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(54) **ORDERING VIA DYNAMIC MATRIX CODE GENERATION**

AUFTRAGSERTEILUNG DURCH ERSTELLUNG DYNAMISCHER MATRIXCODES

COMMANDE PAR L'INTERMÉDIAIRE DE GÉNÉRATION DE CODE DE MATRICE DYNAMIQUE

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Description

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This Patent Cooperation Treaty patent application claims priority to United States application no. 12/953,273, filed November 23, 2010, entitled "Ordering Via Dynamic Matrix Code Generation,".

BACKGROUND:

[0002] US 2007/016934 discloses generating a matrix code including information concerning the receiver and program being viewed. The code can be scanned by a mobile phone device and the decoded information sent to a server. In response to this, if the user has the necessary access rights, the server will allow the receiver access to a descrambling key for that content allowing to descramble the indicated program.

FIELD OF THE INVENTION

[0003] This disclosure relates generally to content receivers, and more specifically to simplified ordering utilizing matrix codes dynamically generated by a content receiver.

SUMMARY

[0004] The invention is defined by the subject-matter of the claims. More generally, the present disclosure discloses systems and methods for ordering utilizing dynamic matrix code generation. A content receiver may receive an identifier (which may identify ordering information for an instance of content that a user may order to be transmitted to the content receiver or products) from a content provider. The content receiver may also derive information specific to the content receiver and dynamically generate a matrix code, such a QR code, that includes the ordering information and the information specific to the content receiver. The content receiver may then transmit the matrix code to a display device and when the matrix code displayed on the display device is detected and decoded by a reader device, the reader device may initiate an order for the instance of content to be transmitted to the content receiver or for the products. As such, the user may be able to more conveniently and less burdensomely order and receive the desired content or products.

[0005] In some implementations, the instance of content may be ordered from the content provider, which may then transmit the ordered content to the content receiver. However, in other implementations the instance of content may be ordered from a third party content provider. As such, the third party content provider may transmit the ordered content to the content provider, which may then in turn transmit the received ordered content to the content receiver.

[0006] In various implementations, the reader device may present a confirmation message after detecting and decoding the one or more matrix codes. The confirmation screen may detail the order for the at least one instance of content to be initiated and may request user input to confirm the order. The confirmation screen may or may not also request additional information for completing the order. In some of these implementations, the reader device may present the confirmation message prior to initiating the order for the at least one instance of content and may initiate the order when user input corresponding to a confirmation is received. In other of these implementations, the provider of the instance of content may transmit the confirmation message to the reader device after receiving the initiated order and may transmit the ordered instance of content after receiving the user input corresponding to a confirmation.

[0007] It is to be understood that both the foregoing general description and the following detailed description are for purposes of example and explanation and do not necessarily limit the present disclosure. The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate subject matter of the disclosure. Together, the descriptions and the drawings serve to explain the principles of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008]

Figure 1 is a block diagram illustrating a system for content ordering utilizing dynamic matrix code generation.

Figure 2 is a flow chart illustrating a method for content ordering utilizing dynamic matrix code generation. This method may be performed by the system of Figure 1.

Figures 3A-3C are diagrams illustrating a system where a user utilizes a matrix code dynamically generated by a television receiver of a television to order content for the television. The system may be the system of Figure 1.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0009] The description that follows includes sample systems, methods, and computer program products that embody various elements of the present disclosure. However, it should be understood that the described disclosure may be practiced in a variety of forms in addition to those described herein.

[0010] Content receivers (such as television receivers, set top boxes, television tuners, digital video recorders, and so on) typically receive content (such as television programming content, movie content, music content, video on-demand, pay-per-view content, and so on) from a

content provider (such as a cable television programming provider, a satellite television programming provider, a satellite radio provider, an Internet service provider, a video on-demand movie provider, a pay-per-view movie provider, and so on) via a communication connection (such as a coaxial cable connection, a satellite connection, a wired Internet connection, a wireless Internet connection, a cellular connection, and so on). Such a content receiver may then transmit received content to a presentation device such as a television, a speaker, and so on.

[0011] Some content received by content receivers from content providers may be broadcast by the content provider to a number of content receivers. As such, the broadcast content may be available via a content receiver regardless whether or not a user of the content receiver orders the broadcast content. Additionally, a user of the content receiver may be able to transmit an order for additional content (whether for free, purchase, rental, and so on) which may then be sent to the content receiver or products which may then be sent to a user location. Additional content which may be ordered for a content receiver may include on-demand programming that is orderable from the content provider or a third party provider, pay-per-view programming that is orderable from the content provider or a third party provider, and so on.

[0012] However, in order for a user to order additional content or products the user generally must communicate with the content provider or third party provider regarding the additional content or products which the user desires to order. Some content receivers may be able to send communications to an associated content provider in order for a user to order additional content, but may still be unable to send communications to separate third party providers in order for the user to be able to order additional content or products from such a source. Other content receivers may not be able to send communications at all, being limited to receiving content, and may not enable users to order content or products at all. In either case, users may have to order content or products by placing an order via a telephone call, a web site, and so on.

[0013] In order to order content or products in such a manner, a user may be required to locate the appropriate information for contacting the provider of the content or products, actually contact the provider of the content or products utilizing the appropriate method, provide account information and other identifiers for the content receiver, and/or provider various financial information such as a credit card or other billing account number. Regardless of the exact procedures a user must follow and/or the exact information a user must provide, user's may find ordering content or products in this manner to be inconvenient and burdensome.

[0014] The present disclosure discloses systems and methods for ordering utilizing dynamic matrix code generation. A content receiver receives one or more identifiers from a content provider. The identifiers identify ordering information for one or more instances of content that a user may order to be transmitted to the content receiver or products. The content receiver derives information specific to the content receiver (such as content receiver identifiers, customer identifiers, subscriber account identifiers, user financial information, and so on). Then, the content receiver dynamically generates one or more matrix codes (such as one or more QR codes) that include the ordering information and the information specific to the content receiver and transmits the matrix codes to a display device. When the matrix codes displayed on the display device are detected and decoded by a reader device (such as a matrix code reader application executing on a smart phone), the reader device initiates an order for the one or more instances of content to be transmitted to the content receiver or products to be sent to a user location. As such, the user may be able to more conveniently and less burdensomely order and receive the desired content or products.

[0015] Figure 1 is a block diagram illustrating a system 100 for content ordering utilizing dynamic matrix code generation. The system 100 includes a content receiver 101 which receives content from a content provider 106 via a transmission medium 105 and then transmits the received content to at least one display device 102. Additionally, the system 100 includes a reader device 103 which communicates with the content provider via a transmission medium 104. The content receiver is a television receiver or a set top box. The display device may be any kind of display device such as a cathode ray tube display, a liquid crystal display, a television, a computer monitor, and so on. The reader device may be any kind of device capable of detecting and decoding a matrix code such as a telephone equipped with a camera, a mobile computing device that includes a camera, and so on). The transmission medium 104 and/or the transmission medium 105 may be any kind of communication connection such as a coaxial cable connection, a satellite connection, a WiFi connection, an Internet connection, an Ethernet connection, a cellular connection, and so on. Further, although the transmission medium 104 and the transmission medium 105 are illustrated as separate, it is understood that in various implementations the transmission medium 104 and/or the transmission medium 105 may constitute a single transmission medium.

[0016] The content receiver 101 may include one or more processing units 109, one or more one or more non-transitory storage media 110 (which may take the form of, but is not limited to, a magnetic storage medium; optical storage medium; magneto-optical storage medium; read only memory; random access memory; erasable programmable memory; flash memory; and so on), one or more input components 111, and one or more output components 112. Additionally, although the display device 102 is illustrated as separate from the content receiver, it is understood that in various implementations the display device may be incorporated into the content receiver. The processing unit of the content receiver ex-

ecutes instructions stored in the non-transitory storage medium to receive content from the content provider 106 and then transmit the received content to the display device.

[0017] Moreover, the processing unit 109 executes instructions stored in the non-transitory storage medium 110 to receive one or more content identifiers from the content provider 106 utilizing the input component 111, derive information specific to the content receiver 101, dynamically generate one or more matrix codes that include the ordering information and the information specific to the content receiver, and transmit the matrix codes to the display device 102 utilizing the output component 112. The one or more matrix codes may be one or more QR codes. The content identifiers identify ordering information for one or more instances of content. Additionally, the content identifiers may be received along with the content received from the content provider, such as advertisements for one or more instances of content corresponding to the ordering information. The information specific to the content receiver includes a network address for the set top box or television receiver and may include information such as one or more content receiver identifiers, one or more customer identifiers associated with the content receiver, one or more subscriber account identifiers associated with the content receiver, account information for a content account associated with the content provider, user financial information or other financial information associated with the content receiver, and so on. The ordering information includes information for transmitting the information specific to the content receiver to a provider of the at least one instance of content to initiate order of the at least one instance of content (such as the address of a web site to which to transmit the information specific to the content receiver). In some implementations, the provider of the at least one instance of content may be the content provider.

[0018] Subsequently, the reader device 103 optically detects the matrix code displayed by the display device 102 utilizing one or more optical input components 115 (such as a camera, a barcode reader, and so on), decodes the information specific to the content receiver 101 and the content identifier, and initiates at least one order for the at least one instance of content to be transmitted to the content receiver 101 based on the decoded information. As part of initiating the order for the at least one instance of content, the reader device may transmit the information specific to the content receiver to the provider of the at least one instance of content (such as the content provider 106) utilizing one or more communication components 116 as specified by the content identifier. The reader device may include one or more processing units 113 which execute instructions stored in one or more non-transitory storage media 114 in order to perform the above described functions.

[0019] After the provider of the at least one instance of content (such as the content provider 106) receives the initiated order for the at least one instance of content from the reader device 103, the provider of the at least one instance of content transmits the at least one content to the content receiver 101, which the content receiver may receive utilizing the input component 111. Subsequently, the content receiver may transmit the received at least one instance of content to the display device 102 for display.

[0020] The reader device 103 presents a confirmation message after detecting and decoding the one or more matrix codes via one or more display devices (not shown). The confirmation screen may detail the order for the at least one instance of content to be initiated and may request user input to confirm the order utilizing one or more input devices (not shown). In accordance with the claimed invention, the confirmation screen requests additional information for completing the order, such as credit card information, parental control passwords, and so on. In some of these implementations, the reader device may present the confirmation message prior to initiating the order for the at least one instance of content and may initiate the order when user input corresponding to a confirmation is received.

[0021] Although the provider of the at least one instance of content has been described above as the content provider 106, in various implementations the provider of the at least one instance of content may be a third party provider of content other than the content provider (such as an on-demand or pay-per-view movie provider such as Netflix®, Amazon dot com®, and so on). In such implementations, the system 100 may include the third party provider 107 which may be communicably connected to the reader device 103 via the transmission medium 104 and the content provider via a transmission medium 108 (as with the transmission medium 104 and the transmission medium 105, although the various transmission media are illustrated as separate, in various implementations they may constitute a single transmission medium). Hence, the reader device 103 may initiate the order for the at least one instance of content by transmitting the information specific to the content receiver to third party 107 via the communication component 116 as specified by the content identifier. The third party provider may then transmit the ordered at least one instance of content to the content provider which may then retransmit the ordered at least one instance of content to the content receiver 101. Additionally, prior to the third party transmitting the ordered at least one instance of content to the content provider, the third party provider and the content provider may exchange information regarding the order, the user, the content receiver, and so on (such as for the purpose of billing for the order of the at least one instance of content).

[0022] In various implementations, the content receiver 101 may transmit the one or more matrix codes by themselves to the display device 102 via the output component 112 for the display device to display only the one or more matrix codes at a particular time. However, in various other implementations (such as implementations

where the electronic device is a television receiver, digital video recorder, or other such device that provides images to a display), the electronic device may transmit one or more images (such as a video stream) to the display device via the output component. In such implementations, the electronic device may combine the one or more matrix codes with the one or more images and transmit the combination to the display device via the output component.

[0023] Figure 2 illustrates a method 200 for content ordering utilizing dynamic matrix code generation. The method is performed by the system 100 of Figure 1. The flow begins at block 201 and proceeds to block 202 where the processing unit 109 of the content receiver 101 receives the content identifier from the content provider 106 via the input component 111. The flow then proceeds to block 203 where the processing unit derives the information specific to the content receiver. Next, the flow then proceeds to block 204 where the processing unit dynamically generates a matrix code (such as a QR code) that includes the information specific to the content receiver and the content identifier. Then, the flow proceeds to block 205 where the processing unit transmits the dynamically generated matrix code to the display device 102 via the output component 112 before the flow proceeds to block 206.

[0024] At block 206, the display device 102 displays the matrix code that was transmitted by the processing unit 109 of the content receiver 101 via the output component 112. The flow then proceeds to block 207.

[0025] At block 207, the reader device 103 detects the matrix code displayed on the display device 102. The flow then proceeds to block 208 where the reader device decodes the detected matrix code. Decoding the detected matrix code includes decoding the information specific to the content receiver and the content identifier that is included in the matrix code. The flow then proceeds to block 209 where the reader device initiates an order for at least one instance of content as specified by the decoded content identifier. The flow then proceeds to block 210.

[0026] At block 210, the reader device 103 determines from the information included in the decoded content identifier whether to transmit the order for the at least one instance of content to the content provider 106 or the third party provider 107. If the content identifier specifies to transmit the order to the content provider, the flow proceeds to 211. Otherwise, the flow proceeds to block 221.

[0027] At block 211, after the reader device 103 determines that the content identifier specifies to transmit the order to the content provider 106, the reader device transmits the order to the content provider. The flow then proceeds to block 212 where the content provider receives the order before the flow proceeds to block 213. At block 213, the content provider determines whether or not to confirm the transmitted order (which may be based on whether the content identifier specified to confirm the order before transmittal of the at least one instance of content). If the content provider determines not to confirm the order, the flow proceeds to block 214. Otherwise, the flow proceeds to block 217.

[0028] At block 214, after the content provider 106 determines not to confirm the order, the content provider transmits the ordered content to the content receiver 101 and the flow proceeds to block 215. At block 215, the content receiver receives the ordered at least one instance of content. The flow then proceeds to block 216 and ends.

[0029] At block 217, after the content provider 106 determines to confirm the order, the content provider transmits a confirmation message to the reader device 103 and the flow proceeds to block 218. At block 218, the content provider waits for a response to the transmitted confirmation message and the flow proceeds to block 219. At block 219, the content provider determines whether or not a response to the confirmation message has been received from the reader device. If not, the flow returns to block 218 where the content provider continues to wait to receive a response to the confirmation message. Otherwise, the flow proceeds to block 220 where the content provider determines whether or not the response to the confirmation message confirms the order. If so, the flow proceeds to block 214 where the content provider transmits the ordered content to the content receiver 101. Otherwise, the flow proceeds to block 216 and ends.

[0030] At block 221, after the reader device 103 determines that the content identifier specifies to transmit the order to the third party provider 107, the reader device transmits the order to the third party provider. The flow then proceeds to block 222 where the third party provider receives the order before the flow proceeds to block 223. At block 223, the third party provider determines whether or not to confirm the transmitted order (which may be based on whether the content identifier specified to confirm the order before transmittal of the at least one instance of content). If the third party provider determines not to confirm the order, the flow proceeds to block 224. Otherwise, the flow proceeds to block 225.

[0031] At block 224, after the third party provider 107 determines not to confirm the order, the third party provider transmits the ordered content to the content provider 106 and the flow proceeds to block 214.

[0032] At block 225, after the third party provider determines to confirm the order, the third party provider transmits a confirmation message to the reader device 103 and the flow proceeds to block 226. At block 226, the third party provider waits for a response to the transmitted confirmation message and the flow proceeds to block 227. At block 227, the third party provider determines whether or not a response to the confirmation message has been received from the reader device. If not, the flow returns to block 226 where the third party provider continues to wait to receive a response to the confirmation message. Otherwise, the flow proceeds to block 228 where the third party provider determines whether or not the response to the confirmation message confirms the

order. If so, the flow proceeds to block 224 where the third party provider transmits the ordered content to the content provider. Otherwise, the flow proceeds to block 216 and ends.

[0033] Figures 3A-3C illustrate an example system 300A-300C where a user 301A-301B utilizes matrix codes dynamically generated by a content receiver 302A to order content. As illustrated in FIG. 3A, the system 300A includes a television 302A (which incorporates a programming receiver that receives programming from a programming provider for the television), a user 301A, and a cellular telephone 305A. In this example, the programming receiver of the television is able to receive programming from the content provider, but is not able to transmit messages to the content provider. However, the programming provider transmits a content identifier along with a commercial for Movie XYZ to the television. The content identifier includes information identifying Movie XYZ and a network address of a on-demand movie order server of the programming provider from which Movie XYZ can be ordered. The television derives information specific to the television which includes a unique identifier for the programming receiver of the television and the subscriber account number associated with the television and the programming provider. The television then dynamically generates a QR code 304A that includes the dynamically determined information specific to the television and the content identifier and displays the QR code on a television screen 303A along with the commercial for Movie XYZ. In order to order Movie XYZ, the user takes a picture of the QR code on the television screen with the cellular telephone which is executing a QR code reader program. The QR code reader program detects and decodes the QR code. Based on the decoded content identifier, the cellular phone initiates an order for Movie XYZ by transmitting the decoded information specific to the television to the on-demand movie order server of the programming provider.

[0034] As illustrated in FIG. 3B, when the programming provider receives the order for Movie XYZ, the programming provider transmits a confirmation request message back to the cellular telephone 305B and the cellular telephone displays the confirmation request message on a cellular telephone display 306B. In this example, the user utilizes the cellular telephone to select the "Yes" option in order to confirm the order of Movie XYZ and the cellular telephone transmits the user's response confirming the order to the programming provider. After receiving the confirmation, the programming provider transmits Movie XYZ to the programming receiver of the television 302C, which may then display the Movie XYZ on the television screen 303C. Additionally, after receiving the confirmation, the programming provider may transmit order confirmation message to the cellular telephone notifying the user 301C that Movie XYZ has been successfully ordered. As illustrated, the cellular telephone may then display the order confirmation message on the cellular telephone display 306C.

[0035] Although the system 100 illustrated in Figure 1, the method 200 illustrated in Figure 2, and the example system 300A-300C illustrated in Figure 3A-3C illustrate and are described within the context of ordering instances of content to be transmitted to a content receiver, it is understood that this is merely illustrative. The described systems and methods may be utilized to order products which may be then sent to a user location (such as a home, business, and so on) without departing from the present disclosure.

[0036] In the present disclosure, the methods disclosed may be implemented as sets of instructions or software readable by a device. Further, it is understood that the specific order or hierarchy of steps in the methods disclosed are examples of sample approaches. In other embodiments, the specific order or hierarchy of steps in the method can be rearranged while remaining within the disclosed subject matter. The accompanying method claims present elements of the various steps in a sample order, and are not necessarily meant to be limited to the specific order or hierarchy presented.

[0037] The described disclosure may be provided as a computer program product, or software, that may include a non-transitory machine-readable medium having stored thereon instructions, which may be used to program a computer system (or other electronic devices) to perform a process according to the present disclosure. A non-transitory machine-readable medium includes any mechanism for storing information in a form (e.g., software, processing application) readable by a machine (e.g., a computer). The non-transitory machine-readable medium may take the form of, but is not limited to, a magnetic storage medium (e.g., floppy diskette, video cassette, and so on); optical storage medium (e.g., CD-ROM); magneto-optical storage medium; read only memory (ROM); random access memory (RAM); erasable programmable memory (e.g., EPROM and EEPROM); flash memory; and so on.

[0038] It is believed that the present disclosure and many of its attendant advantages will be understood by the foregoing description.

Claims

1. A method for ordering and receiving on demand programming content at a Set Top Box or television receiver utilizing dynamic matrix code generation, the method comprising:

   receiving programming content and at least one identifier at a Set Top Box or television receiver (101) from a content provider (106) over a network connection, wherein the Set Top Box or television receiver is able to receive programming content from the content provider over the network connection, but is not able to transmit messages over the network connection to the

content provider wherein the at least one identifier identifies ordering information for at least one instance of on demand programming content;

deriving, utilizing a processing unit of the Set Top Box or television receiver (101), information specific to the Set Top Box or television receiver which includes at least a network address for the Set Top Box or television receiver,

the ordering information including information for transmitting the information specific to the Set Top Box or television receiver to a provider of the at least one instance of on demand programming content to initiate the at least one order for the at least one instance of on demand programming content, wherein the ordering information includes a network address of a server for the provider of the at least one instance of on demand programming content;

dynamically generating, utilizing a processing unit of the Set Top Box or television receiver (101), at least one matrix code including the at least one identifier and the information specific to the Set Top Box or television receiver; and

transmitting, utilizing a processing unit of the Set Top Box or television receiver (101), the at least one matrix code to at least one display device;

decoding the at least one matrix code by at least one reader device that optically detects the at least one matrix code displayed on the at least one display device to initiate at least one order with the at least one provider of on demand programming content for the at least one instance of on demand programming content to be transmitted to the Set Top Box or television receiver, where the network address of the server of the at least one provider of on demand programming content is identified from the decoded matrix code;

presenting, by the at least one reader device (103), a confirmation screen requesting additional information for completing the order;

receiving user input by the at least one reader device (103), including the requested additional information for completing the order;

transmitting, by the at least one reader device (103), the at least one order to the decoded network address of the server of the at least one provider of on demand programming content,

wherein the order contains the network address of the Set Top Box or television receiver decoded from the matrix code such that the provider of on demand content can transmit the programming content to the specific Set Top Box or television receiver on which the order was initiated; and

receiving the ordered on demand programming content at the Set Top Box or television receiver.

2. The method of claim 1, wherein the at least one matrix code comprises at least one QR code.

3. The method of claim 1, wherein the additional information includes credit card information or parental control passwords.

4. A system for ordering and receiving on demand programming content at a Set Top Box or television receiver utilizing dynamic matrix code generation, comprising:

a Set Top Box or television receiver comprising:

at least one input component (111) that receives programming content and at least one identifier from a content provider (106) over a network connection, wherein the Set Top Box or television receiver is able to receive programming content from the content provider over the network connection, but is not able to transmit messages over the network connection, to the content provider wherein the at least one identifier identifies ordering information for at least one instance of on demand programming content;

at least one processing unit (109) that derives information specific to the Set Top Box (101) or television receiver which includes a network address for the Set Top Box or television receiver and dynamically generates at least one matrix code including the at least one identifier and the information specific to the Set Top Box or television receiver,

the ordering information including information for transmitting the information specific to the Set Top Box or television receiver (101) to a provider of the at least one instance of on demand programming content to initiate the at least one order for the at least one instance of on demand programming content where the information includes a network address of a server for the provider of the at least one instance of on demand programming content; and,

at least one output component (112) that transmits the at least one matrix code to at least one display device (102);

a provider of the at least one instance of on demand programming content; and

at least one reader device, wherein the at least one matrix code is decodable by at least one reader device (103) that optically detects the at least one matrix code displayed on the at least one display device to initiate at least one order

with the at least one provider of on demand content for the at least one instance of on demand programming content to be transmitted from the provider of the at least one instance of on demand programming content to the at least one input component, where the network address of the server of the at least one provider of on demand content is identified from the decoded matrix code and the at least one reader device transmits the at least one order to the server using the network address,
wherein the at least one reader device is arranged to present a confirmation screen requesting additional information for completing the order and receive user input including the requested additional information for completing the order,
wherein the server of the provider of on demand content transmits said programming content to the Set Top Box or television receiver in accordance with the network address of the Set Top Box or television receiver received from the reader device.

5. The system of claim 4, wherein the at least one matrix code comprises at least one QR code.

6. The system of claim 4, wherein the additional information includes credit card information or parental control passwords.

7. The system of claim 4, wherein the provider of the at least one instance of content comprises the content provider and the content provider transmits the at least one instance of programming content to the at least one input component in response to receiving the at least one order for the at least one instance of programming content.

8. The system of claim 4, wherein the provider of the at least one instance of programming content comprises a provider other than the content provider and the provider transmits the at least one instance of programming content to the content provider in response to receiving the at least one order for the at least one instance of programming content and the content provider then transmits the at least one instance of programming content to the at least one input component.

9. The system of claim 4, wherein the at least one input component receives programming content from the content provider, the at least one processing unit combines the programming content with the at least one matrix code, and the at least one output component transmits the at least one matrix code to the at least one display device by transmitting the combined programming content and at least one matrix code to the at least one display device.

10. The system of claim 4, wherein the at least one input component receives the at least one instance of programming content and the at least one output component transmits the received at least one instance of programming content to the at least one display device.

Patentansprüche

1. Verfahren zum Bestellen und Empfangen von Abrufprogramminhalten an einer Set-Top-Box oder einem Fernsehempfänger unter Verwendung dynamischer Matrixcodeerzeugung, wobei das Verfahren umfasst:

Empfangen von Programminhalt und mindestens einem Identifikator an einer Set-Top-Box oder einem Fernsehempfänger (101) von einem Inhaltsanbieter (106) über eine Netzwerkverbindung, wobei die Set-Top-Box oder der Fernsehempfänger in der Lage ist, Programminhalt über die Netzwerkverbindung von dem Inhaltsanbieter zu empfangen, doch nicht in der Lage ist, Nachrichten über die Netzwerkverbindung an den Inhaltsanbieter zu senden,
wobei mindestens ein Identifikator Bestellinformationen für mindestens eine Instanz von Abrufprogramminhalt identifiziert;
Ableiten von Informationen unter Verwendung einer Verarbeitungseinheit der Set-Top-Box oder des Fernsehempfängers (101), die für die Set-Top-Box oder den Fernsehempfänger spezifisch sind und die mindestens eine Netzwerkadresse für die Set-Top-Box oder den Fernsehempfänger umfassen,
wobei die Bestellinformationen Informationen zum Senden der für die Set-Top-Box oder den Fernsehempfänger spezifischen Informationen an einen Anbieter der mindestens einen Instanz von Abrufprogramminhalt umfassen, um die mindestens eine Bestellung für die mindestens eine Instanz von Abrufprogramminhalt auszulösen, wobei die Bestellinformationen eine Netzwerkadresse eines Servers für den Anbieter der mindestens einen Instanz von Abrufprogramminhalt umfassen;
dynamisches Erzeugen unter Verwendung einer Verarbeitungseinheit der Set-Top-Box oder des Fernsehempfängers (101) von mindestens einem Matrixcode, der den mindestens einen Identifikator und die für die Set-Top-Box oder den Fernsehempfänger spezifischen Informationen umfasst; und
Senden des mindestens einen Matrixcodes unter Verwendung einer Verarbeitungseinheit der

Set-Top-Box oder des Fernsehempfängers (101) an mindestens eine Anzeigeeinrichtung;
Dekodieren des mindestens einen Matrixcodes durch mindestens eine Leseeinrichtung, die den mindestens einen Matrixcode, der auf der mindestens einen Anzeigeeinrichtung angezeigt wird, optisch erfasst, um mindestens eine Bestellung bei dem mindestens einen Anbieter von Abrufprogramminhalt für die mindestens eine Instanz von an die Set-Top-Box oder den Fernsehempfänger zu sendendem Abrufprogramminhalt auszulösen, wobei die Netzwerkadresse des Servers des mindestens einen Anbieters von Abrufprogramminhalt aus dem dekodierten Matrixcode identifiziert wird;
Darstellen eines Bestätigungsbildschirms durch die mindestens eine Leseeinrichtung (103), der zusätzliche Informationen zum Abschließen der Bestellung anfordert;
Empfangen einer Benutzereingabe durch die mindestens eine Leseeinrichtung (103), die die angeforderten zusätzlichen Informationen zum Abschließen der Bestellung umfasst;
Senden der mindestens einen Bestellung durch die mindestens eine Leseeinrichtung (103) an die dekodierte Netzwerkadresse des Servers des mindestens einen Anbieters von Abrufprogramminhalt,
wobei die Bestellung die Netzwerkadresse der Set-Top-Box oder des Fernsehempfängers enthält, die von dem Matrixcode dekodiert wurde, sodass der Anbieter von Programminhalt den Programminhalt an die spezifische Set-Top-Box oder den Fernsehempfänger senden kann, auf der bzw. dem die Bestellung ausgelöst wurde; und
Empfangen des bestellten Abrufprogramminhalts an der Set-Top-Box oder dem Fernsehempfänger.

2. Verfahren nach Anspruch 1, wobei der mindestens eine Matrixcode mindestens einen QR-Code umfasst.

3. Verfahren nach Anspruch 1, wobei die zusätzlichen Informationen Kreditkarteninformationen oder Kindersicherungspasswörter umfassen.

4. System zum Bestellen und Empfangen von Abrufprogramminhalten an einer Set-Top-Box oder einem Fernsehempfänger unter Verwendung dynamischer Matrixcodeerzeugung, umfassend:

eine Set-Top-Box oder einen Fernsehempfänger, umfassend:

mindestens eine Eingabekomponente (111), die Programminhalt und mindestens einen Identifikator von einem Inhaltsanbieter (106) über eine Netzwerkverbindung empfängt, wobei die Set-Top-Box oder der Fernsehempfänger in der Lage ist, Programminhalt über die Netzwerkverbindung von dem Inhaltsanbieter zu empfangen, doch nicht in der Lage ist, Nachrichten über die Netzwerkverbindung an den Inhaltsanbieter zu senden, wobei der mindestens eine Identifikator Bestellinformationen für mindestens eine Instanz von Abrufprogramminhalt identifiziert;
mindestens eine Verarbeitungseinheit (109), die für die Set-Top-Box (101) oder den Fernsehempfänger spezifische Informationen ableitet, die eine Netzwerkadresse für die Set-Top-Box oder den Fernsehempfänger umfasst und mindestens einen Matrixcode dynamisch erzeugt, der den mindestens Identifikator und die für die Set-Top-Box oder den Fernsehempfänger spezifischen Informationen umfasst,
wobei die Bestellinformationen Informationen zum Senden der für die Set-Top-Box oder den Fernsehempfänger spezifischen Informationen an einen Anbieter der mindestens einen Instanz von Abrufprogramminhalt umfasst, um die mindestens eine Bestellung für die mindestens eine Instanz von Abrufprogramminhalt auszulösen, wobei die Informationen eine Netzwerkadresse eines Servers für den Anbieter der mindestens einen Instanz von Abrufprogramminhalt umfassen; und
mindestens eine Ausgabekomponente (112), die den mindestens einen Matrixcode an mindestens eine Anzeigeeinrichtung (102) sendet;
einen Anbieter der mindestens einen Instanz von Abrufprogramminhalt; und
mindestens eine Leseeinrichtung, wobei der mindestens eine Matrixcode durch mindestens eine Leseeinrichtung (103) dekodierbar ist, die den mindestens einen Matrixcode, der auf der mindestens einen Anzeigeeinrichtung angezeigt wird, optisch erfasst, um mindestens eine Bestellung bei dem mindestens einen Anbieter von Abrufinhalt für die mindestens eine Instanz von von dem Anbieter von Abrufprogramminhalt an die mindestens eine Eingabekomponente zu sendendem Abrufprogramminhalt auszulösen, wobei die Netzwerkadresse des Servers des mindestens einen Anbieters von Abrufprogramminhalt aus dem dekodierten Matrixcode identifiziert wird und die mindestens eine Leseeinrichtung die mindestens eine Bestellung mithilfe der

Netzwerkadresse an den Server sendet,

wobei die mindestens eine Leseeinrichtung dazu angeordnet ist, einen Bestätigungsbildschirm darzustellen, der zusätzliche Informationen zum Abschließen der Bestellung anfordert und eine Benutzereingabe empfängt, die die angeforderten zusätzlichen Informationen zum Abschließen der Bestellung umfasst,
wobei der Server des Anbieters von Abrufprogramminhalt den Programminhalt entsprechend der von der Leseeinrichtung empfangenen Netzwerkadresse der Set-Top-Box oder des Fernsehempfängers an die Set-Top-Box oder den Fernsehempfänger sendet.

5. System nach Anspruch 4, wobei der mindestens eine Matrixcode mindestens einen QR-Code umfasst.

6. System nach Anspruch 4, wobei die zusätzlichen Informationen Kreditkarteninformationen oder Kindersicherungspasswörter umfassen.

7. System nach Anspruch 4, wobei der Anbieter der mindestens einen Instanz des Inhalts den Inhaltsanbieter umfasst und der Inhaltsanbieter die mindestens eine Instanz von Programminhalt in Reaktion auf das Empfangen der mindestens einen Bestellung für die mindestens eine Instanz von Programminhalt an die mindestens eine Eingabekomponente sendet.

8. System nach Anspruch 4, wobei der Anbieter der mindestens einen Instanz von Programminhalt einen anderen als den Inhaltsanbieter umfasst und der Anbieter die mindestens eine Instanz von Programminhalt in Reaktion auf das Empfangen der mindestens einen Bestellung für die mindestens eine Instanz von Programminhalt an den Inhaltsanbieter sendet und der Inhaltsanbieter dann die mindestens eine Instanz von Programminhalt an die mindestens eine Eingabekomponente sendet.

9. System nach Anspruch 4, wobei die mindestens eine Eingabekomponente Programminhalt von dem Inhaltsanbieter empfängt, die mindestens eine Verarbeitungseinheit den Programminhalt mit dem mindestens einen Matrixcode kombiniert und die mindestens eine Ausgabekomponente den mindestens einen Matrixcode durch Senden des kombinierten Programminhalts und mindestens einen Matrixcodes an die mindestens eine Anzeigeeinrichtung sendet.

10. System nach Anspruch 4, wobei die mindestens eine Eingabekomponente die mindestens eine Instanz von Programminhalt empfängt und die mindestens eine Ausgabekomponente die empfangene mindestens eine Instanz von Programminhalt an die mindestens eine Anzeigeeinrichtung sendet.

Revendications

1. Procédé pour commander et recevoir un contenu de programmation à la demande au niveau d'un boîtier décodeur ou récepteur de télévision à l'aide d'une génération de code matriciel dynamique, le procédé comprenant :

recevoir un contenu de programmation et au moins un identifiant au niveau d'un boîtier décodeur ou récepteur de télévision (101) en provenance d'un fournisseur de contenu (106) sur une connexion réseau, le boîtier décodeur ou récepteur de télévision étant apte à recevoir un contenu de programmation en provenance du fournisseur de contenu sur la connexion réseau, mais n'étant pas apte à transmettre des messages sur la connexion réseau au fournisseur de contenu, dans lequel l'au moins un identifiant identifie des informations de commande pour au moins une instance de contenu de programmation à la demande ;
déduire, à l'aide d'une unité de traitement du boîtier décodeur ou récepteur de télévision (101), des informations spécifiques au boîtier décodeur ou récepteur de télévision qui comprennent au moins une adresse réseau pour le boîtier décodeur ou récepteur de télévision,
les informations de commande comprenant des informations pour transmettre les informations spécifiques au boîtier décodeur ou récepteur de télévision à un fournisseur de l'au moins une instance de contenu de programmation à la demande pour initier l'au moins une commande pour l'au moins une instance de contenu de programmation à la demande, les informations de commande comprenant une adresse réseau d'un serveur pour le fournisseur de l'au moins une instance de contenu de programmation à la demande ;
générer de façon dynamique, à l'aide d'une unité de traitement du boîtier décodeur ou récepteur de télévision (101), au moins un code matriciel comprenant l'au moins un identifiant et les informations spécifiques au boîtier décodeur ou récepteur de télévision ; et
transmettre, à l'aide d'une unité de traitement du boîtier décodeur ou récepteur de télévision (101), l'au moins un code matriciel à au moins un dispositif d'affichage ;
décoder l'au moins un code matriciel par au moins un dispositif de lecteur qui détecte optiquement l'au moins un code matriciel affiché sur l'au moins un dispositif d'affichage pour initier

au moins une commande avec l'au moins un fournisseur de contenu de programmation à la demande pour l'au moins une instance de contenu de programmation à la demande à transmettre au boîtier décodeur ou récepteur de télévision, l'adresse réseau du serveur de l'au moins un fournisseur de contenu de programmation à la demande étant identifiée à partir du code matriciel décodé ;

présenter, par l'au moins un dispositif de lecteur (103), un écran de confirmation demandant des informations supplémentaires pour achever la commande ;

recevoir une entrée d'utilisateur par l'au moins un dispositif de lecteur (103), comprenant les informations supplémentaires demandées pour achever la commande ;

transmettre, par l'au moins un dispositif de lecteur (103), l'au moins une commande à l'adresse réseau décodée du serveur de l'au moins un fournisseur de contenu de programmation à la demande,

dans lequel la commande contient l'adresse réseau du boîtier décodeur ou récepteur de télévision décodée à partir du code matriciel de telle sorte que le fournisseur de contenu à la demande peut transmettre le contenu de programmation au boîtier décodeur ou récepteur de télévision spécifique sur lequel la commande a été initiée ; et

recevoir le contenu de programmation à la demande commandé au niveau du boîtier décodeur ou récepteur de télévision.

2. Procédé selon la revendication 1, dans lequel l'au moins un code matriciel comprend au moins un code QR.

3. Procédé selon la revendication 1, dans lequel les informations supplémentaires comprennent des informations de carte de crédit ou des mots de passe de contrôle parental.

4. Système pour commander et recevoir un contenu de programmation à la demande au niveau d'un boîtier décodeur ou récepteur de télévision à l'aide d'une génération de code matriciel dynamique, comprenant :

un boîtier décodeur ou récepteur de télévision comprenant :

au moins un composant d'entrée (111) qui reçoit un contenu de programmation et au moins un identifiant en provenance d'un fournisseur de contenu (106) sur une connexion réseau, le boîtier décodeur ou récepteur de télévision étant apte à recevoir un contenu de programmation en provenance du fournisseur de contenu sur la connexion réseau, mais n'étant pas apte à transmettre des messages sur la connexion réseau, au fournisseur de contenu, dans lequel l'au moins un identifiant identifie des informations de commande pour au moins une instance de contenu de programmation à la demande ;

au moins une unité de traitement (109) qui déduit des informations spécifiques au boîtier décodeur (101) ou récepteur de télévision qui comprennent une adresse réseau pour le boîtier décodeur ou récepteur de télévision et génère de façon dynamique au moins un code matriciel comprenant l'au moins un identifiant et les informations spécifiques au boîtier décodeur ou récepteur de télévision,

les informations de commande comprenant des informations pour transmettre les informations spécifiques au boîtier décodeur ou récepteur de télévision (101) à un fournisseur de l'au moins une instance de contenu de programmation à la demande pour initier l'au moins une commande pour l'au moins une instance de contenu de programmation à la demande, les informations comprenant une adresse réseau d'un serveur pour le fournisseur de l'au moins une instance de contenu de programmation à la demande ; et

au moins un composant de sortie (112) qui transmet l'au moins un code matriciel à au moins un dispositif d'affichage (102) ;

un fournisseur de l'au moins une instance de contenu de programmation à la demande ; et

au moins un dispositif de lecteur, dans lequel l'au moins un code matriciel est apte à être décodé par au moins un dispositif de lecteur (103) qui détecte optiquement l'au moins un code matriciel affiché sur l'au moins un dispositif d'affichage pour initier au moins une commande avec l'au moins un fournisseur de contenu à la demande pour l'au moins une instance de contenu de programmation à la demande à transmettre depuis le fournisseur de l'au moins une instance de contenu de programmation à la demande vers l'au moins un composant d'entrée, l'adresse réseau du serveur de l'au moins un fournisseur de contenu à la demande étant identifiée à partir du code matriciel décodé et l'au moins un dispositif de lecteur transmettant l'au moins une commande au serveur à l'aide de l'adresse réseau,

dans lequel l'au moins un dispositif de lecteur est agencé pour présenter un écran de confir-

mation demandant des informations supplémentaires pour achever la commande et recevoir une entrée d'utilisateur comprenant les informations supplémentaires demandées pour achever la commande,
dans lequel le serveur du fournisseur de contenu à la demande transmet ledit contenu de programmation au boîtier décodeur ou récepteur de télévision selon l'adresse réseau du boîtier décodeur ou récepteur de télévision reçue en provenance du dispositif de lecteur.

5. Système selon la revendication 4, dans lequel l'au moins un code matriciel comprend au moins un code QR.

6. Système selon la revendication 4, dans lequel les informations supplémentaires comprennent des informations de carte de crédit ou des mots de passe de contrôle parental.

7. Système selon la revendication 4, dans lequel le fournisseur de l'au moins une instance de contenu comprend le fournisseur de contenu et le fournisseur de contenu transmet l'au moins une instance de contenu de programmation à l'au moins un composant d'entrée en réponse à la réception de l'au moins une commande pour l'au moins une instance de contenu de programmation.

8. Système selon la revendication 4, dans lequel le fournisseur de l'au moins une instance de contenu de programmation comprend un fournisseur autre que le fournisseur de contenu et le fournisseur transmet l'au moins une instance de contenu de programmation au fournisseur de contenu en réponse à la réception de l'au moins une commande pour l'au moins une instance de contenu de programmation et le fournisseur de contenu transmet ensuite l'au moins une instance de contenu de programmation à l'au moins un composant d'entrée.

9. Système selon la revendication 4, dans lequel l'au moins un composant d'entrée reçoit un contenu de programmation en provenance du fournisseur de contenu, l'au moins une unité de traitement combine le contenu de programmation à l'au moins un code matriciel, et l'au moins un composant de sortie transmet l'au moins un code matriciel à l'au moins un dispositif d'affichage par transmission du contenu de programmation et de l'au moins un code matriciel combinés à l'au moins un dispositif d'affichage.

10. Système selon la revendication 4, dans lequel l'au moins un composant d'entrée reçoit l'au moins une instance de contenu de programmation et l'au moins un composant de sortie transmet l'au moins une instance de contenu de programmation reçue à l'au moins un dispositif d'affichage.

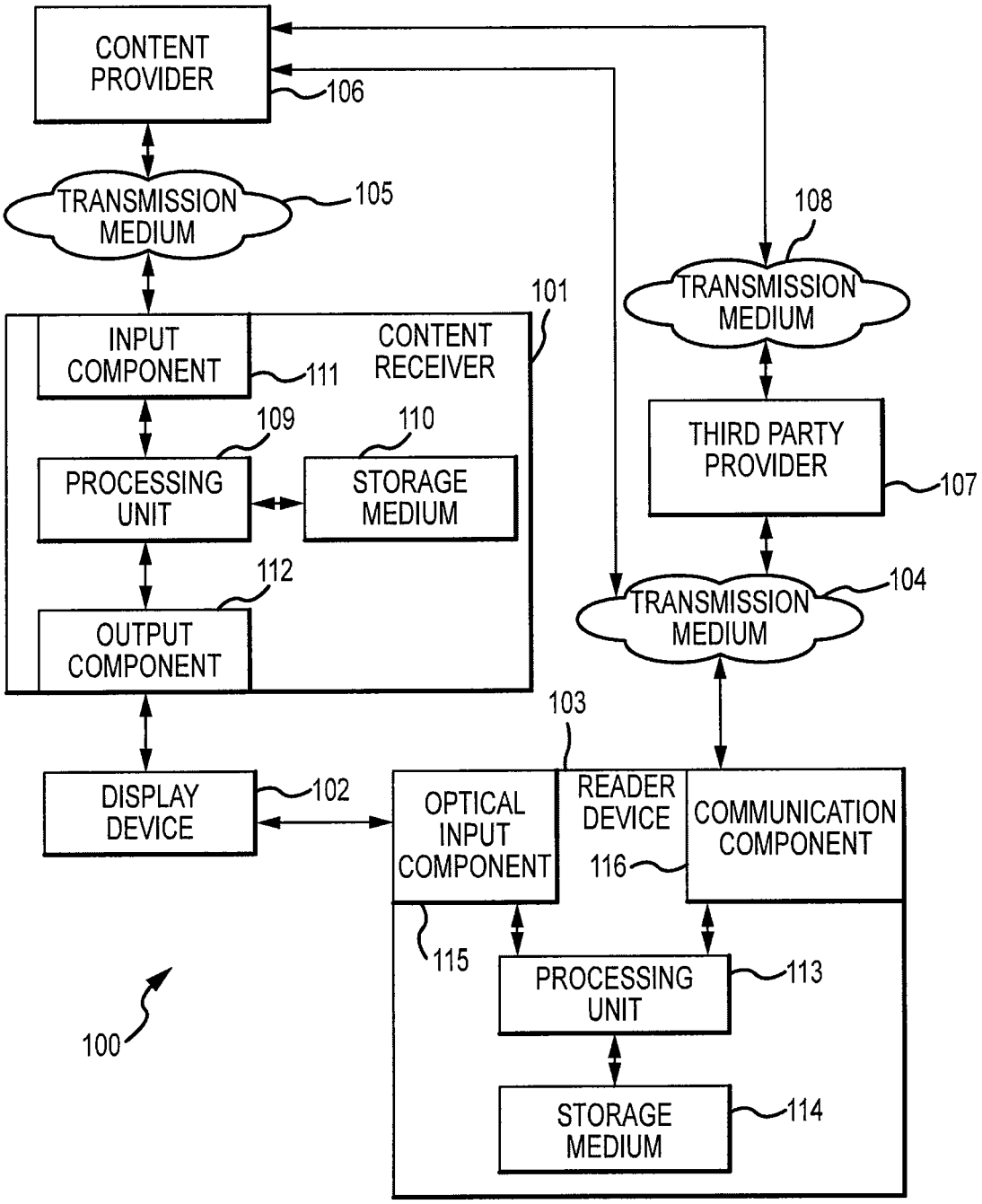
CONTENT PROVIDER
106
TRANSMISSION MEDIUM
105
108
TRANSMISSION MEDIUM
101
INPUT COMPONENT
111
CONTENT RECEIVER
109
110
PROCESSING UNIT
STORAGE MEDIUM
THIRD PARTY PROVIDER
107
112
OUTPUT COMPONENT
TRANSMISSION MEDIUM
104
103
DISPLAY DEVICE
102
OPTICAL INPUT COMPONENT
READER DEVICE
116
COMMUNICATION COMPONENT
115
PROCESSING UNIT
113
STORAGE MEDIUM
114
100

FIG.1

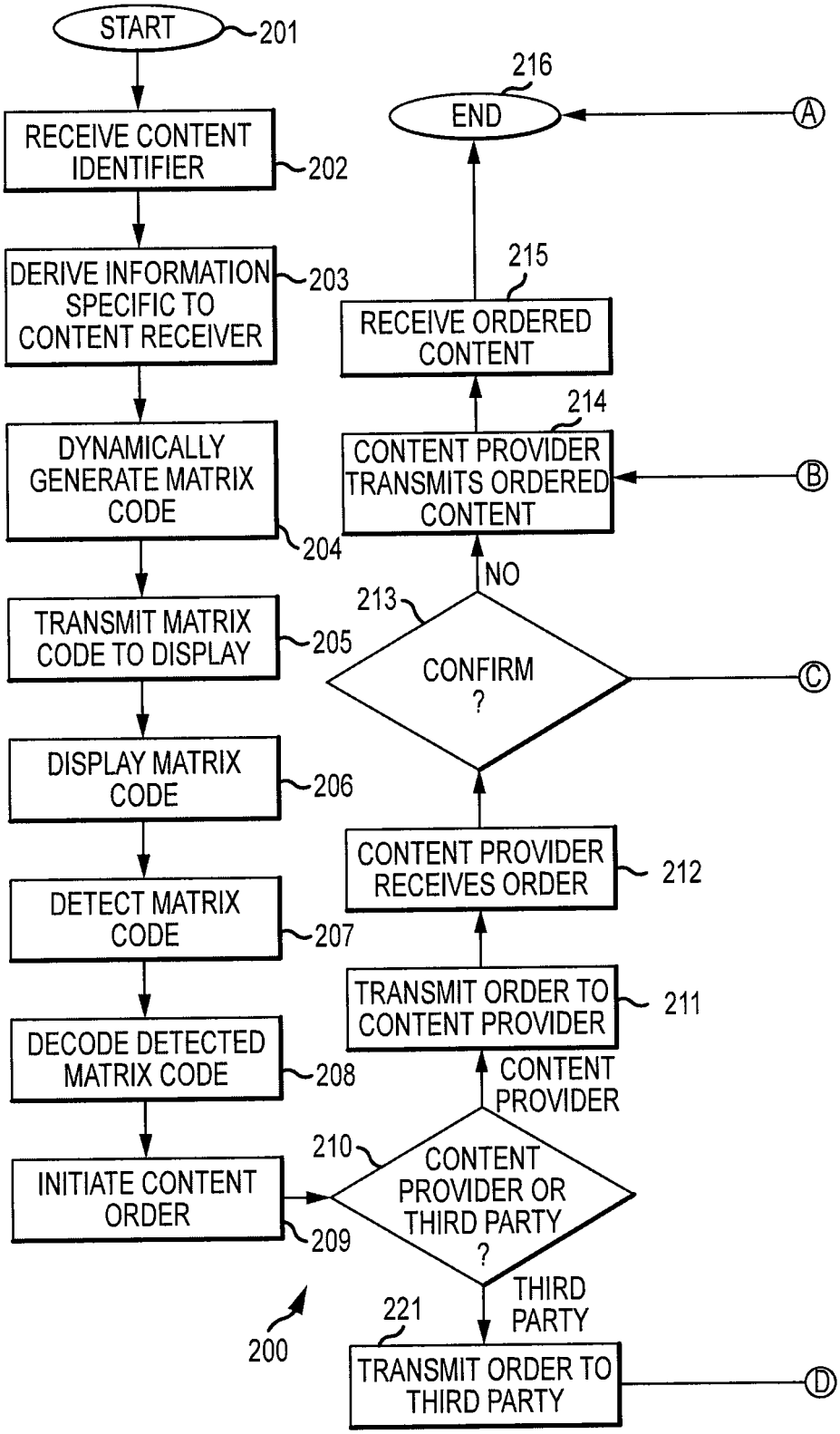
START
201
RECEIVE CONTENT IDENTIFIER
202
DERIVE INFORMATION SPECIFIC TO CONTENT RECEIVER
203
DYNAMICALLY GENERATE MATRIX CODE
204
TRANSMIT MATRIX CODE TO DISPLAY
205
DISPLAY MATRIX CODE
206
DETECT MATRIX CODE
207
DECODE DETECTED MATRIX CODE
208
INITIATE CONTENT ORDER
209
200
CONTENT PROVIDER OR THIRD PARTY ?
210
THIRD PARTY
CONTENT PROVIDER
TRANSMIT ORDER TO CONTENT PROVIDER
211
CONTENT PROVIDER RECEIVES ORDER
212
CONFIRM ?
213
NO
CONTENT PROVIDER TRANSMITS ORDERED CONTENT
214
RECEIVE ORDERED CONTENT
215
END
216
TRANSMIT ORDER TO THIRD PARTY
221
A
B
C
D

FIG.2A

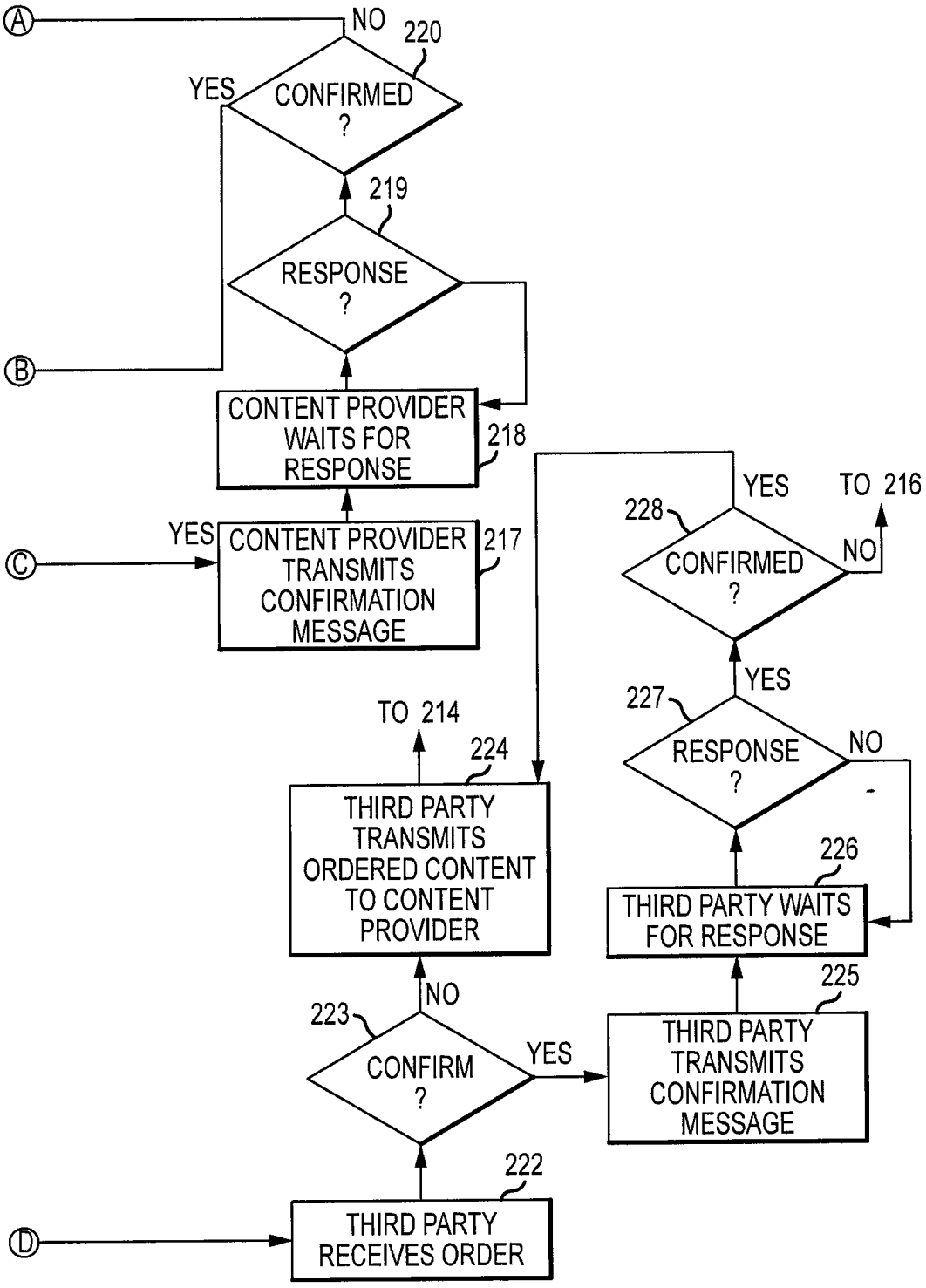
A
NO
220
CONFIRMED ?
YES
219
RESPONSE ?
B
CONTENT PROVIDER WAITS FOR RESPONSE
218
YES
C
CONTENT PROVIDER TRANSMITS CONFIRMATION MESSAGE
217
TO 214
224
THIRD PARTY TRANSMITS ORDERED CONTENT TO CONTENT PROVIDER
NO
223
CONFIRM ?
YES
222
D
THIRD PARTY RECEIVES ORDER
YES
TO 216
228
CONFIRMED ?
NO
YES
227
RESPONSE ?
NO
226
THIRD PARTY WAITS FOR RESPONSE
225
THIRD PARTY TRANSMITS CONFIRMATION MESSAGE

FIG.2B

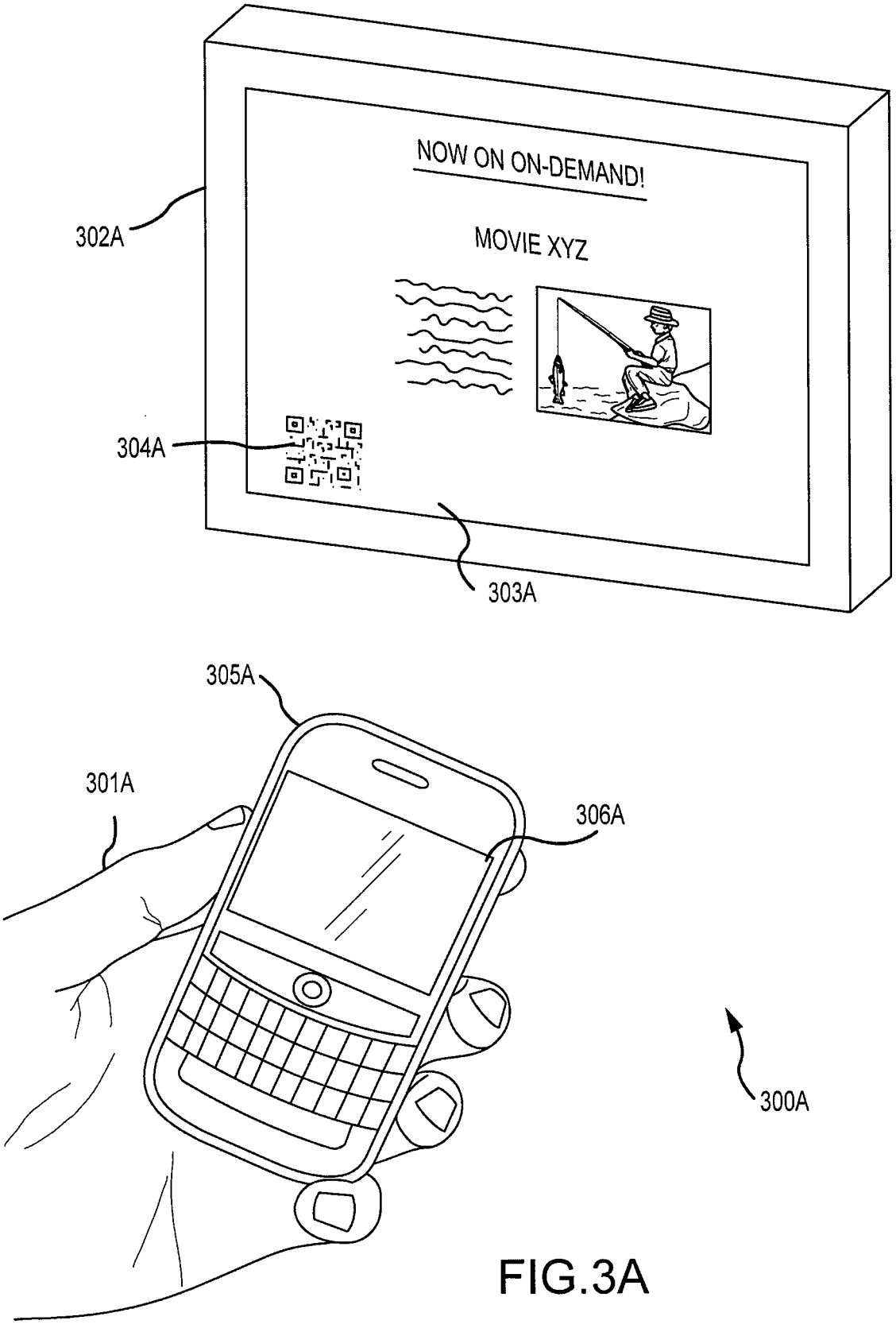

FIG.3A

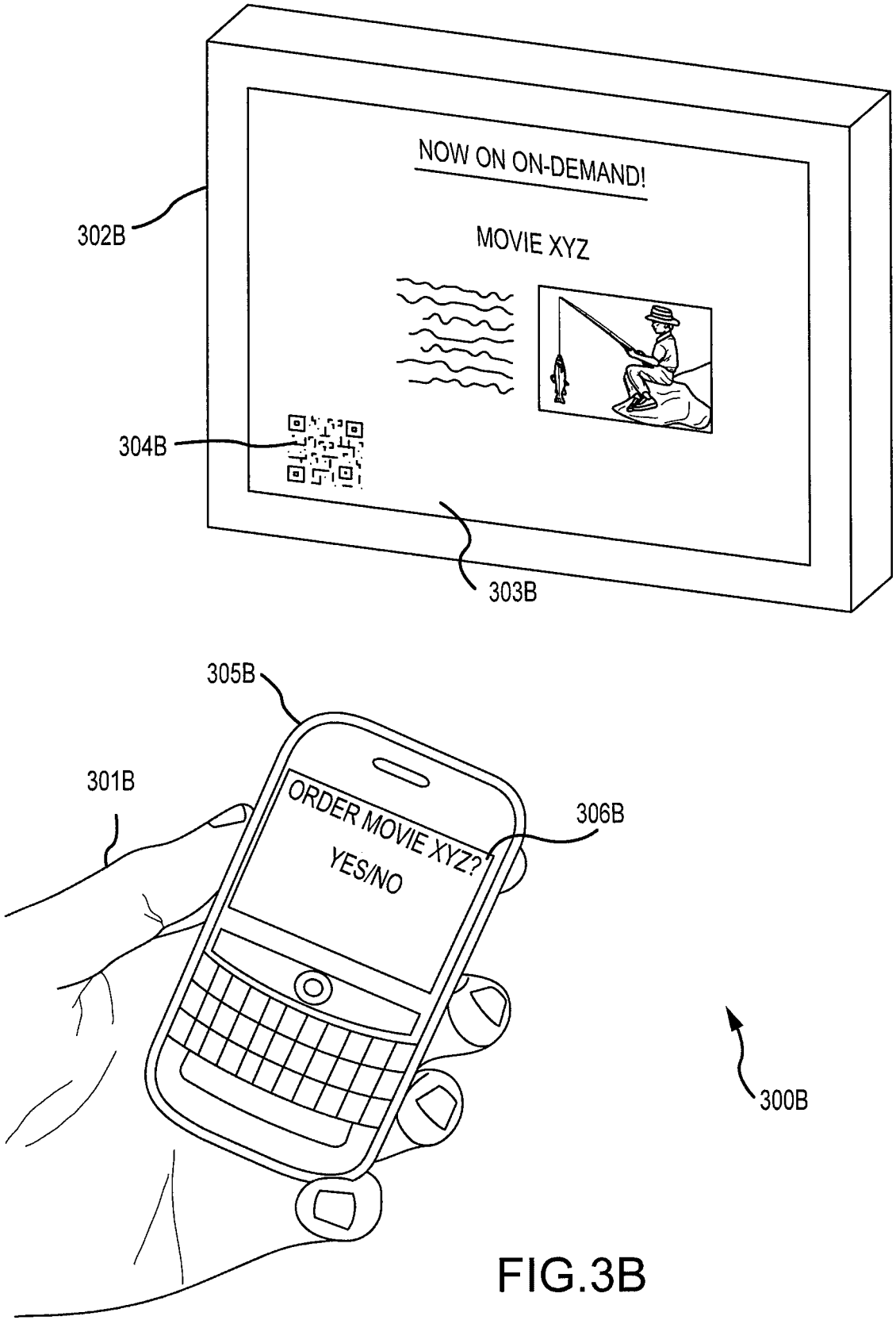
NOW ON ON-DEMAND!
MOVIE XYZ
302B
304B
303B
305B
301B
ORDER MOVIE XYZ?
YES/NO
306B
300B

FIG.3B

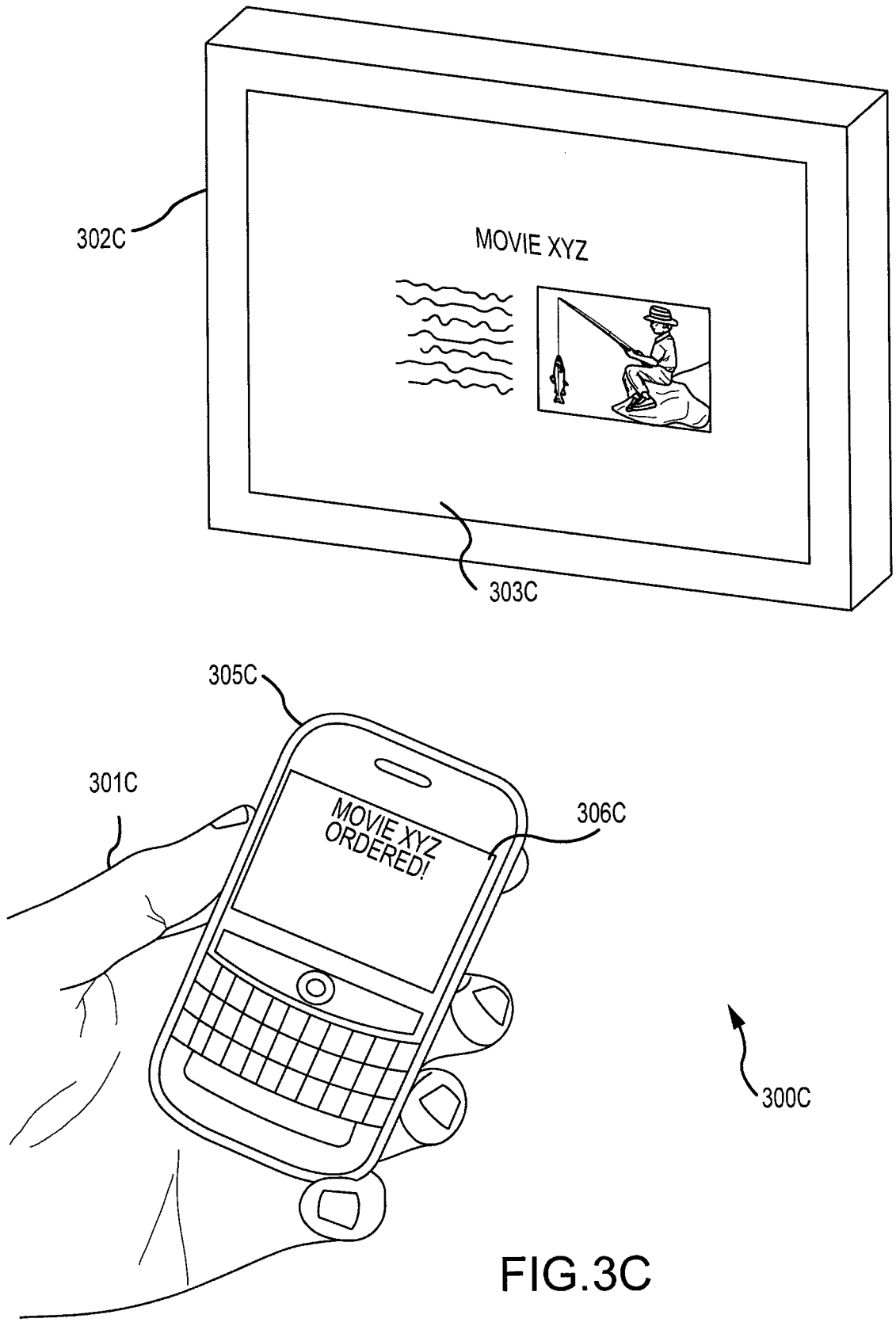

FIG.3C

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 12953273 B **[0001]**
- US 2007016934 A **[0002]**