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(71) Applicant: **EBAY, INC.** [US/US]; 2145 Hamilton Avenue, San Jose, CA 95125 (US).

(72) Inventor: **VELUSAMY, Lakshmanan**; 11100 NE 11th St D104, Bellevue, WA 98004 (US).

(74) Agents: **GILMORE, Richard, C.** et al.; MASCHOFF BRENNAN, 1389 Center Drive, Suite 300, Park City, UT 84098 (US).

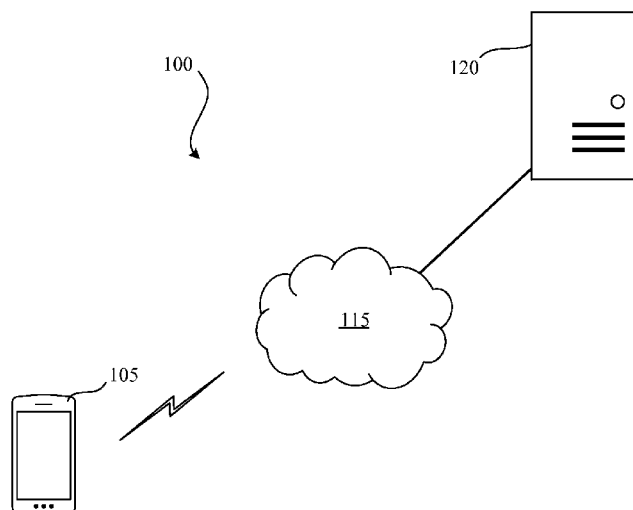
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(54) Title: MARKETPLACE LISTING GENERATION USING MESSAGE METADATA



(57) Abstract: Systems and methods are disclosed to receive a message from a user device. The message may include metadata that includes data related to one or more specifications of the user device. The method may also determine a sales price for the user device based on the one or more specifications of the user device and create a listing for the user device that includes at least the sales price and at least one of the one or more specifications of the user device.

Figure 1

MARKETPLACE LISTING GENERATION USING MESSAGE METADATA

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority to and the benefit of United States utility patent
5 application no. 14/586,574, filed on December 30, 2014, entitled MARKETPLACE
LISTING GENERATION USING MESSAGE METADATA, which is incorporated
herein in its entirety.

FIELD

This disclosure relates generally to marketplace listing generation using message
10 metadata.

BACKGROUND

Many electronic marketplaces allow individuals to list various items for sale. To list
items for sale, users may be required to enter information about their items, which may
be time consuming and/or inaccurate. Some individuals may find the time it takes to list
15 an item for sale in a marketplace as too burdensome. Moreover, inaccuracies in a listing
can lead to a number of problems including a lack of trust between buyers, sellers, and
the marketplace.

BRIEF DESCRIPTION OF THE FIGURES

These and other features, aspects, and advantages of the present disclosure are better
20 understood when the following Detailed Description is read with reference to the
accompanying drawings.

Figure 1 illustrates an example architecture in which a user may interact with an
electronic marketplace according to some embodiments described herein.

Figure 2 illustrates a block diagram of some components of the electronic marketplace
25 according to some embodiments described herein.

Figure 3 is a flowchart of an example process for automatically listing the user device in an electronic marketplace, according to at least one embodiment described herein.

Figure 4 is a flowchart of an example process executing at the electronic marketplace for automatically listing the user device in the electronic marketplace according to at least
5 one embodiment described herein.

Figure 5 is a flowchart of an example process executing at the electronic marketplace for automatically listing a device in the electronic marketplace, according to at least one embodiment described herein.

DETAILED DESCRIPTION

10 Systems and methods are disclosed to generate a listing in an electronic marketplace for a user device from metadata associated with an electronic message sent to the electronic marketplace. The electronic marketplace may use the metadata associated with the electronic message to determine details about the user device and automatically create a
15 listing from the details of the user device. Embodiments described herein may provide a simple and accurate way for users to list a user device in an electronic marketplace. Moreover, embodiments described herein solve an e-commerce problem that is only found in e-commerce or electronic marketplaces.

Electronic messages communicated between a user device and an electronic marketplace (e.g., servers or websites hosted by a server) include metadata that is often mandated by
20 communication protocols used to communicate the electronic messages. In some embodiments, additional metadata may be added to or metadata other than the protocol mandated metadata may be used in an electronic message. The additional or other metadata may include specifications of the user device that communicates the electronic messages. The specifications of the user device may include the make, model, or
25 specifications of the user device, among other specifications. In general, embodiments described herein provide systems and methods that allow a user to create a listing in an electronic marketplace for a user device by sending a communication, such as a text message to a specific phone number, sending an email to a specific email address, selecting a specific link on a webpage, visiting a specific website, visiting a specific
30 webpage (e.g., www.ebay.com/listthisdevice), or calling a specific phone number,

clicking a button in an application or on a webpage, tweeting a message with a specific hashtag (e.g., #listthisdevice), using a voice command, using a specific gesture or motion, *etc.*, from the user device to the electronic marketplace. In response, the electronic marketplace may automatically generate a listing for the user device in the
5 electronic marketplace based on the specifications of the user device derived from metadata within the communication from the user device.

Figure 1 illustrates an example architecture 100 in which a user may interact with an e-commerce marketplace according to some embodiments described herein. The architecture 100 includes a user device 105, a network 115 and an electronic marketplace
10 120. The user device 105 may be communicatively connected with the electronic marketplace 120 via the network 115 either through a wired or wireless connection.

The user device 105 may include any type of user device such as, for example, a mobile phone, a smartphone, a tablet, a smart watch, gaming console, media player, laptop computer, or desktop computer. In general, the user device 105 may include any device
15 that may communicate electronically with the electronic marketplace 120 via the network 115.

The electronic marketplace 120 may host one or more websites that allow users to buy and/or sell items. The electronic marketplace 120 may include any configuration of hardware, such as servers and databases configured to provide an on-line marketplace for
20 sellers to sell goods to buyers. For example, the electronic marketplace 120 may be configured to provide a number of publishing, listing, and price-setting mechanisms whereby a seller may list (or publish information concerning) goods or services for sale, a buyer can express interest in or indicate a desire to purchase such goods or services, and a price can be set for a transaction pertaining to the goods or services. The prices set
25 for a transaction may be auction-format listing and price setting mechanisms (e.g., English, Dutch, Chinese, Double, Reverse auctions, etc.). Other types of price listing formats may also be used. For example, a fixed-price listing format (e.g., the traditional classified advertisement-type listing or a catalogue listing) or a buyout-type listing format may be used. In these and other embodiments, a buyout-type listing may be
30 offered in conjunction with auction-format listings and allow a buyer to purchase goods or services, which are also being offered for sale via an auction, for a fixed price that is typically higher than a starting price of an auction for an item.

The network 115 may be any network or configuration of networks configured to send and receive communications between devices. In some embodiments, the network 115 may include a conventional type network, a wired or wireless network, and may have numerous different configurations. Furthermore, the network 115 may include a local
5 area network (LAN), a wide area network (WAN) (e.g., the Internet), or other interconnected data paths across which multiple devices and/or entities may communicate. In some implementations, the network 115 may include a peer-to-peer network. The network 115 may also be coupled to or may include portions of a telecommunications network for sending data in a variety of different communication
10 protocols. In some implementations, the network 115 includes Bluetooth® communication networks or a cellular communications network for sending and receiving communications and/or data including via short message service (SMS), multimedia messaging service (MMS), hypertext transfer protocol (HTTP), direct data connection, wireless application protocol (WAP), e-mail, etc. The network 115 may also
15 include a mobile data network that may include third-generation (3G), fourth-generation (4G), long-term evolution (LTE), long-term evolution advanced (LTE-A), Voice-over-LTE (“VoLTE”) or any other mobile data network or combination of mobile data networks. Further, the network 115 may include one or more IEEE 802.11 wireless networks.

20 Figure 2 illustrates a block diagram of a system 200 of some components of the electronic marketplace 120 according to some embodiments described herein. The electronic marketplace 120 may be arranged in accordance with at least one embodiment described herein. The electronic marketplace 120 may include computing system 205 and database 230. The computing system 205 may include a communication interface
25 210, a processor 215, a memory 220, and data storage 225. One or more of the communication interface 210, the processor 215, the memory 220, and the data storage 225 may be communicatively coupled.

In some embodiments, the communication interface 210 may be used by the computing system 205 to communicate with the network 115 and/or the user device 105 of Figure 1.
30 In some embodiments, the communication interface 210 may communicate with the network 115 and/or the user device 105 using any communication protocol, interface, standard, etc. In some embodiments, the communication interface 210 may

communicate with the network 115 and/or the user device 105 using a wired or wireless connection.

In some embodiments, the processor 215 may include any suitable special-purpose or general-purpose computer, computing entity, or processing device including various
5 computer hardware or software modules and may be configured to execute instructions stored on any applicable computer-readable storage media. For example, the processor 215 may include a microprocessor, a microcontroller, a digital signal processor (DSP), an application-specific integrated circuit (ASIC), a Field-Programmable Gate Array (FPGA), or any other digital or analog circuitry configured to interpret and/or to execute
10 program instructions and/or to process data. Although illustrated as a single processor in Figure 2, it is understood that the processor 215 may include any number of processors configured to perform individually or collectively any number of operations described herein. Additionally, one or more of the processors may be present on one or more different electronic devices, such as different servers. In some embodiments, the
15 processor 215 may interpret and/or execute program instructions and/or process data stored in the memory 220, the data storage 225, or the memory 220 and the data storage 225. In some embodiments, the processor 215 may fetch program instructions from the data storage 225 and/or the database 230 and load the program instructions in the memory 220. After the program instructions are loaded into the memory 220, the
20 processor 215 may execute the program instructions.

In some embodiments, the memory 220 and the data storage 225 may include computer-readable storage media for carrying or having computer-executable instructions or data structures stored thereon. Such computer-readable storage media may be any available
25 media that may be accessed by a general-purpose or special-purpose computer, such as the processor 215. By way of example, and not limitation, such computer-readable storage media may include tangible or non-transitory computer-readable storage media including Random Access Memory (RAM), Read-Only Memory (ROM), Electrically Erasable Programmable Read-Only Memory (EEPROM), Compact Disc Read-Only Memory (CD-ROM) or other optical disk storage, magnetic disk storage or other
30 magnetic storage devices, flash memory devices (*e.g.*, solid state memory devices), or any other storage medium which may be used to carry or store desired program code in the form of computer-executable instructions or data structures and which may be

accessed by a general-purpose or special-purpose computer. Combinations of the above may also be included within the scope of computer-readable storage media. Computer-executable instructions may include, for example, instructions and data configured to cause the processor 215 to perform a certain operation or group of operations.

5 In some embodiments, the database 230 may be communicatively coupled with the computing system 205. The database 230 may include one or more other databases such as, for example, a serial number database 235, a price database 240, a user profile database 250, a listing database 255, a template database 255, and an image database 265. The database 230 may also include multiple modules, that when executed by the
10 processor 215, may cause the computing system 205 to perform operations that may create a listing for the user device 105 based on metadata received from the user device 105.

In some embodiments, the database 230 may include computer-readable storage media for carrying or having computer-executable instructions or data structures stored thereon.
15 Such computer-readable storage media may be any available media that may be accessed by a general-purpose or special-purpose computer, such as the processor 215. By way of example, and not limitation, such computer-readable storage media may include tangible or non-transitory computer-readable storage media including Random Access Memory (RAM), Read-Only Memory (ROM), Electrically Erasable Programmable Read-Only
20 Memory (EEPROM), Compact Disc Read-Only Memory (CD-ROM) or other optical disk storage, magnetic disk storage or other magnetic storage devices, flash memory devices (*e.g.*, solid state memory devices), or any other storage medium which may be used to carry or store desired program code in the form of computer-executable instructions or data structures and which may be accessed by a general-purpose or
25 special-purpose computer. Combinations of the above may also be included within the scope of computer-readable storage media. Computer-executable instructions may include, for example, instructions and data configured to cause the processor 215 to perform a certain operation or group of operations.

In some embodiments, the serial number database 235 may include a lookup table
30 correlating serial numbers of user devices (or a range of serial numbers) with features of the user device 105. Table 1 is an example of such a lookup table.

Table 1

Serial number	Manufacturer	Model	Memory
176148	Apple	iPhone 5S	32 GB
27B9C8	Samsung	Galaxy S5	16 GB
AA7568	Apple	iPad Air	64 GB

The price database 240 may store sales price information that includes sales price data for various electronic devices based on the configuration of the electronic device. For example, the configuration of an electronic device may include the manufacturer of the device, the model of the device, the memory types of the device, the memory size of the different memory types, the condition of the device, the year the device was manufactured, the operating system executing on the user device, the camera specifications, the battery specifications, the number and/or types of applications installed on the user device, the size of the display, or some combination thereof.

In some embodiments, the sales price information may be kept up-to-date based on the sale prices of devices currently being sold. As sales prices increase or decrease, the sales price information stored at the electronic marketplace 120 may be updated to reflect the current sales price.

In some embodiments, the price database 240 may include a lookup table correlating various specifications or configurations of the user device 105 with a sales price. Table 2 is an example of such a lookup table.

Table 2

Manufacturer	Model	Memory	Price
Apple	iPhone 5S	32 GB	\$237
Samsung	Galaxy S5	16 GB	\$350
Apple	iPad Air	64 GB	\$250

In some embodiments, the user profile database 250 may include information related to various users of the electronic marketplace 120. For each user, this information may include, for example, demographic data, which may include, the age, gender, ethnicity, among other data, a user location, a shopping history, a purchasing history, items most recently viewed, items most recent items purchased, items most recent items placed in a virtual shopping cart but not purchased, preferred shipping options, credit card information, listing information, an address, a telephone number, etc.

In some embodiments, the user profile database 250 may also include listing preferences for users. The listing preferences of a user may include auction preferences, auction duration preferences, shipping preferences, store front graphics, store name, user name, comments, ratings, payment preference, or some combination thereof.

In some embodiments, the listing database 255 may include listings of products listed for sale in the electronic marketplace 120. The listing database 255 may also include listings of products that have been created but not published.

In some embodiments, the template database 260 may be used to create a listing for the user device 105. For example, the template database 260 may include a plurality of templates corresponding to a listing of a make and/or model of the user device 105. For example, a template may be included for an Apple iPhone 5S, a Samsung Galaxy S5, an Apple iPad Air, etc.

In some embodiments, the image database 265 may include a plurality of images of different devices that may be used to populate a listing of the user device 105. For example, the image database 265 may include an image of various models or styles of an Apple iPhone 5S, a Samsung Galaxy S5, an Apple iPad Air, etc.

In view of this disclosure, it will be appreciated that modifications, additions, or omissions may be made to the electronic marketplace 120 without departing from the scope of the present disclosure. For example, the computing system 205 and the database 230 may be communicatively coupled by a network, such as the network 115 of Figure 1. Alternately or additionally, the electronic marketplace 120 may include multiple computing systems 205 that may operate to execute one or more of the processes described herein.

Figure 3 is a flowchart of an example process 300 for automatically listing the user device 105 in a marketplace, according to at least one embodiment described herein. One or more steps of the process 300 may be implemented, in some embodiments, by the user device 105 of Figure 1. Although illustrated as discrete blocks, various blocks may
5 be divided into additional blocks, combined into fewer blocks, or eliminated, depending on the desired implementation.

Process 300 begins at block 305, where the user device 105 receives an indication from a user of the user device 105 to list the user device 105 in the electronic marketplace 120. The indication may be received through the user interface of the user device 105 in a
10 number of different ways. In some embodiments, the user may manipulate a user interface of the user device 105 to enter the specific number or address in the “TO:” field of a text messaging application, app, or program.

In some embodiments, the user may manipulate a user interface of the user device 105 to send an email message to a specific email address. For example, the user may enter the
15 specific email address in the “TO:” field of an email application, app, or program. The specific email address may be identified indicating that the user of the user device 105 wishes to sell the user device 105 in the marketplace associated with the specific email address.

In some embodiments, the user may manipulate a user interface of the user device 105 to
20 select a link on a webpage. For example, the user may be browsing a webpage and view an advertisement suggesting that the user can sell their user device by selecting the link. When the link has been selected, the user device 105 may determine that the user wishes to sell the user device 105 in the marketplace associated with the link.

The indication may include any type of message and be formatted using the proper
25 protocols for a given communication channel such as, for example, an SMS message channel, a text message channel, an email message channel, HTTP channel, etc.

At block 310, metadata can be prepared that includes user device component data. For example, the metadata may include information regarding the manufacturer of the user device 105, the make of the user device 105, the model of the user device 105, any
30 number of specifications of the user device 105 (*e.g.*, memory, speed, size, color, etc.), or

some combination thereof, etc. In some embodiments, the metadata may include metadata that is standard to the protocol for the given communication channel.

In some embodiments, the metadata may be prepared prior to block 305. The metadata may be prepared, for example, with a user agent process, module, software agent, software, or some combination thereof, etc. The metadata may be included in a string of metadata. In some embodiments, the metadata may be included in a metadata file stored at the user device 105.

In some embodiments, the metadata may include metadata that is standard to the protocol for the given communication channel. In some embodiments, the metadata may include the International Mobile Station Equipment Identity (IMEI), the International Mobile Equipment Identity (IMEI), the International Mobile Subscriber Identity (IMSI) number, a Mobile Subscriber Integrated Services Digital Network (MSISDN) number, the Mobile Equipment Identifier (MEID), Short Message Entity (SME), or some combination thereof. The metadata may also include other data collected from the user device 105 memory.

In some embodiments, the metadata may not be standard to the protocol for the given communication channel and may include metadata in addition to the standard data.

At block 315, the message with the metadata may be sent to the electronic marketplace 120 with the user device 105 metadata using any number of communication channels or techniques. For example, the user device 105 metadata may be sent to the electronic marketplace 120 as part of an HTTP message such as, for example, an HTTP user-agent string. The HTTP user-agent string may include information regarding the application sending the HTTP message, the platform of the user device 105, the operating system executing on the user device 105, the model of the user device 105, the serial number of the user device 105, user device firmware version, *etc.*, or some combination thereof.

For example, the following is an example HTTP user agent string, “Mozilla/5.0 (Linux; U; Android 2.2; en-sa; HTC_DesireHD_A9191 Build/FRF91) AppleWebKit/533.1 (KHTML, like Gecko) Version/4.0 Mobile Safari/533.1” that includes a number of fields that may be sent by a HTC Desire HD model number A9191. The field stating “HTC_DesireHD_A9191” specifies that the device is an HTC Desire HD user device

and the model is the A9191 model of the HTC Desire HD.

As another example, the user device 105 metadata may be sent from the user device 105 to the electronic marketplace 120 as part of an SMS message metadata associated with an SMS message. In some embodiments, an SMS message may include at least one of
5 an IMEI and a MEID. The IMEI may include a number of digits that represent a TAC value, a FAC value, a serial number of the user device 105, a software number, or some combination thereof. The serial number of the user device 105 may be extracted from The IMEI.

The MEID may include a string of digits that includes regional codes, manufacturer
10 codes, serial numbers, and a check digit. The serial number of the user device 105 may be extracted from the MEID.

If a serial number or the model number of the user device 105 is extracted from the IMEI, the MEID, HTTP user agent string, or any other metadata of any protocol, then the serial number may be looked up in a database and specifications for the user device
15 105 associated with the serial number may be returned from the database. A database that may return the specification for the user device 105 based on a serial number in a message may be the serial number database 235. Alternatively or additionally, the serial number may include digits that represent various specifications of the user device 105.

In response to receiving the message from the user device 105, the electronic
20 marketplace 120 may create a listing for the user device 105. This can be done, for example, as described in Figure 4.

In response, at block 320, a listing for the user device 105 in the marketplace may be received from the electronic marketplace 120. The listing may include details about the user device 105 that was included in the metadata provided in block 315 in addition to
25 other details about the user device 105 extracted from the metadata provided in block 315.

At block 325, the user may enter additional information for the listing through the user device 105 or through another electronic device. This can be done, for example, using a web browser or a stand-alone app, application or program executing on the user device

105.

At block 330, the user may approve the listing through the user device. The user, for example, may approve the listing by selecting a button, entering a username, and/or entering a password via a user interface that is provided by a web browser, an app, an application, or a program executing on the user device 105. In response, a message may be sent from the user device 105 to the electronic marketplace 120 notifying the electronic marketplace 120 that the user approves the listing. As another example, the user device 105 may send a second message to the electronic marketplace 120 using the same channel that the metadata was sent on, which may notify the electronic marketplace 120 that the listing is approved.

Figure 4 is a flowchart of an example process 400 executing at the electronic marketplace 120 for automatically listing the user device 105 in an electronic marketplace according to at least one embodiment described herein. One or more steps of the process 400 may be implemented by the electronic marketplace 120 illustrated in Figure 1 and Figure 2. Although illustrated as discrete blocks, various blocks may be divided into additional blocks, combined into fewer blocks, or eliminated, depending on the desired implementation.

Process 400 begins at block 405, where the electronic marketplace 120 may receive a message from the user device 105. The message may have been sent from the user device 105, for example, at block 315. The message may be sent via one of any number of communication channels. The message may include, for example, a text message, SMS message, email message, HTTP request, *etc.* The message may include metadata that includes user device component data, which may be parsed at block 410 to extract or determine the component data from the metadata. The component data may include the make, model, specifications, or some combination thereof of the user device 105.

In some embodiments, the message may be parsed using the serial number database 235. For example, the metadata may include the serial number of the user device 105. This serial number may be used to look up the component data in the serial number database 235.

At block 415, a sales price for the user device 105 may be determined from the

component data. The sales price may be determined, for example, using the price database 240. The electronic marketplace 120 may use the component data to look up a sales price for the user device 105 in the price database 240. For example, using Table 2, if the component data indicates that the user device 105 is a Samsung Galaxy S5 with 16
5 GB of memory, then the sales price may be determined to be \$350.

At block 420, a product listing for the user device 105 may be created in the marketplace using the component data and the sales price. The listing may be saved in the listing database 255.

In some embodiments, to create a product listing, a listing template may be retrieved
10 from the template database 260. A template from the template database 260 may be retrieved from the template database 260 based on the component data. Various fields of the listing template may be populated or filled in with metadata, the component data, the sales price, or some combination thereof.

In some embodiments, user profile data may be retrieved from the user profile database
15 250 and used to fill in some fields of the template. User profile data, for example, may also be determined from the metadata associated with the message received from the user device 105. For example, if the message was received via SMS text, then user profile data may be determined from the MSISDN (or similar number) or the phone number of the user device 105 from which the message was sent. The MSISDN or phone number
20 may be associated with a specific user in a lookup table stored in memory with the electronic marketplace 120. The user profile data, for example, may include listing preferences for the user.

In some embodiments, an image of the user device 105 may be retrieved from the image database 265 and used in the listing.

25 At block 425, an indication may be sent to the user device 105 that a listing has been created to sell the user device 105. The indication may include a link to a network location where the listing may be viewed such as, for example, a webpage. The indication may be sent using any communication channel such as, for example, the same communication channel used to send the message from the user device 105 to the
30 electronic marketplace 120 or a different communication channel. For example, if the

message received at block 405 was sent via an SMS text communication channel, then the indication sent at block 425 may also be sent via the SMS text communication channel. As another example, if the message received at block 405 was sent via email, then the indication sent at block 425 may also be sent via email. Alternatively, for
5 example, the indication may be sent using a different communication channel than the communication channel used at block 405.

At block 430, an approval from the user may be received at block 430. The approval may indicate that the listing is approved and should be listed in the marketplace. In some embodiments, the approval may include additional listing information or additional
10 listing information may be sent to the electronic marketplace 120 prior to block 430.

At block 435, the user device 105 may be listed in the marketplace with the sales price determined at block 415.

Process 400 may be used to list the user device 105 in the marketplace using any number of communication channels. For example, the process 400 may be used to list the user
15 device 105 by receiving a message via an SMS message. For example, at block 405 an SMS message may be received at the electronic marketplace 120 from the user device 105. The SMS message may or may not include data other than metadata. The metadata may include either or both an IMEI or a MEID. Either of these identifiers includes the serial number of the user device 105. At block 410, the serial number of the user device
20 105 may be parsed from the IMEI or MEID, which may be a certain set of characters in the IMEI or MEID. Alternatively or additionally the metadata may include a description of user device 105.

The electronic marketplace 120 may look up the serial number in a serial number database 235 to determine the make and model of the user device 105 and any other
25 specifications of the user device 105. At block 415, a sales price may be determined based on the make, model, and specifications of the user device 105. The sales price may be determined for example using the price database 240.

At block 420, a product listing for the user device 105 may be created in the marketplace based on the make, model, features or some combination thereof of the user device 105
30 and stored in the listing database 255. The listing may also include a description of the

user device 105 and/or include an image of the user device 105. At block 425, an SMS message may be sent to the user indicating that a listing for the user device 105 has been created. The SMS message may include a link to the listing that may be opened in a web browser or another application executing on the user device 105.

5 The user of the user device 105 may approve the listing and send an indication of such approval to the electronic marketplace 120 at block 430. The approval may be sent via SMS message, through a message sent from an app executing on the user device 105, through an HTTP message, or some combination thereof, etc. At block 435, the listing of the user device 105 may be published in the marketplace.

10 Figure 5 is a flowchart of an example process 500 executing at the electronic marketplace 120 for automatically listing a device in an electronic marketplace, according to at least one embodiment described herein. One or more steps of the process 500 may be implemented, in some embodiments, by the electronic marketplace 120 of Figure 1 and Figure 2. Although illustrated as discrete blocks, various blocks may be
15 divided into additional blocks, combined into fewer blocks, or eliminated, depending on the desired implementation.

At block 505, an HTTP message may be received at the electronic marketplace 120 from the user device 105. In some embodiments, the message may include metadata describing the user device 105. For example, the HTTP message may include an HTTP
20 user-agent string that specifies the make, model, features, serial number, or some combination thereof of the user device 105. The HTTP message may include any type of HTTP message such as, for example, to request a network resource such as a webpage or the like.

At block 510, a sales price for the user device 105 may be determined from the metadata.
25 In some embodiments, component data of the user device may be determined from the HTTP message using, for example, the serial number database 235. In some embodiments, the sales price may be determined using the price database 240 in the database 230 shown in Figure 2.

At block 515, an advertisement for selling the user device 105 may be created. In some
30 embodiments, the advertisement may include the sales price determined at block 510, the

make of the user device 105, model of the user device 105, specifications of the user device 105, or some combination thereof. In some embodiments, the advertisement may use an advertising template stored in the template database 260 of the database 230 shown in Figure 2. In some embodiments, the advertisement may also include user
5 specific information such as the user's name. The user specific information, for example, may be retrieved from the user profile database 250 of database 230 shown in Figure 2. In some embodiments, the advertisement may also include an image of the user device 105. The image of the user device 105, for example, may be retrieved from the image database 265 of the database 230 shown in Figure 2. In some embodiments,
10 the advertisement may include a link that may be selected to indicate that the user wishes to list the user device 105 for sale through the marketplace. The advertisement may include various other text, images, information, data, specifications, or some combination thereof.

At block 520, the advertisement may be sent to the user device 105. In some
15 embodiments, the HTTP message received at block 505 may request retrieval of a webpage. The advertisement may be sent to the user device 105 as part of the webpage, which may be sent in response to the HTTP message received at block 505. In some embodiments, the advertisement may be sent in response to a future HTTP message.

At block 525, an indication that the user wishes to list the user device 105 based on the
20 advertisement may be received at the electronic marketplace 120. In some embodiments, the indication may include an HTTP message such as, for example, an indication that the user has selected a link that indicates that the user wishes to sell the user device 105.

At block 530, a listing for the user device 105 may be created in the marketplace. In some embodiments, the listing may be similar to the listing created at block 420 of
25 process 400 shown in Figure 4 and/or may use a listing template from the template database 260. The listing may be stored in the listing database 255.

At block 535, an indication may be sent to the user such as, for example, to the user device 105, that a listing has been created. This indication may be sent in a manner similar to the indication sent out at block 425 of process 400 shown in Figure 4. In some
30 embodiments, the indication may be sent to the user of a different device other than the user device 105. In some embodiments, the indication may be sent to the user using a

different communication channel other than through the HTTP channel. The indication may be sent, for example, via text message, email, phone, etc., or some combination thereof.

At block 540, approval for publishing the listing may be received from the user. The approval may be received in a manner similar to the approval received at block 430 of process 400 shown in Figure 4.

At block 545, the user device 105 may be published and listed in the marketplace.

Systems and methods are disclosed to receive a message from a user device, the message comprising metadata that includes data related to one or more specifications of the user device. Systems and methods are also disclosed to determine a sales price for the user device based on the one or more specifications of the user device and create a listing for the user device that includes at least the sales price and at least one of the one or more specifications of the user device.

In some embodiments, the sales price for the user device is automatically determined from the one or more specifications of the user device. In some embodiments, the determining of a sales price for the user device includes looking up a sales price in a database based on the one or more specifications of the user device. In some embodiments, the creating of a listing for the user device includes creating a webpage that includes the sales price and at least one of the one or more specifications of the user device.

In some embodiments, the metadata comprises data selected from the list consisting of an International Mobile Station Equipment Identity (IMEI), an International Mobile Equipment Identity (IMEI) data, an International Mobile Subscriber Identity (IMSI) number, a Mobile Subscriber Integrated Services Digital Network (MSISDN) number, a Mobile Equipment Identifier (MEID), and a Short Message Entity (SME).

In some embodiments, the metadata includes at least one of International Mobile Station Equipment Identity (IMEI) and a Mobile Equipment Identifier (MEID), and the method further comprises extracting the serial number from either the Mobile Equipment Identifier (MEID) or the International Mobile Station Equipment Identity (IMEI); and

looking up the serial number in a database and returning the specifications of the user device associated with the serial number.

In some embodiments, the method may include determining a user profile for the user of the user device based on the metadata, wherein the listing is created based on preferences
5 associated with the user profile.

In some embodiments, the method may be executed by one or more non-transitory computer-readable media storing one or more programs that are configured, when executed, to cause one or more processors to execute any method described herein.

Methods are disclosed to receive a message through an HTTP request for a webpage
10 from a device, the HTTP request comprising metadata that includes data related to one or more specifications of the user device. The method may also include determining a sales price for the user device based on the one or more specifications of the user device; creating an advertisement for the user device that includes at least the sales price and at least one of the one or more specifications of the user device; and providing the
15 advertisement to the user device as part of the webpage.

In some embodiments, the method may include receiving an indication from the user device to create a listing for selling the user device; creating a listing for the user device that includes at least the sales price and at least one of the one or more specifications of the user device; and providing an indication to the user device that the listing has been
20 created.

In some embodiments, the method may include receiving approval from the user device to list device results in the marketplace; and publishing the listing in the marketplace.

In some embodiments, the method may include receiving additional information from the user device regarding the listing; and updating the listing with the additional
25 information. In some embodiments, the method may include determining a user profile for a user of the user device based on the metadata, wherein the listing is created based on preferences associated with the user profile.

In some embodiments, the method may be executed by one or more non-transitory computer-readable media storing one or more programs that are configured, when

executed, to cause one or more processors to execute any method described herein.

Numerous specific details are set forth herein to provide a thorough understanding of the claimed subject matter. However, those skilled in the art will understand that the claimed subject matter may be practiced without these specific details. In other
5 instances, methods, apparatuses, or systems that would be known by one of ordinary skill have not been described in detail so as not to obscure claimed subject matter.

Some portions are presented in terms of algorithms or symbolic representations of operations on data bits or binary digital signals stored within a computing system memory, such as a computer memory. These algorithmic descriptions or representations
10 are examples of techniques used by those of ordinary skill in the data processing art to convey the substance of their work to others skilled in the art. An algorithm is a self-consistent sequence of operations or similar processing leading to a desired result. In this context, operations or processing involves physical manipulation of physical quantities. Typically, although not necessarily, such quantities may take the form of
15 electrical or magnetic signals capable of being stored, transferred, combined, compared, or otherwise manipulated. It has proven convenient at times, principally for reasons of common usage, to refer to such signals as bits, data, values, elements, symbols, characters, terms, numbers, numerals, or the like. It should be understood, however, that all of these and similar terms are to be associated with appropriate physical quantities
20 and are merely convenient labels. Unless specifically stated otherwise, it is appreciated that throughout this specification discussions utilizing terms such as “processing,” “computing,” “calculating,” “determining,” and “identifying” or the like refer to actions or processes of a computing device, such as one or more computers or a similar electronic computing device or devices, that manipulate or transform data represented as
25 physical, electronic, or magnetic quantities within memories, registers, or other information storage devices, transmission devices, or display devices of the computing platform.

The system or systems discussed herein are not limited to any particular hardware architecture or configuration. A computing device can include any suitable arrangement
30 of components that provides a result conditioned on one or more inputs. Suitable computing devices include multipurpose microprocessor-based computer systems accessing stored software that programs or configures the computing system from a

general-purpose computing apparatus to a specialized computing apparatus implementing one or more embodiments of the present subject matter. Any suitable programming, scripting, or other type of language or combinations of languages may be used to implement the teachings contained herein in software to be used in programming
5 or configuring a computing device.

Embodiments of the methods disclosed herein may be performed in the operation of such computing devices. The order of the blocks presented in the examples above can be varied—for example, blocks can be re-ordered, combined, and/or broken into sub-blocks. Certain blocks or processes can be performed in parallel.

10 The use of “adapted to” or “configured to” herein is meant as open and inclusive language that does not foreclose devices adapted to or configured to perform additional tasks or steps. Additionally, the use of “based on” is meant to be open and inclusive, in that a process, step, calculation, or other action “based on” one or more recited conditions or values may, in practice, be based on additional conditions or values beyond
15 those recited. Headings, lists, and numbering included herein are for ease of explanation only and are not meant to be limiting.

While the present subject matter has been described in detail with respect to specific embodiments thereof, it will be appreciated that those skilled in the art, upon attaining an understanding of the foregoing, may readily produce alterations to, variations of, and
20 equivalents to such embodiments. Accordingly, it should be understood that the present disclosure has been presented for purposes of example rather than limitation, and does not preclude inclusion of such modifications, variations, and/or additions to the present subject matter as would be readily apparent to one of ordinary skill in the art.

CLAIMS

That which is claimed:

1. A method comprising:

receiving an SMS message from a user device, the SMS message comprising
5 metadata that includes data related to one or more specifications of the user device;

determining a sales price for the user device based on the one or more
specifications of the user device; and

creating a listing for the user device that includes at least the sales price and at
least one of the one or more specifications of the user device.

10 2. The method according to claim 1, wherein the sales price for the user
device is automatically determined from the one or more specifications of the user
device.

3. The method according to claim 1, wherein the determining a sales price
for the user device includes looking up a sales price in a database based on the one or
15 more specifications of the user device.

4. The method according to claim 1, wherein the creating a listing for the
user device includes creating a webpage that includes the sales price and at least one of
the one or more specifications of the user device.

5. The method according to claim 1, wherein the metadata comprises data
20 selected from the list consisting of an International Mobile Station Equipment Identity
(IMEI), an International Mobile Equipment Identity (IMEI) data, an International Mobile
Subscriber Identity (IMSI) number, a Mobile Subscriber Integrated Services Digital
Network (MSISDN) number, a Mobile Equipment Identifier (MEID), and a Short
Message Entity (SME).

25 6. The method according to claim 1, wherein the metadata includes at least
one of an International Mobile Station Equipment Identity (IMEI) and a Mobile
Equipment Identifier (MEID), and the method further comprises:

extracting a serial number from either the Mobile Equipment Identifier (MEID) or the International Mobile Station Equipment Identity (IMEI); and

looking up the serial number in a database and returning the specifications of the user device associated with the serial number.

5 7. The method according to claim 1, further comprising determining a user profile for a user of the user device based on the metadata, wherein the listing is created based on preferences associated with the user profile.

 8. One or more non-transitory computer-readable media storing one or more programs that are configured, when executed, to cause one or more processors to execute
10 the method as recited in claim 1.

 9. A method comprising:

 receiving an HTTP request for a webpage from a user device, the HTTP request comprising metadata that includes data related to one or more specifications of the user device;

15 determining a sales price for the user device based on the one or more specifications of the user device;

 creating an advertisement for the user device that includes at least the sales price and at least one of the one or more specifications of the user device; and

 providing the advertisement to the user device as part of the webpage.

20 10. The method according to claim 9, further comprising:

 receiving an indication from the user device to create a listing for selling the user device;

 creating a listing for the user device that includes at least the sales price and at least one of the one or more specifications of the user device; and

25 providing an indication to the user device that the listing has been created.

11. The method according to claim 10, further comprising:

receiving approval from the user device to list device results in a marketplace;

and

publishing the listing in the marketplace.

5 12. The method according to claim 11, further comprising:

receiving additional information from the user device regarding the listing; and

updating the listing with the additional information.

13. The method according to claim 9, further comprising determining a user profile for a user of the user device based on the metadata, wherein a listing is created
10 based on preferences associated with the user profile.

14. One or more non-transitory computer-readable media storing one or more programs that are configured, when executed, to cause one or more processors to execute the method as recited in claim 9.

15. A system comprising:

15 a communication interface configured to receive SMS messages;

a database; and

a processor electronically coupled with the communication interface and the database, the processor configured to:

20 receive an SMS message from a user device through the communication interface, the SMS message comprising metadata that includes data related to one or more specifications of the user device;

determine a sales price for the user device by looking up a sales price in the database based on the one or more specifications of the user device; and

create a listing for the user device that includes at least the sales price and

at least one of the one or more specifications of the user device.

16. The system according to claim 15, wherein the sales price for the user device is automatically determined from the one or more specifications of the user device.

5 17. The system according to claim 15, wherein the processor creates a webpage that includes the sales price and at least one of the one or more specifications of the user device.

10 18. The system according to claim 15, wherein the metadata comprises data selected from the list consisting of an International Mobile Station Equipment Identity (IMEI), an International Mobile Equipment Identity (IMEI) data, an International Mobile Subscriber Identity (IMSI) number, a Mobile Subscriber Integrated Services Digital Network (MSISDN) number, a Mobile Equipment Identifier (MEID), and a Short Message Entity (SME).

15 19. The system according to claim 15, wherein the metadata includes at least one of an International Mobile Station Equipment Identity (IMEI) and a Mobile Equipment Identifier (MEID), and wherein the processor is further configured to extract a serial number from either the Mobile Equipment Identifier (MEID) or the International Mobile Station Equipment Identity (IMEI).

20 20. The system according to claim 15, wherein the processor is further configured to determine a user profile for a user of the user device based on the metadata, wherein the listing is created based on preferences associated with the user profile.

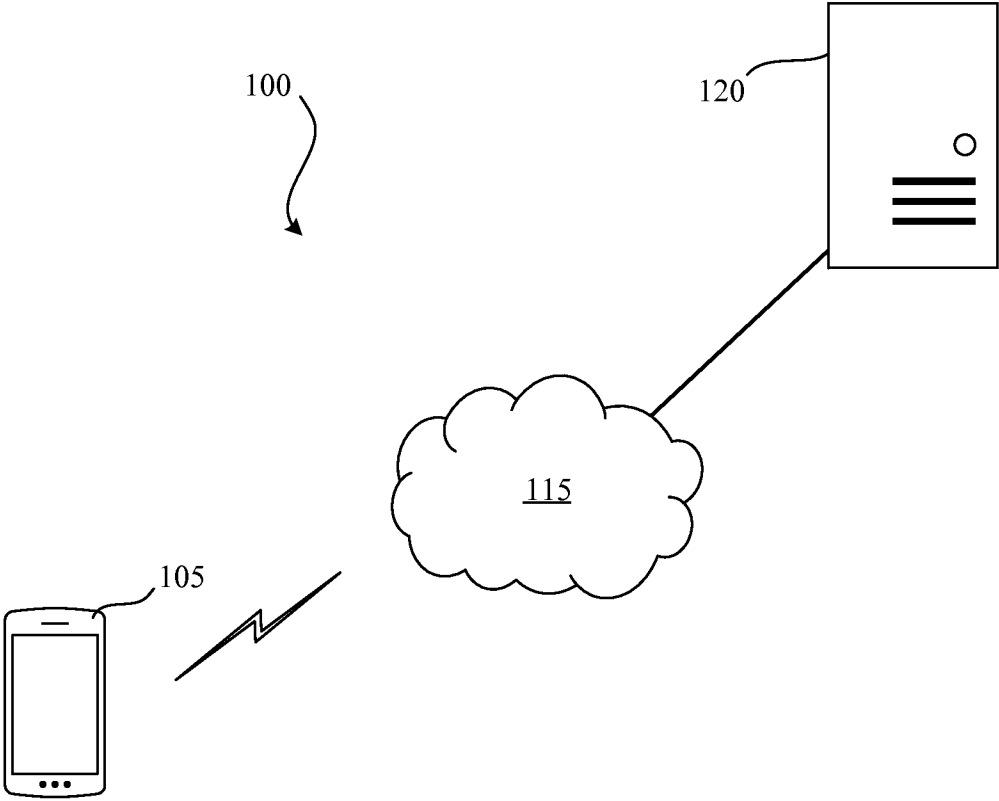
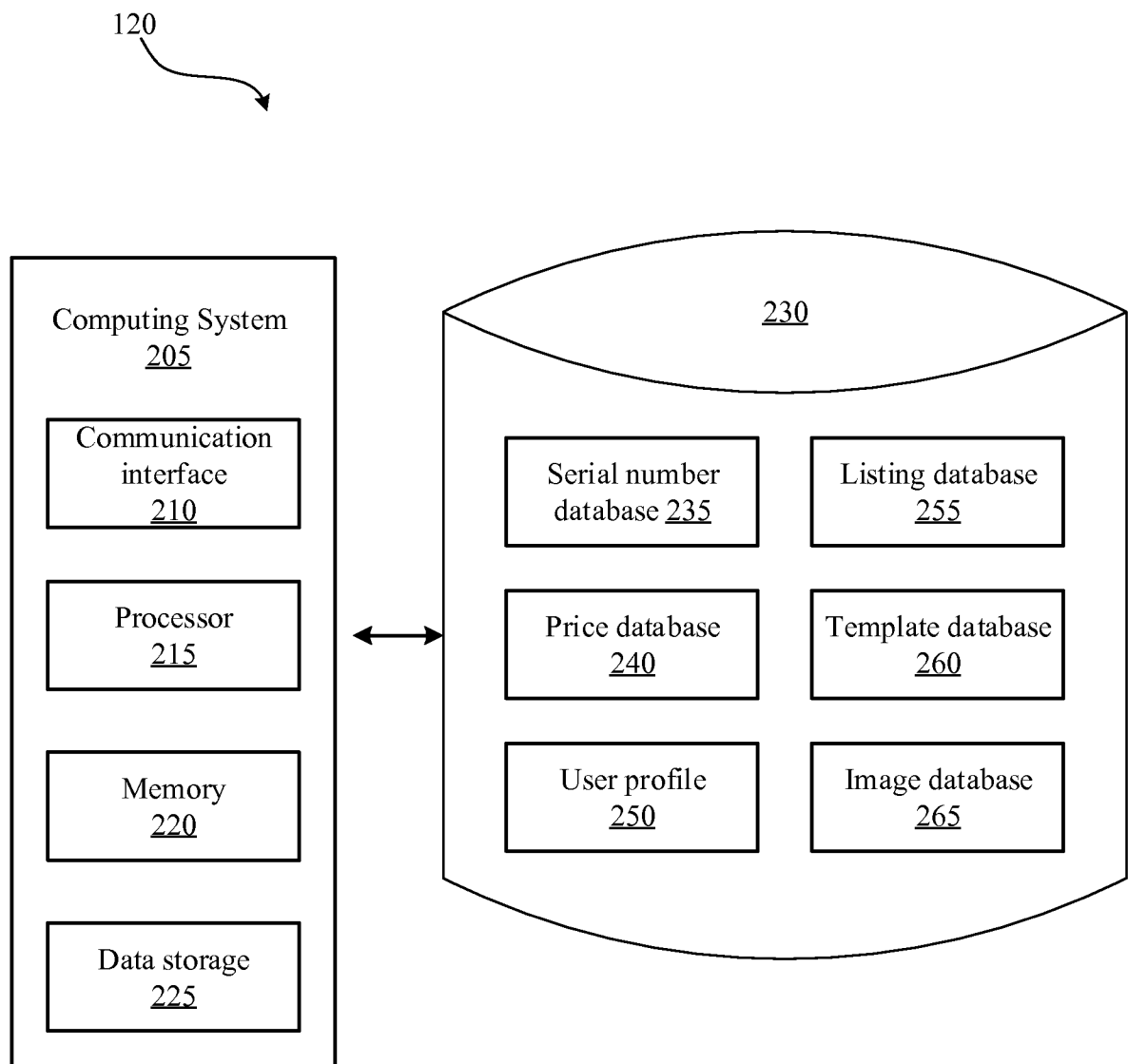
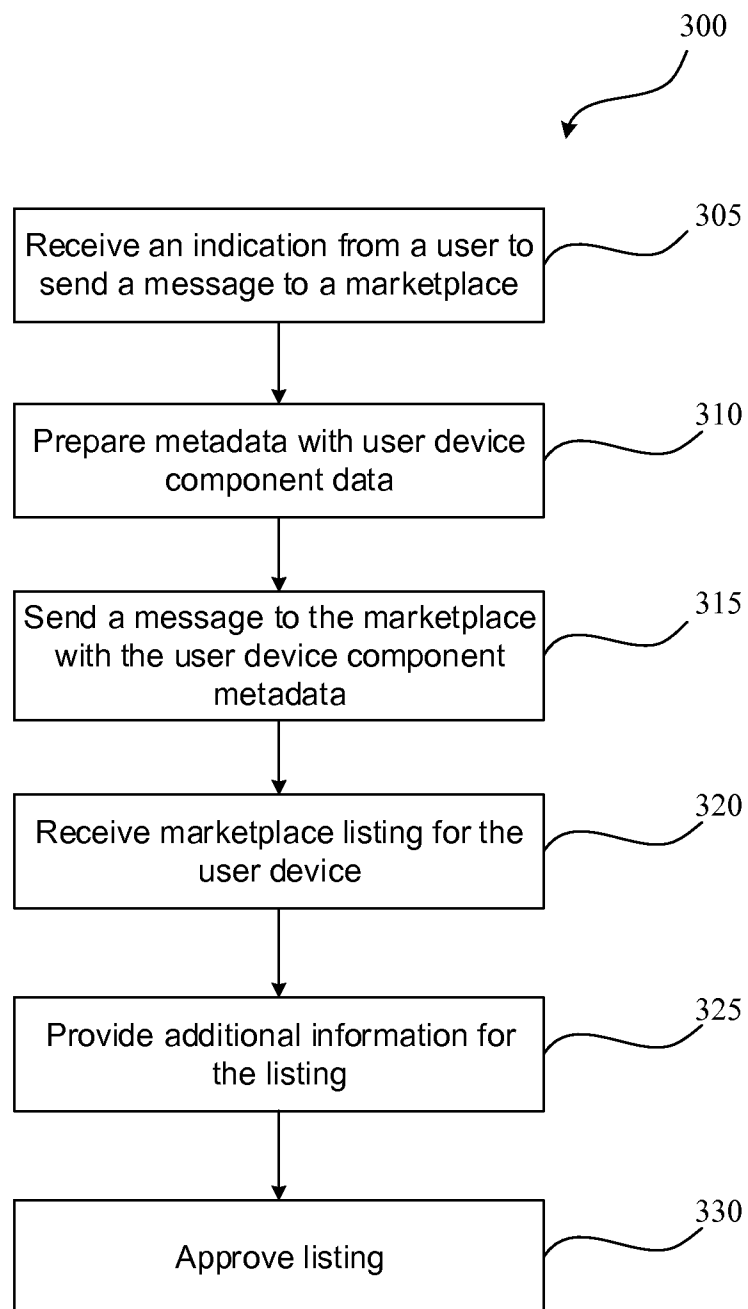
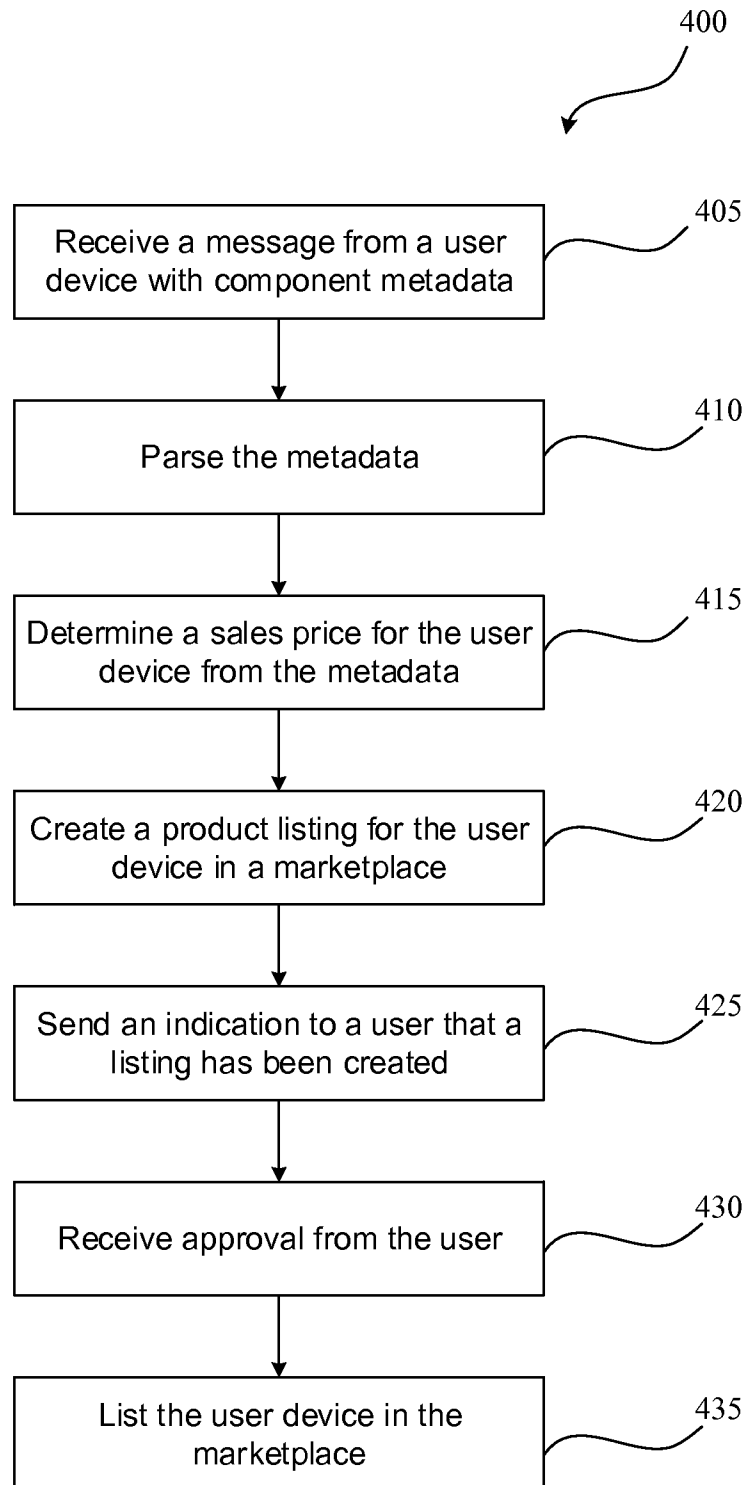
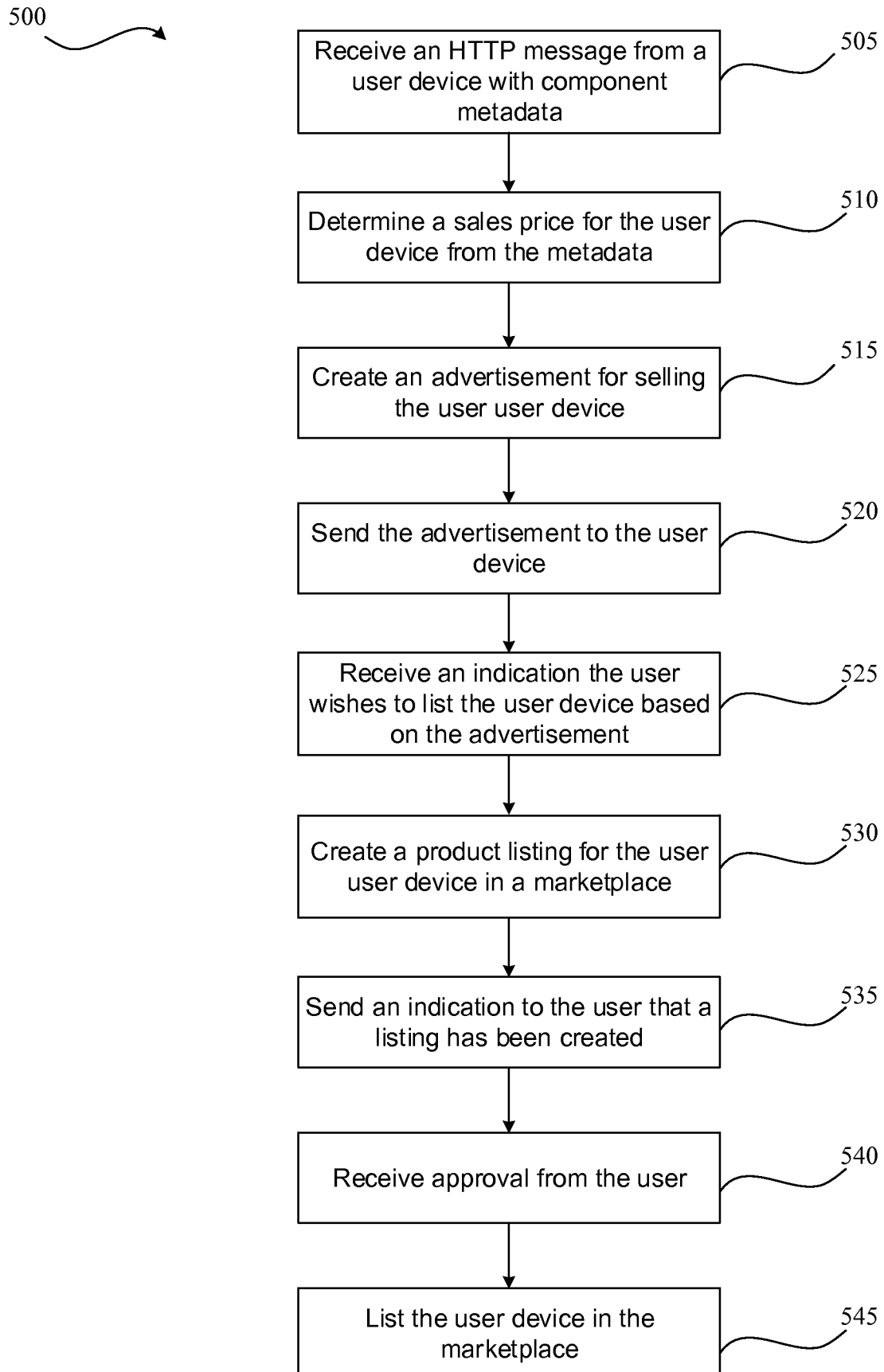


Figure 1

*Figure 2*

*Figure 3*

*Figure 4*

*Figure 5*

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 15/60429

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06Q 10/00 (2015.01)

CPC - G06Q 30/0278; G06Q 30/02; G06Q 30/0603

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8): G06Q 10/00 (2015.01)

CPC: G06Q 30/0278; G06Q 30/02; G06Q 30/0603

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/306; 705/14.73; 705/26.3 (Keyword limited; terms below); IPC(8): G06Q 10/00 (2015.01) (Keyword limited; terms below);
CPC: G06Q 30/0278; G06Q 30/02; G06Q 30/0603; G06Q 40/00; G06Q 50/16 (Keyword limited; terms below)

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

PatBase; Google (Scholar, Patents, Web)

Terms used: mobile device metadata transmit upload sms automatic generate sale ebay marketplace ad listing imei imsi meid msisdn resale value price

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2012/0197981 A1 (CHAN), 02 August 2012 (02.08.2012), entire document, especially Abstract; para [0056], [0060], [0077], [0086], [0116], [0159], [0161], [0217]-[0219], [0252], [0273]	9-14
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Y	-[0274], [0310]	1-8, 15-20
Y	US 2008/0215456 A1 (WEST et al.), 04 September 2008 (04.09.2008), entire document, especially Abstract; para [0070], [0087]	1-8, 15-20
A	US 2010/0057586 A1 (CHOW), 04 March 2010 (04.03.2010), entire document	1-20
A	US 2010/0217684 A1 (MELCHER et al.), 26 August 2010 (26.08.2010), entire document	1-20
A	US 2013/0275314 A1 (BOWLES), 17 October 2013 (17.10.2013), entire document	1-20
A	US 2013/0325664 A1 (ALEGRE et al.), 05 December 2013 (05.12.2013), entire document	1-20

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

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

05 January 2016 (05.01.2016)

Date of mailing of the international search report

02 FEB 2016

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-8300

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774