



- (51) **International Patent Classification:**
H04L 29/06 (2006.01) *H04N 7/025* (2006.01)
- (21) **International Application Number:**
PCT/US2012/030159
- (22) **International Filing Date:**
22 March 2012 (22.03.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
13/083,974 11 April 2011 (11.04.2011) US
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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) **Title:** APPARATUS, SYSTEMS AND METHODS FOR PROVIDING TRAVEL INFORMATION RELATED TO A STREAMING TRAVEL RELATED EVENT

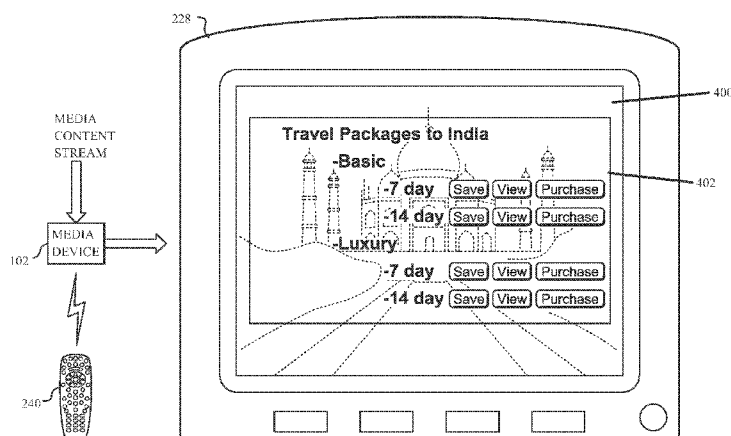


FIG. 4.

(57) **Abstract:** Systems and methods for providing travel information associated with a presently viewed media content event. An exemplary method receives a selection for a media content event, receives a media content stream corresponding to the selected media content event, communicates the selected media content event to a media presentation device, communicates to the media presentation device a travel indicator during communication of the media content event, receives a user selection associated with the travel indicator, and presents travel information to the user based on the received user selection. The travel information is based on an analysis of content of the EPG information. The media content event is paused after receiving the user selection of the travel indicator. The travel information associated with the media content event is saved after receiving the user selection of the travel indicator.

APPARATUS, SYSTEMS AND METHODS FOR PROVIDING TRAVEL INFORMATION RELATED TO A STREAMING TRAVEL RELATED EVENT

BACKGROUND

[0001] Media devices, such as a set-top box, a stereo, a television, a computer system, a game system, or the like, are often configured to receive media content events. A media content event is communicated as part of a media content stream that includes a video stream portion and an audio stream portion. Nonlimiting examples of media content events communicated in a media content stream include, but are not limited to, a television program, a newscast, a broadcast sports event, a movie, or the like.

[0002] Currently, when streaming media content includes some interesting travel-related information, the viewer must separately access a travel company (e.g., Expedia, Travelocity, etc.) in order to see what travel options are available to the travel location included in the streaming media content.

[0003] Accordingly, there is a need in the art to provide a more user-friendly experience for viewers with interest in travel options related to streaming media content.

SUMMARY

[0004] Exemplary embodiments provide travel information associated with a presently viewed media content event that includes a travel event. An exemplary method receives a selection for a media content event, receives a media content stream corresponding to the selected media content event, communicates the selected media content event to a media presentation device, communicates to the media presentation device a travel indicator during communication of the media content event, receives a user selection associated with the travel indicator, and presents travel information to the user based on the received user selection. The travel information is associated with the media content event.

[0005] In one aspect, the travel information is previously generated based on an analysis of content of the electronic program guide (EPG) information. The analysis of

the content of the EPG information includes identifying travel related words in a description portion of the EPG information.

[0006] In another aspect, the travel information is previously generated based on an analysis of audio content of the media content event.

[0007] In still another aspect, the media content event is paused after receiving the user selection of the travel indicator.

[0008] In yet another aspect, travel information associated with the media content event is saved after receiving the user selection of the travel indicator.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Preferred and alternative embodiments are described in detail below with reference to the following drawings:

[0010] FIGURE 1 is a block diagram of an embodiment of a metadata system;

[0011] FIGURE 2 is a block diagram of an embodiment of an exemplary media device;

[0012] FIGURE 3 is a flowchart of an exemplary process performed by the systems shown in FIGURES 1 and 2; and

[0013] FIGURE 4 illustrates a media presentation system showing streaming media content with related travel information presented during viewing of the streaming media content.

DETAILED DESCRIPTION

[0014] FIGURE 1 is a block diagram of an embodiment of a video and information acquisition system 100. The exemplary embodiment of the video and information acquisition system 100 is implemented in an exemplary environment that includes a plurality of media devices 102, a broadcast system 104, and a communication system 106.

[0015] The media devices 102, when in operation, are configured by a user to select one of the plurality of simultaneously broadcast media content events for presentation on a media presentation system 108. An exemplary media device 102

includes, but is not limited to, a set-top box (STB) that is communicatively coupled to the broadcast system 104. Other embodiments of the media device 102 include a television (TV), a digital video disc (DVD) player, a game-playing device, a personal computer (PC), a cellular phone, a portable media device, or a personal digital assistant (PDA). The media devices 102 present and/or store selected media content events that are included in the media content stream. Exemplary media presentation systems 108 include, but are not limited to, TVs, stereos, radios, surround-sound systems, personal computers, or the like that may be communicatively coupled to the media device 102. In some embodiments, the media device 102 and the media presentation system 108 may be a single integrated electronic media device, such as a PDA.

[0016] The media devices 102 may be identical to, or may be substantially similar to, other media devices 102. Or, the media devices 102 may be quite different from each other. Further, the media devices 102 may be coupled to different types of broadcast systems 104.

[0017] An exemplary broadcast system 104 includes a satellite broadcast system 110. One or more of the media content streams resides in a transport channel that is uplinked to a plurality of satellites 112, via a corresponding transmit antenna 114. The respective transport channels are then wirelessly communicated, from one or more of the satellites 112 to a receiver antenna 116 that is communicatively coupled to the media device 102. The received wireless signal (with the media content stream) is then communicated from the receiver antenna 116 to the media device 102. In one embodiment, the receiver antenna 116 and the media device 102 receive multiple wireless signals from a plurality of satellites 112.

[0018] Alternatively, or additionally, the plurality of media content events are broadcast to the media devices 102 via an over-the-air (OTA) system 118. For example, the media content broadcast facility 120 may be a local program provider that wirelessly broadcasts media content events to the media devices 102. The wireless signal with the

media content stream is received at the receiver antenna 116, or is received directly by a receiver (not shown) residing in the media device 102.

[0019] Alternatively, or additionally, the plurality of media content events are broadcast to the media devices 102 via a cable system 122. For example, the media content broadcast facility 120 may employ a coaxial cable, fiber optic cable, or comparable cable that is coupled to the media device 102 for transmitting the media content stream.

[0020] Alternatively, or additionally, the media device 102 may receive the media content event directly from the media content broadcast facility 120 or from another source over the communication system 106, via a communication (network) link. In an exemplary embodiment, the communication system 106 includes a public (the Internet) or private data network. The communication link between the media device 102 and the communication system 106 may be a dedicated communication link, such as an Ethernet communication link, a fiber optic communication link, a wireless link, a cable link, or the like. In some embodiments, the communication links may be established through the communication system 106, or may be established through a portion of the communication system 106.

[0021] The media content broadcast facility 120 is also in communication with one or more third party systems 124. The media content broadcast facility 120 transmits electronic program guide (EPG) information or other program related information (e.g., on-demand or push media content/assets) to the third party system 124 via the communication system 106. The third party system 124 generates travel information for any of the programs listed in the EPG or other catalog of assets (i.e., on-demand or push media content/assets). The third party system 124 sends any generated travel information back to the media content broadcast facility 120 or directly to the media device 102 via the communication system 106.

[0022] FIGURE 2 is a block diagram of an embodiment of an exemplary media device 102. The nonlimiting exemplary media device 102 includes a media content

stream interface 202, a processor system 204, a memory 206, a program buffer 208, an optional digital video recorder (DVR) 210, a presentation device interface 212, a remote interface 214, and an optional communication system interface 216. The memory 206 stores media device logic 218, travel processing logic 220, electronic program guide (EPG)/catalog of assets information 222 and a browser 224. In one embodiment, some or all of these memory and other data manipulation functions may be provided by using a remote server or other electronic devices suitably connected, via the communication system 106 or otherwise, to the media device 102. Other media devices may include some, or may omit some, of the above-described media-processing components. Further, additional components not described herein may be included in alternative embodiments. The memory 206 also includes a travel information section 226 received directly or indirectly from the third party system 124.

[0023] In an exemplary embodiment, the media content stream is received by the media content stream interface 202. One or more tuners 228 in the media content stream interface 202 selectively tune to a particular media content stream in accordance with instructions received from the processor system 204. The processor system 204, executing the media device logic 218 and based upon a request for a program of interest specified by a user, parses out program content associated with the specified media content event. The media content event of interest is then assembled into a stream of video and/or audio information which may be stored by the program buffer 208, such that the program content can be streamed out to the media presentation system 108, via the presentation device interface 212. Alternatively, or additionally, the parsed-out program content may be saved into the DVR 210 for later presentation. The DVR 210 may be directly provided in, locally connected to, or remotely connected to the media device 102.

[0024] In this embodiment, the presentation device interface 212 is illustrated as coupled to the media presentation system 108 that includes a visual display device 230, such as a television (hereafter, generically, a TV), and an audio presentation device 232, such as a surround-sound receiver (that includes one or more speakers 236). Other types

of presentation devices may also be coupled to the media device 102, including those providing any sort of stimuli sensible by a human being, such as temperature, vibration, and the like. The video portion of the streamed program content is displayed on the TV display 238 and the audio portion of the streamed program content is reproduced as sounds by the plurality of speakers 234.

[0025] From time to time, information populating the EPG information 222 portion of the memory 206 is communicated to the media device 102. The EPG information 222 stores information pertaining to the scheduled programming for the media content events. The EPG information 222 may include, but is not limited to, a scheduled presentation start and/or end time, a program channel, and descriptive information of the media content events. The descriptive information of the media content events may include the title, names of performers or actors, date of creation, and a summary describing the nature of the media content event. In some embodiments, the summary describing the nature of the media content event includes travel information. Upon receipt of a command from the user requesting presentation of an EPG, the information in the EPG information 222 is retrieved, formatted, and then presented on the display 238.

[0026] The exemplary media device 102 is configured to receive commands from a user via a remote control 240. The remote control 240 includes one or more controllers 242. The user, by actuating one or more of the controllers 242, causes the remote control 240 to generate and transmit commands, via a wireless signal, to the media device 102. The commands control the media device 102 and/or control the media presentation systems 108. The wireless signal may be an infrared signal or an RF signal.

[0027] The above processes performed by the media device 102 are generally implemented by the processor system 204 while executing the media device logic 218. Thus, the media device 102 may perform a variety of functions relating to the processing and presentation of the media content event.

[0028] The communication system interface 216 is configured to provide connectivity of the media device 102 to other remote devices (e.g., the third party system 124) via the communication system 106. In an exemplary embodiment that is configured with Internet connectivity, the communication system interface 216 may be a suitable modem, or a device configured to connect to a modem. For example, the exemplary browser 228 may be used to access and/or retrieve the data from a remote site, such as a web site. The accessed data may be searched, filtered, sorted or otherwise processed at the media device 102. Additionally, or alternatively, the retrieved data may be stored by the media device 102, such as in the DVR 210, memory 206, or another suitable memory medium. Travel information received from the third party system 124 or the media content broadcast facility 120 is stored in the travel information section 226. The communication system interface 216 may be any suitable device that is configured to provide connectivity of the media device 102 to the communication system 106.

[0029] FIGURE 3 illustrates an exemplary process 300 performed by the systems shown in FIGURES 1 and 2. First, at a block 302, EPG information is sent to a third party system 124, such as the exemplary travel company 124, from the media content broadcast facility 120 or from the media device 102. In an exemplary embodiment, only the descriptive information of travel related media content events or descriptive information of media content events on travel related channels are sent to the travel company 124.

[0030] At a block 304, the travel company 124 analyzes the content, such as the text, of a description portion of the EPG information to identify travel related words to determine if the travel company 124 can create travel information related to the based EPG information. In an exemplary embodiment, the descriptive information of travel related media content events or descriptive information of media content events on travel related channels are analyzed to determine if the travel company 124 can create travel information related to the analyzed text. Since the descriptive information is associated with a presentation (i.e., media content event) in the media content stream, the travel information is associated with the same presentation.

[0031] At a block 306, the travel information is transmitted to the media devices 102. The travel information may include travel package(s) and/or travel information pertaining to the linked media content event and/or a user interface that allows a user to access travel information at the travel company 124.

[0032] The travel information may be transmitted various ways to the media device 102. In an exemplary embodiment, the travel information may be transmitted to the media content broadcast facility 120. The media content broadcast facility 120 transmits the travel information to the media device 102. Alternatively, or additionally, the travel company 124 may directly send the travel information to the media device 102 via a communication link that is established over the communication system 106.

[0033] In an exemplary embodiment, the travel company 124 sends the travel information without receiving a positive request to do so. A positive request is a request for the travel information generated by the user or another entity. In other words, after the travel company 124 creates the travel information, the travel information is sent and received by a plurality of media devices 102. In this embodiment, the media devices 102 receive the travel information prior to broadcast of the media content event associated with the travel information. Thus, the processor system 204 stores the travel information into the travel information section 226 of the memory 206. The travel information is accessed from memory 206 when the associated media content event is outputted for presentation to the media presentation system 108 according to the travel processing logic 220.

[0034] In an exemplary embodiment, the travel company 124 sends the travel information upon receiving a positive request from the media device 102. This is considered a real-time request. As a viewer is watching a media content event, the processor system 204 transmits descriptive information associated with the currently viewed media content event to the travel company 124. At that time, the travel company 124 analyzes the received descriptive information, creates travel information associated

with the descriptive information, and transmits the created travel information to the media device 102 that sent the descriptive information.

[0035] At a block 308, the processor system 204 presents the transmitted travel information (packages, etc.) when the associated media content event in the media content stream is outputted to the media presentation system 108, according to the travel processing logic 220. An example of this is shown in FIGURE 4 below.

[0036] In another embodiment, the travel processing logic 220 includes audio analysis logic that analyzes an audio component of a particular media content event presently outputted to the media presentation system 108. The audio analysis logic optionally determines if there exists travel-related information different from that listed in the descriptive information in the EPG or that is included in any previously retrieved travel information section 226. The determined travel-related information is then sent to the travel company 124, such as is performed at block 306 of FIGURE 3.

[0037] For example, the descriptive information just describes that a travel program host travels to Mumbai, India. However, the analyzed audio reveals a particular hotel as the travel program host is discussing the hotel with a guide. The audio analysis logic may cause the processor system 204 to send a query to the travel company 124. The query includes a request for travel information for the identified hotel. The travel company 124 then returns travel information for that hotel to the media device 102. The processor system 204 will then present the hotel travel information to the user.

[0038] The processor system 204 may also send user selection information from the travel interface (*i.e.*, controlled by the user) to the travel company 124. The user selection information may include a selection of type of travel, travel dates, travel preferences, payment information, or any other information that would be useful in preparing a travel package or completing a transaction associated with a previously prepared travel package. In an exemplary embodiment, some of the user information may be stored at the travel company 124, such as payment information, user personal information, or the like.

[0039] In another embodiment, user information may be previously stored at a number of locations remote from the media device 102 as well as at the media device 102. For example, the travel company 124 may already include user profile and payment information. This will enable the travel company 124 to more easily process a transaction when the user decides to purchase a presented travel package.

[0040] FIGURE 4 shows the media presentation system 108 that is outputting a travel show presentation 400 of a trip to India. Superimposed over the streaming travel show presentation 400 is a travel information user interface 402 retrieved from the travel information section 226 or from one of the third party systems 124 according to the travel processing logic 220. The presented travel information user interface 402 indicates that the user may select to view or save for later view any of a number of predefined travel packages to India. These travel packages are to India because the travel show presentation 400 is of a trip to India. The travel information user interface 402 was previously received from the third-party system 124 based on a determination that the travel show presentation 400 was of a trip to India.

[0041] In an exemplary embodiment, when the travel processing logic 220 determines that there exists travel information associated with a media content event (*e.g.*, streaming travel show presentation 400) in the media content stream, the travel processing logic 220 may cause the processor system 204 to output a travel indicator to the viewer that there is available travel information for the media content event.

[0042] In an exemplary embodiment, the travel processing logic 220 outputs the travel indicator in response to a trigger included in the media content stream. The trigger may be a clue for the travel processing logic 220 to check the memory 206 to determine if there is any travel information stored for the currently viewed media content event. The trigger may be embedded into any suitable location in the streaming media content, such as in a selected image frame, a selected point in the metadata, or the like. Alternatively, or additionally, if there exists travel information stored for the currently viewed media

content event, then the travel processing logic 220 causes the processor system 204 to output the travel indicator to the viewer.

[0043] In an exemplary embodiment, the travel indicator is an icon that appears on the media presentation system 108. When a user selects or activates the icon, the travel information stored for the currently viewed media content event is presented to the user.

[0044] In another exemplary embodiment, the travel indicator is an information button 232 that may be highlighted and/or predefined on the remote control 240. When a user selects or activates the highlighted information button 242, the travel information stored for the currently viewed media content event is presented to the user.

[0045] In still another exemplary embodiment, the travel indicator is an icon displayed on a touch screen of the remote control 240. When a user selects or activates the icon on the touch screen, the processor system 204 will present the travel information related to the media content event that is stored in the travel information section 226.

[0046] In another exemplary embodiment, activation of the indicator may cause the processor system 204 to send a request to the third party system 124 for travel information related to the media content event. The third party system 124 will return travel information associated with the media content event as previously determined by the third party system 124 as described above. The processor system 204 then presents the returned travel information over the media presentation system 108.

[0047] In an exemplary embodiment, activation of the indicator may cause the processor system 204 to save travel information associated with the media content event within the memory 206 or at the travel company 124. The user can then interact with the saved travel information at a later time.

[0048] In an exemplary embodiment, the processor system 204 pauses the media content event and saves the media content event in the program buffer 208 and/or the DVR 210 after receiving a selection of the indicator. This embodiment allows a user to then to interact with the travel interface. When the user has completed interaction with the

travel interface, the media content event resumes presentation from the point the media content event was paused.

[0049] It should be emphasized that the above-described embodiments of the video and information acquisition system 100 are merely possible examples of implementations of the invention. Many variations and modifications may be made to the above-described embodiments. All such modifications and variations are intended to be included herein within the scope of this disclosure and protected by the following claims.

The invention claimed is:

1. A method comprising:
 - receiving a selection for a media content event;
 - receiving a media content stream corresponding to the selected media content event;
 - communicating the selected media content event to a media presentation device;
 - communicating a travel indicator to the media presentation device during communication of the media content event;
 - receiving a user selection associated with the travel indicator; and
 - presenting travel information to the user based on the received user selection, wherein the travel information is associated with the media content event.
2. The method of Claim 1, further comprising previously generating the travel information based on an analysis of content of at least one of electronic program guide (EPG) information or on-demand information.
3. The method of Claim 2, wherein the analysis of the content of the EPG information or the on-demand information comprises identifying travel related words in a description portion of the EPG information or the on-demand information.
4. The method of Claim 2, wherein the analysis of the content of the EPG information comprises identifying travel related words in a description portion of the EPG information of only media content events associated with travel related channels.
5. The method of Claim 1, further comprising previously generating the travel information based on an analysis of audio content of the media content event.
6. The method of Claim 1, further comprising presenting travel package information.

7. The method of Claim 1, further comprising pausing the media content event after receiving the user selection of the travel indicator.
8. The method of Claim 1, wherein receiving the user selection comprises:
receiving the user selection from a remote control device.
9. The method of Claim 1, further comprising saving travel information associated with the media content event after receiving the user selection of the travel indicator.
10. A system comprising:
a tuner configured to:
receive a first one of a plurality of media content streams, wherein
each media content stream comprises a plurality of media content
events; and
receive travel information associated with at least one of the media
content events;
a remote interface configured to receive a user selection associated with a
travel indicator that is associated with the travel information;
a processor system communicatively coupled to the tuner and the remote
interface, the processor system configured to:
present one of the media content events; and
present the travel indicator with the presented media content event if
the media content event includes associated travel information.
11. The system of Claim 10, further comprising a communication system interface configured to communicatively couple to a communication system, wherein travel information is received at the communication system interface from a travel source system via the communication system.
12. The system of Claim 10, further comprising a memory configured to store media device logic, wherein the processor system executing the media device logic is

configured to pause the media content event after receiving the user selection of the travel indicator.

13. The system of Claim 10, further comprising a memory configured to save travel information associated with the media content event.

14. A method comprising:

receiving media content event information;

analyzing the received media content event information to determine inclusion of travel related indicators;

generating travel information if the analysis determines the inclusion of travel related indicators; and

sending the generated travel information to a media device.

15. The method of Claim 14, wherein receiving the media content event information comprises receiving at least one of EPG information or on-demand information and wherein analyzing comprises analyzing content of the EPG information or the on-demand information.

16. The method of Claim 15, wherein analyzing comprises identifying travel related words in a description portion of the EPG information or the on-demand information.

17. The method of Claim 14, wherein receiving the media content event information comprises receiving audio content and wherein analyzing comprises analyzing the audio content.

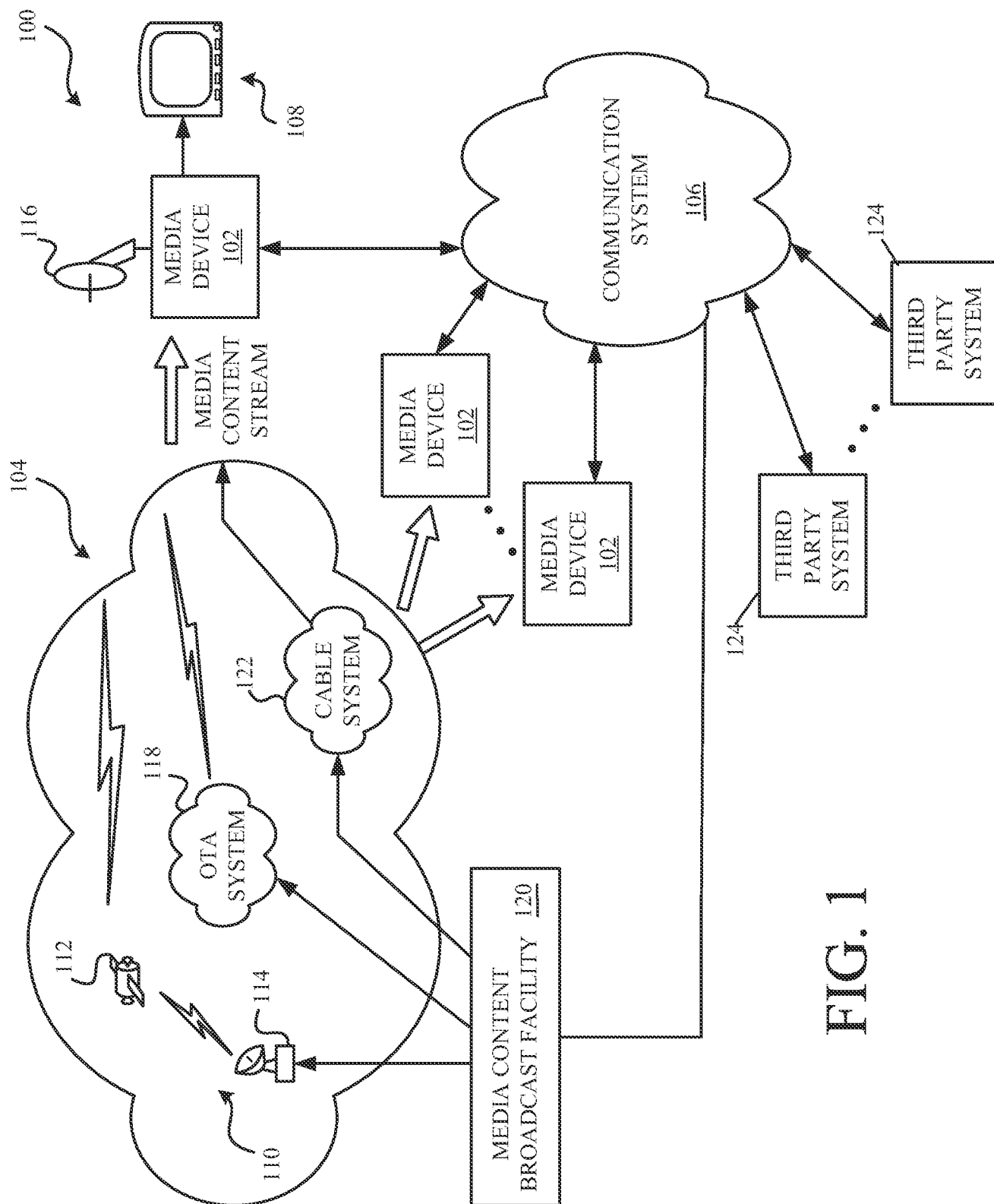


FIG. 1

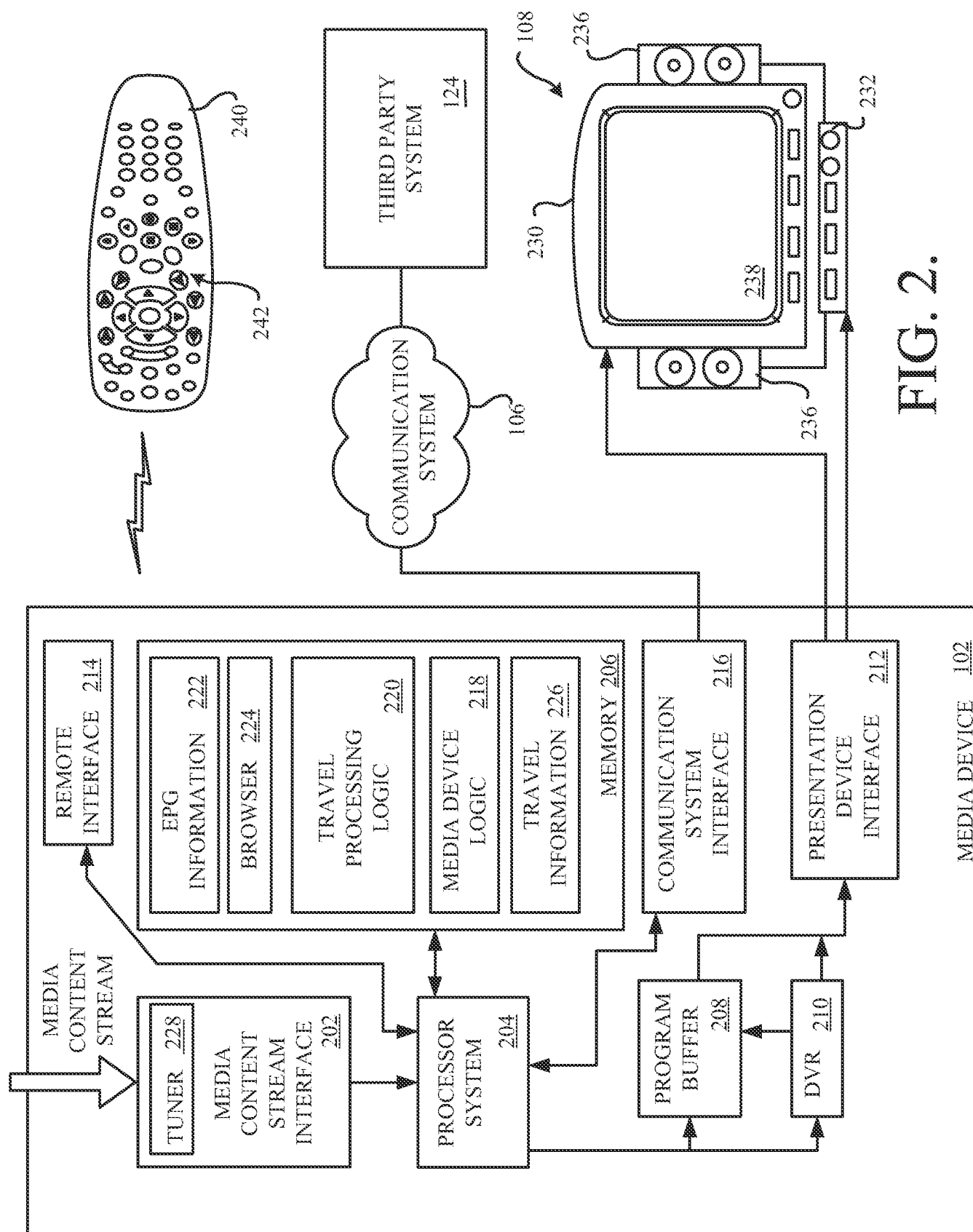


FIG. 2.

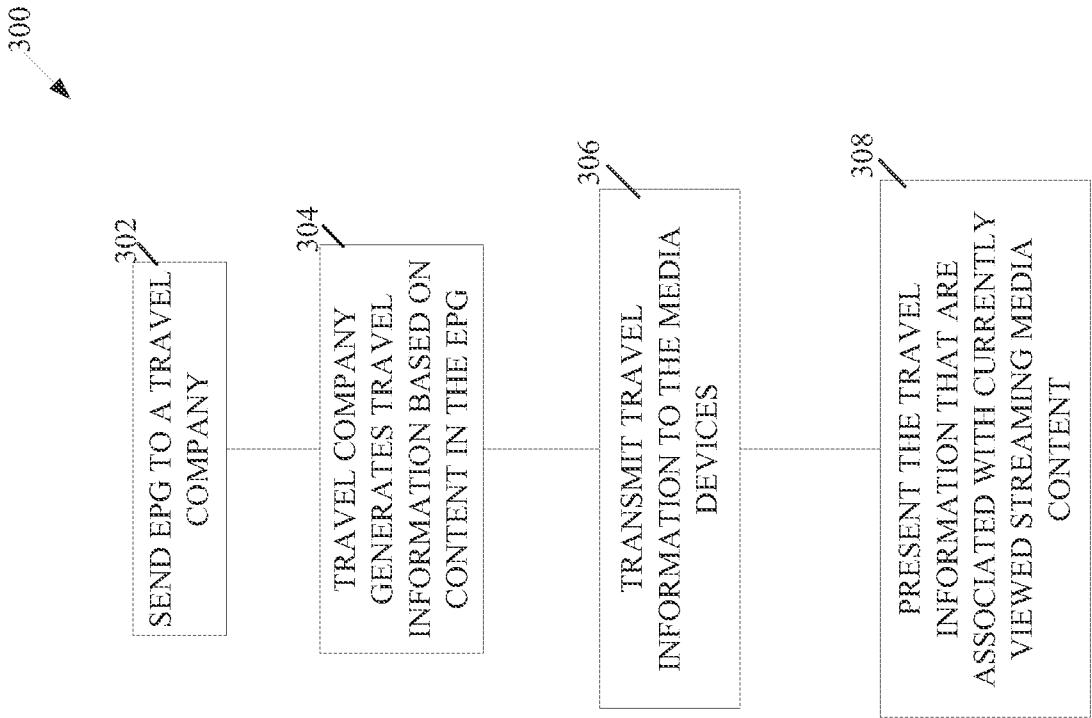


FIG. 3.

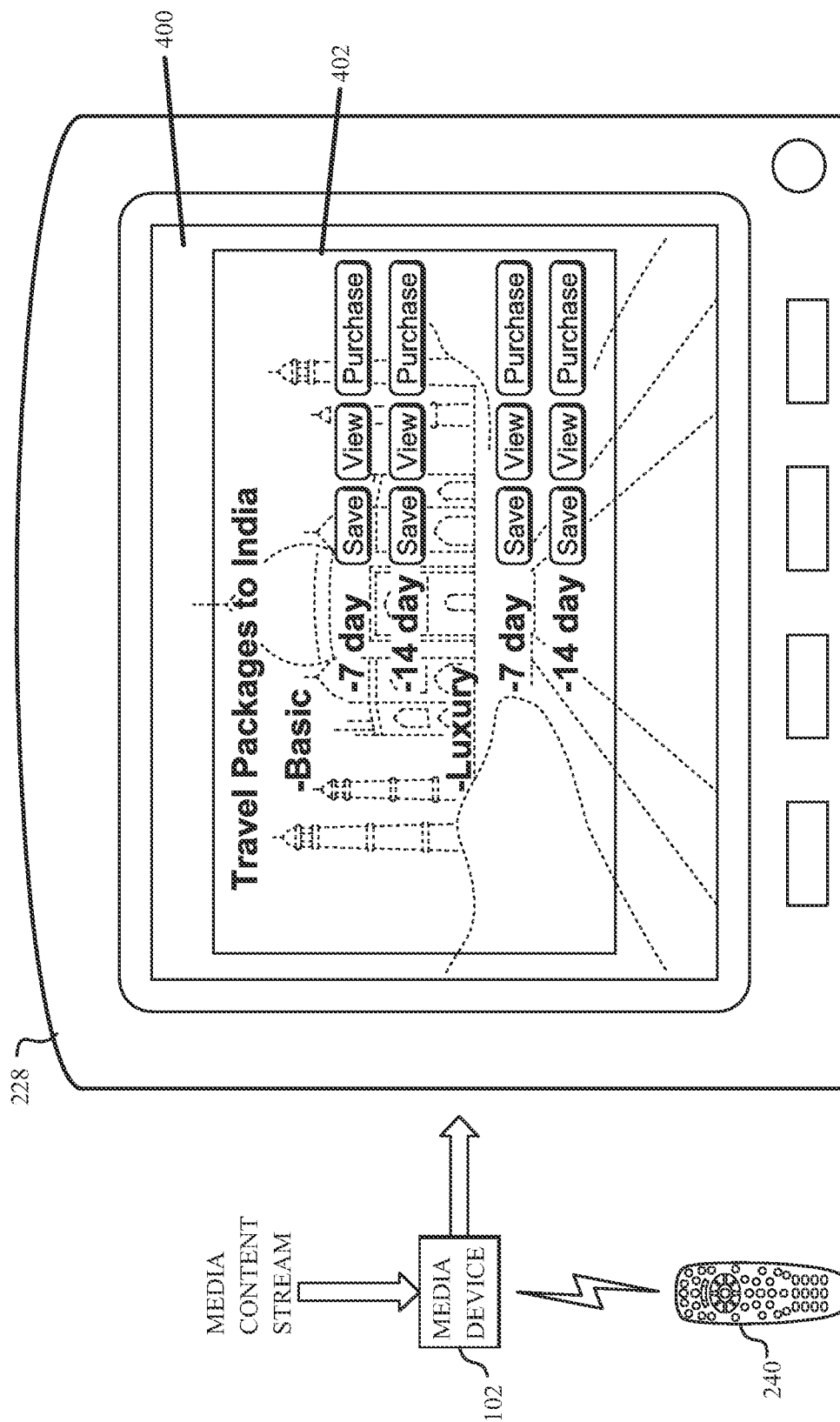


FIG. 4.

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/030159

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04L29/06 H04N7/025
ADD.

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)

H04L H04N

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)

EPO-Internal, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/268401 A1 (GRAY JAMES HAROLD [US] ET AL) 30 December 2004 (2004-12-30) paragraphs [0030] - [0053], [0067], [0087], [0088], [0092] - [0098], [0108] - [0112], [0123], [0124] -----	1-17
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X	US 2005/166247 A1 (BLACKKETTER DEAN J [US] ET AL) 28 July 2005 (2005-07-28) figures 6,7,9,10,12 paragraphs [0031] - [0034] -----	1-17



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

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Tyszka, Krzysztof

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/030159

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