest to both the viewer and linked social contact (e.g., both parties enjoy war movies, murder mysteries, musicals, comedies, and the like), an assigned ranking of the linked viewer by the viewer, a type of social network type linking the viewer with the linked social contact, a current activity of the social network contact (e.g., currently watching the same content that the viewer is currently watching), a current online or offline status of the linked social contact, and a social network grouping type or category to which both the viewer and linked social contact belong (e.g., work contact, best friend, family member, etc.).

[0189] The viewer can designate a portion of the screen to depict the social network aggregation. By turning the social volume up (+) or down (-), the viewer can increase the size and/or numbers of linked contact tiles provided to the viewer. In other words, by increasing the social volume the viewer can view, access, and/or push more social content from those of his or her social networks associated with him or her in a memory of the Intelligent TV. By decreasing

the social volume, the viewer can view, access, and/or push less social content from his or her associated social networks. By selecting the mute button 724, the viewer can stop or pause any interactivity with his or her associated social networks (e.g., inbound or outbound messages). Social volume and/or mute can be separated into two (or more) volume settings for outbound and inbound social network activity. By way of illustration, a first volume setting, control, and/or button can control the volume for outbound social network activity (e.g., outbound social messages) while a second (different) volume setting, control, and/or button can control the volume for inbound social network activity (e.g., inbound social messages). By way of further illustration, a first mute setting, control, and/or button can stop or pause outbound social network activity (e.g., outbound social messages) while a second (different) mute setting, control, and/or button can stop or pause inbound social network activity (e.g., inbound social messages).

[0190] A functional block diagram of the remote control is shown in Fig. 12. The remote control 700 includes a controller 1208 to control and supervise remote control operations, optional wireless (RF) transceiver 1224 and antenna 1244 to send and receive wireless signals to and from the Intelligent TV 100 and other external components, optional infrared emitter 1228 to emit infrared signals to the Intelligent TV 100, optional light emitting diode or LED driver 1232 to control LED operation to provide video-enabled feedback to the user, actuators 1220 (including the various buttons and other actuators discussed above in connection with Figs. 7 and 10), and joystick 900, all interconnected via a bus 1248. An on board power source 1200 and power management module 1204 provide power to each of these components via power circuitry 1240. The infrared emitter 1228 and receiver (not shown) on the Intelligent TV system 100 can be used to determine a displayed object illuminated by the infrared signal and therefore adjust the displayed image, for example to indicate a focus of the user (e.g., illuminate a displayed object or show cursor position relative to displayed objects on the screen) and to determine and activate a desired command of the user. This can be done by tracking a position of the remote control in relation to infrared tracking reference points (e.g., a sensor bar or infrared LED's) positioned on or adjacent to the screen of the Intelligent TV 100. Motion tracking can further be augmented using position information received from a multi-axis gyroscope and/or accelerometer on board the remote control (not shown).

[0191] Using metadata associated with the programming, the application framework 416 can distinguish between, and classify Live TV programming, the following program types: movies,

TV show episodes (which can be any type of recurring show such as drama series, sitcoms, animated series, reality shows, mini series, talk shows, game shows, and newscasts), sport events (such as baseball, hockey, boxing, football, and other sporting event programming), specials (such as holiday specials, election coverage, and special news reports), radio (which deliver audio-only broadcasts), and undefined (which refers to programming having no associated metadata). Based on metadata associated with the programming, the application framework 416 can further distinguish between and classify each program type into a program category. Common program categories include political, law, military, economic, culture, sports, the Arts, history, geography, science, medical, environmental, social, recreation, and other (for any non-specified electronic programming guide ("EPG") entries).

[0192] The metadata can be obtained from the content aggregation service 1332, a content metadata fetcher, such as for video, audio, and/or picture metadata, and the like. The metadata, for example, can be obtained from an Internet accessible EPG provider. Examples of metadata formats include EVB-SI, TV-Anytime, and MPEG-7 and communication protocols include the Programming Metadata Communication Protocol ("PMCP") and Program and System Information Protocol ("PSIP"). Typically, the data which populates the EPG comes from the PSIP. PMCP provides the source data for PSIP, A PSIP generator converts PMCP to a broadcast-ready format. The downloaded EPG metadata is typically stored locally in a computer readable medium.

[0193] The user application framework 416 further enables the user to mark a selected channel or program as a "favorite". This marking means that the user is more interested in these programming items than other items; in other words, the user is more likely to watch favorite programs and channels than other unmarked programs and channels. Once a channel or program is marked as a "favorite", it is highlighted in all views and made easier to access. While favorite channels and programs can be located by an EPG provider in the cloud, the favorite channels and programs are typically maintained only in the local computer readable medium and not remotely.

[0194] The application framework 416 can further enable the user to set reminders for specific programs. Reminders cause notifications by the notification panel 528 that a specific program is about to start, regardless of where or how the user is currently interacting with the Intelligent TV 100 (e.g., regardless of what channel or silo the user is currently interacting with). When a reminder is set, it is created for that specific instance of the complete series. For example if a

EX. 1002
LG Electronics, Inc. / Page 3467 of 3523

program were to be on every Friday night at 8 pm on channel 3, setting a reminder for the program creates a reminder that the program is provided every Friday at 7:58 pm. If a program were to be a single airing event (such as a movie or special), a reminder is provided only for that instance.

[0195] The EPG, which can be selected by the menu/guide button 772, provides users with a continuously updating table of scheduling information on current and upcoming programming. The EPG is typically obtained, via a network 128 (e.g., the Internet) from a third party source. The EPG can be used to discover content to watch and set reminders for future programs. EPG program listings typically provide at least the following information: show name (which is the full name of the program (e.g., TV episode, movie or special), length of show (which is shown by the relative size of the listing or associated icon in the table), progress of show (programs in process are visually differentiated from shows not in progress to show the progress), favorite indicator (programs that have been marked as a favorite are visually differentiated, such as by a favorite icon, to show that they are favorites), reminder indicator (programs that have been set to trigger a reminder are visually differentiated, such as by a reminder icon, to show that they contain reminders), first air indicator (programs that are airing for the first time are visually differentiated, such as by a first-to-air icon, to show that they are airing for the first time), program type indicator (the program listing contains a visual indicator, such a program-type indicator, to show the program type), and an HD indicator (the program listing contains a visual indicator, such an HD indicator, to show that the program is in high definition).

[0196] One EPG format will be discussed with reference to Fig. 14. The intelligent TV 100 displays the EPG modal 1400. The display includes a live preview area 1404 (which displays programming on the currently active channel (and not the channel that is in focus within the EPG)), a program preview area 1408, the EPG 1412, and the hot key bar 1416 (which is color-coded to the hot keys to show currently enabled hot key functionality, e.g., the red hot key corresponds to "Now", which, if selected, jumps to currently playing program in the EPG, the yellow hot key to "Categories", which, if selected, switches the category view, the green hot key to "Manage", which, if selected, switches to the manage view, and the blue hot key to "Mark", which, if selected, provides a modal with three choices, namely set a reminder for [Show Name], Add [Show Name] to favorites, and add [channel number] to favorite channels, where the item in brackets refers to the currently selected channel and program).

[0197] The program preview area 1408 corresponds to the program or channel listing currently selected or in-focus. For the channel listing, the program preview area 1408 includes program information about the program currently being aired on the channel. The program preview area 1408 can include the following fields, namely show name 1420, season 1422 (if applicable) (which can be the number of the season), episode number 1424, episode name 1428, start and end time 1432, description 1436 (which describes the current program), thumbnail view 1440 (which is a thumbnail preview of the current program (e.g., a still (not moving) image, such as a captured frame of the second programming (e.g., a screen grab provided by the Internet-provided EPG service)), a picture (such as a movie poster), or a photograph), channel 1442 providing the program, and other information 1444 (which can include current time (e.g., the current time of day), duration (or start-to-finish time), runtime (or temporal progress of the program), runtime remaining, rating (e.g., TV-Y, TY-Y7, TV-G, TV-PG, TV-14, and TV-MA), video format (or resolution of the current program), audio format (or audio format of the current program), digital air date or first airing indicator, encryption status (when the channel is detected to be encrypted (regardless of decryption status)), program category, program type, track information (for radio programming – the name of the current artist and track), and other indicators noted above).

[0198] The EPG includes plural program listings, with each listing having a channel indicator 1448 and show name 1452. The program listings may further include a favorite (program) indicator 1456 (which is shown in the shape of a star but can be any other indicator), a first air indicator 1460 (which is shown as "NEW" but can be any other indicator), and a reminder indicator 1464 (shown as a blue dot but can be any other indicator). The channel indicator 1448 typically includes the channel number, channel logo, an active channel indicator (to show that the channel is currently playing), a selected channel indicator (to show that the channel is currently in-focus), and a favorite (channel) indicator (not shown) (showing that the channel is marked as a favorite channel by the user). Time indicators are shown at the top of the EPG and placed relative to the EPG program listings to show, as the case may be, a total or remaining duration of the program.

[0199] The EPG of Fig. 14 is by channel. Other EPG formats can be used. An example EPG 1500 format is shown in Fig. 15, which is by time. The listed programs each have an associated start time 1504 (which may be different or the same for plural listings), a show name 1456, and channel indicator 1448. The program listings can be grouped by program type, program

category, or channel. A band 1508 shows the current program runtime for programs in process. The format supports the other visual indicators of the EPG of Fig. 14. While the EPG of Fig. 14 can be scrolled not only vertically (e.g., up and down in channels) but also horizontally (e.g., backwards and forwards in time) using the D-Pad 760 of the remote control, the EPG of Fig. 15 can be scrolled only vertically (e.g., up and down in channels for the selected time). The topmost program listing in each of the EPG formats, when the format is presented initially, is typically the current program in view. The OK button 764 or play button 756 on the remote control selects an in-focus program listing for view. When a channel or program is selected, the application layer 416 automatically exits the EPG display and commences viewing the selected programming.

[0200] With reference to Fig. 16, the interaction of EPG with selected program categories is illustrated. The vertically scrollable category area 1600 present a scrollable listing of selectable program category bars 1604. Moving focus to a category bar causes the EPG 1412 program listings to be refreshed with a set of program listings filtered by the in-focus category bar. In the hot key bar 1416, the red hot key corresponds to "Now", the yellow and green hot keys correspond to no assigned functionality and the blue hot key to "Mark". Unlike the other EPG formats, the category-enabled EPG is fixed to a two-hour window and therefore cannot be scrolled horizontally. Stated another way, only channels having a program on (in the next two hours) that matches the selected or in-focus category are shown. Those category-matching programs are visually highlighted relative to category non-matching programs to show the match. The content of the program preview area 1408 reflects the currently in-focus program listing. The OK button 764 or play button 756 on the remote control selects an in-focus program listing for view. When a channel or program is selected, the application layer 416 automatically exits the EPG display and commences viewing the selected programming.

[0201] With reference to Fig. 17, the interaction of EPG with favorite indicators is illustrated. The manage favorite area 1700 includes selectable bars 1708 for favorite channels, shows, reminders, and channel list and a vertically scrollable channel listing 1704. Moving the focus from one selectable bar 1708 to another causes the vertically scrollable channel listing 1704 to be refreshed to mirror the currently in-focus bar 1708. Each listing in the channel listing 1704 includes, when the favorite channels bar 1708 is in-focus, a favorite indicator 1456, a channel identifier 1712, channel logo 1716, channel name 1720, and a remove icon 1724 (which, if

selected, removes the corresponding channel from the set of favorite channels). When the favorite shows bar 1708 is in-focus, a program listing is provided in lieu of the channel listing 1704. Each channel listing includes a favorite indicator 1456, a show name and a remove icon 1724 (which, if selected, removes the corresponding program from the set of favorite programs). Referring to Fig. 18, when multiple airings of the same program are currently airing, those programs are highlighted accordingly. Selecting the program will provide the user with a modal 1800 of all the listings that are currently live. The modal lists each currently live program listing or episode by start time, show name and channel indicator. The content of the program preview area 1408 reflects the currently in-focus channel programming (in-focus not requiring selection by the OK or play buttons but focus only by the cursor) or program listing. In the hot key bar 1416, the red hot key corresponds to "Guide" (which, if selected, jumps back to currently playing program in the full EPG), and the yellow, green, and red hot keys correspond to no assigned functionality.

[0202] The channel list bar 1700, when selected, enables the user to hide and restore channels. Hiding a channel will remove the channel from all views as well as from the normal channel changing experience. If the hidden channel has been marked as a favorite, it will automatically be un-favorited (or removed from the set of favorite channels) before removal. Restoring or un-hiding a channel will reactivate the channel and make it re-accessible from all views. Channels that are hidden are visually differentiated from active channels. In the hot key bar 1416, the red hot key corresponds to "Guide" (which, if selected, jumps back to currently playing program in the full EPG), the yellow hot key to "Restore all" (which, if selected restores all hidden channels), the green hot key to no assigned functionality, and the blue hot key to "Favorites" (which, if selected, toggles the favorite status of the listed channel(s)).

[0203] The reminder bar 1708, when selected, enables the user to manage all configured reminders. The vertically scrollable list of programs in the program listing contains all programs that have reminders set. In the hot key bar 1416, the red hot key corresponds to "Guide" (which, if selected, jumps back to currently playing program in the full EPG), the yellow hot key to "Date/Alphabetic" (which, if selected changes the sort order from alphabetic to date (items ordered by soonest to latest) or vice versa with items having no upcoming air date being ordered alphabetically at the end), and the green and blue hot keys to no assigned functionality.

[0204] In any of the variations of Fig. 17, the OK button 764 or play button 756 on the remote control selects an in-focus program or channel listing for live viewing. When a channel or program is selected, the application layer 416 automatically exits the EPG display and commences viewing the selected programming.

[0205] With reference to Fig. 19, the header bar 1900 will be discussed. The header bar 1900 provides contextual information for the currently watched program. The header bar 1900 includes the following fields: channel indicator 1448, program preview area 1408, current time, current viewing time remaining (or completed) 1904 and/or start-to-finish viewing time 1908 for the currently selected program, video format 1912, and audio format 1916. The header bar 1900 is presented for all program types, including movies, TV show episodes, sport, specials, radio, and undefined. During programming viewing, the header bar 1900 is always displayed whenever the D-Pad 760 is touched or whenever the channel is changed. It auto hides (or is no longer viewable) after a predetermined time, such as 5 seconds. In the viewing area 1920, a full screen thumbnail view of the current program (which can be the same or different to the thumbnail view 1440 in the header bar 1900) is displayed. As noted, the thumbnail view can be program poster if the program poster is available; otherwise, the thumbnail view should be a screen grab provided by the Internet-provided EPG service. When a new channel or program is selected, both the header bar 1900 and viewing area 1920 are updated immediately to reflect the new programming without needing to wait for the newly selected channel or program to activate. The activation delay can be caused by tuning delays. During the activation delay, the viewing area 1920 of the display is unable to display the new programming as a live feed and may continue to display video frames from the prior programming even after a new channel or program is selected. The thumbnail view on the display or viewing area can improve the channel changing experience as all channels will show a full-screen thumbnail view immediately after channel or program selection and while tuning takes place. This can allow the user to flip quickly through channels and view what is on without having to wait for the tuner to catch up.

[0206] There are many modes to change channels or programming. With reference to Figs. 7-10, the remote control includes channel-up and channel-down button 784 to select a next higher or lower channel, respectively, for viewing. The D-Pad 760 can scroll through EPG program or channel listings as described above, and the OK button 764 can select a program or channel for viewing. When not in the EPG display mode, the D-Pad 760 can be used to cycle through

favorite channels that have been set on the system along with favorite programs that are currently airing. Opposing sets of arrows, either the up and down arrows or the left and right arrows, when pressed cycle through the favorite channels and programs. The back button 752 can change the currently viewed channel to the last-viewed channel. Repeatedly pressing the back button 752 will toggle between the currently viewed and previously viewed channels. When scrolling in any of these modes, once the largest or smallest numbered channel is reached, the next press takes the user to the smallest or largest numbered channel, respectively.

[0207] With reference to Figs. 7-10, the remote control does not have number keys but rather a 0-9 (number) button 776, which, if selected, reveals an on screen channel changer 2000 shown in Fig. 20. The on screen channel changer 2000 includes a program preview area 1408 (reflecting the currently in-focus channel), a vertically scrollable (EPG) channel listing 2004 (each listing including the channel indicator 1448, show name and progress bar), and a number input bar 2008. In the number input bar 2008, only numbers that will currently produce a selectable channel are enabled. Disabled numbers cannot receive focus and are bypassed during navigation of the number input bar. As each number is selected, the numbers enabled and disabled will vary to reflect the selectable channels available from the root numbers selected. The back button 752 acts as a backspace and, when selected, deletes the last number selected. The removal of the number keys or buttons from the remote control reduces the complexity of the remote control and thereby improves the remote control's overall usability and simplicity while the on screen channel changer 2000 provides the user with the ability to change channels using only the D-Pad 760. One opposing set of arrows (e.g., the up and down arrows) scrolls up and down through the program listing 2004 while the other opposing set of arrows (e.g., the left and right moves to the left and right, respectively, through the number input bar 2008.

[0208] The on screen channel changer 2000 can have different EPG channel listing configurations. In one configuration, a mini EPG is presented having a single channel listing of the last channel that was manually entered by the user (that may not be the currently viewed channel). In another configuration shown in Fig. 20, as numbers are selected a dynamic EPG channel listing is presented. The channels in the dynamic EPG listing correspond to the channels that are currently selectable from the root entered numbers. For example, if the user has entered "11" and only numbers "2", "4", and "6" in the number input bar are enabled, the channels in the dynamic EPG channel listing would include channel listings for channels 112, 114, and 116.

[0209] With reference to Fig. 21, a D-Pad channel navigation display is shown. Pressing left or right arrows in the D-Pad moves focus from file 2100 to file 2100. Each file 2100 includes a channel number and logo, thumbnail view 1440, progress bar 1504, and program information 2104 (e.g., program name, episode name, season number, episode number, and/or program type and/or category). An in-focus file can be selected by pressing the OK button. The channels to the right of center 2108 can be made up of all channels that have been set as favorites along with any other channels that are currently airing a favorite program. The favorite channels can be ordered by channel increasing or decreasing from the center 2108 out. The channels to the left of the center 2108 can be made of all recommendations based on the user's favorites and watching patterns (e.g., this can initially be limited to programs matching the active program's category until cloud-based recommendations are available). The user's current favorites, for example, can be used to identify similar channels and/or programs that may be of interest to the user. A similar channel may be, for example, a channel broadcasting a favorite program of the user. A similar program may be, for example, a program of a similar category or type to a current favorite. Watching patterns can be determined, for example, by monitoring the frequency (over a selected period of time) of the user selecting a channel and/or watching a program (such as an episode, sport event, news program, and the like). When the frequency is at least a determined amount, the channel or program is recommended. The recommended channels and/or programs can be ordered based on frequency magnitude. As will be appreciated, other techniques can be used to recommend a channel or program to the user. The recommended channels can be ordered by channel increasing or decreasing from the center 2108 out.

[0210] The information panel for an episode is shown in Fig. 22. It is available when the user is watching any episode and provides extended information on the currently watched program. The information panel 2200 is adjacent to the viewing area 1920 displaying the live episode programming and displaying the current time 2216. The information panel 2200 includes a panel navigation bar 2204, a thumbnail view 1440 and channel number, name and logo 1442 with accompanying information fields for the episode being displayed in the viewing area 1920, a favorite action button 2208 (which, is selected, provides a modal providing the options: add or remove a program to or from favorites, add or remove a channel to or from favorites, audio track button 2220 (only visible is there are multiple audio tracks and, if selected, provides a modal with a list of all audio tracks available with the video), and subtitle button 2224 (which, if

selected, provides a modal with a list of all subtitle tracks available within the video), an on next mini EPG 2212, and hot keys 1416. The accompanying information fields include show name 1420, episode name 1428, and other information 1428 (which includes one or more of program category of the episode, program video format of the episode, program audio format of the episode, program description of the episode, program start and end times of the episode, program season number of the episode (or the season to which the episode belongs), episode number, original air date of the episode, first air indicator, encryption status, and rating of the episode). The on next mini EPG 2212 shows a small time-based EPG with the next few listings of the episode that will be aired. In the hot key bar 1416, the red hot key corresponds to "Guide", which, if selected, dismisses the information panel and launches the full-screen EPG, the yellow hot key to "View in HD", which, if selected, switches to the channel currently airing the same program in HD (which is useful when the current channel is airing the program in SD), the green hot key to "Remind", which, if selected, toggles the reminder on and off for the selected or in-focus program, and the blue hot key to "Favorite", which, if selected, provides a modal with the options: add or remove [Program] to or from favorites and add or remove [Channel] to or from favorites.

[0211] An information panel similar to that of Fig. 22 is provided for TV specials, movies, sporting events, radio, and undefined programming. Any of the information panels can be selected by selecting the "Info" option on the panel navigation bar 2204.

[0212] From the display of Fig. 22, an EPG panel can be selected by selecting the On Now option on the panel navigation bar 2204. This selection replaces the information panel 2200 with an EPG 1412 similar to that of Fig. 14. It provides a vertically scrollable listing of programs available or airing within the next hour. In this panel, the hot key assignments remain the same as the information panel except for the yellow hot key, which has no corresponding assigned function.

[0213] From the display of Fig. 22, a categories panel can be selected by selecting the Category option on the panel navigation bar 2204. This selection replaces the information panel 2200 with a vertically scrollable list of all available program categories. Categories not having available content are excluded from the listing. Selecting a listed category provides a focused mini EPG listing the corresponding available programs within the selected category. In the hot key bar 1416, the red hot key corresponds to "Go to Top", which, if selected, returns the user to

the top of the panel, the yellow hot key has no corresponding function, the green hot key to "Remind", which, if selected, toggles the reminder on and off for the selected or in-focus program, and the blue hot key to "Favorite", which, if selected, marks the series in focus as a favorite and, when the series is already a favorite, removes the series from the set of favorites.

[0214] From the display of Fig. 22, a favorites panel can be selected by selecting the Favorite option on the panel navigation bar 2204. This selection replaces the information panel 2200 with a vertically scrollable list of all channels that have been marked as favorites along with currently airing programs that are marked as favorites. The listing of channels includes channel number, name and logo and show name. The listing is updated dynamically such that, when a favorite program ends for a channel that is not a favorite, the program is removed from the listing. In the hot key bar 1416, the red hot key corresponds to "Guide", which, if selected, dismisses the favorites panel and launches the full-screen EPG, the yellow and green hot keys have no corresponding functions, and the blue hot key to "Favorite", which, if selected, provides a modal with the options: add or remove [Program] to or from favorites and add or remove [Channel] to or from favorites.

[0215] From the display of Fig. 22, a search panel 2300 can be selected by selecting the Search option on the panel navigation bar 2204. The search panel 2300 allows the user to search for media within the EPG for content that will be available within a predetermined time period. With reference to Fig. 23, the search panel 2300 includes a search term field 2304, a list of previous search terms 2308, and the hot key bar 1416. The previous search terms are listed with the most recent searched terms on the top of the list. Any of the previous search terms can be selected by the OK button to initiate a new search using the terms. The search term can search any field within an EPG, including channel number, name, or logo, show name 1420, episode name 1428, program category, program video format, program audio format, program description, program start and end times, program season number, episode number, original air date, first air indicator, encryption status, and rating. In the hot key bar 1416, the red hot key corresponds to "Guide", which, if selected, dismisses the search panel and launches the full-screen EPG, the yellow hot key to "Clear all", which, if selected, clears the search history, the green hot key to "Remove", which, if selected, removes the selected term from the search history, and the blue hot key has no corresponding function.

[0216] The search results panel 2400 of Fig. 24 is provided after a search is initiated. The search results panel includes not only the panel navigation bar 2204 and hot key bar 1416 but also a search term field 2404 and search results listing 2408. The search results update in real time while the user fills in the search term field 2404. The search results 2408 provide a vertically scrollable collection of programs that are related to the search term and are or will be airing within a predetermined time. Each search term listing includes time on or program start time, show name, progress bar, indicators such as the favorite and reminder indicators, and channel number, name, and logo. The search terms are reset (to the prior search terms on the display) when the user exits the live TV silo, the user turns off the TV, or a predetermined time passes from the time of the search. In the hot key bar 1416, the red hot key corresponds to "Go to Top", which, if selected, returns the user to the top of the panel, the yellow hot key to "Clear", which, if selected, clears the current search and returns the panel to the prior to search view with the focus in the empty entry field, the green hot key to "Remind", which, if selected, toggles the reminder on and off for the selected or in-focus program, and the blue hot key to "Favorite", which, if selected, marks the series in focus as a favorite and, when the series is already a favorite, removes the series from the set of favorites. As shown, the search results panel 2400 can optionally include a program preview area 1408 for the in-focus listing in the search results listing 2408.

[0217] A user interface operation of the application framework 412 (typically the panel manager 536 and/or panel controller 552) is shown in Fig. 25. The operation will be discussed with reference to Fig. 19.

[0218] In step 2500, the application framework 412 detects a stimulus, such as selection of a new channel or program that causes the intelligent TV 100 tuner to locate a new programming signal.

[0219] In step 2504, the intelligent TV 100 tuner initiates tuning to locate the new programming signal.

[0220] In step 2508, the application framework 412, during the period that the tuner is attempting to locate the new programming signal, displays, in the viewing area 1920, the display of Fig. 19. One or more thumbnail views of the current program on the new channel or the newly selected program are shown in the thumbnail view and viewing area.

[0221] In decision diamond 2512, the application framework 412 determines whether tuning is completed and the new programming signal has been located and is currently being received. If not, the application framework 412 returns to step 2508. If so, the application framework 412, in step 1516, displays, in the viewing area 1920, live programming in lieu of the view of Fig. 19.

[0222] A further user interface operation of the application framework (typically the panel manager 536 and/or panel controller 552) is shown in Fig. 26. The operation will be discussed with reference to Figs. 20 and 27.

[0223] In step 2600, the application framework 412 detects a stimulus, such as selection of the 0-9 (number) button 776, a new channel or program that causes the intelligent TV 100 tuner to locate a new programming signal.

[0224] In step 2604, the application framework 412, in response, displays, in the viewing area 1920, an on screen channel changer 2000. With reference to Fig. 27, the on screen channel changer 2000 will have the appearance of the on screen channel changer 2700. When the on screen channel changer is brought into focus, it will contain a mini EPG with a single entry of the last channel that was manually entered (that is not the current channel). The in-focus indicator will be in a default center position on the number input bar 2008 (which is in the "5" position as shown). Only numbers in the number input bar 2008 that will produce a selectable channel are enabled while the other numbers are disabled.

[0225] In step 2608, the application framework 412 receives a number selection via the on screen channel changer.

[0226] In decision diamond 2612, the application framework 412 determines whether the user has entered a complete channel entry. If not, the application framework 412, in step 2612, updates the on screen channel changer 2700 to reflect the selected number. Referring to Fig. 27, the user used the D-Pad to select the number "2". The on screen channel changer 2704 is updated to show, in the mini EPG, the next three channels that begin with the number "2". Selecting any of these EPG listings will automatically change the channel and dismiss the on screen channel changer 2704.

[0227] In the example of Fig. 27, the user has selected only the first number of the channel. The user next uses the D-Pad to select the number "9". Because a complete channel entry has not been entered, the application framework 412 proceeds to step 2612 and updates the on screen channel changer 2704 to reflect the selected number. Referring to Fig. 27, the user used the D-

Pad to select the number "9". The on screen channel changer 2708 is updated to show, in the mini EPG, the next three channels that begin with the numbers "29". Selecting any of these EPG listings will automatically change the channel and dismiss the on screen channel changer 2708.

[0228] The user, in step 2608, next selects the number "4" using the D-Pad. In decision diamond 2612, the application framework 412 determines that a complete channel has been entered (which is 294 in the example) and, in step 2620, updates the on screen channel changer 2712 by showing, in the mini EPG, and putting in focus only a single listing corresponding to the entered channel. If the user selects the listing, the application framework 412 will automatically change the channel and dismiss the on screen channel changer 2712.

[0229] The exemplary systems and methods of this disclosure have been described in relation to intelligent televisions. However, to avoid unnecessarily obscuring the present disclosure, the preceding description omits a number of known structures and devices. This omission is not to be construed as a limitation of the scopes of the claims. Specific details are set forth to provide an understanding of the present disclosure. It should however be appreciated that the present disclosure may be practiced in a variety of ways beyond the specific detail set forth herein.

[0230] Furthermore, while the exemplary aspects, embodiments, and/or configurations illustrated herein show the various components of the system collocated, certain components of the system can be located remotely, at distant portions of a distributed network, such as a LAN and/or the Internet, or within a dedicated system. Thus, it should be appreciated, that the components of the system can be combined in to one or more devices, such as a television, or collocated on a particular node of a distributed network, such as an analog and/or digital telecommunications network, a packet-switch network, or a circuit-switched network. It will be appreciated from the preceding description, and for reasons of computational efficiency, that the components of the system can be arranged at any location within a distributed network of components without affecting the operation of the system. For example, the various components can be located in a switch such as a PBX and media server, gateway, in one or more communications devices, at one or more users' premises, or some combination thereof. Similarly, one or more functional portions of the system could be distributed between a telecommunications device(s) and an associated computing device.

[0231] Furthermore, it should be appreciated that the various links connecting the elements can be wired or wireless links, or any combination thereof, or any other known or later developed

element(s) that is capable of supplying and/or communicating data to and from the connected elements. These wired or wireless links can also be secure links and may be capable of communicating encrypted information. Transmission media used as links, for example, can be any suitable carrier for electrical signals, including coaxial cables, copper wire and fiber optics, and may take the form of acoustic or light waves, such as those generated during radio-wave and infra-red data communications.

[0232] Also, while the flowcharts have been discussed and illustrated in relation to a particular sequence of events, it should be appreciated that changes, additions, and omissions to this sequence can occur without materially affecting the operation of the disclosed embodiments, configuration, and aspects.

[0233] A number of variations and modifications of the disclosure can be used. It would be possible to provide for some features of the disclosure without providing others.

[0234] In yet another embodiment, the systems and methods of this disclosure can be implemented in conjunction with a special purpose computer, a programmed microprocessor or microcontroller and peripheral integrated circuit element(s), an ASIC or other integrated circuit, a digital signal processor, a hard-wired electronic or logic circuit such as discrete element circuit, a programmable logic device or gate array such as PLD, PLA, FPGA, PAL, special purpose computer, any comparable means, or the like. In general, any device(s) or means capable of implementing the methodology illustrated herein can be used to implement the various aspects of this disclosure. Exemplary hardware that can be used for the disclosed embodiments, configurations and aspects includes computers, handheld devices, telephones (e.g., cellular, Internet enabled, digital, analog, hybrids, and others), and other hardware known in the art. Some of these devices include processors (e.g., a single or multiple microprocessors), memory, nonvolatile storage, input devices, and output devices. Furthermore, alternative software implementations including, but not limited to, distributed processing or component/object distributed processing, parallel processing, or virtual machine processing can also be constructed to implement the methods described herein.

[0235] In yet another embodiment, the disclosed methods may be readily implemented in conjunction with software using object or object-oriented software development environments that provide portable source code that can be used on a variety of computer or workstation platforms. Alternatively, the disclosed system may be implemented partially or fully in

hardware using standard logic circuits or VLSI design. Whether software or hardware is used to implement the systems in accordance with this disclosure is dependent on the speed and/or efficiency requirements of the system, the particular function, and the particular software or hardware systems or microprocessor or microcomputer systems being utilized.

[0236] In yet another embodiment, the disclosed methods may be partially implemented in software that can be stored on a storage medium, executed on programmed general-purpose computer with the cooperation of a controller and memory, a special purpose computer, a microprocessor, or the like. In these instances, the systems and methods of this disclosure can be implemented as program embedded on personal computer such as an applet, JAVA® or CGI script, as a resource residing on a server or computer workstation, as a routine embedded in a dedicated measurement system, system component, or the like. The system can also be implemented by physically incorporating the system and/or method into a software and/or hardware system.

[0237] Although the present disclosure describes components and functions implemented in the aspects, embodiments, and/or configurations with reference to particular standards and protocols, the aspects, embodiments, and/or configurations are not limited to such standards and protocols. Other similar standards and protocols not mentioned herein are in existence and are considered to be included in the present disclosure. Moreover, the standards and protocols mentioned herein and other similar standards and protocols not mentioned herein are periodically superseded by faster or more effective equivalents having essentially the same functions. Such replacement standards and protocols having the same functions are considered equivalents included in the present disclosure.

[0238] The present disclosure, in various aspects, embodiments, and/or configurations, includes components, methods, processes, systems and/or apparatus substantially as depicted and described herein, including various aspects, embodiments, configurations embodiments, subcombinations, and/or subsets thereof. Those of skill in the art will understand how to make and use the disclosed aspects, embodiments, and/or configurations after understanding the present disclosure. The present disclosure, in various aspects, embodiments, and/or configurations, includes providing devices and processes in the absence of items not depicted and/or described herein or in various aspects, embodiments, and/or configurations hereof,

including in the absence of such items as may have been used in previous devices or processes, e.g., for improving performance, achieving ease and\or reducing cost of implementation.

[0239] The foregoing discussion has been presented for purposes of illustration and description. The foregoing is not intended to limit the disclosure to the form or forms disclosed herein. In the foregoing Detailed Description for example, various features of the disclosure are grouped together in one or more aspects, embodiments, and/or configurations for the purpose of streamlining the disclosure. The features of the aspects, embodiments, and/or configurations of the disclosure may be combined in alternate aspects, embodiments, and/or configurations other than those discussed above. This method of disclosure is not to be interpreted as reflecting an intention that the claims require more features than are expressly recited in each claim. Rather, as the following claims reflect, inventive aspects lie in less than all features of a single foregoing disclosed aspect, embodiment, and/or configuration. Thus, the following claims are hereby incorporated into this Detailed Description, with each claim standing on its own as a separate preferred embodiment of the disclosure.

[0240] Moreover, though the description has included description of one or more aspects, embodiments, and/or configurations and certain variations and modifications, other variations, combinations, and modifications are within the scope of the disclosure, e.g., as may be within the skill and knowledge of those in the art, after understanding the present disclosure. It is intended to obtain rights which include alternative aspects, embodiments, and/or configurations to the extent permitted, including alternate, interchangeable and/or equivalent structures, functions, ranges or steps to those claimed, whether or not such alternate, interchangeable and/or equivalent structures, functions, ranges or steps are disclosed herein, and without intending to publicly dedicate any patentable subject matter.

What is claimed is:

1. A method, comprising:

receiving, wirelessly by at least one of an infrared and radio frequency module of a television and from a remote control, a request to change a programming channel;

displaying, by a microprocessor executable application framework and on a television screen, an on screen channel changer, the on screen channel changer comprising electronic program guide ("EPG") information and a number input bar comprising digits;

receiving, by the application framework and from the remote control, a channel selection based on digits using the on screen channel changer; and

changing, by the application framework, to the selected channel.

2. The method of claim 1, wherein the digits range from 0 to 9, wherein the remote control selects the digits using non-numeric keys, and wherein the EPG information corresponds to multiple programs and/or channels, and wherein the EPG information comprises, for each program, airtime, program name, program channel, and program description.

3. The method of claim 2, wherein each of the digits are selected using one or more arrow keys and a select button.

4. The method of claim 3, wherein the remote control does not have a key corresponding to each of the digits.

5. The method of claim 1, wherein the on screen channel changer comprises a thumbnail preview containing EPG information corresponding to an in focus channel and/or program and a graphical image, wherein the EPG information in the thumbnail preview comprises, for the in focus channel and/or program, airtime, program name, program channel, and program description, and wherein the graphical image in the thumbnail preview is one of a captured frame of a program associated with the in focus program, a picture associated with the in focus program, and a photograph associated with the in focus program.

6. The method of claim 1, wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits.

7. A television, comprising:

a television screen;

at least one of an infrared and radio frequency module configured to receive wirelessly requests from a remote control of a user, the requests comprising a selected channel or program from a displayed listing; and

a microprocessor executable application framework configured to receive a request to change a programming channel, display, on the television screen, an on screen channel changer, the on screen channel changer comprising electronic program guide ("EPG") information and a number input bar comprising digits, receive, from the remote control, a channel selection based on digits using the on screen channel changer, and change to the selected channel.The television of claim 7, wherein the digits range from 0 to 9, wherein the remote control selects the digits using non-numeric keys, and wherein the EPG information corresponds to multiple programs and/or channels, and wherein the EPG information comprises, for each program, airtime, program name, program channel, and program description.

8. The television of claim 8, wherein each of the digits are selected using one or more arrow keys and a select button.

9. The television of claim 9, wherein the remote control does not have a key corresponding to each of the digits.

10. The television of claim 7, wherein the on screen channel changer comprises a thumbnail preview containing EPG information corresponding to an in focus channel and/or program and a graphical image, wherein the EPG information in the thumbnail preview comprises, for the in focus channel and/or program, airtime, program name, program channel, and program description, and wherein the graphical image in the thumbnail preview is one of a captured frame of a program associated with the in focus program, a picture associated with the in focus program, and a photograph associated with the in focus program.

11. The television of claim 7, wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits.

12. A tangible and non-transient computer readable medium, comprising microprocessor executable instructions that, when executed, are configured to perform operations comprising:

receive, from a remote control of a user, a request to change a programming channel;

display, on a television screen, an on screen channel changer, the on screen channel changer comprising electronic program guide ("EPG") information and a number input bar comprising digits;

receive, from the remote control, a channel selection based on digits using the on screen channel changer; and

change to the selected channel.

13. The computer readable medium of claim 13, wherein the digits range from 0 to 9, wherein the remote control selects the digits using non-numeric keys, and wherein the EPG information corresponds to multiple programs and/or channels, and wherein the EPG information comprises, for each program, airtime, program name, program channel, and program description.

14. The computer readable medium of claim 14, wherein each of the digits are selected using one or more arrow keys and a select button.

15. The computer readable medium of claim 15, wherein the remote control does not have a key corresponding to each of the digits.

16. The computer readable medium of claim 13, wherein the on screen channel changer comprises a thumbnail preview containing EPG information corresponding to an in focus channel and/or program and a graphical image, wherein the EPG information in the thumbnail preview comprises, for the in focus channel and/or program, airtime, program name, program channel, and program description, and wherein the graphical image in the thumbnail preview is one of a captured frame of a program associated with the in focus program, a picture associated with the in focus program, and a photograph associated with the in focus program.

17. The computer readable medium of claim 13, wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits.

18. The method of claim 5, wherein the EPG information and graphical image in the thumbnail preview changes as the in focus EPG information changes.

19. The television of claim 11, wherein the EPG information and graphical image in the thumbnail preview changes as the in focus EPG information changes.

[0242] ABSTRACT

[0243] A method, system, and executable instructions are provided that receive a request to change a programming channel, display, on the television screen, an on screen channel changer, the on screen channel changer comprising electronic program guide ("EPG") information and a number input bar comprising digits, receive, from the remote control, a channel selection based on digits using the on screen channel changer, and change to the selected channel.

EX. 1002
LG Electronics, Inc. / Page 3486 of 3523

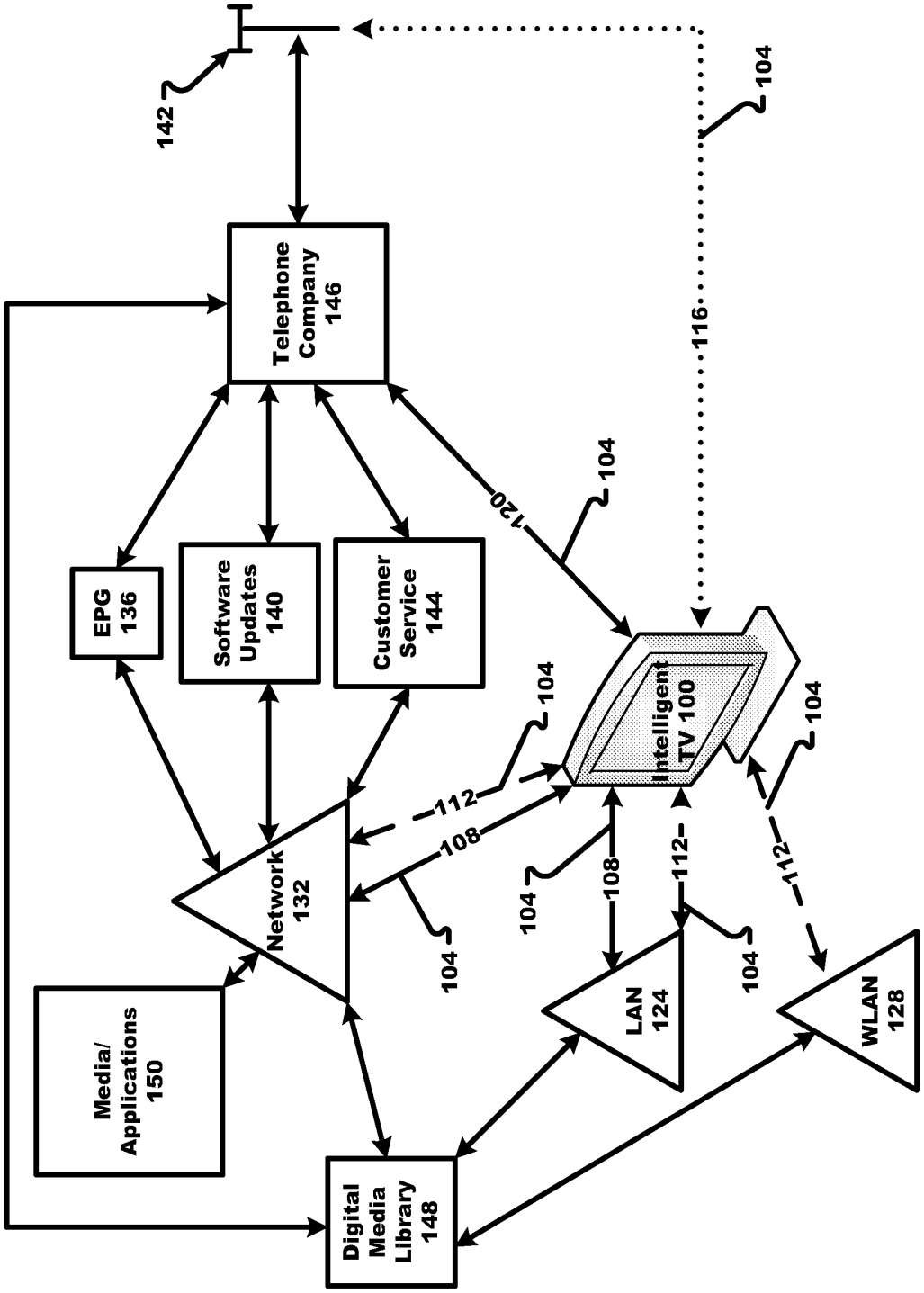

142
104
Telephone Company 146
116
120
104
EPG 136
Software Updates 140
Customer Service 144
Intelligent TV 100
104
104
112
108
Network 132
104
104
108
112
112
104
104
Media/ Applications 150
LAN 124
WLAN 128
Digital Media Library 148

Fig. 1A

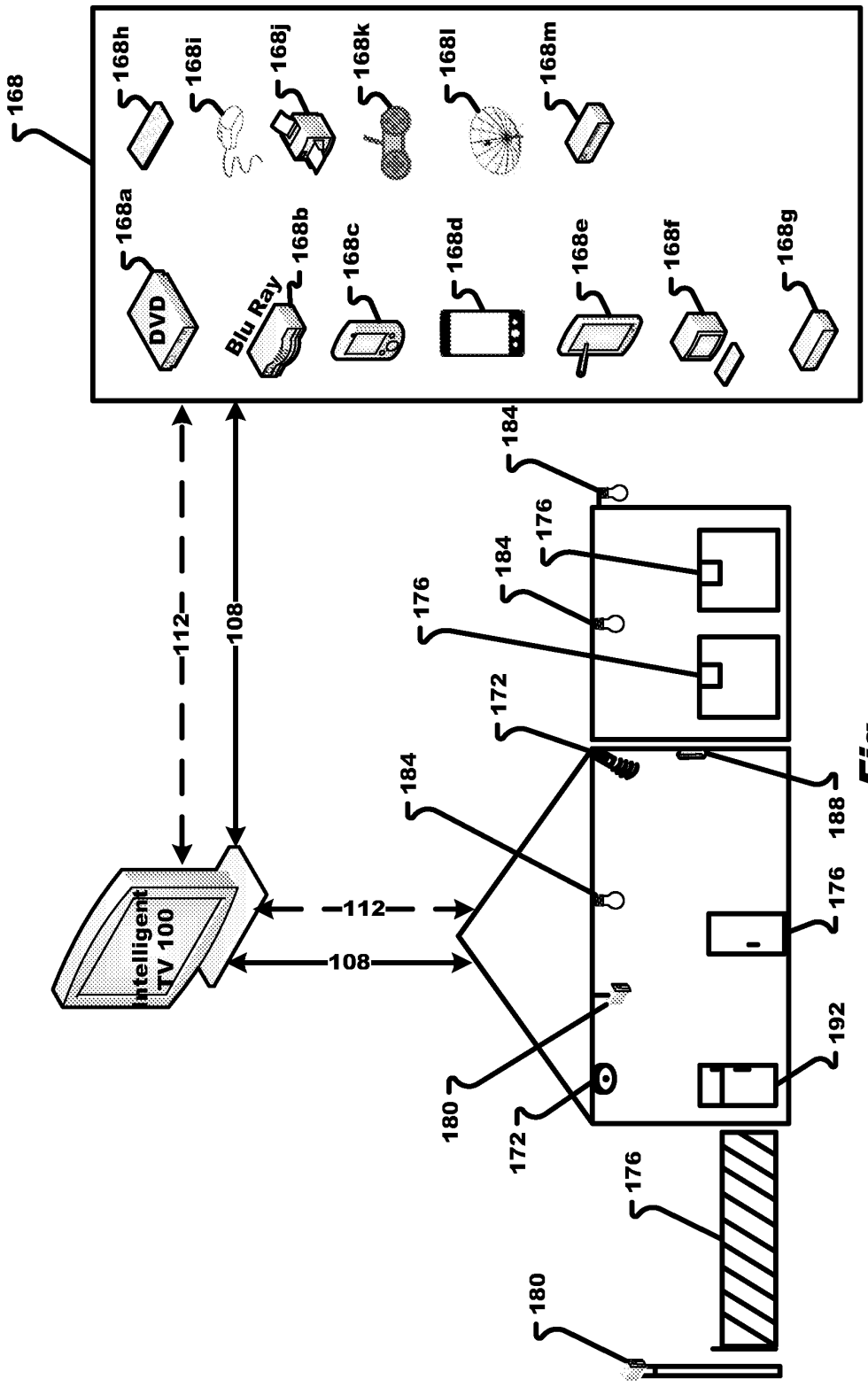

168
168h
168i
168j
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168l
168m
168a
DVD
168b
Blu Ray
168c
168d
168e
168f
168g
112
108
Intelligent TV 100
112
108
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176
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176
180

Fig. 1B

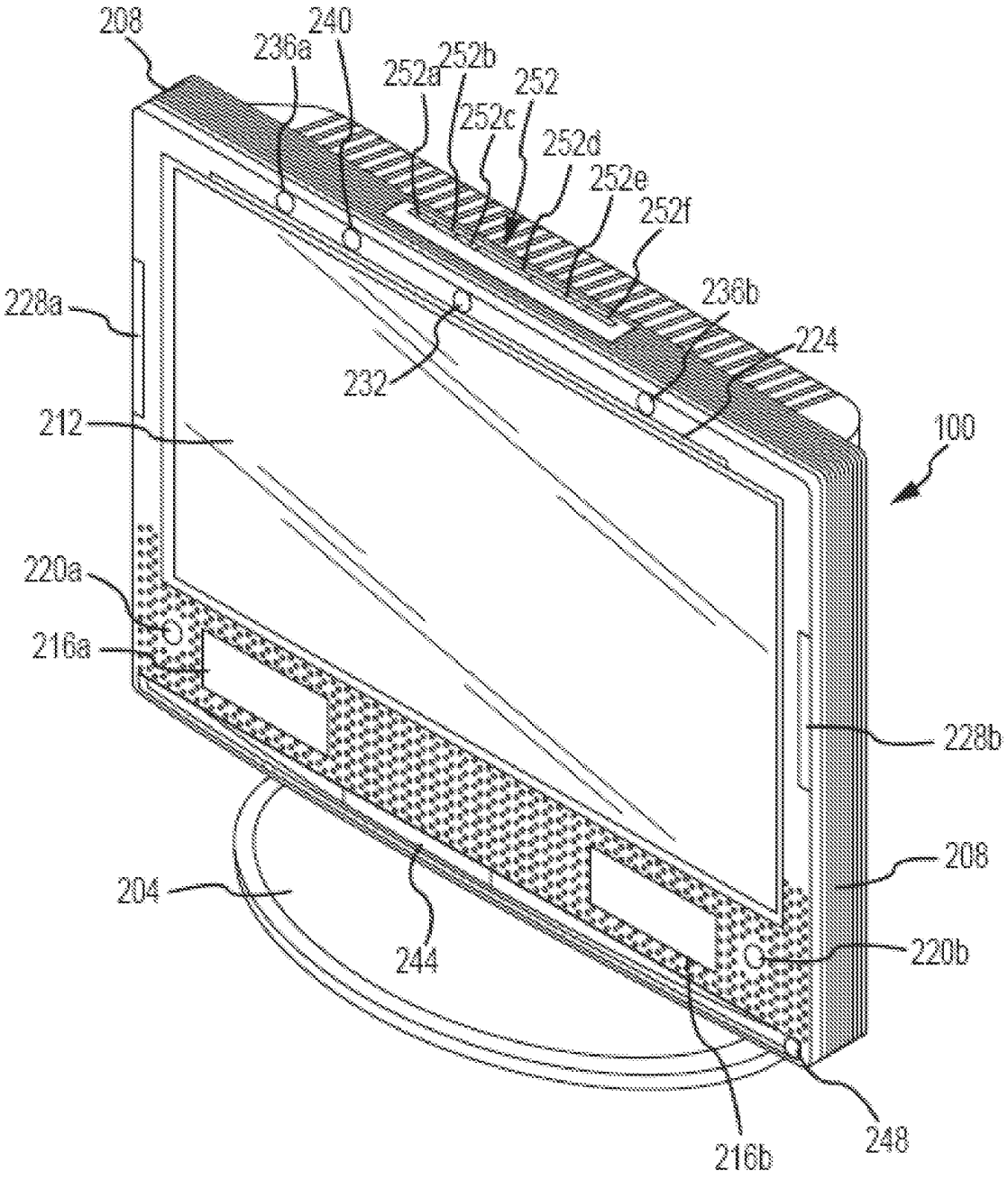

208
240
236a
252a
252b
252
252c
252d
252e
252f
236b
224
228a
232
212
100
220a
216a
228b
208
204
244
220b
248
216b

Fig. 2A

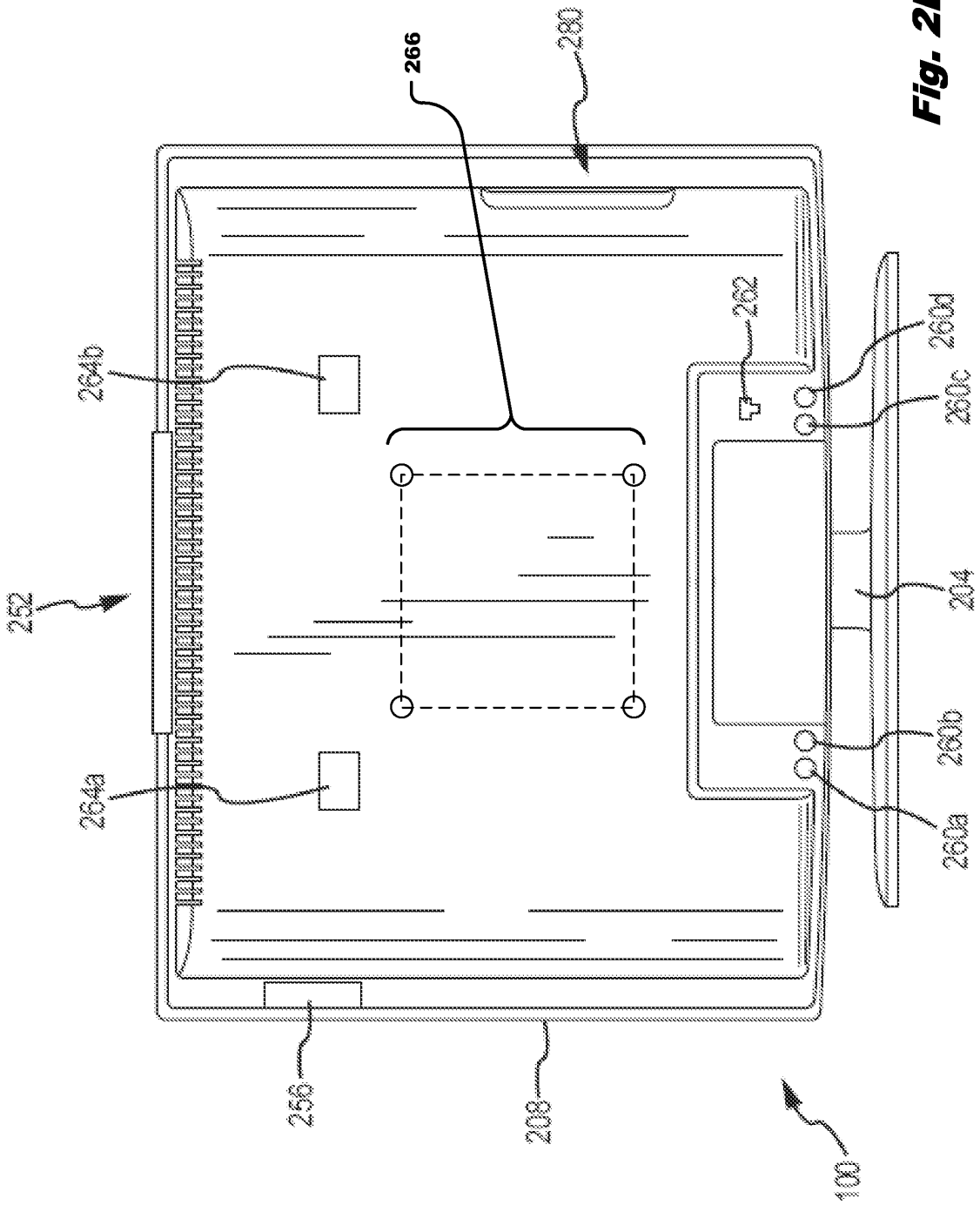


Fig. 2B

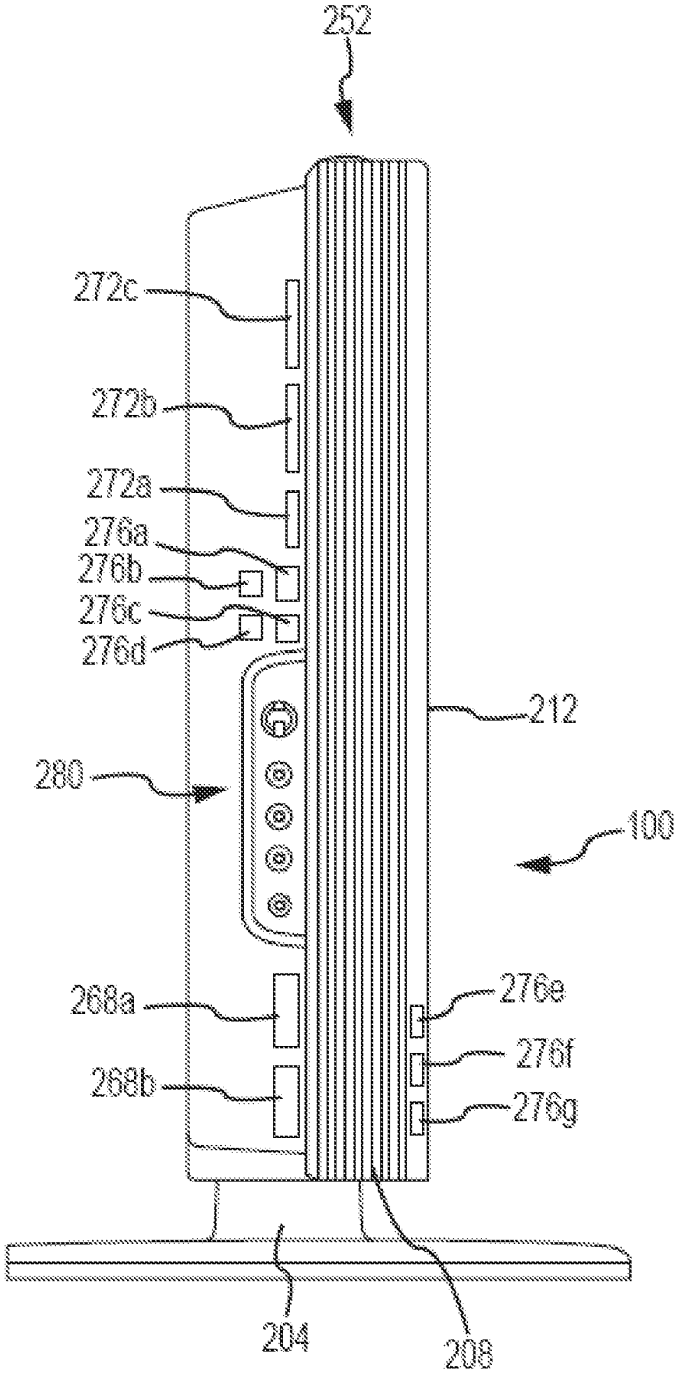

252
272c
272b
272a
276a
276b
276c
276d
212
280
100
268a
276e
276f
268b
276g
204
208

Fig. 2C

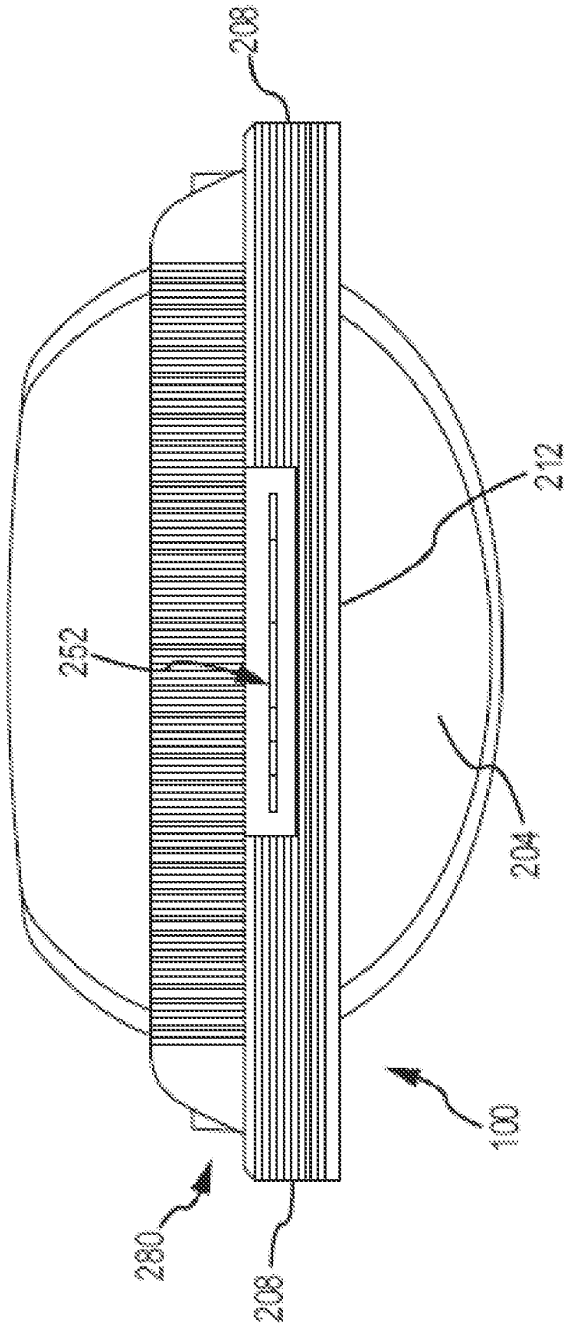


Fig. 2D

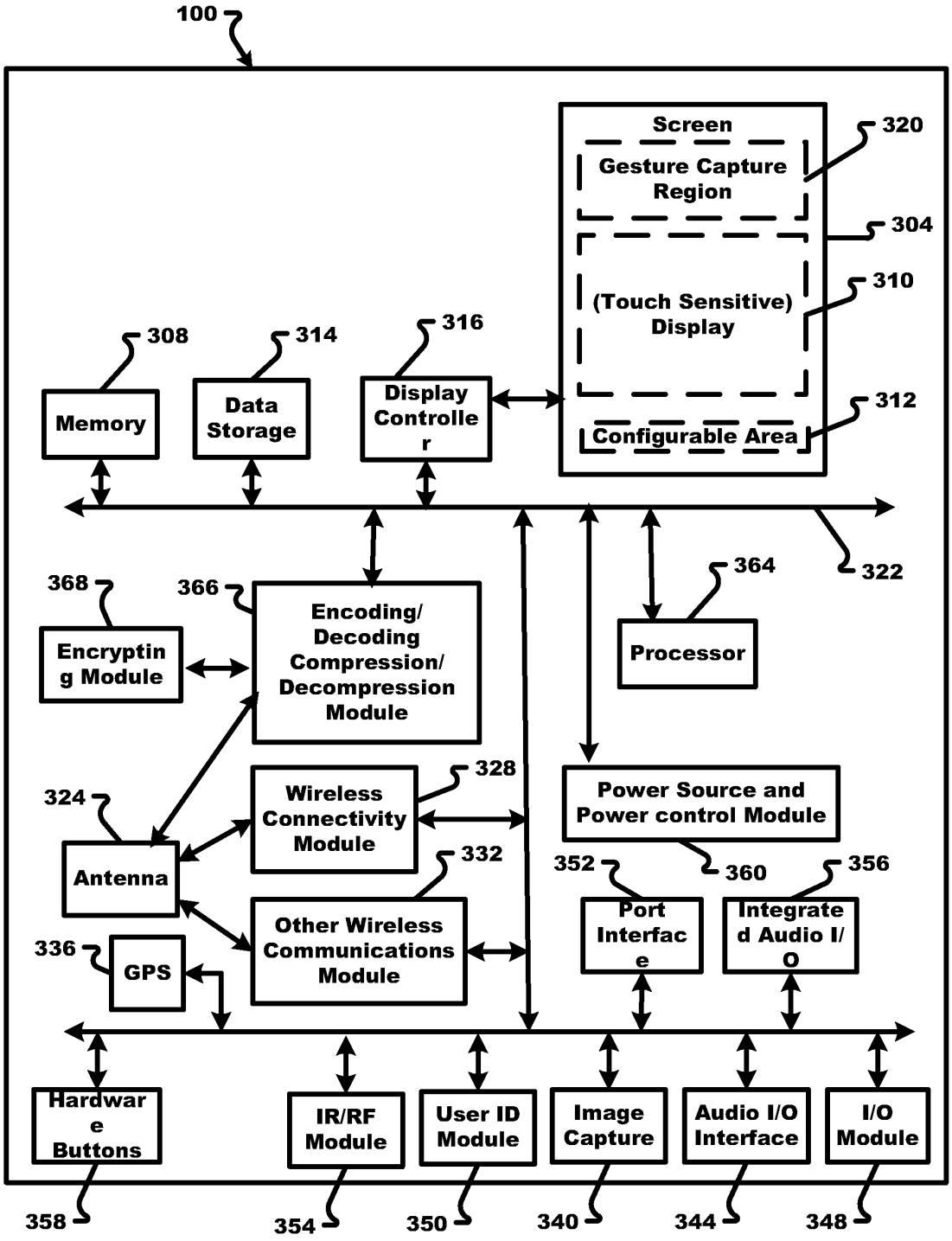

100
Screen
320
Gesture Capture Region
304
(Touch Sensitive) Display
310
312
Configurable Area
308
Memory
314
Data Storage
316
Display Controller
322
364
Processor
368
Encryptin g Module
366
Encoding/ Decoding Compression/ Decompression Module
328
Wireless Connectivity Module
324
Antenna
332
Other Wireless Communications Module
336
GPS
Power Source and Power control Module
352
360
356
Port Interfac e
Integrate d Audio I/ O
Hardwar e Buttons
IR/RF Module
User ID Module
Image Capture
Audio I/O Interface
I/O Module
358
354
350
340
344
348

FIG. 3

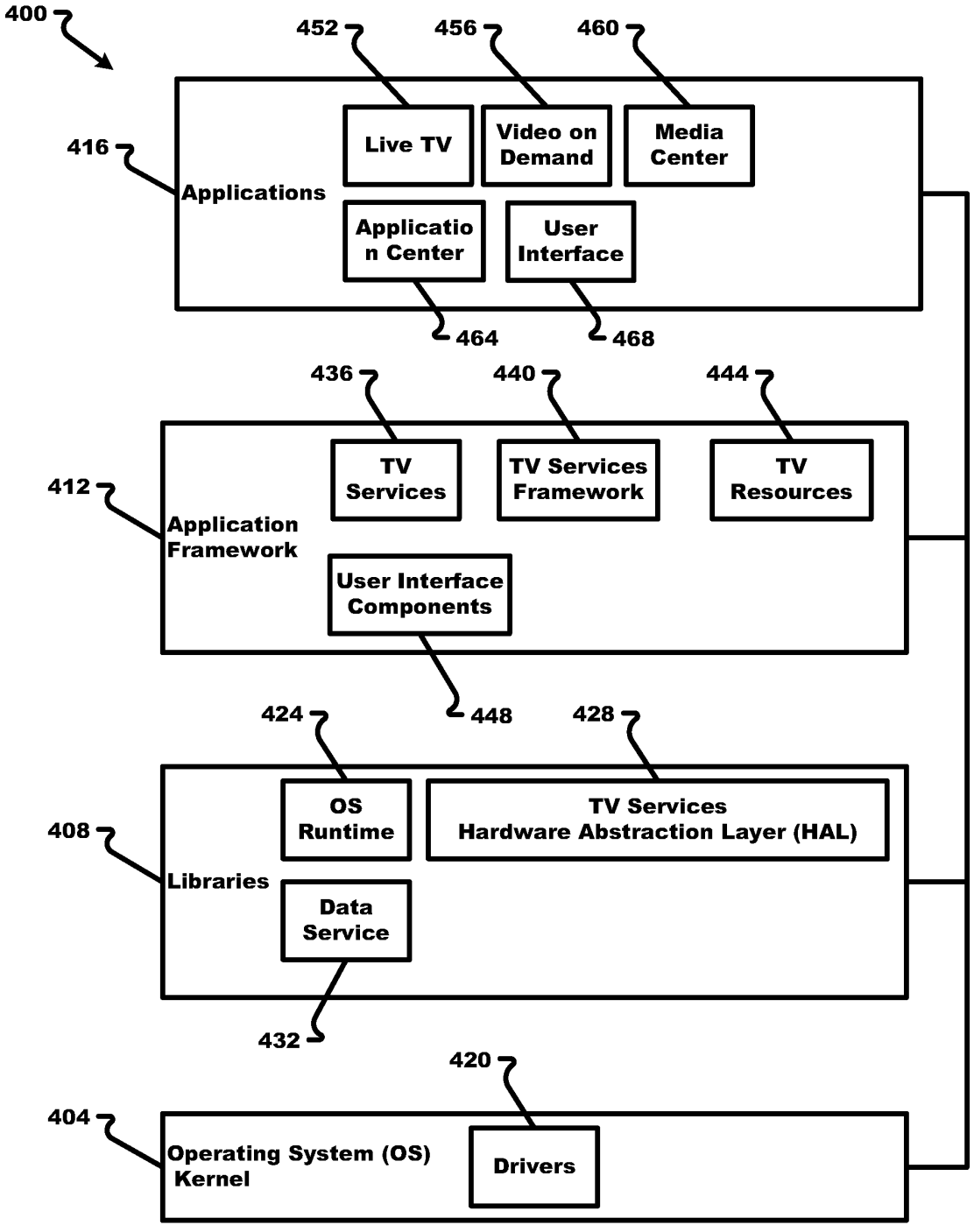

400
452
456
460
416
Applications
Live TV
Video on Demand
Media Center
Applicatio n Center
User Interface
464
468
436
440
444
412
Application Framework
TV Services
TV Services Framework
TV Resources
User Interface Components
448
424
428
408
Libraries
OS Runtime
TV Services Hardware Abstraction Layer (HAL)
Data Service
432
420
404
Operating System (OS) Kernel
Drivers

FIG. 4

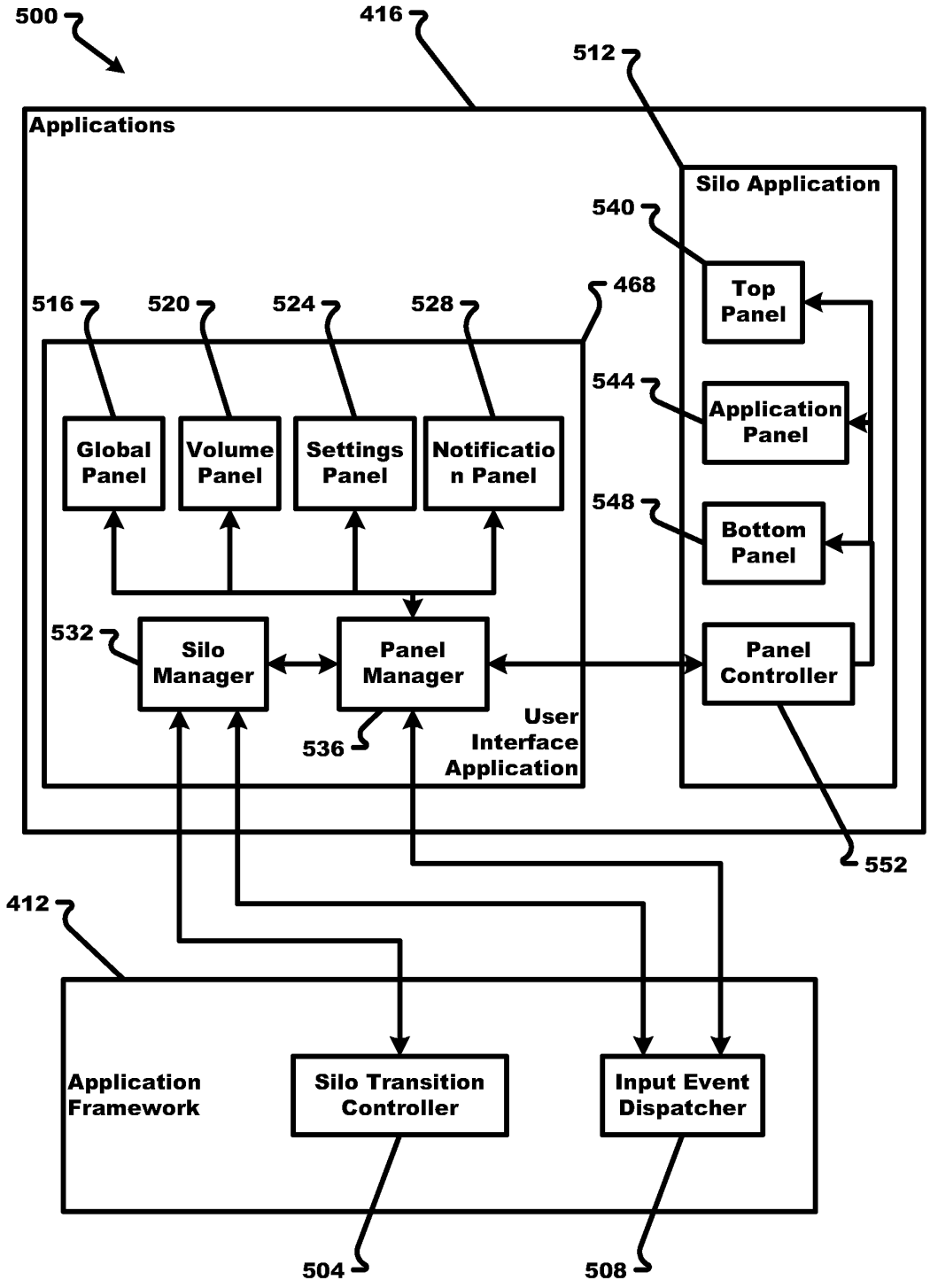

500
416
512
Applications
Silo Application
540
Top Panel
468
516
520
524
528
544
Application Panel
Global Panel
Volume Panel
Settings Panel
Notification Panel
548
Bottom Panel
532
Silo Manager
Panel Manager
Panel Controller
User Interface Application
536
552
412
Application Framework
Silo Transition Controller
Input Event Dispatcher
504
508

FIG. 5

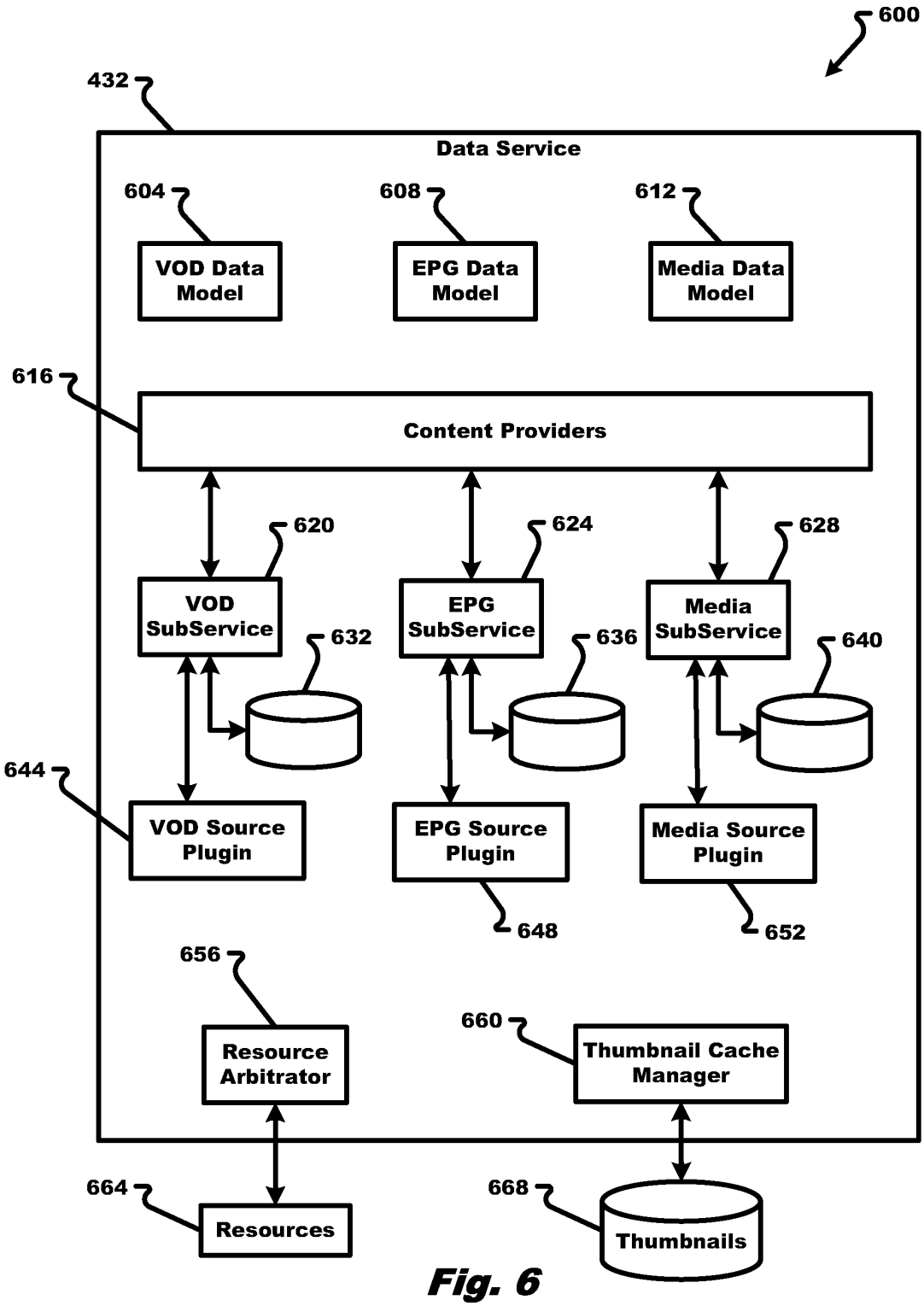

600
432
Data Service
604
VOD Data Model
608
EPG Data Model
612
Media Data Model
616
Content Providers
620
VOD SubService
624
EPG SubService
628
Media SubService
632
636
640
644
VOD Source Plugin
EPG Source Plugin
Media Source Plugin
648
652
656
Resource Arbitrator
660
Thumbnail Cache Manager
664
Resources
668
Thumbnails

Fig. 6

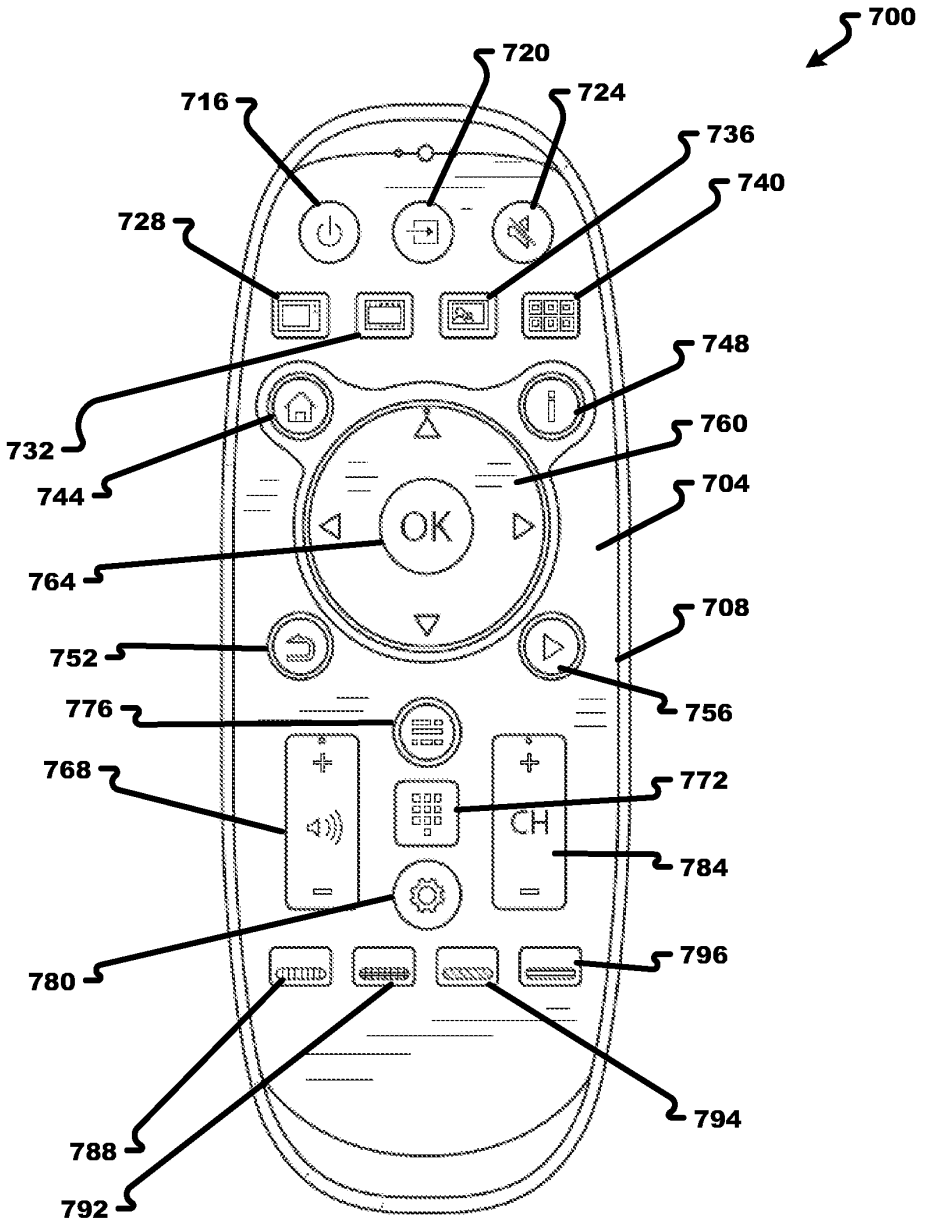

700
720
716
724
736
740
728
748
732
760
744
704
OK
764
708
752
756
776
768
772
CH
784
780
796
788
794
792

Fig. 7

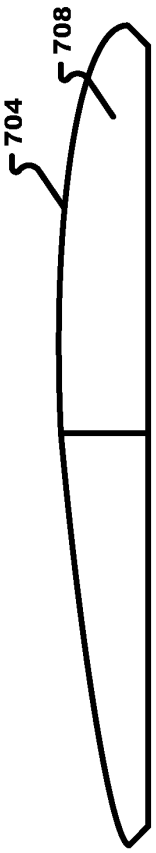


Fig. 8

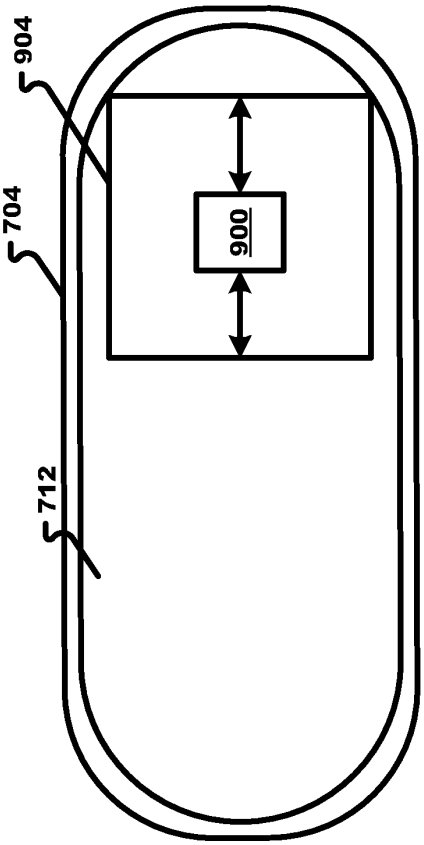


Fig. 9A

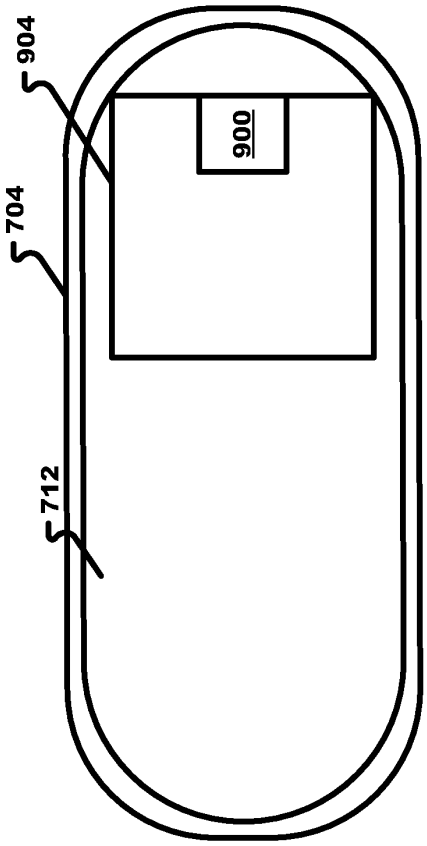


Fig. 9B

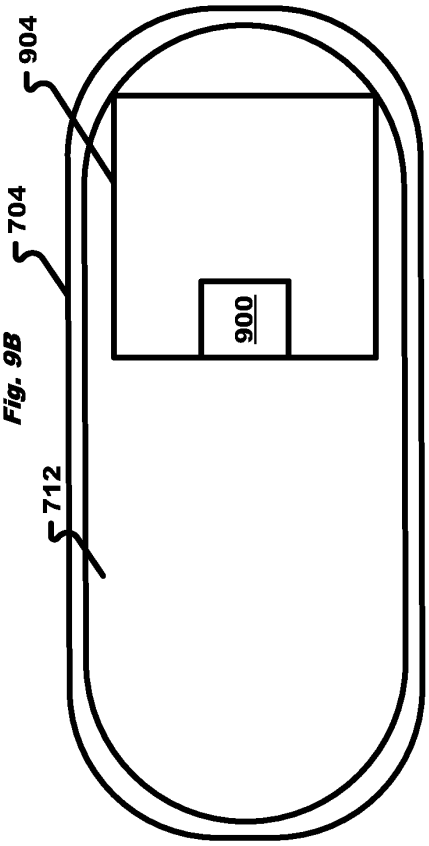


Fig. 9C

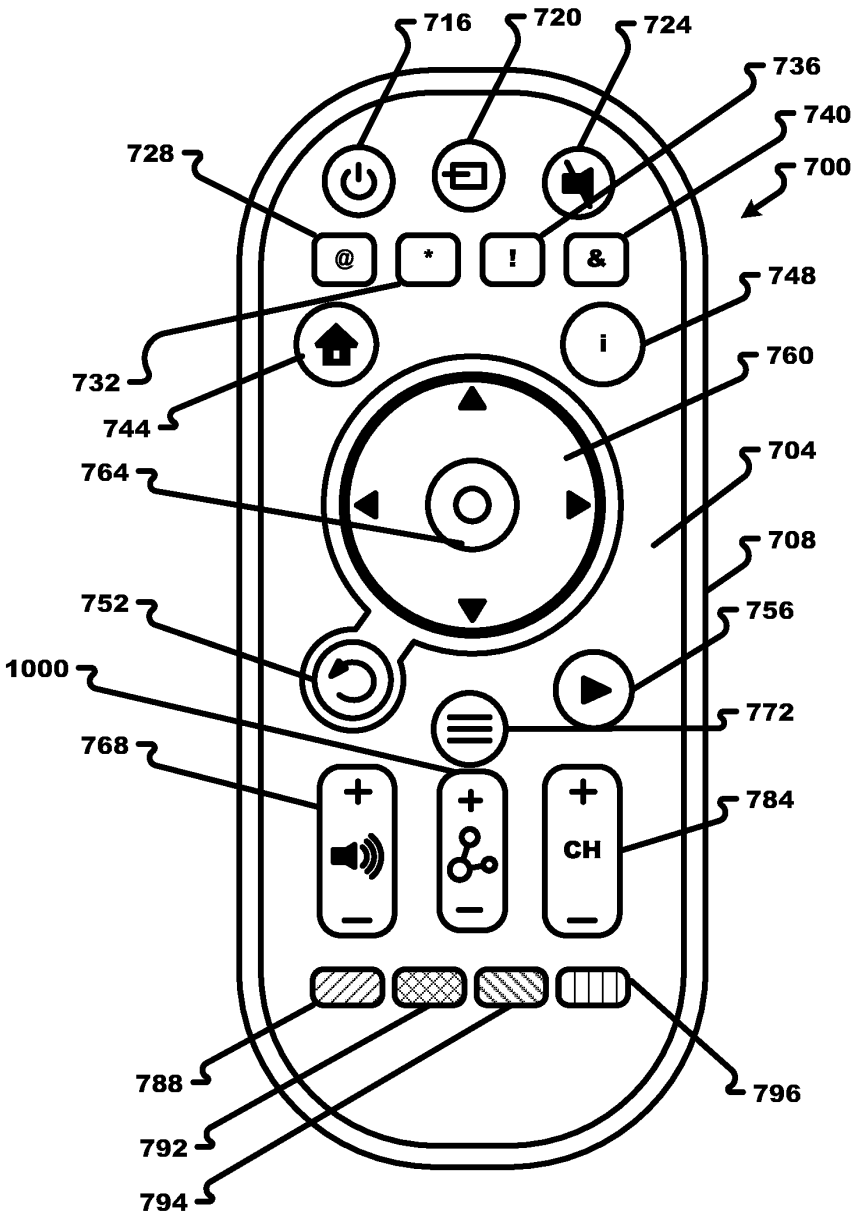

716
720
724
736
740
700
728
@
*
!
&
748
i
732
744
760
704
764
708
752
756
1000
772
768
784
CH
788
792
794
796

Fig. 10

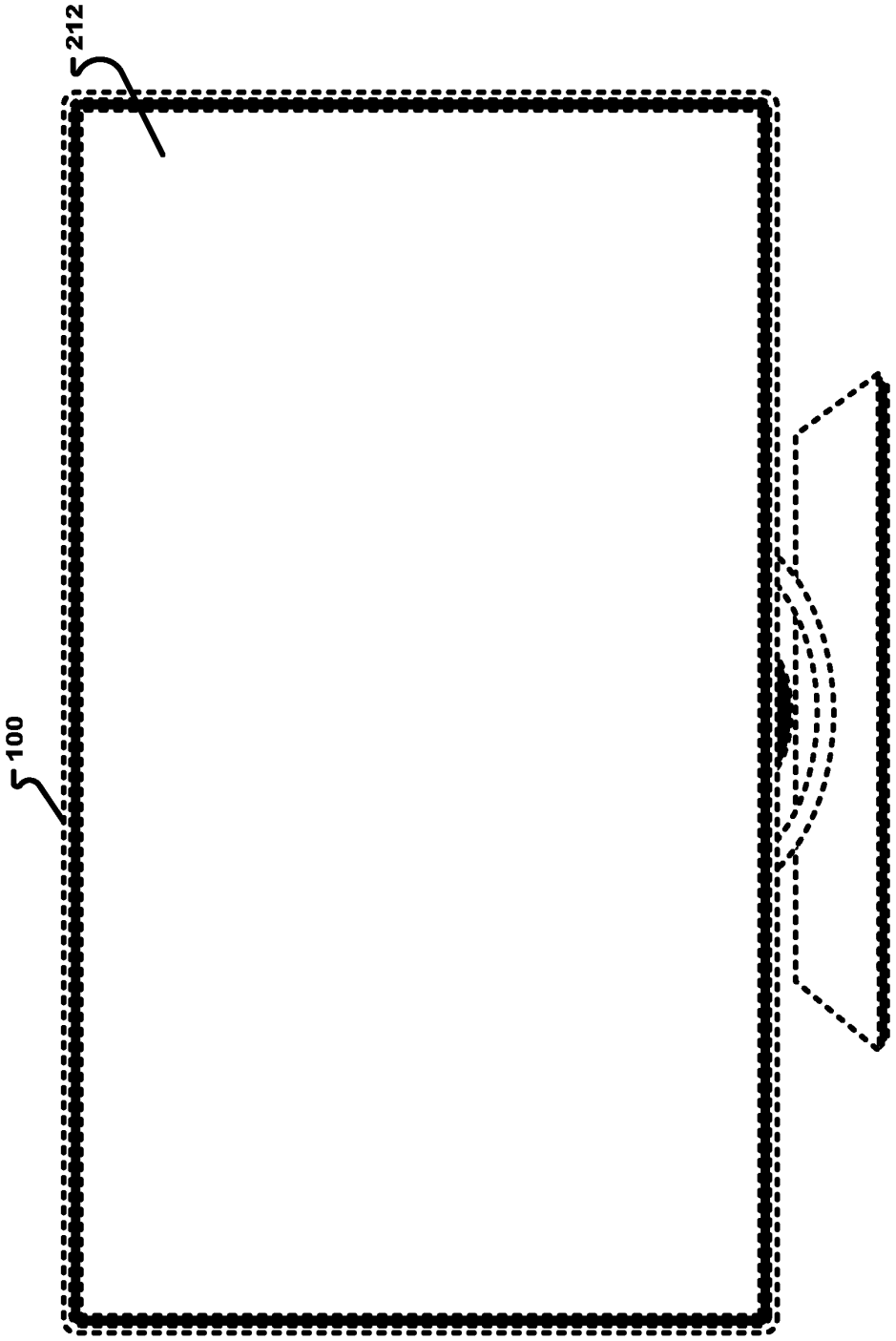


Fig. 11A

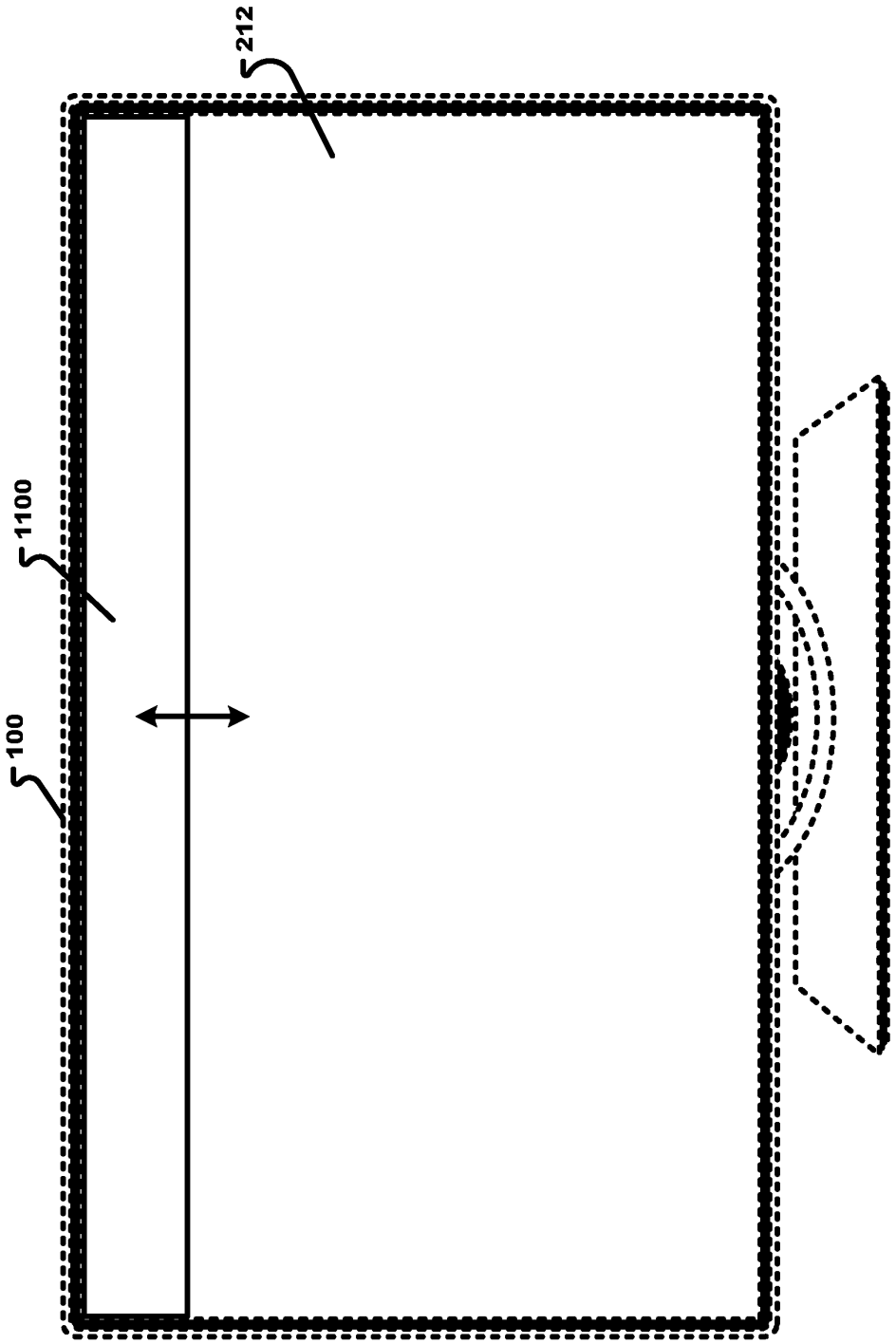


Fig. 11B

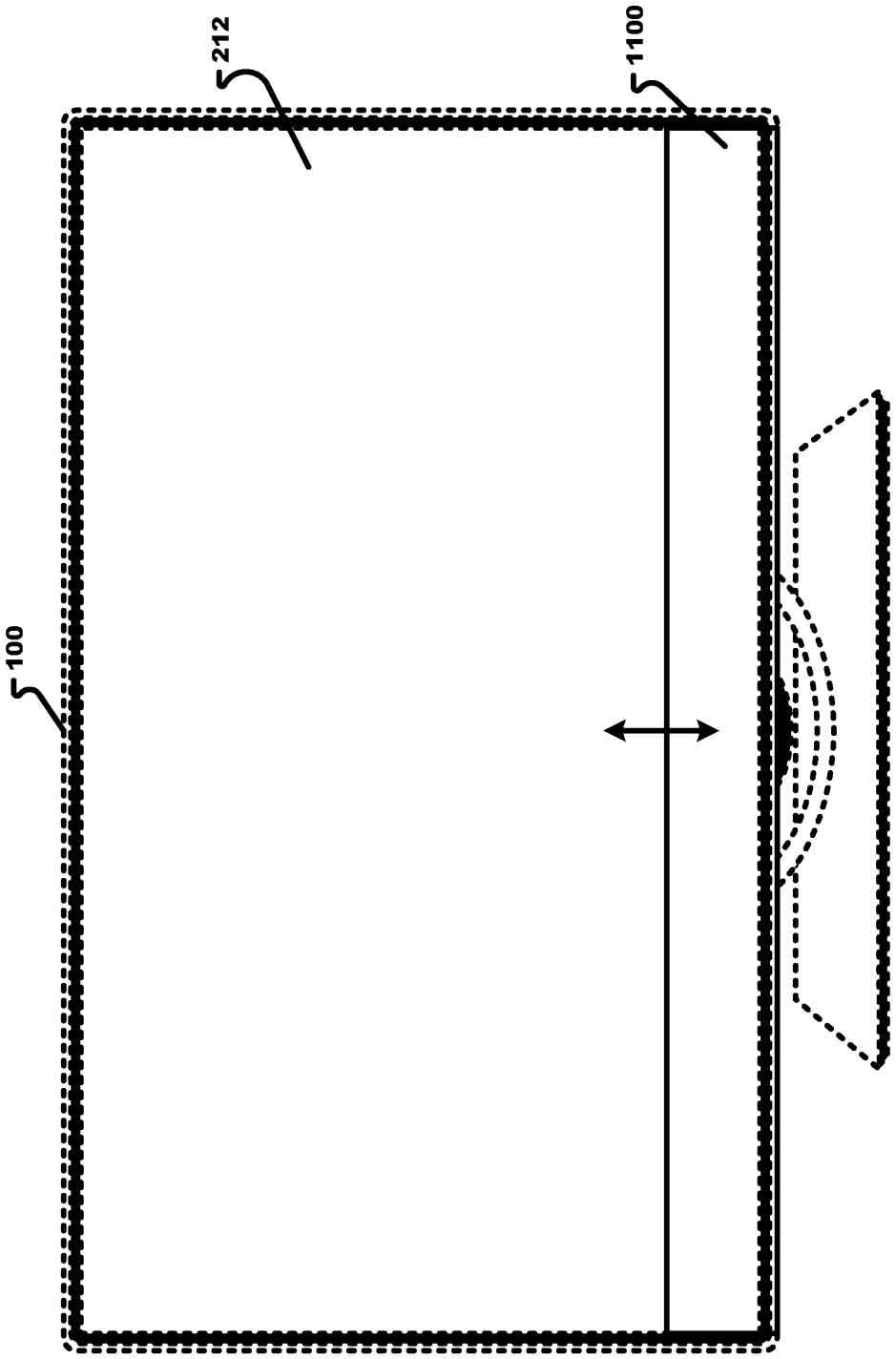


Fig. 11C

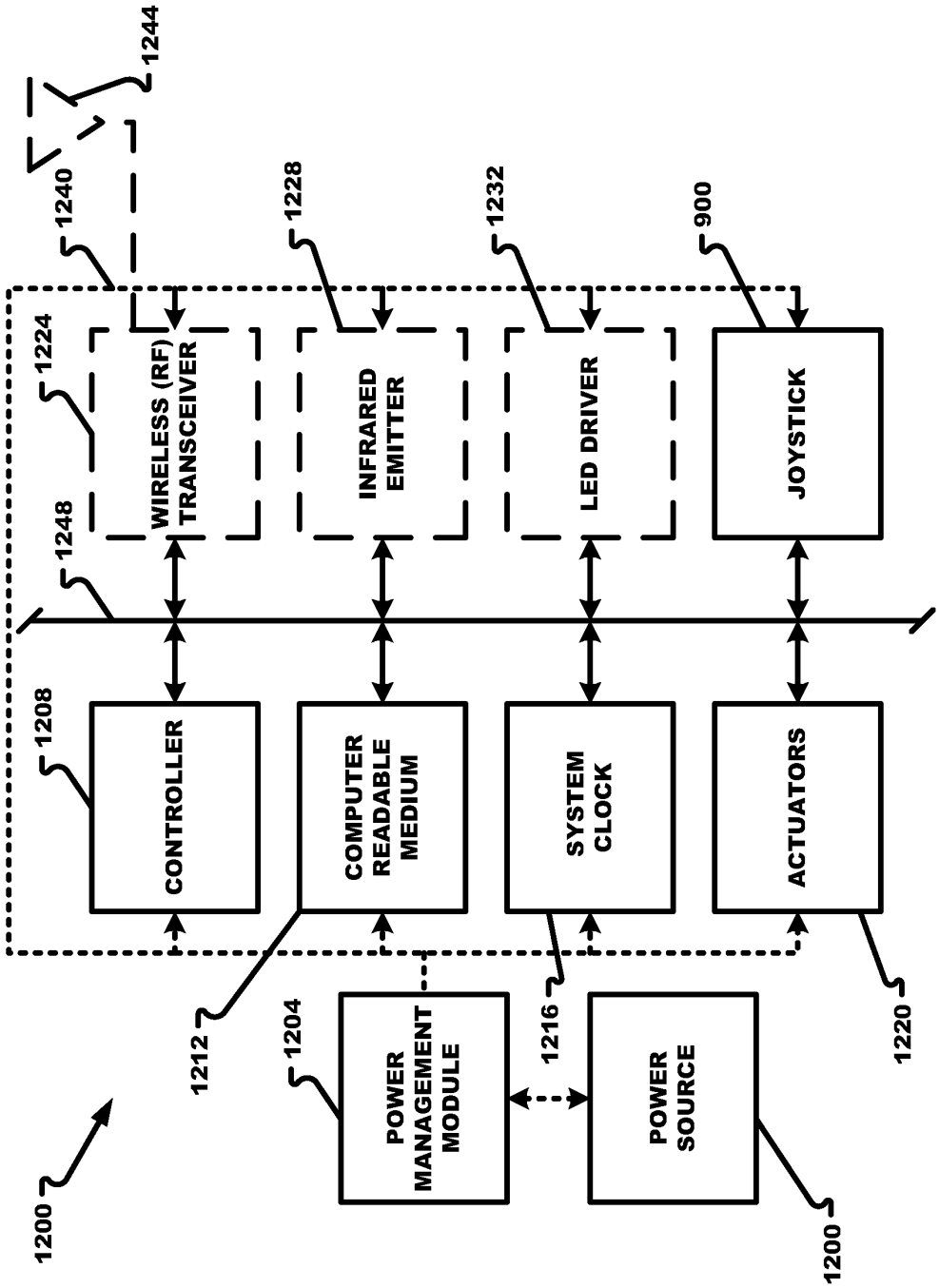

1244
1240
1228
1232
900
1224
WIRELESS (RF) TRANSCEIVER
INFRARED EMITTER
LED DRIVER
JOYSTICK
1248
1208
CONTROLLER
COMPUTER READABLE MEDIUM
SYSTEM CLOCK
ACTUATORS
1212
1204
POWER MANAGEMENT MODULE
1216
POWER SOURCE
1220
1200
1200

Fig. 12

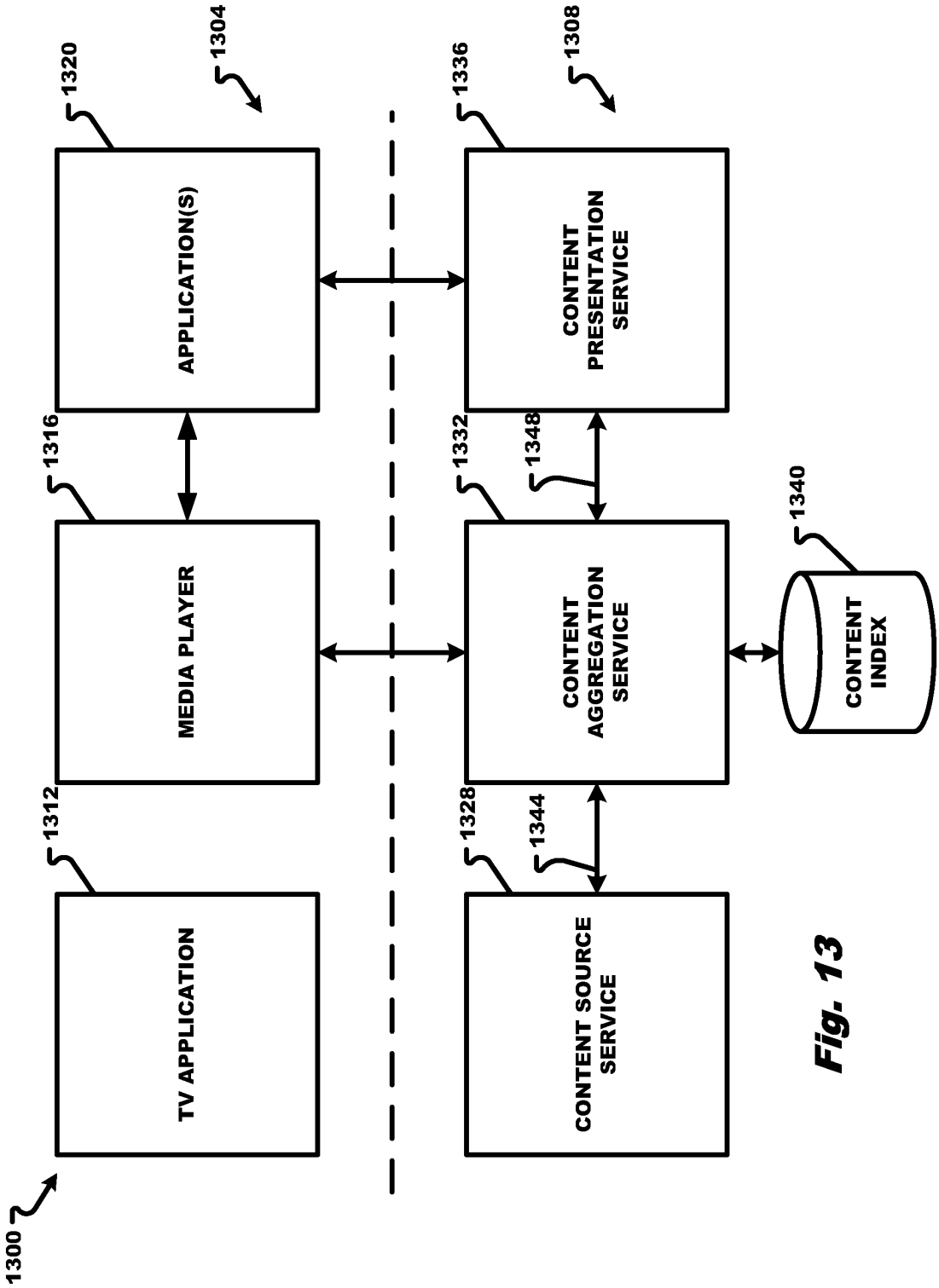

1300
1304
1320
APPLICATION(S)
1316
MEDIA PLAYER
1312
TV APPLICATION
1308
1336
CONTENT PRESENTATION SERVICE
1348
1332
CONTENT AGGREGATION SERVICE
1340
CONTENT INDEX
1344
1328
CONTENT SOURCE SERVICE

Fig. 13

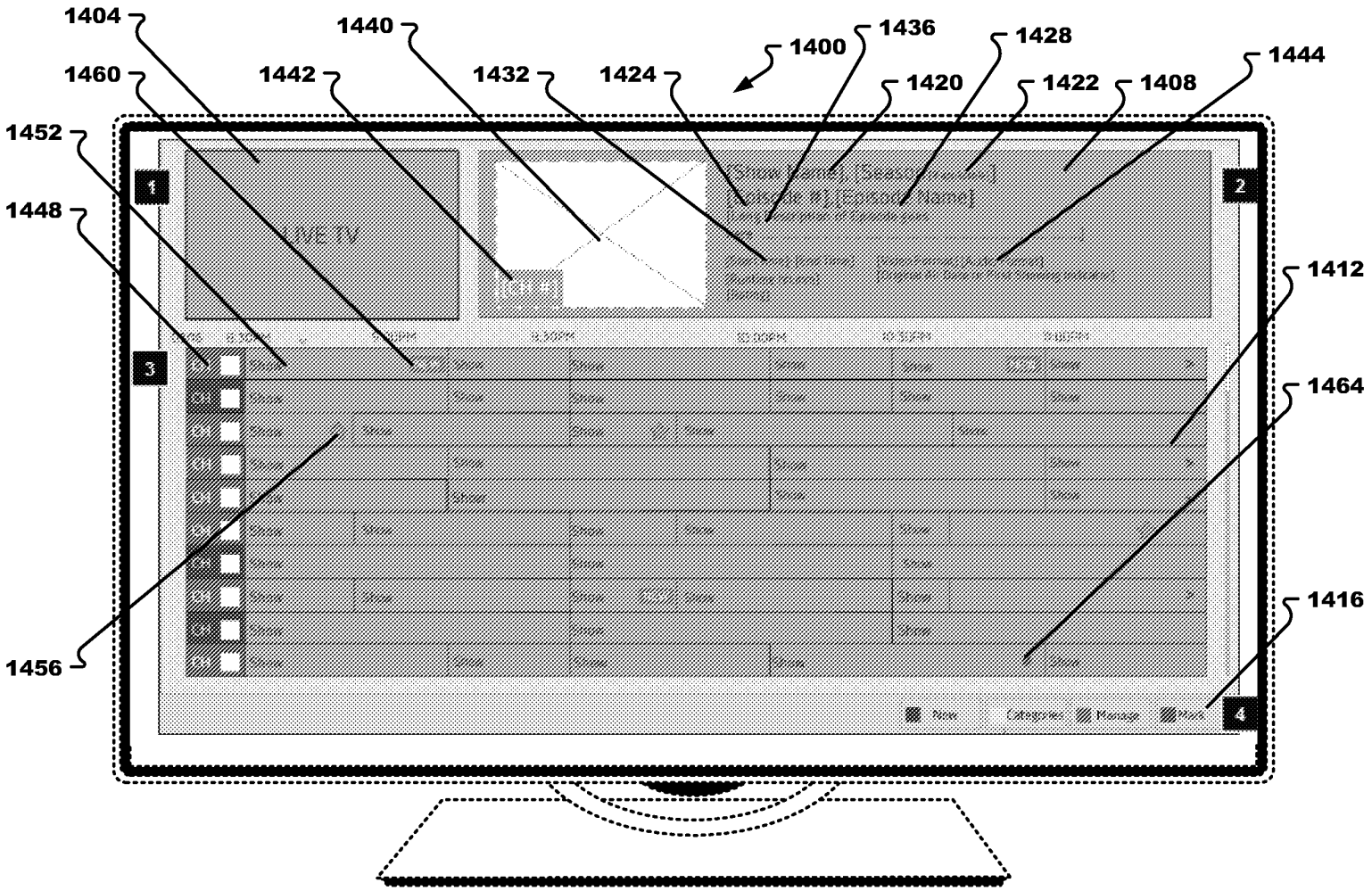


FIG. 14

EX. 1002
LG Electronics, Inc. / Page 3506 of 3523

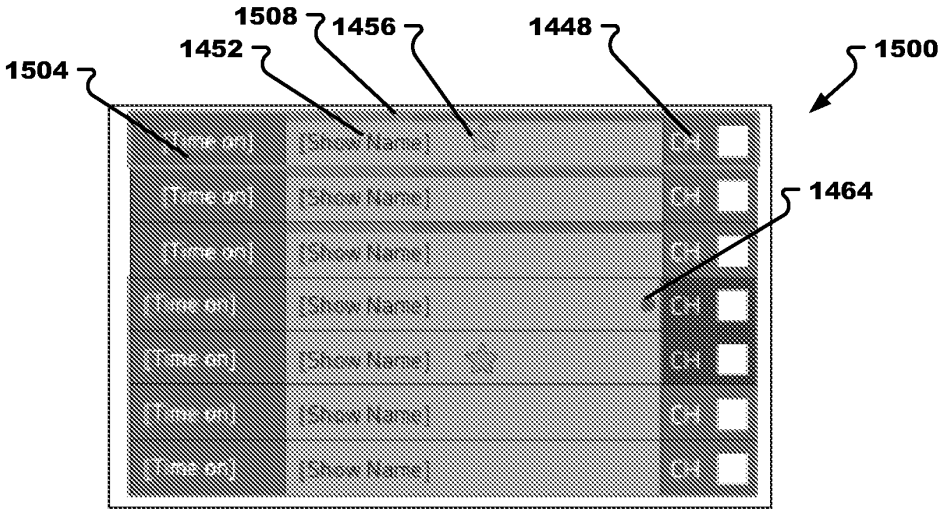


FIG. 15

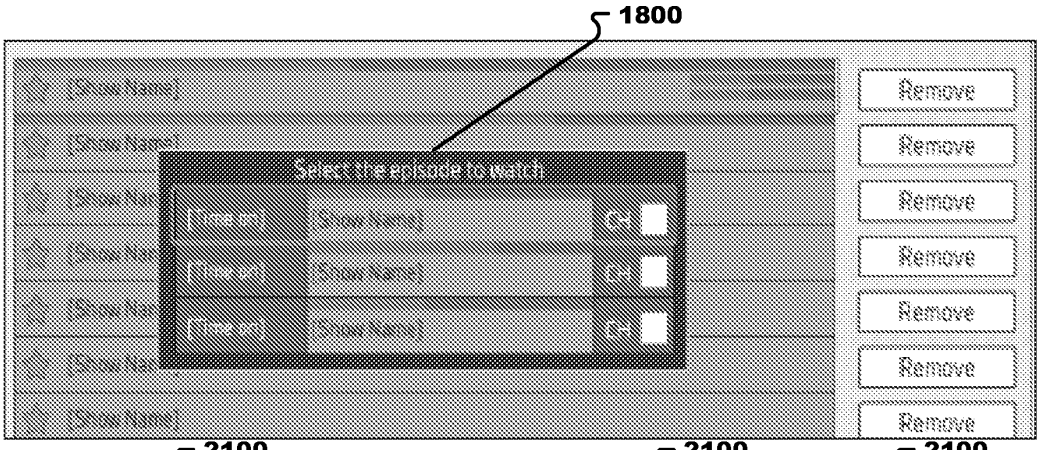


FIG. 18

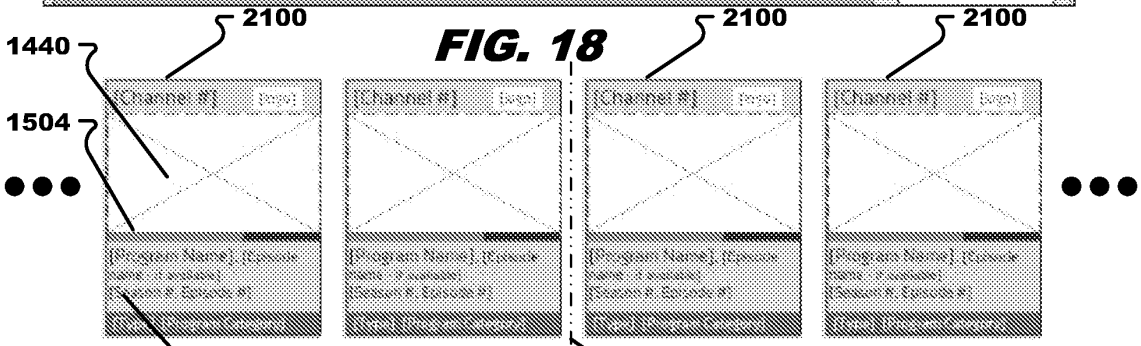


FIG. 21

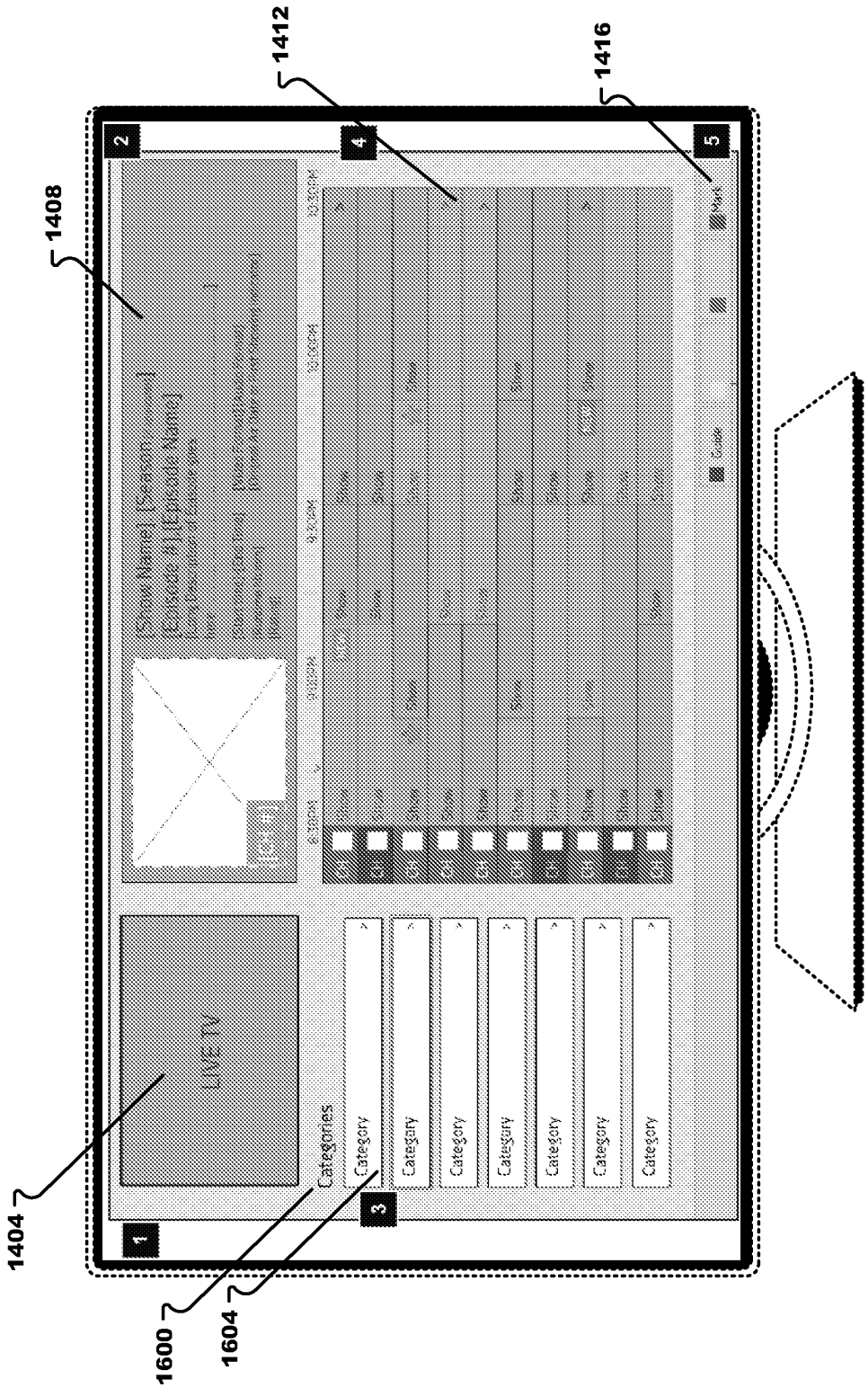

1412
1416
1408
1404
1600
1604
LIVE TV
Categories
Category
1
2
3
4
5

FIG. 16

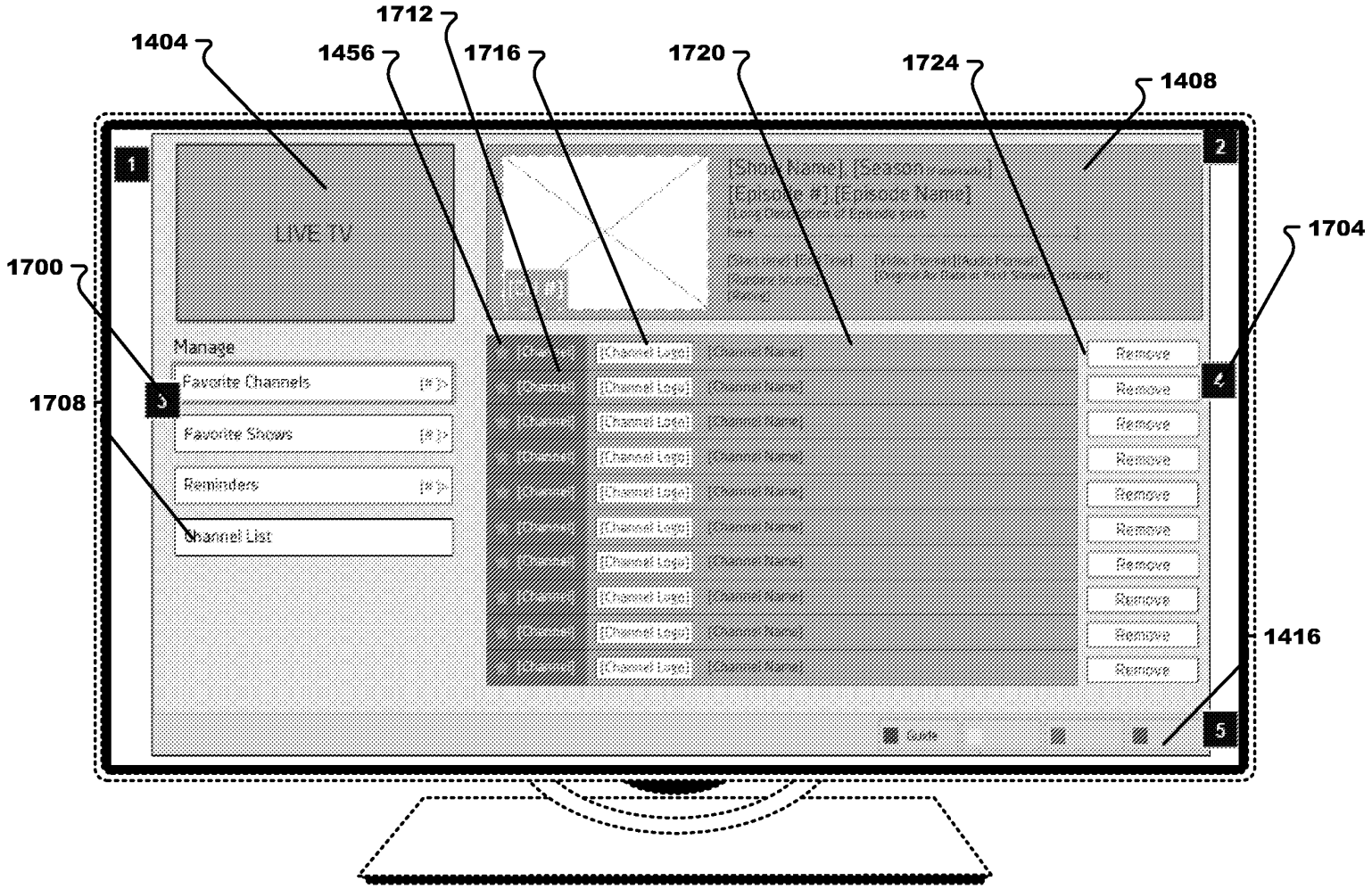


FIG. 17

EX. 1002
LG Electronics, Inc. / Page 3509 of 3523

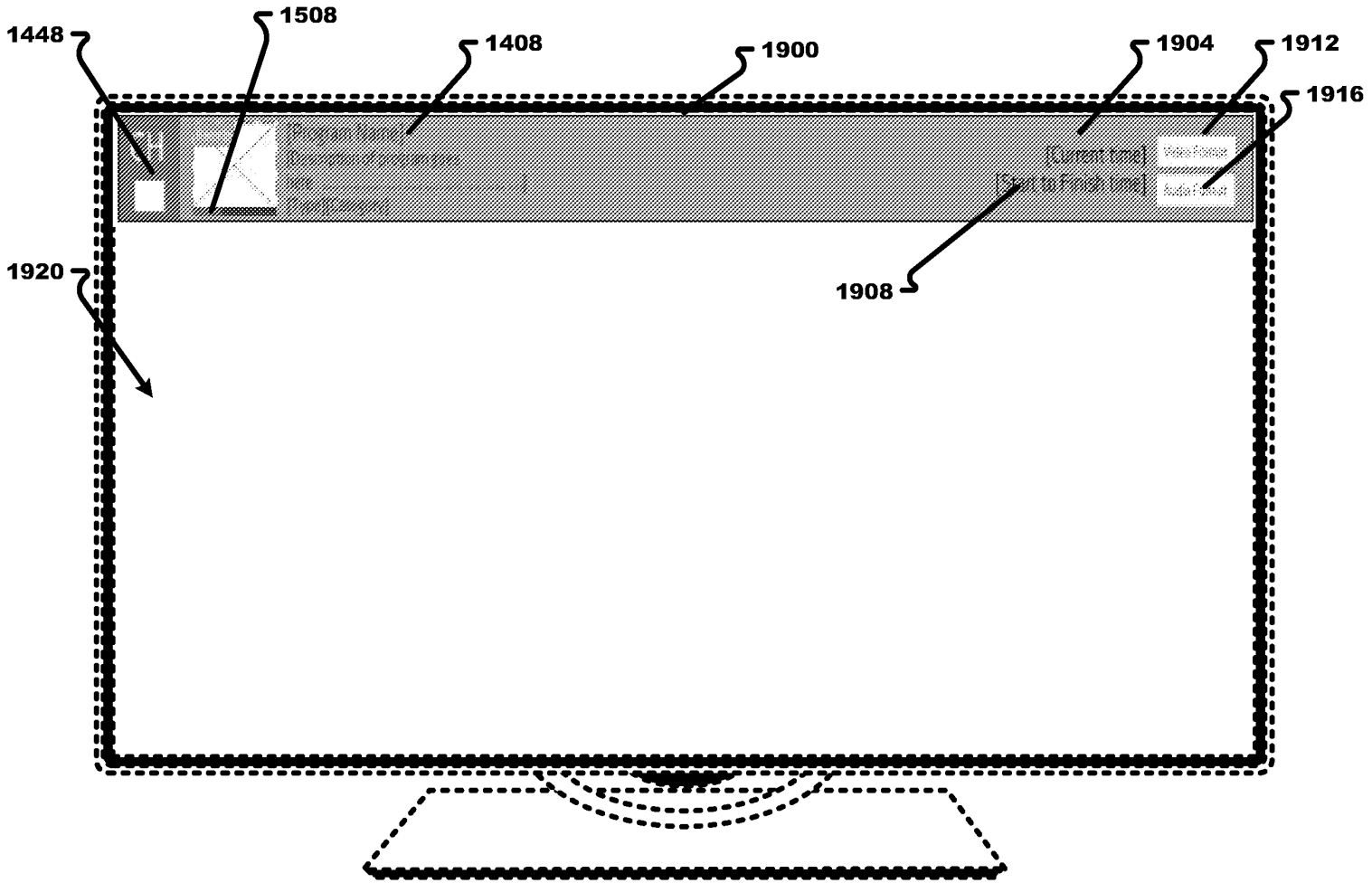


FIG. 19

EX. 1002
LG Electronics, Inc. / Page 3510 of 3523

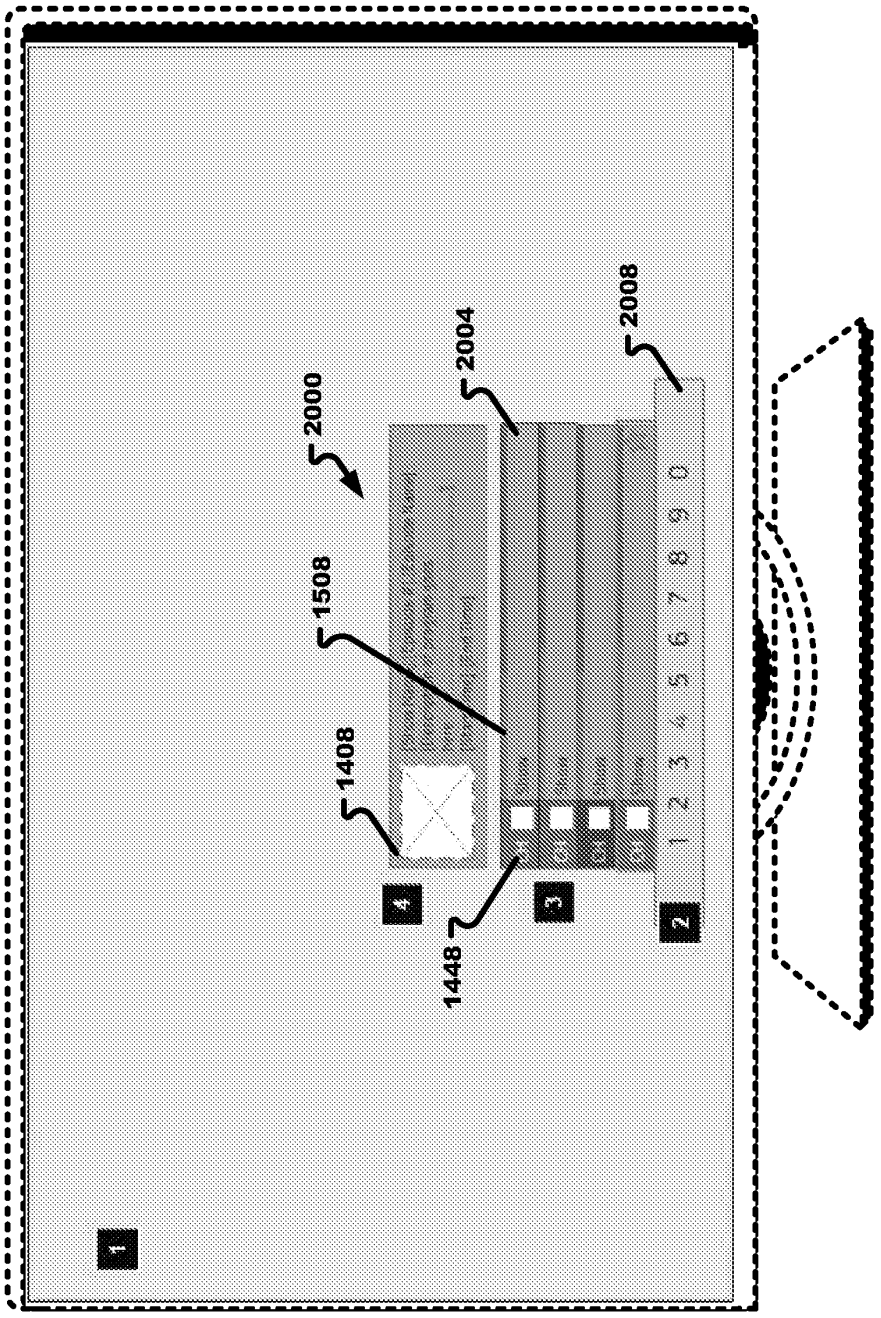


FIG. 20

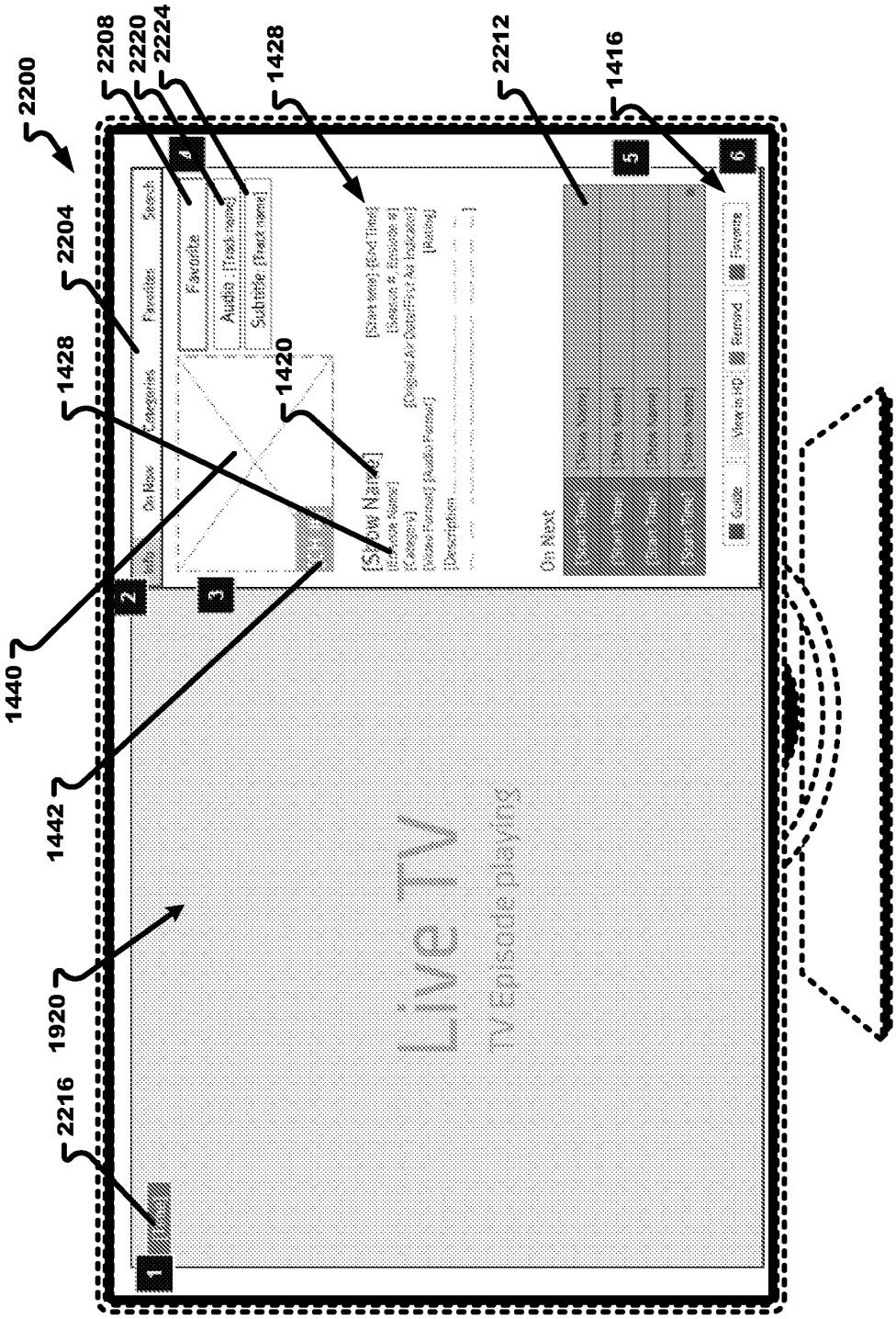

2200
2208
2220
2224
1428
2212
1416
2204
1428
1420
1440
1442
1920
2216
Live TV
No episode playing
On Now
Favorites
Search
Categories
Favorite
Audio: [Track name]
Subtitle: [Track name]
[Show Name]
On Next
Guide
View as HD
Remind
Favorite
1
2
3
4
5
6

FIG. 22

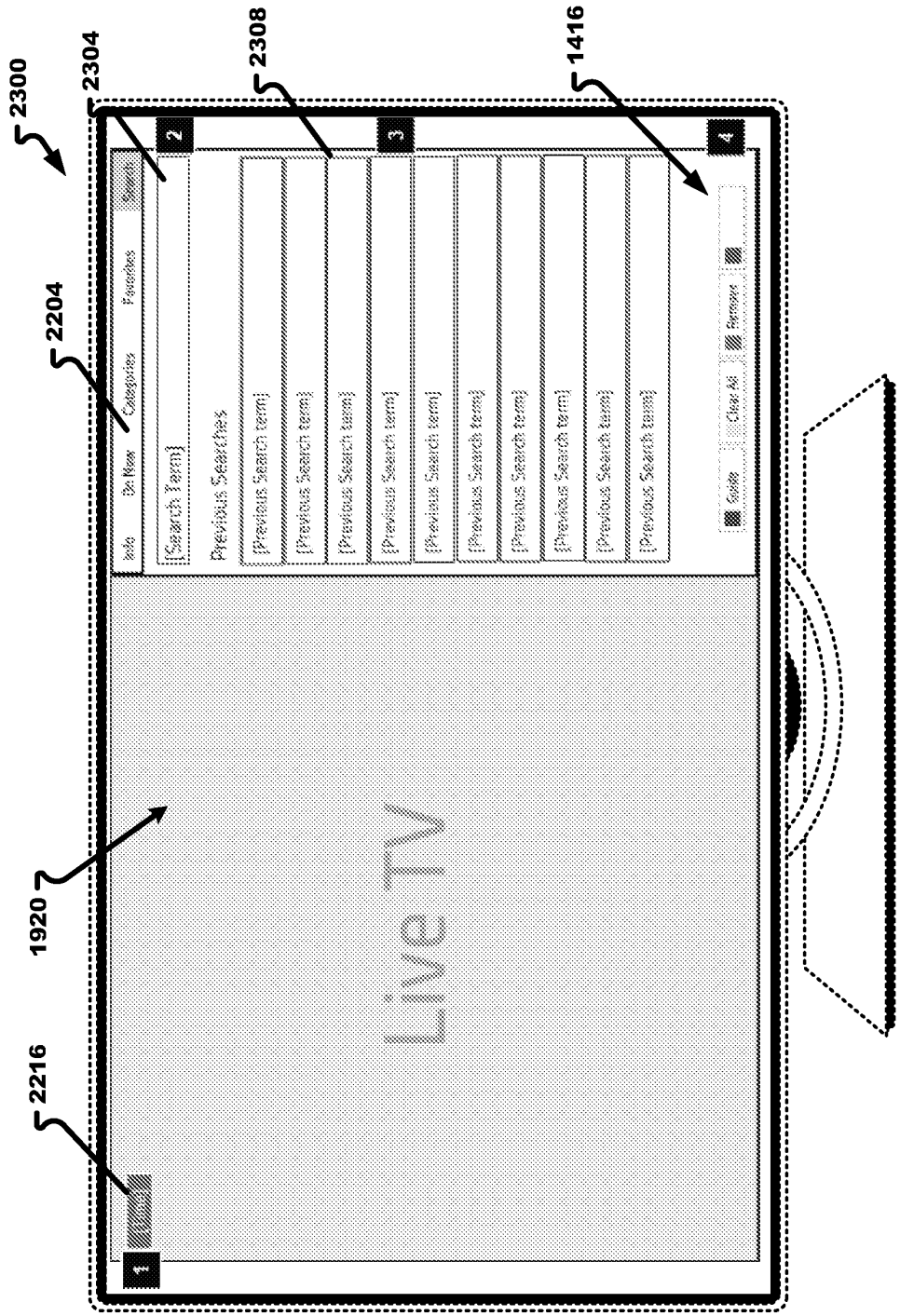

2300
2304
2308
1416
2204
1920
2216
Live TV
Info
Be Now
Categories
Favorites
Search
[Search Term]
Previous Searches
[Previous Search term]
Guide
Clear All
Remove
1
2
3
4

FIG. 23

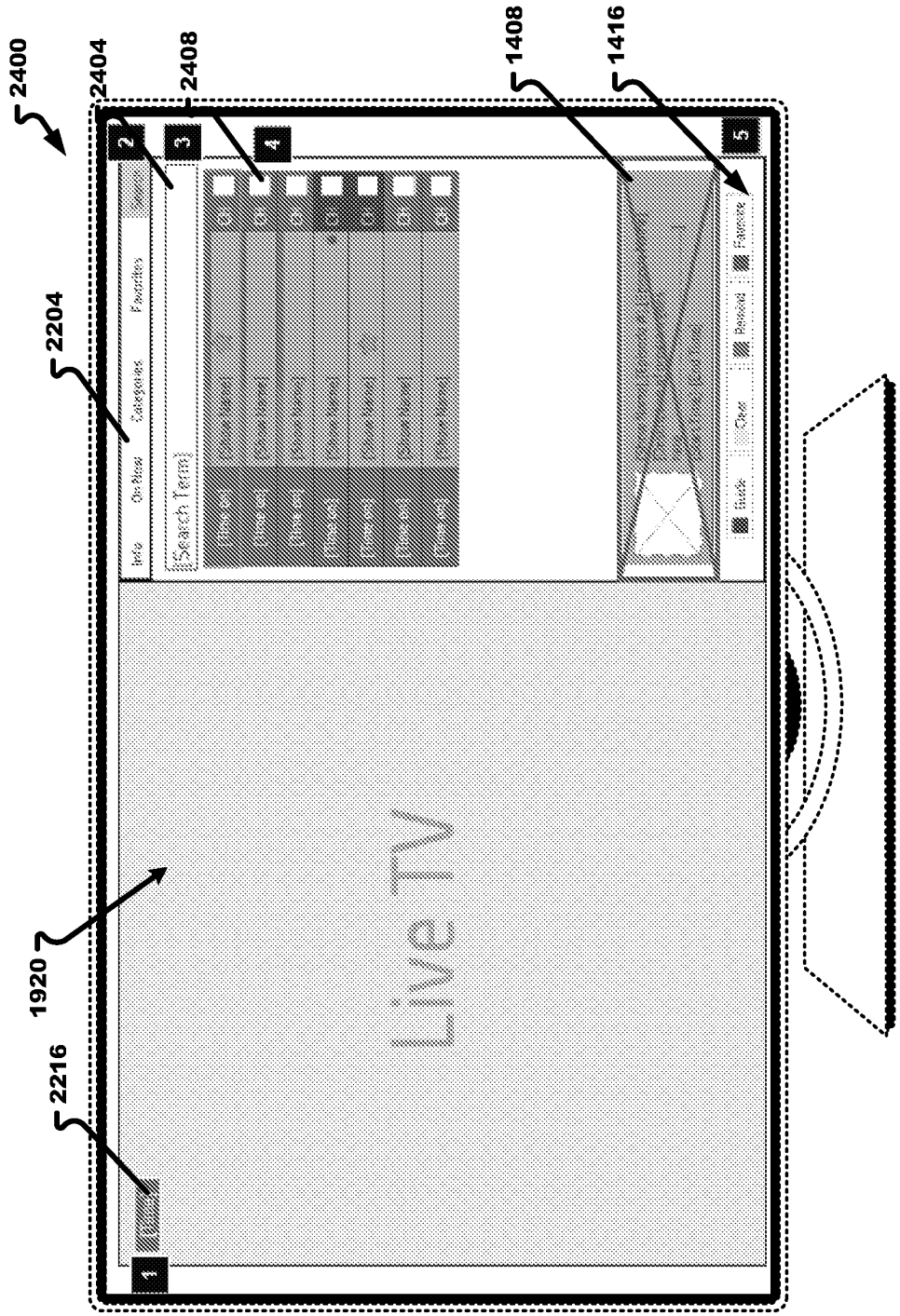

2400
2404
2408
1408
1416
2204
1920
2216
Live TV
Search Term
Info
On Now
Categories
Favorites
Guide
Chat
Record
Favorite
1
2
3
4
5

FIG. 24

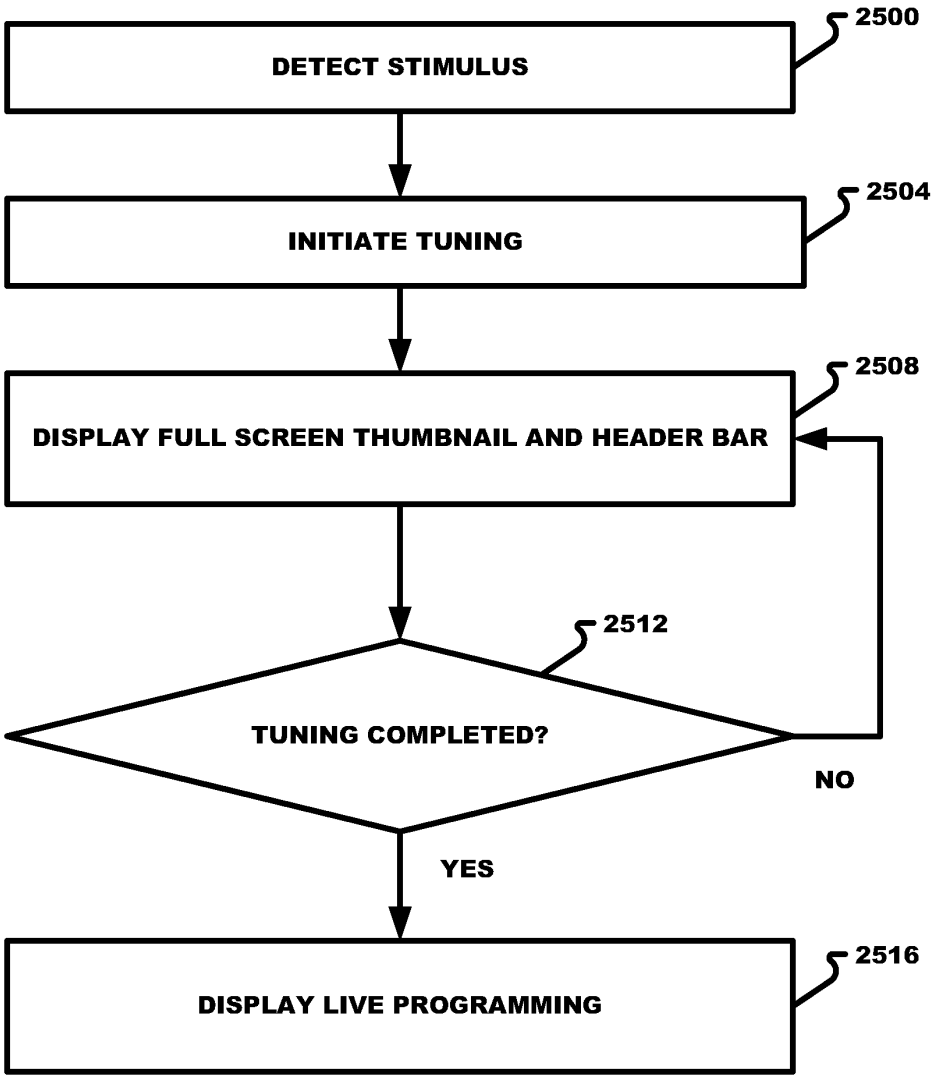

2500
DETECT STIMULUS
2504
INITIATE TUNING
2508
DISPLAY FULL SCREEN THUMBNAIL AND HEADER BAR
2512
TUNING COMPLETED?
NO
YES
2516
DISPLAY LIVE PROGRAMMING

FIG. 25

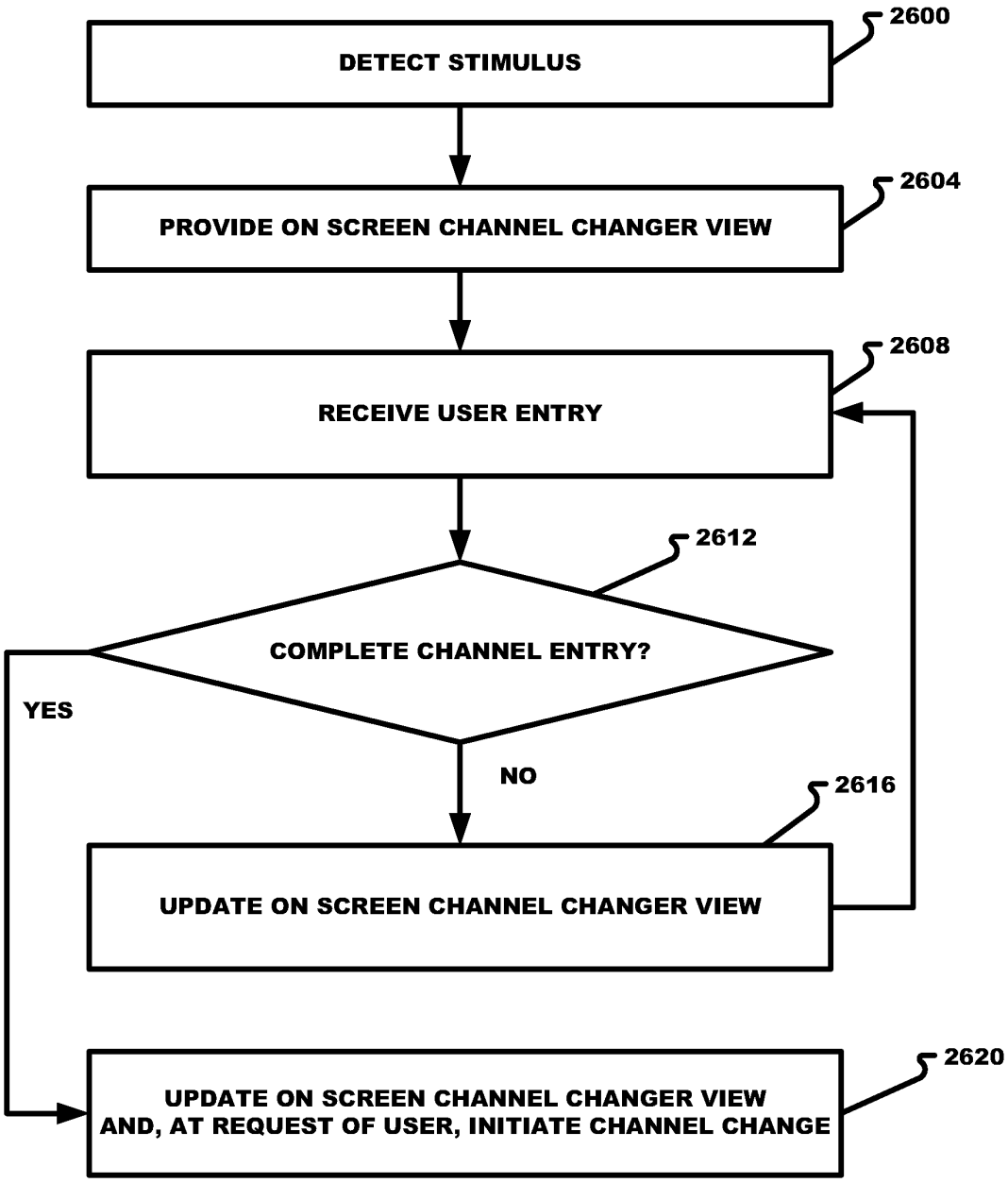

2600
DETECT STIMULUS
2604
PROVIDE ON SCREEN CHANNEL CHANGER VIEW
2608
RECEIVE USER ENTRY
2612
COMPLETE CHANNEL ENTRY?
YES
NO
2616
UPDATE ON SCREEN CHANNEL CHANGER VIEW
2620
UPDATE ON SCREEN CHANNEL CHANGER VIEW
AND, AT REQUEST OF USER, INITIATE CHANNEL CHANGE

FIG. 26

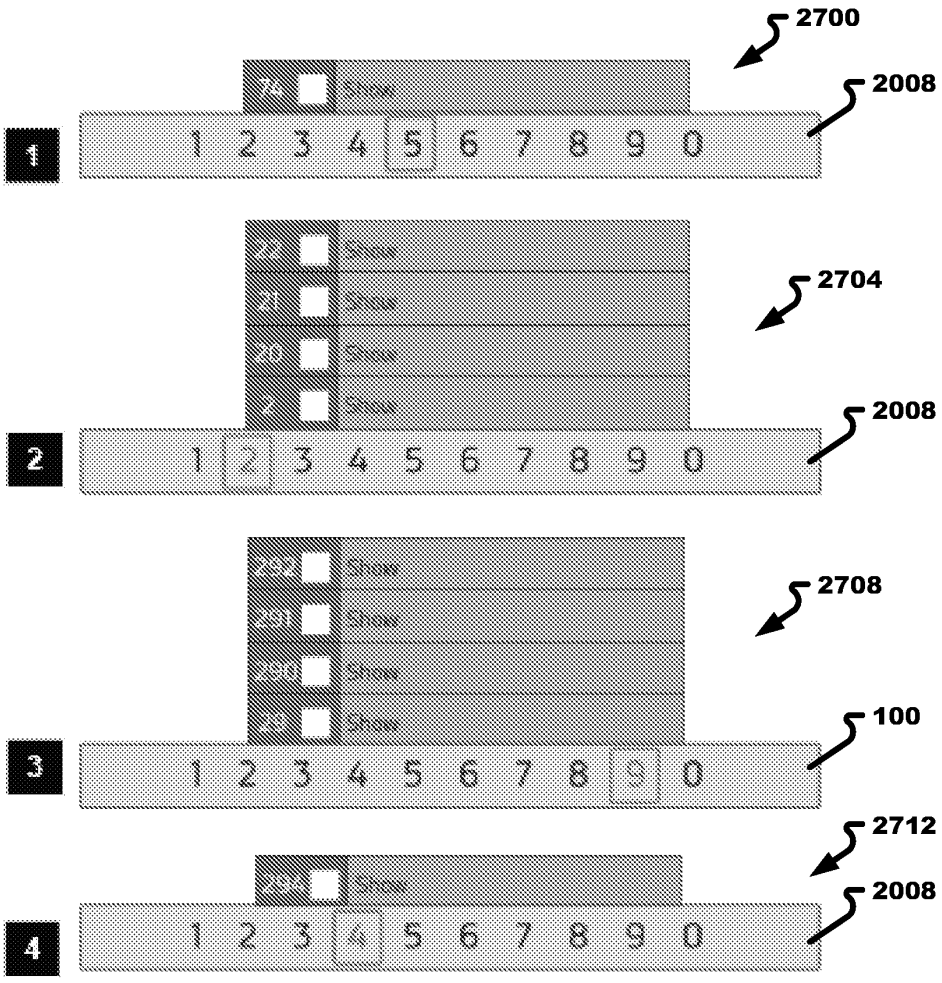

2700
2008
1
1 2 3 4 5 6 7 8 9 0
2704
2008
2
1 2 3 4 5 6 7 8 9 0
2708
100
3
1 2 3 4 5 6 7 8 9 0
2712
2008
4
1 2 3 4 5 6 7 8 9 0

FIG. 27

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS
First Named Inventor/Applicant Name:	Mohammed Selim
Filer:	Thaine Lennox-Gentle/Kathy Johnston
Attorney Docket Number:	6583-445

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	1051	1	140	140
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		1740

Electronic Acknowledgement Receipt

EFS ID:	16604938
Application Number:	13968884
International Application Number:	
Confirmation Number:	1062
Title of Invention:	ON SCREEN METHOD AND SYSTEM FOR CHANGING TELEVISION CHANNELS
First Named Inventor/Applicant Name:	Mohammed Selim
Customer Number:	111285
Filer:	Thaine Lennox-Gentle/Kathy Johnston
Filer Authorized By:	Thaine Lennox-Gentle
Attorney Docket Number:	6583-445
Receipt Date:	16-AUG-2013
Filing Date:	
Time Stamp:	15:25:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1740
RAM confirmation Number	1816
Deposit Account	191970
Authorized User	
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Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

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Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	6583-445-ADS.pdf	1509644 0d6b3209871f65b9167e1bf90901d94dfb9edce0	no	8
Warnings:					
Information:					
2		6583-445-PatentAppFinal.pdf	264858 6a349c758bc6438fa6f192f92e720614c3dc6706	yes	59

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	55
Claims	56	58
Abstract	59	59

Warnings:					
Information:					
3	Drawings-only black and white line drawings	6583-445-Drawings-Final.pdf	734948 d19a31f9b15b29e0d810580de4eb63c087274aaf	no	31
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	36412 f8792968c77a94f53433ddbc1cbdda4234f5bded	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2545862		

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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.

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Application Number: 13968884 Document Date: 08/16/2013

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Form Revision Date: February 8, 2006