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(54) **COMPUTING SYSTEM FOR DISTRIBUTING CRYPTOCURRENCY**

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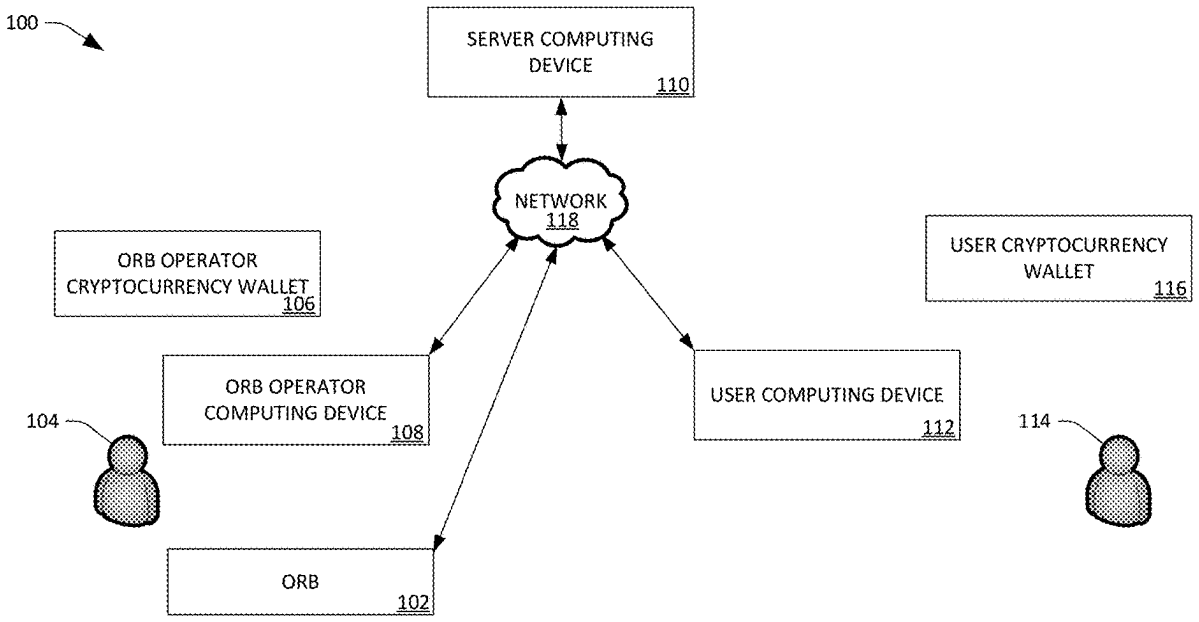
(57) **ABSTRACT**

A computing system receives a code that is generated based upon an image of an iris of a first user. The image of the iris of the first user is captured by way of an iris scanning device that is under control of a second user. The computing system executes a search over a plurality of codes stored in a data store based upon the code, where the plurality of codes are generated based upon images of irises of a plurality of users. The computing system determines whether the code is included in the plurality of codes based upon search results for the search. Based upon a determination that the code is not included in the plurality of codes, the computing system causes an amount of cryptocurrency to be transferred to a cryptocurrency wallet of the second user.



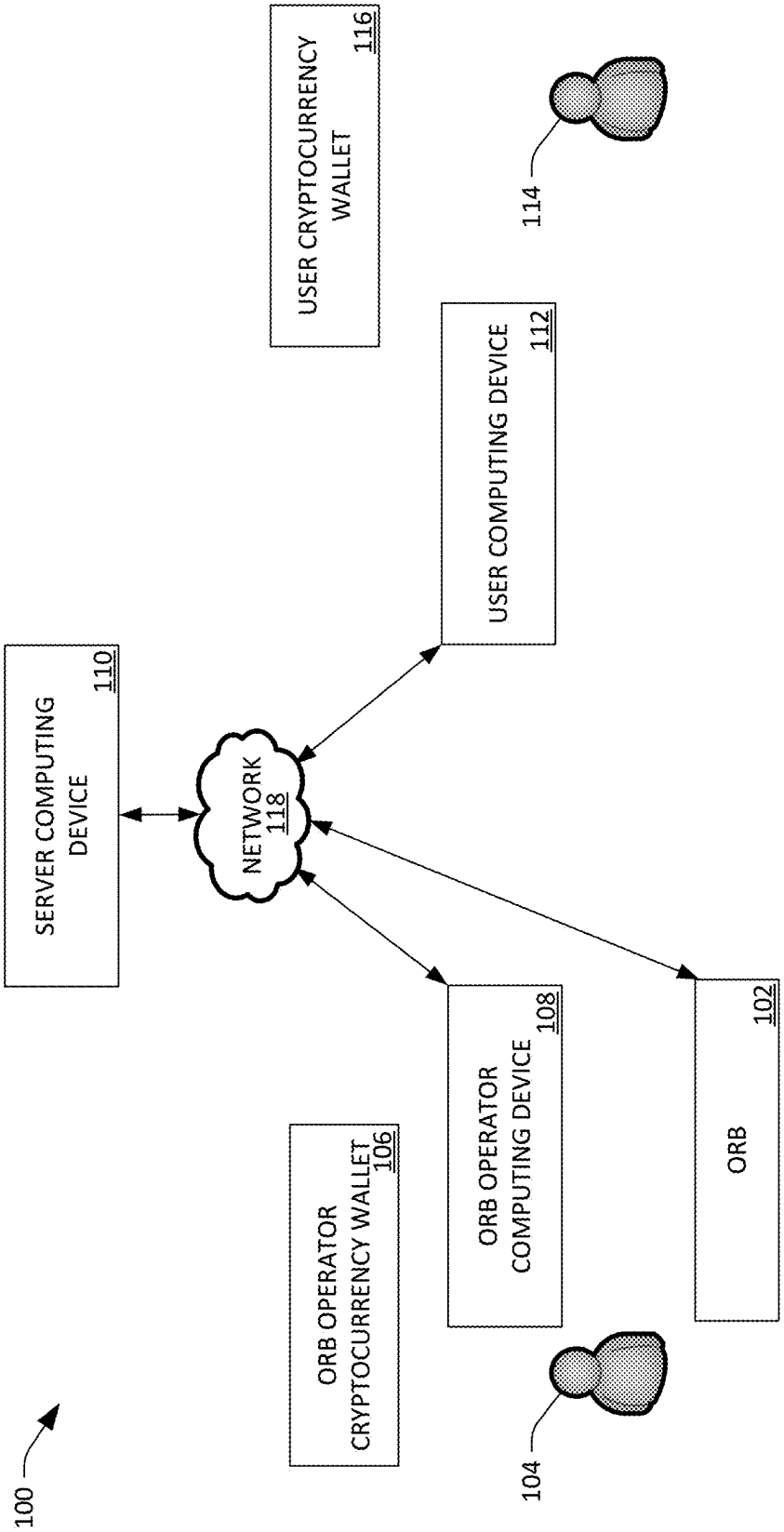

100
SERVER COMPUTING DEVICE 110
NETWORK 118
USER CRYPTOCURRENCY WALLET 116
USER COMPUTING DEVICE 112
114
ORB OPERATOR CRYPTOCURRENCY WALLET 106
ORB OPERATOR COMPUTING DEVICE 108
ORB 102
104

FIG. 1

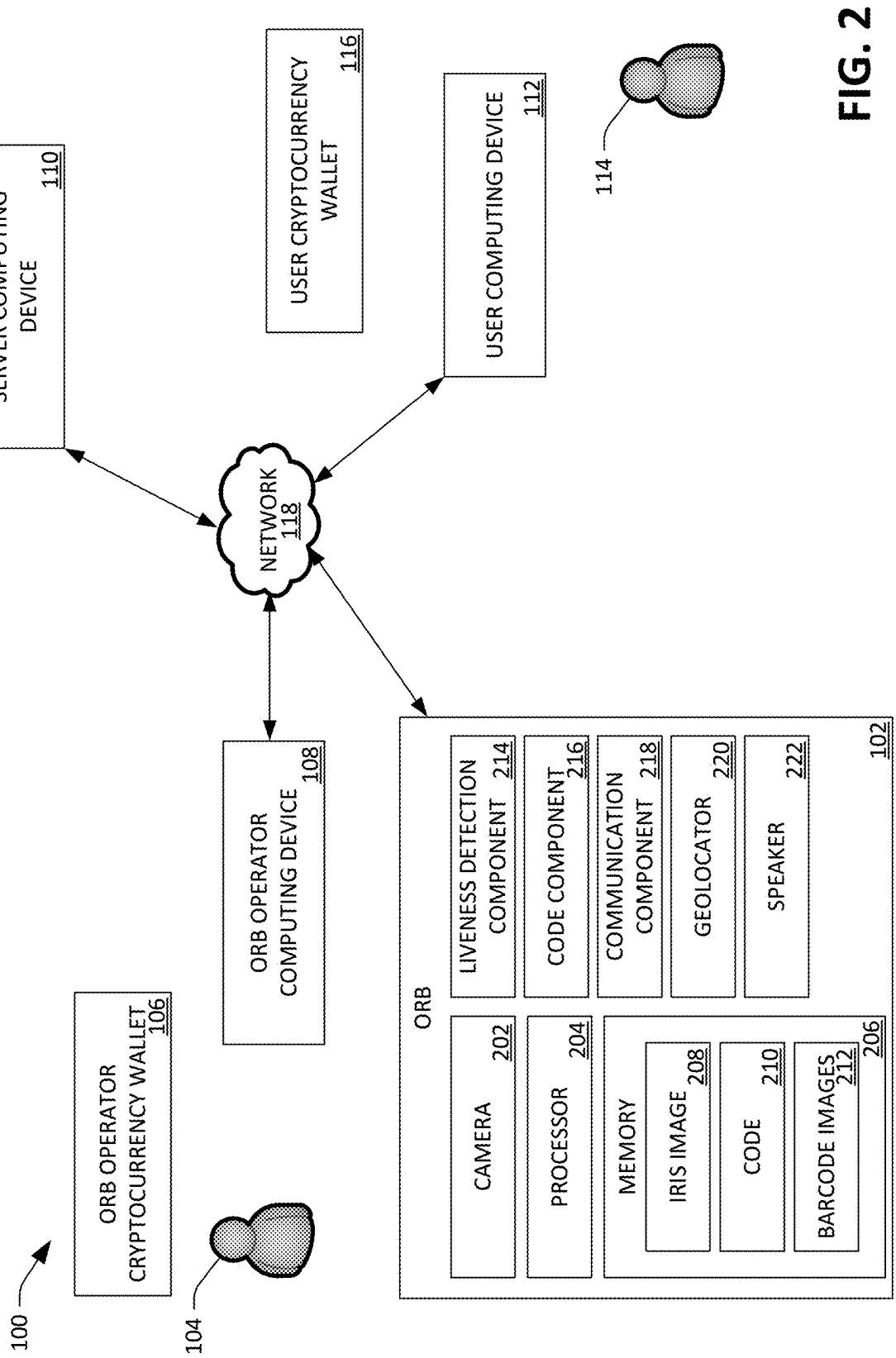

100
ORB OPERATOR CRYPTOCURRENCY WALLET 106
104
ORB OPERATOR COMPUTING DEVICE 108
NETWORK 118
SERVER COMPUTING DEVICE 110
USER CRYPTOCURRENCY WALLET 116
USER COMPUTING DEVICE 112
114
ORB
CAMERA 202
PROCESSOR 204
MEMORY 206
IRIS IMAGE 208
CODE 210
BARCODE IMAGES 212
LIVENESS DETECTION COMPONENT 214
CODE COMPONENT 216
COMMUNICATION COMPONENT 218
GEOLOCATOR 220
SPEAKER 222
102

FIG. 2

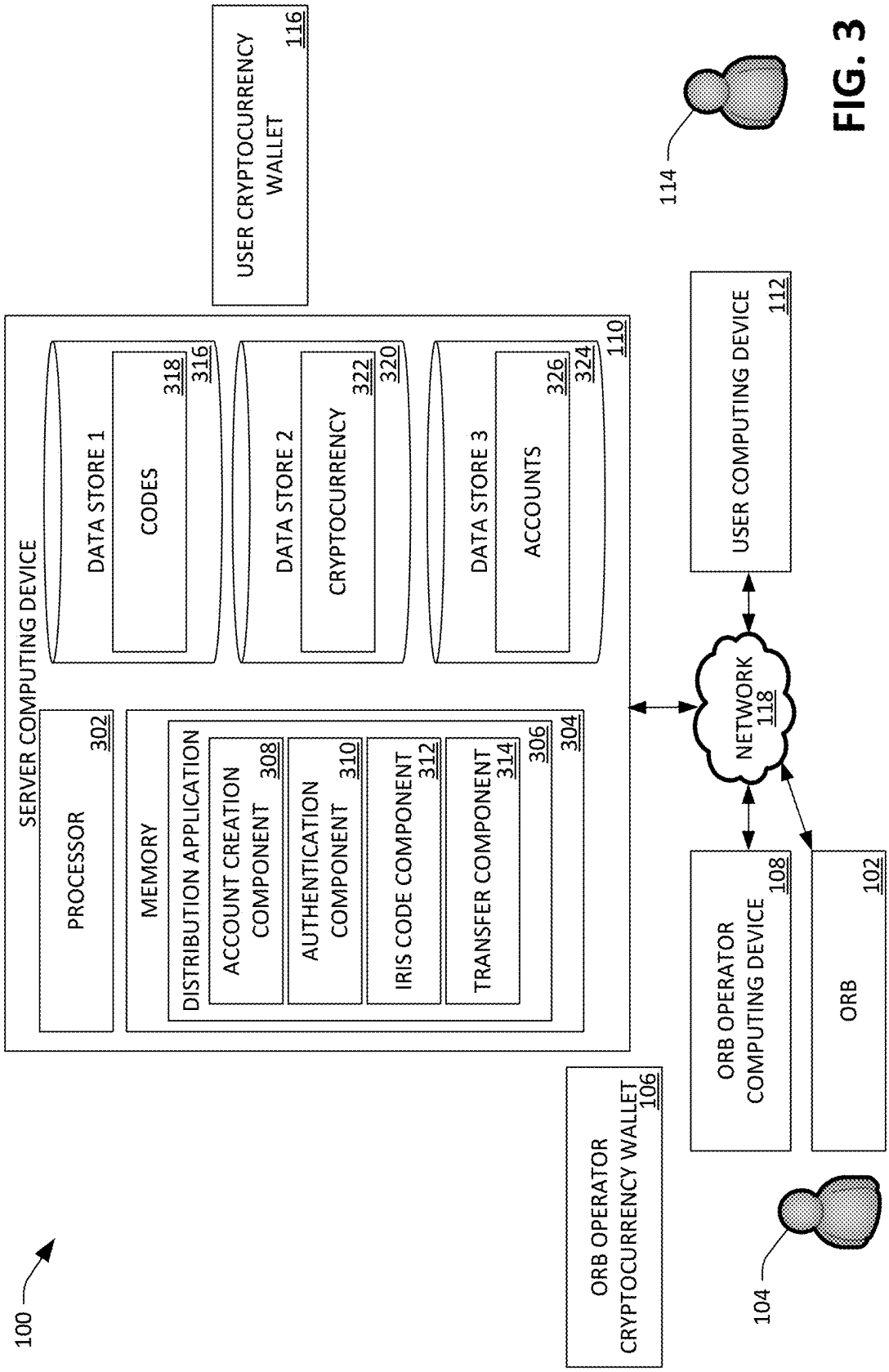

100
SERVER COMPUTING DEVICE
110
PROCESSOR
302
MEMORY
304
DISTRIBUTION APPLICATION
306
ACCOUNT CREATION COMPONENT
308
AUTHENTICATION COMPONENT
310
IRIS CODE COMPONENT
312
TRANSFER COMPONENT
314
DATA STORE 1
316
CODES
318
DATA STORE 2
320
CRYPTOCURRENCY
322
DATA STORE 3
324
ACCOUNTS
326
USER CRYPTOCURRENCY WALLET
116
ORB OPERATOR CRYPTOCURRENCY WALLET
106
NETWORK
118
USER COMPUTING DEVICE
112
ORB OPERATOR COMPUTING DEVICE
108
ORB
102
104
114

FIG. 3

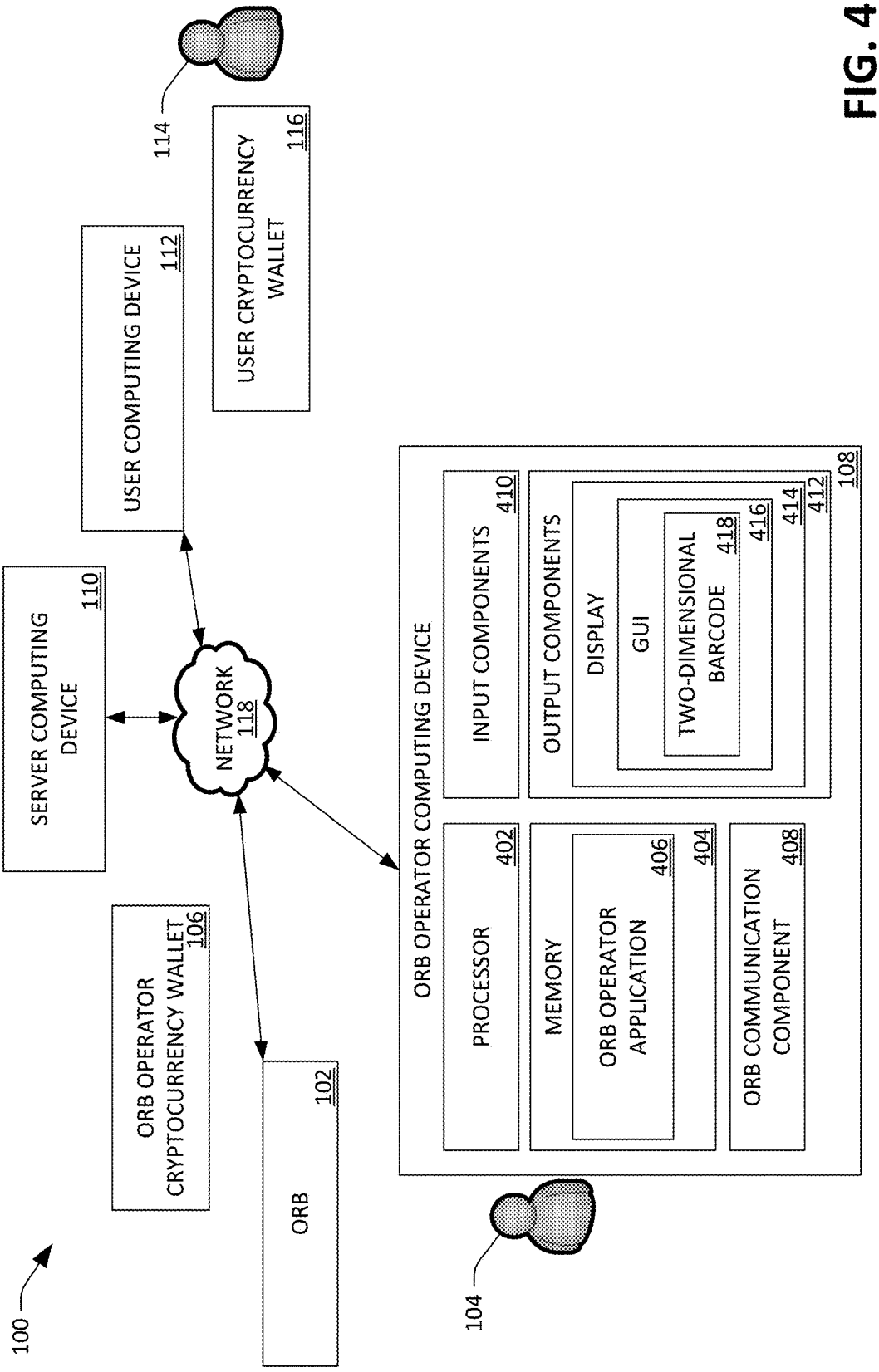

100
ORB
102
ORB OPERATOR CRYPTOCURRENCY WALLET
106
SERVER COMPUTING DEVICE
110
NETWORK
118
USER COMPUTING DEVICE
112
114
USER CRYPTOCURRENCY WALLET
116
104
ORB OPERATOR COMPUTING DEVICE
108
PROCESSOR
402
MEMORY
404
ORB OPERATOR APPLICATION
406
ORB COMMUNICATION COMPONENT
408
INPUT COMPONENTS
410
OUTPUT COMPONENTS
412
DISPLAY
414
GUI
416
TWO-DIMENSIONAL BARCODE
418

FIG. 4

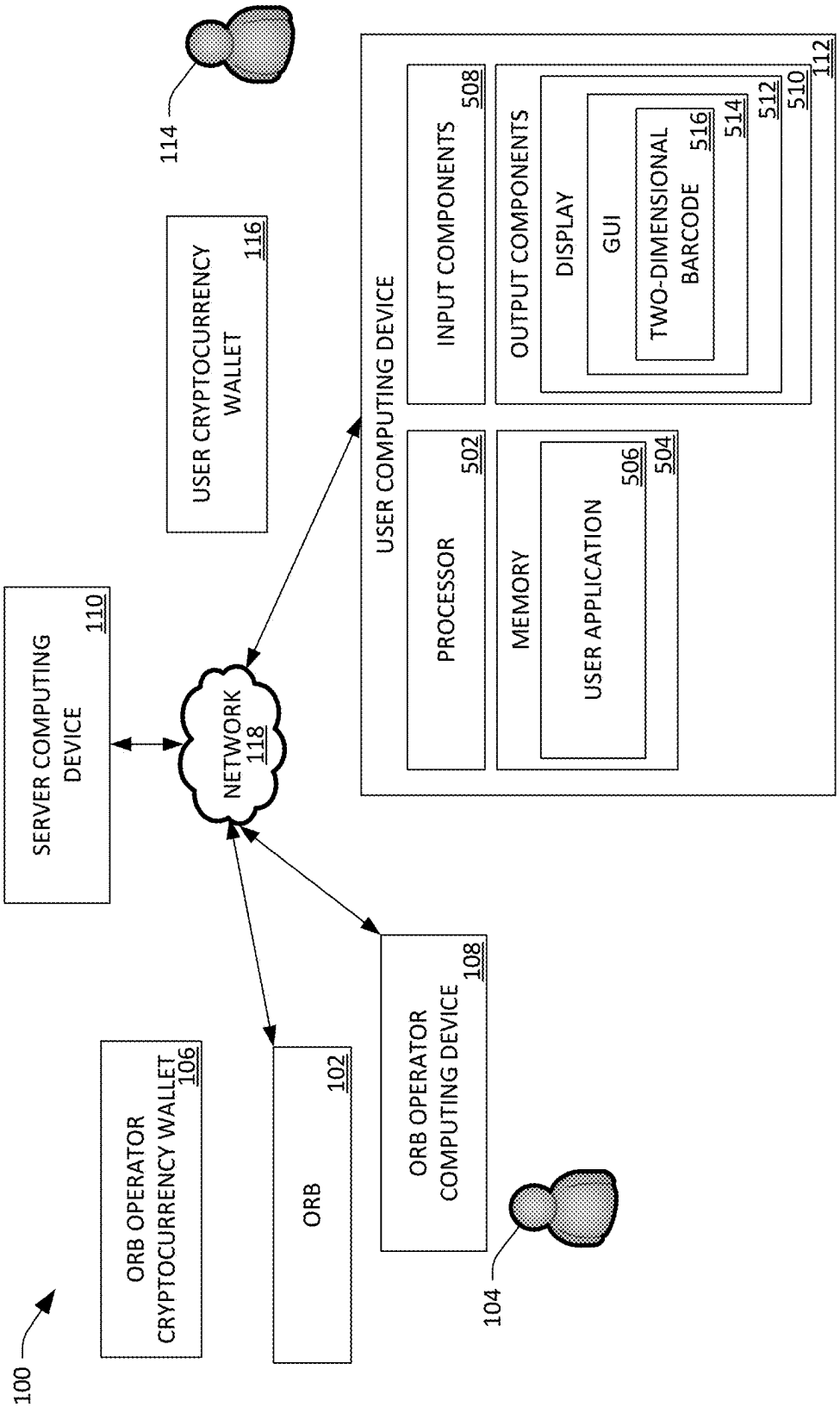

100
ORB OPERATOR CRYPTOCURRENCY WALLET 106
ORB 102
ORB OPERATOR COMPUTING DEVICE 108
104
SERVER COMPUTING DEVICE 110
NETWORK 118
USER CRYPTOCURRENCY WALLET 116
114
USER COMPUTING DEVICE 112
PROCESSOR 502
MEMORY 504
USER APPLICATION 506
INPUT COMPONENTS 508
OUTPUT COMPONENTS 510
DISPLAY 512
GUI 514
TWO-DIMENSIONAL BARCODE 516

FIG. 5

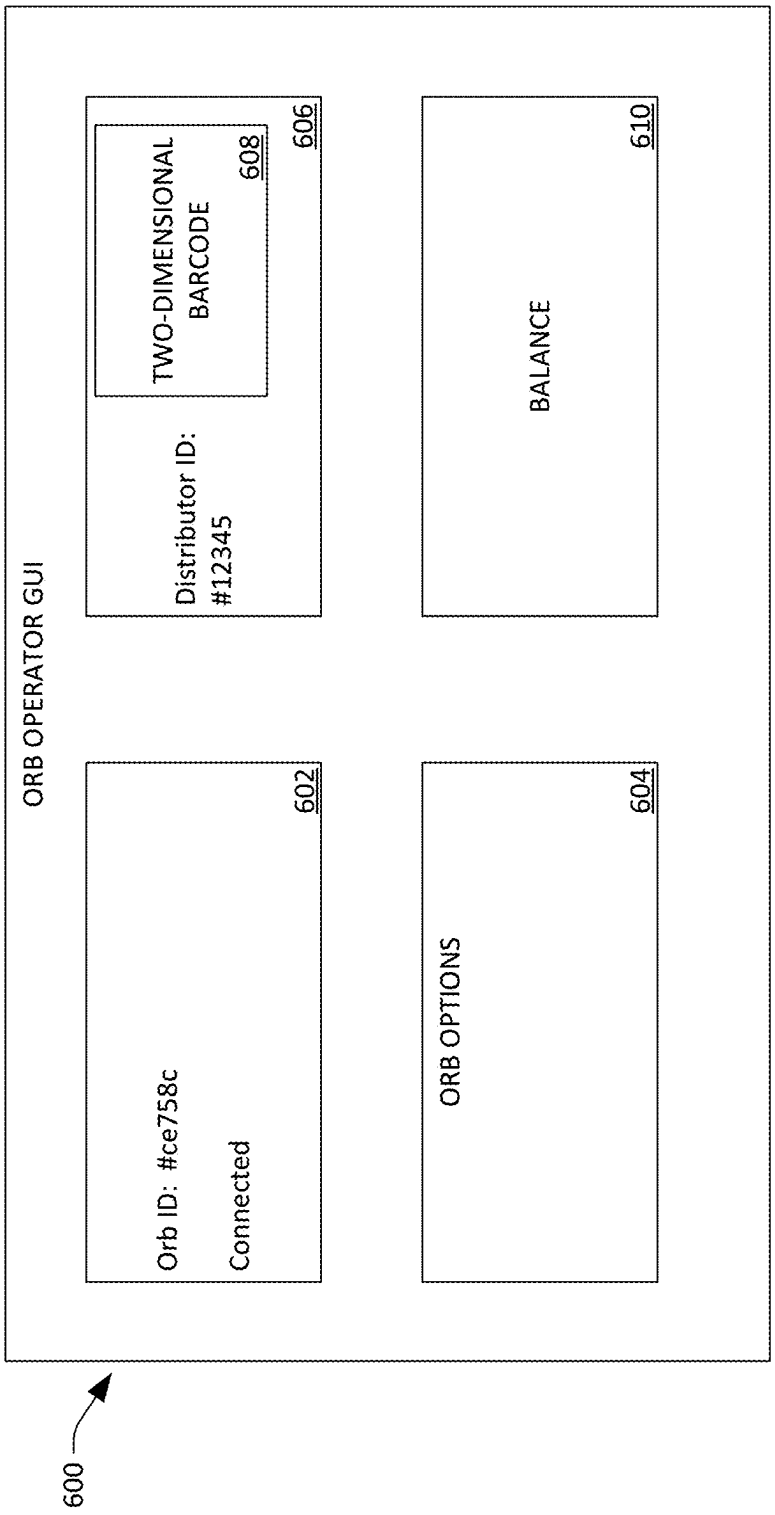

600
ORB OPERATOR GUI
Orb ID: #ce758c
Connected
602
ORB OPTIONS
604
Distributor ID:
#12345
TWO-DIMENSIONAL
BARCODE
608
606
BALANCE
610

FIG. 6

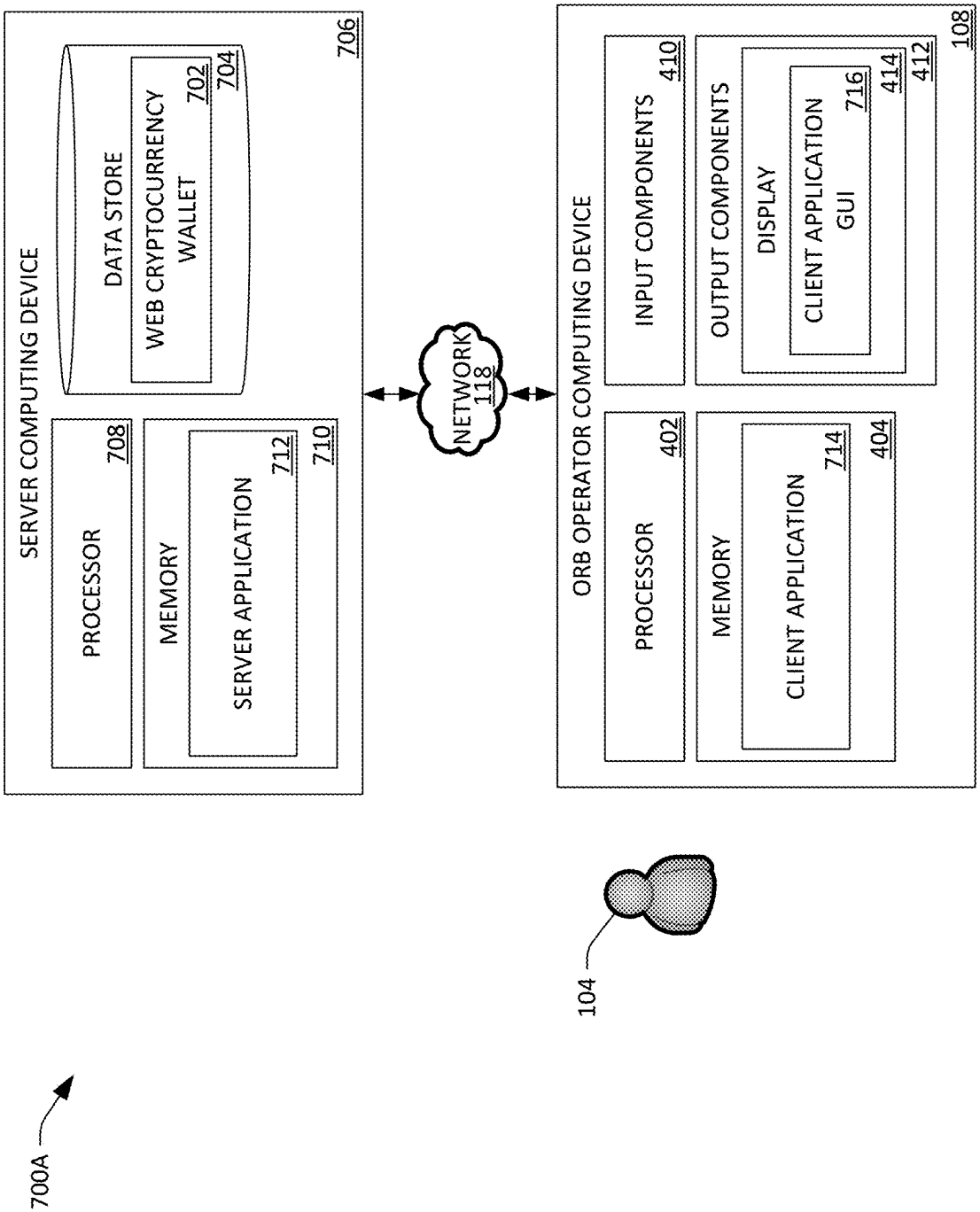
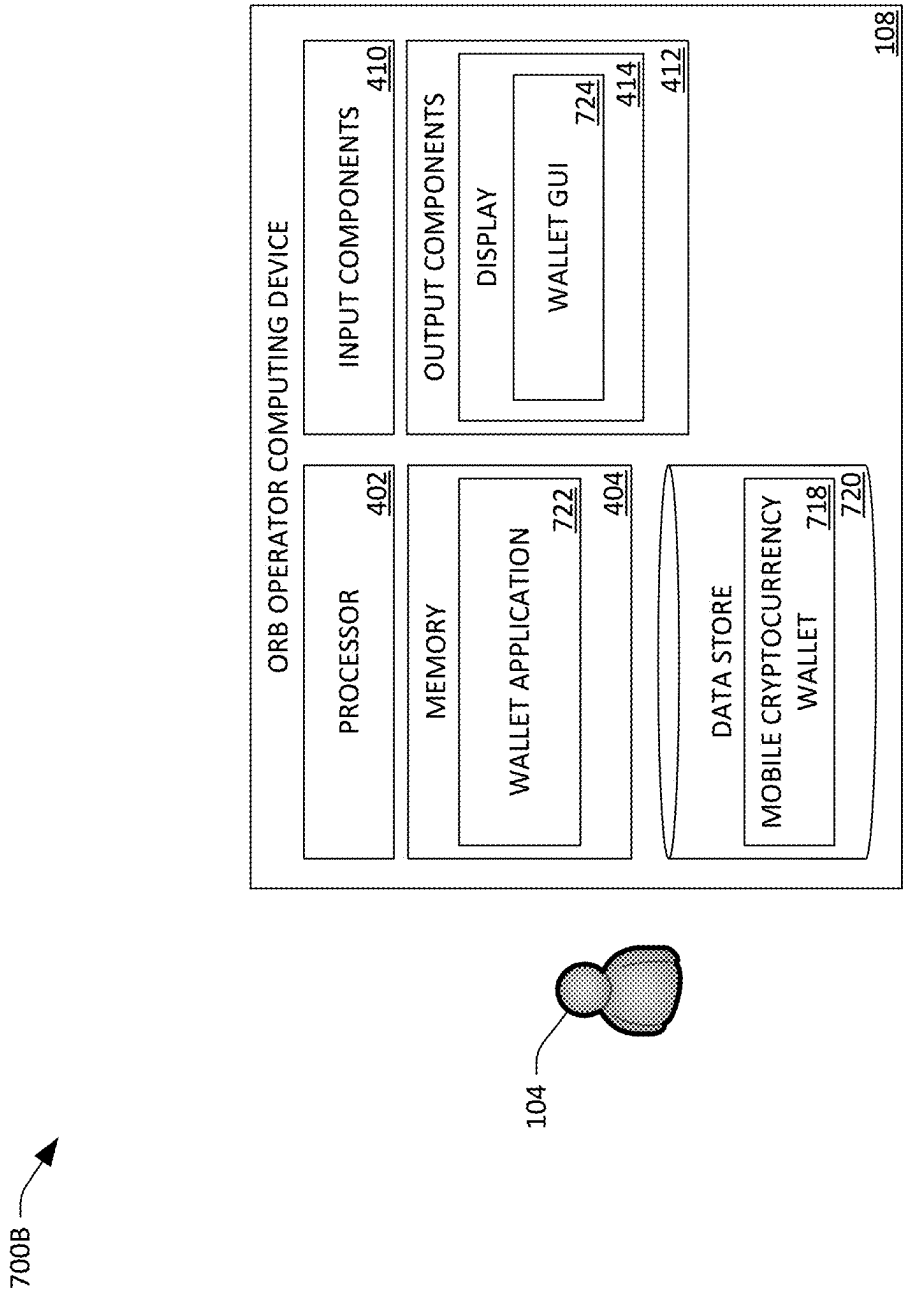

700A
SERVER COMPUTING DEVICE
706
PROCESSOR
708
MEMORY
710
SERVER APPLICATION
712
DATA STORE
WEB CRYPTOCURRENCY WALLET
702
704
NETWORK
118
ORB OPERATOR COMPUTING DEVICE
108
PROCESSOR
402
MEMORY
404
CLIENT APPLICATION
714
INPUT COMPONENTS
410
OUTPUT COMPONENTS
412
DISPLAY
414
CLIENT APPLICATION GUI
716
104

FIG. 7A

FIG. 7B


700B
104
ORB OPERATOR COMPUTING DEVICE
108
PROCESSOR
402
MEMORY
404
WALLET APPLICATION
722
INPUT COMPONENTS
410
OUTPUT COMPONENTS
412
DISPLAY
414
WALLET GUI
724
DATA STORE
MOBILE CRYPTOCURRENCY WALLET
718
720

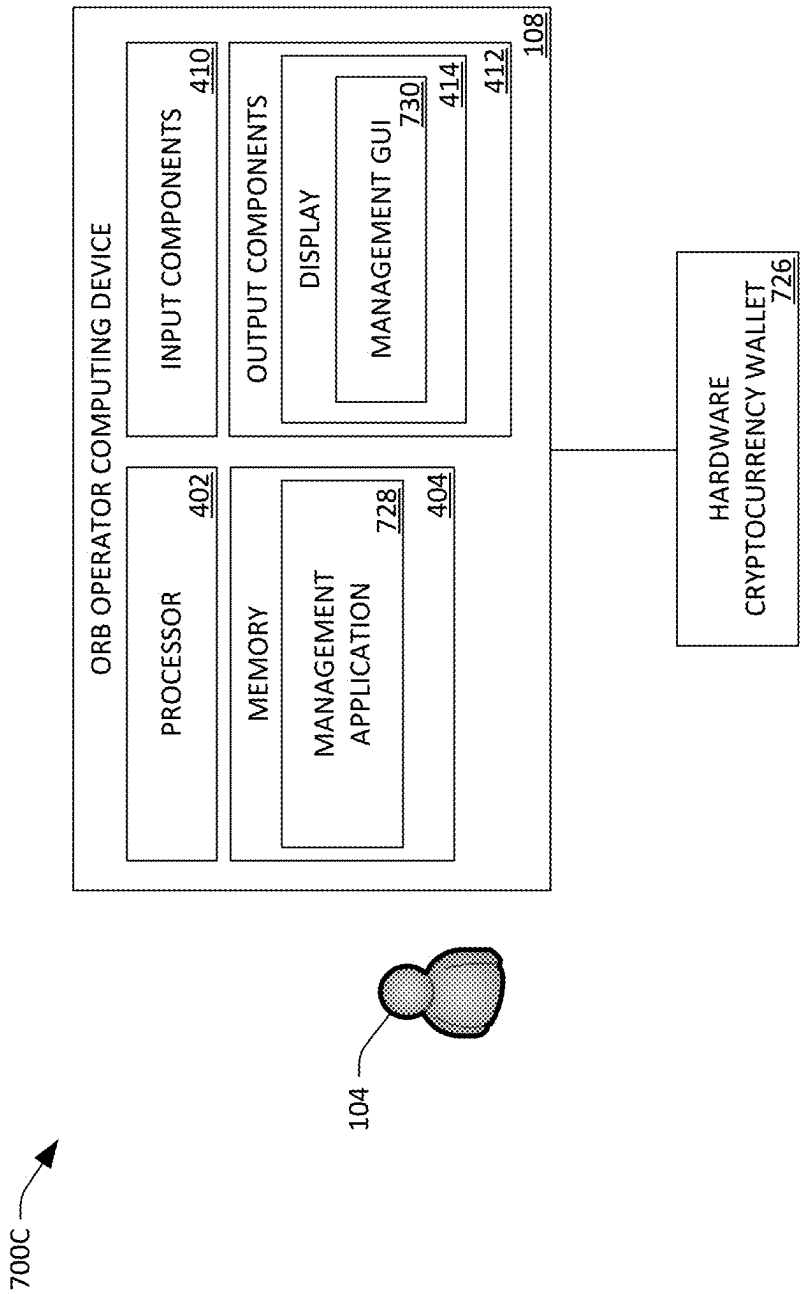

700C
104
ORB OPERATOR COMPUTING DEVICE
108
PROCESSOR
402
MEMORY
404
MANAGEMENT APPLICATION
728
INPUT COMPONENTS
410
OUTPUT COMPONENTS
412
DISPLAY
414
MANAGEMENT GUI
730
HARDWARE CRYPTOCURRENCY WALLET
726

FIG. 7C

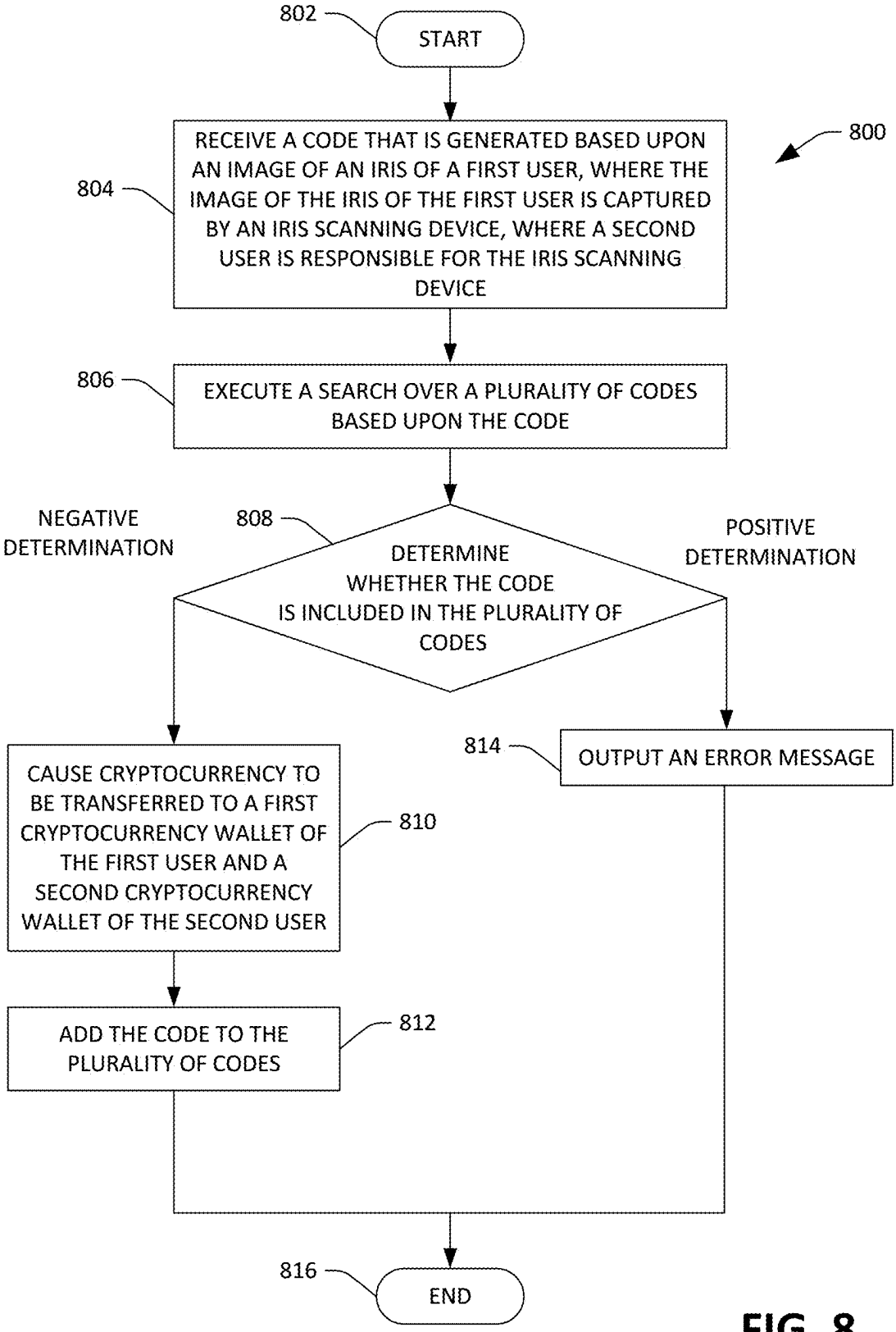

802
START
800
RECEIVE A CODE THAT IS GENERATED BASED UPON AN IMAGE OF AN IRIS OF A FIRST USER, WHERE THE IMAGE OF THE IRIS OF THE FIRST USER IS CAPTURED BY AN IRIS SCANNING DEVICE, WHERE A SECOND USER IS RESPONSIBLE FOR THE IRIS SCANNING DEVICE
804
EXECUTE A SEARCH OVER A PLURALITY OF CODES BASED UPON THE CODE
806
DETERMINE WHETHER THE CODE IS INCLUDED IN THE PLURALITY OF CODES
808
NEGATIVE DETERMINATION
POSITIVE DETERMINATION
CAUSE CRYPTOCURRENCY TO BE TRANSFERRED TO A FIRST CRYPTOCURRENCY WALLET OF THE FIRST USER AND A SECOND CRYPTOCURRENCY WALLET OF THE SECOND USER
810
ADD THE CODE TO THE PLURALITY OF CODES
812
OUTPUT AN ERROR MESSAGE
814
816
END

FIG. 8

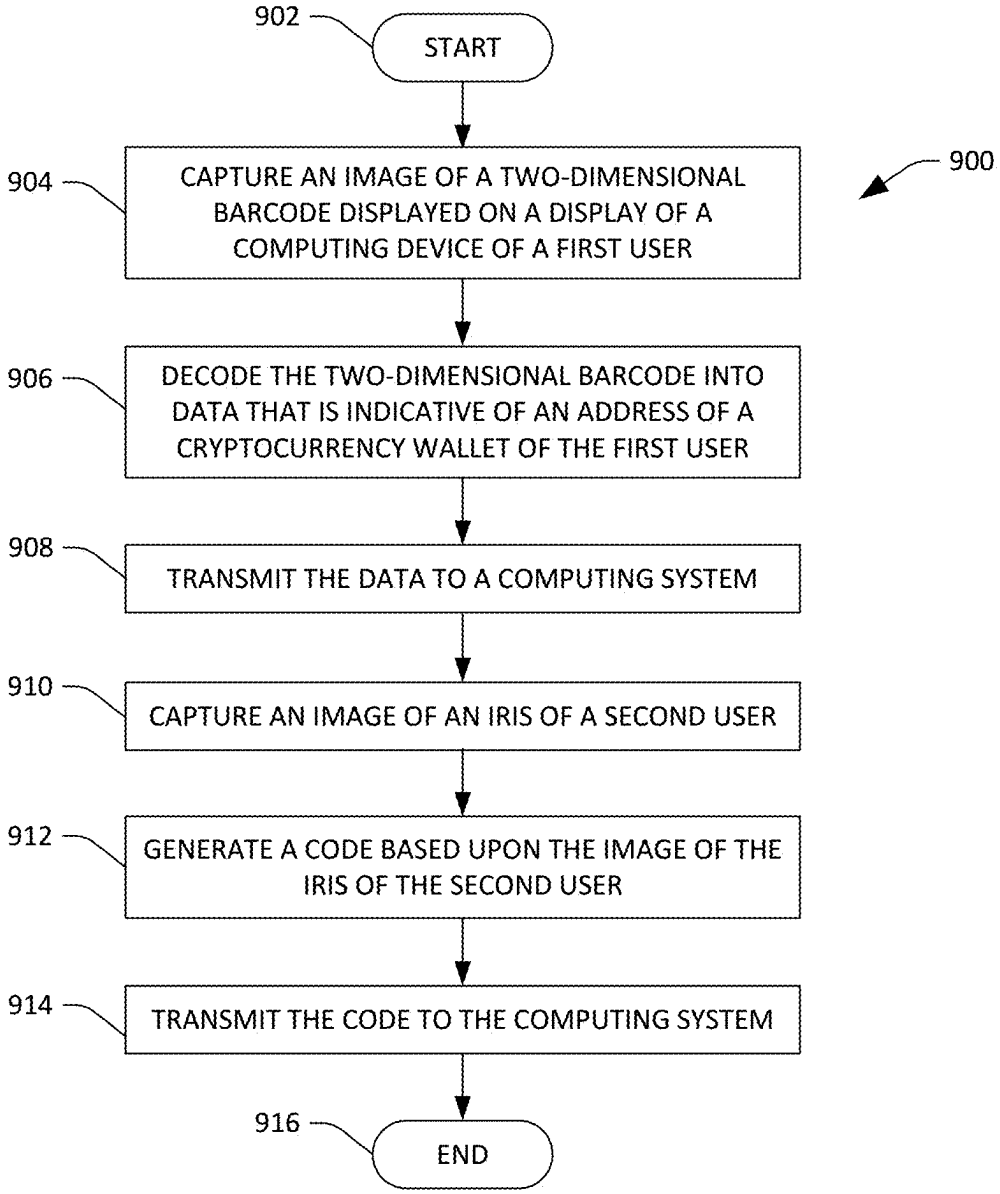

902
START
900
904
CAPTURE AN IMAGE OF A TWO-DIMENSIONAL BARCODE DISPLAYED ON A DISPLAY OF A COMPUTING DEVICE OF A FIRST USER
906
DECODE THE TWO-DIMENSIONAL BARCODE INTO DATA THAT IS INDICATIVE OF AN ADDRESS OF A CRYPTOCURRENCY WALLET OF THE FIRST USER
908
TRANSMIT THE DATA TO A COMPUTING SYSTEM
910
CAPTURE AN IMAGE OF AN IRIS OF A SECOND USER
912
GENERATE A CODE BASED UPON THE IMAGE OF THE IRIS OF THE SECOND USER
914
TRANSMIT THE CODE TO THE COMPUTING SYSTEM
916
END

FIG. 9

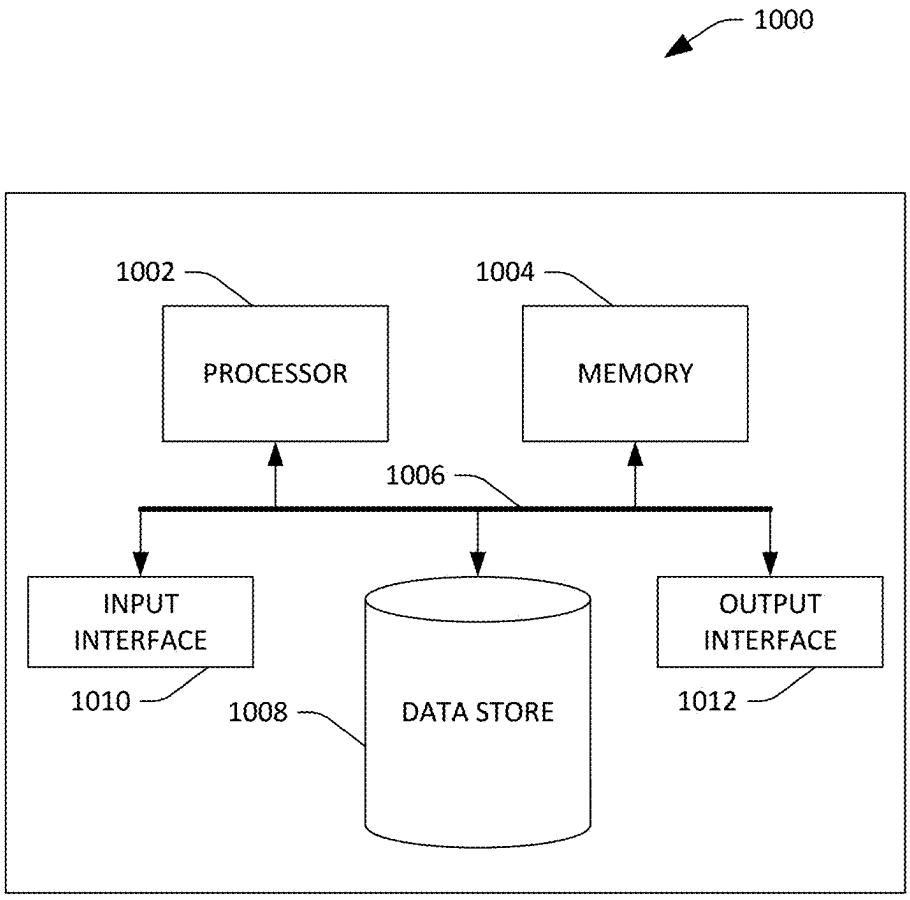

1000
1002
PROCESSOR
1004
MEMORY
1006
INPUT INTERFACE
1010
1008
DATA STORE
OUTPUT INTERFACE
1012

FIG. 10

COMPUTING SYSTEM FOR DISTRIBUTING CRYPTOCURRENCY

RELATED APPLICATION

[0001] This application is a divisional of U.S. patent application Ser. No. 17/458,079, filed on Aug. 26, 2021, and entitled "COMPUTING SYSTEM FOR DISTRIBUTING CRYPTOCURRENCY". The entirety of this application is incorporated herein by reference.

BACKGROUND

[0002] A cryptocurrency airdrop is a computer-implemented distribution technique for cryptocurrency whereby amounts of cryptocurrency are transferred to wallets of users either for free or in return for a small promotional action (e.g., forwarding promotional materials to other users). Cryptocurrency airdrops are commonly used to promote awareness about a new cryptocurrency project. Conventionally, a cryptocurrency airdrop may require an email address of a user in order to prevent the user from receiving multiple amounts of cryptocurrency from the cryptocurrency airdrop. However, requiring an email address may be insufficient to prevent the user from receiving repeated amounts of cryptocurrency from the cryptocurrency airdrop.

SUMMARY

[0003] The following is a brief summary of subject matter that is described in greater detail herein. This summary is not intended to be limiting as to the scope of the claims.

[0004] Various technologies pertaining to distribution of cryptocurrency are described herein. With more particularity, a computing system is described herein that is configured to distribute cryptocurrency to a first user and a second user based upon a determination that the second user has not previously signed up to receive cryptocurrency. The computing system makes such a determination based upon a code (e.g., a 128-dimensional vector embedded code, also referred to herein as "an iris code") that is generated based upon an image of an iris of the second user that is captured by an iris scanning device that is under control of the first user (e.g., the first user is responsible for the iris scanning device). The computing system compares the code to a plurality of codes that have been generated based upon images of irises of a plurality of users and determines that the second user has not previously received cryptocurrency when the code is not included in the plurality of codes.

[0005] In an example, a first user receives permission to operate an iris scanning device. A person who receives permission to operate the iris scanning device may be referred to as "an orb operator" and the iris scanning device may be referred to as "an orb." As such, in the example, the first user is an orb operator who has permission to operate the orb. A first computing device operated by the first user receives input from the first user that causes a first two-dimensional barcode to be displayed on a display of the first computing device, where the first two-dimensional barcode is indicative of a cryptocurrency wallet of the first user. The iris scanning device captures an image of the first two-dimensional barcode, decodes the first two-dimensional barcode into data that is indicative of the cryptocurrency wallet of the first user (i.e., the data is derived from the first two-dimensional barcode), and transmits the data to a server computing device.

[0006] The first user is approached by a second user, where the second user wishes to receive cryptocurrency. The iris scanning device captures an image of an iris (or both irises or separate images of each iris) of the second user. The iris scanning device generates a code based upon the image of the iris and transmits the code to the server computing device. Upon receiving the code, the server computing device executes a search over a plurality of codes stored in a computer-readable data store, where the search is based upon the code received from the iris scanning device. Based upon search results for the search, the server computing device determines whether the code is included in the plurality of codes.

[0007] When the server computing device determines that the code is not included in the plurality of codes (e.g., the second user has not previously signed-up to receive cryptocurrency), the server computing device causes a first amount of cryptocurrency to be transferred to the cryptocurrency wallet of the first user and a second amount of cryptocurrency to be transferred to a cryptocurrency wallet of the second user. In an example, a second computing device of the second user displays a second two-dimensional barcode on a display, where the second two-dimensional barcode is indicative of a cryptocurrency wallet of the second user. The iris scanning device captures an image of the second two-dimensional barcode, decodes the second two-dimensional barcode into data that is indicative of the cryptocurrency wallet of the second user (i.e., the data is derived from the second two-dimensional barcode), and transmits the data to the server computing device. As the server computing device has determined that the second user has not previously signed-up to receive cryptocurrency, the server computing device transfers the first amount of cryptocurrency to the cryptocurrency wallet of the first user and the second amount of cryptocurrency to the cryptocurrency wallet of the second user. The server computing device then causes the code to be stored as part of the plurality of codes in the data store (to prevent the second user from receiving cryptocurrency from the server computing device more than once). When the server computing device determines that the code is included in the plurality of codes (e.g., the second user has previously signed-up to receive cryptocurrency), the server computing device causes an error message to be output on a display of at least one of the first computing device of the first user or the second computing device of the second user (i.e., the server computing device notifies one or both of the first user or the second user). Additionally or alternatively, the server computing device may cause the iris scanning device to output an indication as to whether or not the second user has previously signed up (e.g., the iris scanning device may output a red light to indicate that the second user previously signed up or a green light to indicate that the second user has not previously signed up). According to embodiments, the server computing device generates the cryptocurrency wallet of the second user upon determining that the code is not included in the plurality of codes.

[0008] The above-described technologies present various technical advantages over conventional technologies for distributing cryptocurrency. First, via generation of codes based upon irises of users and distributing cryptocurrency based thereon, the computing system described above ensures that the same user does not receive an award of cryptocurrency more than once. Thus, the above-described technologies tend to mitigate fraud. Furthermore, the actual

images of the irises do not need to be retained once the codes have been generated, and as such, these images may be discarded to preserve user privacy. Second, by automatically generating a cryptocurrency wallet for a user upon determining that the user has not had his/her iris scanned previously, the above-described technologies enable users that are not familiar with cryptocurrency to participate in cryptocurrency projects.

[0009] The above summary presents a simplified summary in order to provide a basic understanding of some aspects of the systems and/or methods discussed herein. This summary is not an extensive overview of the systems and/or methods discussed herein. It is not intended to identify key/critical elements or to delineate the scope of such systems and/or methods. Its sole purpose is to present some concepts in a simplified form as a prelude to the more detailed description that is presented later.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. **1** is a functional block diagram of an exemplary computing environment that facilitates distribution of cryptocurrency.

[0011] FIG. **2** depicts a functional block diagram of the orb in the computing environment of FIG. **1**.

[0012] FIG. **3** depicts a functional block diagram of the server computing device in the computing environment of FIG. **1**.

[0013] FIG. **4** depicts a functional block diagram of the orb operator computing device in the computing environment of FIG. **1**.

[0014] FIG. **5** depicts a functional block diagram of the user computing device in the computing environment of FIG. **1**.

[0015] FIG. **6** depicts an exemplary graphical user interface (GUI) that is presented on a display of an orb operator computing device.

[0016] FIG. **7**A-**7**C depict functional block diagrams of different types of cryptocurrency wallets.

[0017] FIG. **8** is a flow diagram that illustrates an exemplary methodology performed by a server computing device that facilitates distributing cryptocurrency.

[0018] FIG. **9** is a flow diagram that illustrates an exemplary methodology performed by an iris scanning device that facilitates distributing cryptocurrency.

[0019] FIG. **10** is an exemplary computing device.

DETAILED DESCRIPTION

[0020] Various technologies pertaining to cryptocurrency distribution are now described with reference to the drawings, wherein like reference numerals are used to refer to like elements throughout. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of one or more aspects. It may be evident, however, that such aspect(s) may be practiced without these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to facilitate describing one or more aspects. Further, it is to be understood that functionality that is described as being carried out by certain system components may be performed by multiple components. Similarly, for instance, a component may be configured to perform functionality that is described as being carried out by multiple components.

[0021] Moreover, the term "or" is intended to mean an inclusive "or" rather than an exclusive "or." That is, unless specified otherwise, or clear from the context, the phrase "X employs A or B" is intended to mean any of the natural inclusive permutations. That is, the phrase "X employs A or B" is satisfied by any of the following instances: X employs A; X employs B; or X employs both A and B. In addition, the articles "a" and "an" as used in this application and the appended claims should generally be construed to mean "one or more" unless specified otherwise or clear from the context to be directed to a singular form.

[0022] Further, as used herein, the terms "component" and "system" are intended to encompass computer-readable data storage that is configured with computer-executable instructions that cause certain functionality to be performed when executed by a processor. The computer-executable instructions may include a routine, a function, or the like. It is also to be understood that a component or system may be localized on a single device or distributed across several devices. Further, as used herein, the term "exemplary" is intended to mean serving as an illustration or example of something, and is not intended to indicate a preference.

[0023] As noted above, conventional cryptocurrency airdrops lack sufficient safeguards for ensuring that a user does not receive a reward of cryptocurrency more than once. If a cryptocurrency airdrop requires a unique email address in order for a user to receive cryptocurrency, the user may utilize multiple different email addresses to receive repeated rewards of cryptocurrency to which he or she is not entitled. Even if a cryptocurrency airdrop requires a unique cryptocurrency wallet address in order for the user to receive cryptocurrency, the user may use different cryptocurrency wallet addresses to receive repeated rewards of cryptocurrency.

[0024] To address these issues, a first user receives permission to operate an iris scanning device. A person who receives permission to operate the iris scanning device may be referred to as "an orb operator" and the iris scanning device may be referred to as "an orb." As such, in the example, the first user is an orb operator who has permission to operate the orb. A first computing device operated by the first user receives input from the first user that causes a first two-dimensional barcode to be displayed on a display of the first computing device, where the first two-dimensional barcode is indicative of a cryptocurrency wallet of the first user. The iris scanning device captures an image of the first two-dimensional barcode, decodes the first two-dimensional barcode into data that is indicative of the cryptocurrency wallet of the first user (i.e., the data is derived from the first two-dimensional barcode), and transmits the data to a server computing device.

[0025] The first user is approached by a second user (or the second user approaches the first user), where the second user wishes to receive cryptocurrency. The iris scanning device captures an image of an iris (or both irises or separate images of each iris) of the second user. The iris scanning device generates a code (e.g., a 128-dimensional vector embedded code, also referred to herein as "an iris code") based upon the image of the iris and transmits the code to the server computing device. Upon receiving the code, the server computing device executes a search over a plurality of codes stored in a computer-readable data store, where the search is based upon the code received from the iris scanning device.

Based upon search results for the search, the server computing device determines whether the code is included in the plurality of codes.

[0026] When the server computing device determines that the code is not included in the plurality of codes (e.g., the second user has not previously signed-up to receive cryptocurrency), the server computing device causes a first amount of cryptocurrency to be transferred to the cryptocurrency wallet of the first user and a second amount of cryptocurrency to be transferred to a cryptocurrency wallet of the second user. In an example, a second computing device of the second user displays a second two-dimensional barcode on a display, where the second two-dimensional barcode is indicative of a cryptocurrency wallet of the second user. The iris scanning device captures an image of the second two-dimensional barcode, decodes the second two-dimensional barcode into data that is indicative of the cryptocurrency wallet of the second user (i.e., the data is derived from the second two-dimensional barcode), and transmits the data to the server computing device. As the server computing device has determined that the second user has not previously signed-up to receive cryptocurrency, the server computing device transfers the first amount of cryptocurrency to the cryptocurrency wallet of the first user and the second amount of cryptocurrency to the cryptocurrency wallet of the second user. The server computing device then causes the code to be stored as part of the plurality of codes in the data store (to prevent the second user from receiving cryptocurrency from the server computing device more than once). When the server computing device determines that the code is included in the plurality of codes (e.g., the second user has previously signed-up to receive cryptocurrency), the server computing device causes an error message to be output on a display of at least one of the first computing device of the first user or the second computing device of the second user. According to embodiments, the server computing device generates the cryptocurrency wallet of the second user upon determining that the code is not included in the plurality of codes.

[0027] The above-described technologies present various technical advantages over conventional technologies for distributing cryptocurrency. First, via generation of codes based upon irises of users and distributing cryptocurrency based thereon, the above-described technologies ensure that the same user does not receive an award of cryptocurrency more than once. Thus, the above-described technologies tend to mitigate fraud. Furthermore, the actual images of the irises do not need to be retained once the codes have been generated, and as such, these images may be discarded to preserve user privacy. Second, by automatically generating a cryptocurrency wallet for the user upon determining that the user has not had his/her iris scanned previously, the above-described technologies enable users that are not familiar with cryptocurrency to participate in cryptocurrency projects.

[0028] With reference to FIG. **1**, an exemplary computing environment **100** that facilitates distributing cryptocurrency is illustrated. The computing environment **100** includes an orb **102** (also referred to herein as "the iris scanning device **102**") that is under control of an orb operator **104** (i.e., a person who has permission to control the orb **102** and/or who is responsible for the orb **102**). As will be described in greater detail below, the orb **102** is configured to, inter alia, (**1**) capture images of irises of users, (**2**) generate codes based upon the images of the irises, and (**3**) capture images of two-dimensional barcodes that are indicative of cryptocurrency wallets (e.g., a cryptocurrency wallet of the orb operator **104**, also referred to herein "the orb operator cryptocurrency wallet **106**"). The orb operator cryptocurrency wallet **106** may be a mobile wallet, a desktop wallet, a hardware wallet, or a web wallet. Furthermore, the orb operator cryptocurrency wallet **106** may be a hot wallet that must be connected to the Internet or a cold wallet that is not connected to the Internet. The orb operator **104** may be a person who has received the right to operate the orb **102** by winning a bidding process with other users (e.g., the orb operator **104** is a primary orb operator) or the orb operator **104** may be a person who has been subcontracted by the primary orb operator to operate the orb **102** (e.g., the orb operator **104** is a secondary orb operator)

[0029] The computing environment **100** further includes an orb operator computing device **108** of the orb operator **104**. The orb operator computing device **108** is configured to, inter alia, display a two-dimensional bar code that is indicative of the orb operator cryptocurrency wallet **106**. The orb operator computing device **108** may be in communication with the orb **102** by way of a wired or wireless connection. Functionality of the orb operator computing device **108** will be explained in greater detail below.

[0030] The computing environment **100** further includes a server computing device **110**. As will be explained in greater detail below, the server computing device **110** is configured to, inter alia, receive (1) codes that have been generated based upon images of irises of users, (2) determine whether the codes have been previously received by the server computing device 110, and (3) facilitate transfer of cryptocurrency upon determinations that the codes have not been previously received by the server computing device **110**.

[0031] The computing environment **100** further includes a user computing device **112** that is operated by a user **114**. As will be explained in greater detail below, the user computing device **112** is configured to, inter alia, display a two-dimensional barcode that is indicative of a cryptocurrency wallet of the user **114** (also referred to herein as "the user cryptocurrency wallet **116**").

[0032] It is contemplated that the server computing device **110** is in communication with the orb **102**, the orb operator computing device **108**, and the user computing device **112** by way of a network **118** (e.g., the Internet). Communication between the server computing **110** and the orb **102**, the orb operator computing device **108**, and the user computing device **112** will be explained in detail below.

[0033] Referring now to FIG. **2**, the orb **102** within the computing environment **100** is illustrated in further detail. According to some embodiments, the orb **102** is a spherical device. According to other embodiments, the orb **102** is non-spherical. The orb **102** includes at least one camera **202**. According to embodiments, the orb **102** includes additional image acquisition devices (e.g., a red green blue (RGB) camera, an infrared camera, a three dimensional camera, etc. that aid in capturing images of iris of users. According to embodiments, the at least one camera **202** is configured (1) to capture images of irises of users and (2) to capture images of two-dimensional barcodes that are indicative of cryptocurrency wallets of users (e.g., the orb operator cryptocurrency wallet **106** and the user cryptocurrency wallet **116**). According to embodiments, the at least one camera **202** comprises a first camera (e.g., an RGB blue camera) that

captures an image of a face of a user and a second camera that captures an image of an iris of a user, where the image of the face of a user is used to align a mirror in order to facilitate capture of the image of the iris of the user by the second camera. According to embodiments, the at least one camera **202** comprises a first camera that is configured to capture the images of the irises of the users and a second camera that is configured to capture the images of the two-dimensional barcodes that are indicative of the cryptocurrency wallets of the users. According to embodiments, the orb **102** includes an illumination device (not shown in FIG. **2**) that is configured to output light to illuminate faces and/or eyes of the users so as to facilitate capture of the images of the irises. The orb **102** further includes a processor **204** that is configured to carry out at least some of the functionality of the orb **102** (described in greater detail below).

[0034] The orb **102** includes memory **206**. As will be described in greater detail below, the memory **206** stores an iris image **208** of the user **114** (also referred to herein as "the image of the iris **208** of the user **114**") and a code **210** (also referred to herein as "the iris code **210**") that is generated based upon the iris image **208**. It is to be understood that the iris image **208** may an image of a single iris of the user **114** or an image of both irises of the user **114**. It is also to be understand that the iris image **208** may comprise separate images of both irises of the user **114** (e.g., an image of the left iris of the user **114** and an image of the right iris of the user **114**). The memory **206** also stores two-dimensional barcode images **212** (also referred to herein as "images of two-dimensional barcodes **212**), where the two-dimensional barcode images **212** are indicative of cryptocurrency wallets (e.g., the orb operator cryptocurrency wallet **106**, the user cryptocurrency wallet **116**, etc.). With more particularity, the two-dimensional barcode images **212** may be indicative of wallet addresses of the cryptocurrency wallets. According to embodiments, the iris image **208** is temporarily stored in the memory **206** during a session established between the orb operator **104** and the server computing device **110** and is removed from the memory **206** after the code **210** is generated.

[0035] According to embodiments, the orb **102** comprises a liveness detection component **214** that is implemented in hardware or software. The liveness detection component **214** is configured to determine that the user **114** is in proximity to the orb **102** when the orb **102** captures the image of the iris of the user **114** (as opposed to capturing an image of an image of the iris of the user **114**).

[0036] The orb **102** further includes a code component **216** that is implemented in hardware or software. The code component **216** is configured to generate the code **210** based upon the iris image **208**. In an example, the code component **216** applies a hashing function to pixel values of the iris image **208**, thereby generating the code **210**. According to embodiments, the code **210** is a 128-dimensional vector embedded code. According to embodiments, the code component **216** also digitally signs the code **210**.

[0037] The orb **102** further includes a communication component **218** that is configured to enable the orb **102** to communicate with the server computing device **110** and/or the orb operator computing device **108**. According to embodiments, the communication component **218** may be or include a Wi-Fi receiver, a Bluetooth Receiver, a Long Term Evolution (LTE®) module, and/or a Universal Serial Bus (USB) controller. According to embodiments, the orb **102** includes a geolocator **220**, where the geolocator **220** is configured to enable a geographic location of the orb **102** to be ascertained. In an example, the geolocator **220** is a Global Positioning System (GPS) receiver. According to embodiments, the server computing device **110** transmits a location of the orb **102** to computing devices of potential users such that the users are able to physically travel to the orb **102** in order to have their irises scanned by the orb **102**. The orb **102** may include a speaker **222** that is configured to output audible sounds to the orb operator **104** and/or the user **114**. In an example, the audible sounds may indicate that the orb **102** encountered an error when attempting to capture an image of the iris of the user **114**, that the orb **102** encountered an error when attempting to generate the code **210** based upon the image of the iris of the user **114**. In another example, the audible sounds make indicate that the orb **102** is processing the image of the iris of the user **114** so as to generate the code **210**. In yet another example, the audible sounds may indicate that user signup was successful or unsuccessful (to be explained in greater detail below). According to embodiments, the orb **102** may include an indicator light (not depicted in FIG. **2**) that outputs visual indications as to whether signup of the user **114** was successful. In an example, when the user **114** has not previously signed up to receive cryptocurrency, the indicator light may output green light. In another example, when the user **114** has previously signed up to receive cryptocurrency, the indicator light may output red light. The indicator light may also output different colored lights (or patterns of light) to convey other information to users (e.g., that the orb is processing an image of the iris of the user **114**).

[0038] Referring now to FIG. **3**, the server computing device **110** within the computing environment **100** is illustrated in further detail. The server computing device **110** includes a processor **302** and memory **304**, where the memory **304** has a distribution application **306** loaded therein. As will be described in greater detail below, the distribution application **306** is configured, inter alia, (1) to determine whether or not the user **114** has previously signed up to receive cryptocurrency and (2) to transfer cryptocurrency to the user cryptocurrency wallet **116** and the orb operator cryptocurrency wallet **106** upon positive determination.

[0039] The distribution application **306** includes an account creation component **308**. The account creation component **308** is configured to generate an account for the orb operator **104**. The account creation component **308** may also be configured to generate an account for the user **114**; however, it is to be understood that creation of an account for the user **114** is optional, that is, the user **114** may sign-up and receive cryptocurrency anonymously. The distribution application **306** includes an authentication component **310** that is configured to authenticate the orb operator **104** (as well as other orb operators) based upon authentication credentials received from the orb operator computing device **108**. The authentication component **306** may also be configured to authenticate the user **114** when the user **114** creates an account.

[0040] The distribution application **306** further includes an iris code component **312** that is configured (1) to receive the code **210** that is generated based upon the iris image **208** of the user **114** and (2) to determine whether the user **114** has previously received cryptocurrency from the distribution

application **306** based upon the code **210**. The distribution application **306** further includes a transfer component **314** that is configured to transfer cryptocurrency into the orb operator cryptocurrency wallet **106** and the user cryptocurrency wallet **116**.

[0041] The server computing device **110** further includes a first data store **316** that stores a plurality of codes **318** (also referred to herein as a plurality of iris codes), where each code in the plurality of codes **318** is generated based upon an image of an iris (or irises) of a different user. In an example, each of the plurality of codes **318** are a 128-dimensional vector embedded code. The server computing device **110** further includes a second data store **320** that stores cryptocurrency **322**. According to embodiments, smart contracts execute in order to effectuate the transfer of the cryptocurrency **322** to the orb operator cryptocurrency wallet **106** and the user cryptocurrency wallet **116**. The server computing device **110** additionally includes a third data store **324** that stores accounts **326** for orb operators (including the orb operator **104**). An example account for the orb operator **104** includes a full name of the orb operator **104**, contact information of the orb operator **104** (e.g., an email address, a telephone number, etc.), an identifier for a primary orb operator of the orb **102** when the orb operator **104** is not a primary orb operator, identifiers for secondary orb operators associated with the orb operator **104**, an identifier for the orb **102**, an address of the orb operator cryptocurrency wallet **106**, and/or an identifier for a region in which the orb operator **104** operates. The accounts **326** may also include accounts for users (e.g., the user **114**). An example account for the user **114** may include a full name of the user **114**, contact information of the user **114** (e.g., an email address, a telephone number, etc.), and/or an address of the user cryptocurrency wallet **116**.

[0042] Turning now to FIG. **4**, the orb operator computing device **108** within the computing environment **100** is illustrated in further detail. According to embodiments, the orb operator computing device **108** is a mobile computing device, such as a smartphone or a tablet computing device. The orb operator computing device **108** includes a processor **402** and memory **404**, where the memory **404** has an orb operator application **406** loaded therein (described in detail below). The orb operator computing device **108** may include an orb communication component **408** that enables the orb operator computing device **108** to communicate with the orb **102**. According to embodiments, the orb communication component **408** is a Wi-Fi Radio, a Bluetooth radio, a Long Term Evolution (LTE®) module, or a USB controller.

[0043] The orb operator computing device **108** further includes input components **410** that enable the orb operator **104** to set forth input to the orb operator computing device **108**. The input components **410** include one or more of a touchscreen, a track pad, a scroll wheel, and/or a keyboard. The orb operator computing device **108** further includes output components **412** that enable the orb operator computing device **108** to output information. The output components **412** include a display **414**. The orb operator application **406** is configured to present a graphical user interface (GUI) **416** on the display **414**, where the GUI **416** presents information pertaining to the orb operator **104** and/or the orb **102**. According to embodiments, the GUI **416** displays a two-dimensional barcode **418** that is indicative of the orb operator cryptocurrency wallet **106**. In an example, the two-dimensional barcode **418** is a quick response (QR) code.

[0044] Turning now to FIG. **5**, the user computing device **112** within the computing environment **100** is illustrated in further detail. According to embodiments, the user computing device **112** is a mobile computing device, such as a smartphone or a tablet computing device. The user computing device **112** includes a processor **502** and memory **504**, where the memory **504** may include a user application **506** (described in greater detail below). The user computing device **112** includes input components **508** that enable the user **114** to set forth input to the user computing device **112**. The input components **508** include one or more of a touchscreen, a track pad, a scroll wheel, and/or a keyboard. The user computing device **112** further includes output components **510** that enable the user computing device **112** to output information. The output components **510** include a display **512**. The user application **506** is configured to present a GUI **514** on the display **512**, where the GUI **514** presents information pertaining to the user **114**. According to embodiments, the GUI **514** displays a two-dimensional barcode **516** that is indicative of the user cryptocurrency wallet **116**. In an example, the two-dimensional barcode **516** is a quick response (QR) code.

[0045] With reference collectively now to FIGS. **1-5**, exemplary operation of the computing environment **100** is now set forth. It is contemplated that the orb operator **104** has obtained the right to use the orb **102**. In one example, the orb operator computing device **108** downloads the orb operator application **406** from an online application store (not depicted in FIGS. **1-5**) and installs the orb operator application **406** on the orb operator computing device **108**. Alternatively, the orb operator application **406** may be a web application that is accessed via a web browser executing on the orb operator computing device **108**. The orb operator application **406** receives account creation information as input from the orb operator **104**. The account creation information includes a full name of the orb operator **104**, contact information of the orb operator **104**, and login credentials (e.g., a username and password) for the orb operator **104**. The account creation information may also include an address of the orb operator cryptocurrency wallet **106**. The orb operator application **406** transmits the account creation information to the distribution application **306**, where the account creation component **308** of the distribution application **306** creates an account for the orb operator **104** within the accounts **326** based upon the account creation information. According to some embodiments, the orb operator **104** is given the right to use the orb **102** upon creation of the account. According to other embodiments, the orb operator **104** participates in an auction through the orb operator application **406**. When the orb operator **104** wins the auction, the orb operator **104** is granted the right to use the orb **102**. In either case, the orb operator **104** obtains physical possession of the orb **102** (e.g., the orb **102** is delivered to a residence of the orb operator **104**). According to embodiments where the orb operator **104** is a secondary orb operator, the account creation information includes an identifier for a primary orb operator of the orb **102**. According to embodiments where the orb operator **104** is a tertiary orb operator, the account creation information includes an identifier for a secondary orb operator of the orb **102** (which in turn can be used to determine an identifier for the primary

orb operator of the orb **102** due to the account for the secondary orb operator including an identifier for the secondary orb operator and an identifier for the primary orb operator).

[0046] It is then contemplated that the orb operator **104** interacts with the user **114**. In an example, the orb operator **104** takes the orb **102** to a public location (e.g., a street, a mall, etc.) and asks the user **114** if the user **114** would be interested in obtaining cryptocurrency. When the user **114** is interested, the orb operator **104** instructs the user **114** to download the user application **506** from the online application store (not shown in FIGS. **1-5**). Alternatively, the user application **506** may be web application that is accessed via a web browser executing on the user computing device **112**. The user computing device **112** receives input from the user **114** which causes the user application **506** to be downloaded from the online application store and installed on the user computing device **112**. According to embodiments, the user application **506** receives account creation information as input from the user **114**. The account creation information for the user **114** may include a name of the user **114**, contact information of the user **114**, and login credentials (e.g., a username and password) for the user **114**. The account creation information for the user **114** may also include an address of the user cryptocurrency wallet **116** when the cryptocurrency wallet **116** is a preexisting cryptocurrency wallet. The address of the user cryptocurrency wallet **116** may also be provided subsequent to creation of the account for the user **114**. When the account creation information for the user **114** does not include an identifier for a cryptocurrency wallet, the user application **506** and the distribution application **306** communicate to automatically generate the user cryptocurrency wallet **116** (explained in greater detail below).

[0047] According to embodiments, prior to, concurrently with, or subsequent to interacting with the user **114**, the orb operator application **406** (via the GUI **416**) receives login credentials as input from the orb operator **104**. The orb operator application **406** transmits the login credentials to the authentication component **310** of the distribution application **306**. The authentication component **310** authenticates the orb operator **104** based upon the login credentials. Upon authenticating the orb operator **104**, the authentication component **310** transmits data to the orb operator application **406** that causes the GUI **416** to be updated to display information pertaining to the orb operator **104** and/or the orb **102**. The orb operator **104** turns the orb **102** on (e.g., by pressing a power switch on the orb **102**). Upon the authentication and after the orb **102** has been powered on, the orb operator application **406** establishes communication with the orb **102** (e.g., via the communication component **218**). The orb **102** also establishes communication with the server computing device **110** (e.g., via the communication component **218**).

[0048] Turning briefly now to FIG. **6**, an example GUI **600** of the orb operator application **406** that is presented on the display **414** of the orb operator computing device **108** is illustrated. The GUI **600** may be or include the GUI **416** or the GUI **416** may be or include the GUI **600**. The GUI **600** includes a first region **602** that includes an identifier for the orb **102** and an indication that the orb **102** is connected to the orb operation application **406**. The GUI **600** includes a second region **604** that includes options for the orb **102**. The options may include a volume of the speaker **222** of the orb **102**, an indication of remaining battery life of the orb **102**, and/or an identifier for a wireless network that the orb **102** is connected to (so that the orb **102** may communicate with the server computing device **110**). The GUI **600** includes a third region **606** that displays an identifier for the orb operator **104**. According to embodiments, the third region **606** displays a two-dimensional barcode **608**, where the two-dimensional barcode **606** is indicative of the orb operator cryptocurrency wallet **106**. The two-dimensional barcode **606** may be the two-dimensional barcode **418**. The GUI **600** further includes a fourth region **610** that displays a balance of cryptocurrency that the orb operator **104** has received.

[0049] Referring back to FIGS. **1-5**, upon authentication of the orb operator **104**, the orb operator application **406** displays, on the display **414**, the two-dimensional barcode **418** that is indicative of the orb operator cryptocurrency wallet **106**. The orb operator **104** positions the orb **102** such that the orb **102** captures an image of the two-dimensional barcode **418**. The orb **102** decodes the image of the two-dimensional barcode **418** to obtain data, where the data is indicative of an address of the orb operator cryptocurrency wallet **106**. The orb **102** transmits the data to the distribution application **306**, whereupon the distribution application **306** establishes a session between the orb operator **104** and the orb **102** upon receiving the data.

[0050] The user application **506** receives an indication that the user **114** wishes to receive cryptocurrency. Upon receiving the indication, the user application **506** displays a consent agreement on the display **512**, where the consent agreement indicates that the user **114** agrees to have his/her iris(es) scanned by the orb **102**. The user application **506** receives input indicating that the user **114** agrees to the consent agreement. The user application **506** transmits a message to the distribution application **306**, where the message indicates that the user **114** has agreed to the consent agreement. The distribution application **306** retains the message (e.g., as part of an account for the user **114** in the accounts **326** retained in the third data store **324**). The distribution application **306** may transmit an indication to the orb operator application **406** indicating that the user **114** has consented to the iris scan, and the orb operator application **406** may present the indication to the orb operator **104** on the display **414**.

[0051] The orb operator **104** positions the orb **102** such that the at least one camera **202** of the orb **102** is positioned proximate to irises of the user **114**. In an example, the at least one camera **202** is located within one foot of the irises of the user **114**. According to embodiments, the liveness detection component **214** determines that the user **114** is physically present within a vicinity of the orb **102**. Upon determination that the user **114** is physically present, the at least one camera **202** captures the image **208** of the iris(es) of the user **114**. The code component **216** of the orb **102** generates the code **210** based upon the image **208** of the iris(es) of the user **114** and stores the code in the memory **206**. According to embodiments, the code **210** is a string of a fixed length that includes alphanumeric characters. According to some embodiments, the code **210** is an N-dimensional vector, where N is a positive integer greater than one. The communication component **218** of the orb **102** transmits the code **210** to the distribution application **306**. Alternatively, the communication component **218** of the orb may transmit the code **210** to the orb operator application **408**, whereupon the orb operator application **408** forwards the code **210** to the distribution application **306**. According to embodiments, the

orb **102** discards the code **210** and/or the iris image **208** from the memory **206** subsequent to transmitting the code **210** to the distribution application **306**.

[0052] Upon receiving the code **210**, the iris code component **312** of the distribution application **306** executes a search over the plurality of codes **318** stored in the first data store **316** based upon the code **210**. The iris code component **312** determines whether the code **210** is included in the plurality of codes **318** based upon search results for the search. According to embodiments, the iris code component **312** computes distance metrics (e.g., Hamming Distance) between the code **210** and each of the plurality of codes **318**. When a distance metric is below a threshold value, the iris code component **312** determines that the code **210** is included in the plurality of codes **318**.

[0053] When the iris code component **312** of the distribution application **306** determines that the code **210** is not included in the plurality of codes **318** (i.e., the user **114** has not previously received cryptocurrency from the distribution application **306**), the transfer component **314** transmits a message to the orb **102** indicating that the user **114** is to receive a first amount of cryptocurrency (from the cryptocurrency **322**). According to embodiments, an indicator light on the orb **102** may output a visual indication (e.g., green light) indicating that the user **114** has not previously received cryptocurrency from the distribution application **306**. According to embodiments where the user cryptocurrency wallet **116** is preexisting, the user **114** positions the user computing device **112** proximate to the at least one camera **202** of the orb **102** such that the two-dimensional barcode **516** (which is indicative of the user cryptocurrency wallet **116**) shown on the display **512** is positioned within a field of view of the at least one camera **202**. The at least one camera **202** captures an image of the two-dimensional barcode **516**. The orb **102** decodes the image of the two-dimensional barcode **516** to obtain data, where the data is indicative of an address of the user cryptocurrency wallet **116**. The orb **102** transmits the data to the distribution application **306**, whereupon the transfer component **314** of the distribution application **306** transfers a first amount of cryptocurrency to the user cryptocurrency wallet **116** using the data (which, as noted above, serves as an address of the user cryptocurrency wallet **116**). Alternatively, the orb **102** may transmit the data **516** to the orb operator application **406** and the orb operator application **406** may forward the data to the distribution application **306**.

[0054] According to embodiments where the user cryptocurrency wallet **116** does not yet exist when the iris(es) of the user **114** are scanned by the orb, when the iris code component **312** of the distribution application **306** determines that the code **210** is not included in the plurality of codes **318** (i.e., the user **114** has not previously received cryptocurrency from the distribution application **306**), the distribution application **306** causes the user cryptocurrency wallet **116** to be generated. With more particularity, the distribution application **306** causes a public key and a private key to be generated. The two-dimensional barcode **516** is generated from the public key and the private key is received by the user **114** (e.g., via the user computing device **112**). The distribution application **306** causes the two-dimensional barcode **516** to be received by the user computing device **112** and the user computing device **112** presents the two-dimensional barcode **516** on the display **512**. The at least one camera **202** captures an image of the two-dimensional barcode **516**. The orb **102** decodes the image of the two-dimensional barcode **516** into data that is indicative of the user cryptocurrency wallet **116**, transmits the data to the distribution application **306**, and the first amount of cryptocurrency is transferred to the user cryptocurrency wallet **116** as described above.

[0055] Subsequent or concurrently with transferring the first amount of cryptocurrency to the user cryptocurrency wallet **116**, the transfer component **314** of the distribution application **306** also transfers a second amount of cryptocurrency (from the cryptocurrency **322**) to the orb operator cryptocurrency wallet **106** using the (previously received) image of the two-dimensional barcode **418** displayed on the display **414** of the orb operator computing device **108**. In an example, the second amount of cryptocurrency is less than the first amount of cryptocurrency.

[0056] Subsequent to the first amount of cryptocurrency being transferred to the user cryptocurrency wallet **116**, the user application **506** may update the GUI **514** to display a visual indication of the first amount of cryptocurrency that was transferred to the user cryptocurrency wallet **116**. Similarly, subsequent to the second amount of cryptocurrency being transferred to the orb operator cryptocurrency wallet **106**, the orb operator application **406** may update the GUI **416** to display a visual indication of the second amount of cryptocurrency that was transferred to the orb operator cryptocurrency wallet **106**.

[0057] According to embodiments where the orb operator **104** is a secondary orb operator, the distribution application **306** also transfers a third amount of cryptocurrency to a cryptocurrency wallet of a primary orb operator based upon information included in the accounts **326**. According to embodiments where the orb operator **104** is a tertiary orb operator, the distribution application **306** also transfers amounts of cryptocurrency to cryptocurrency wallets of the secondary orb operator and the primary orb operator based upon the information included in the accounts **326**.

[0058] Subsequent or concurrently with transferring the first amount of cryptocurrency to the user cryptocurrency wallet **116**, the distribution application **306** causes the code **210** to be stored in the first data store **316** as part of the plurality of codes **318**. In this manner, the distribution application **306** ensures that users will not receive multiple amounts of cryptocurrency by signing up multiple times.

[0059] When the iris code component **312** of the distribution application **306** determines that the code **210** is included in the plurality of codes **318** (i.e., the user **114** has previously received cryptocurrency from the distribution application **306**), the distribution application **306** outputs an error message to at least one of the orb operator computing device **108** or the user computing device **112**, where the error message indicates that the user **114** has previously received cryptocurrency from the distribution application **306**. The orb operator **406** and/or the user application **506** present the error message on the display **414** and/or the display **512**, respectively. Additionally or alternatively, an indicator light of the orb **102** may output a visual indication (e.g., red light) that is reflective of the error message.

[0060] It is contemplated that the distribution application **306** may distribute cryptocurrency to multiple users during the session between the orb operator **104** and the orb **102** (without the orb **102** having to capture the image the image of the two-dimensional barcode **418** each time a new user receives cryptocurrency). In an example, during the session

between the orb operator **104** and the orb **102**, the distribution application **306** receives a second code from the orb **102**, where the second code is generated based upon image of an iris of a third user (not shown in FIG. **1**). The iris code component **312** executes a search over the plurality of codes **318** based upon the second code. The iris code component **312** determines whether the second code is included in the plurality of codes **318** based upon search results for the search. When the iris code component **312** determines that the second code is not included in the plurality of codes **318**, the distribution application **306** causes a third amount of cryptocurrency to be transferred to a cryptocurrency wallet of the third user in a manner similar to that described above.

[0061] Although the distribution application **306** has been described above as creating an account for the user **114** in the accounts **326**, other possibilities are contemplated. According to embodiments, the user **114** may receive cryptocurrency anonymously without creating an account. In an example, the user cryptocurrency wallet **116** is pre-existing (e.g., not created via the distribution application **306**). The orb operator application **406** receives an indication from the orb operator **104** that the user **114** wishes to sign-up anonymously. The user computing device **112** displays the two-dimensional barcode **516** corresponding to the user cryptocurrency wallet **116** on the display **512**. The orb **102**, the orb operator computing device **108**, and the server computing device **110** operate as described above. When the distribution application **306** has not previously distributed cryptocurrency to the user **114**, the distribution application **306** causes the first amount of cryptocurrency to be transferred to the user cryptocurrency wallet **116**.

[0062] It is to be understood that the above-described processes may also be utilized as part of a sign-up process for the orb operator **104** in which the orb operator **104** receives cryptocurrency for the first time (e.g., prior to sign-up of the user **114**). For instance, the orb **102** can capture an image of an iris of the orb operator **104**, generate a code based upon the image, and transmit the code to the server computing device **110**, whereupon the server computing device **110** can determine whether the code is included in the plurality of codes **318** as described above. When the code is not included in the plurality of codes **318**, the distribution application **306** can transfer an amount of cryptocurrency to the orb operator cryptocurrency wallet **106** (described above) and can add the code to the plurality of codes **318**.

[0063] FIGS. **7**A-C depicts different example implementations of cryptocurrency wallets that may be used in accordance with the technologies described above. Turning now to FIG. **7**A, a computing environment **700**A that includes a web cryptocurrency wallet **702** stored in a data store **704** is illustrated. The web cryptocurrency wallet **702** may be the orb operator cryptocurrency wallet **106** or the user cryptocurrency wallet **116**. The computing environment **700**A includes a server computing device **706**. According to embodiments, the server computing device **706** is or includes the server computing device **110**. The server computing device **706** includes a processor **708** and memory **710**, where the memory **710** has a server application **712** loaded therein. The server application **712** enables the orb operator **104** to manage cryptocurrency stored in the web cryptocurrency wallet **702**.

[0064] In the computing environment **700**A, the memory **404** of the orb operator computing device **108** includes a client application **714** that is configured to communicate with the server application **712** over the network **118** to enable the orb operator to manage cryptocurrency stored in the web cryptocurrency wallet **702**. According to embodiments, the client application **714** is the orb operator application **406** or the user application **506**. The client application **714** is also configured to present a client application GUI **716** on the display **414**, where the client application GUI **716** displays information from the web cryptocurrency wallet **702**.

[0065] Referring now to FIG. **7**B, a computing environment **700**B that includes a mobile cryptocurrency wallet **718** stored in a data store **720** of the orb operator computing device **108** is illustrated. The mobile cryptocurrency wallet **718** may be the orb operator cryptocurrency wallet **106** or the user cryptocurrency wallet **116**. In the computing environment **700**B, the memory **404** of the orb operator computing device **108** includes a wallet application **722**. The wallet application **722** presents a wallet GUI **724** that enables the orb operator **104** to manage the mobile cryptocurrency wallet **718**.

[0066] Turning now to FIG. **7**C, a computing environment **700**C that includes a hardware cryptocurrency wallet **726** is illustrated. The hardware cryptocurrency wallet **726** is computer-readable storage that is separate from the orb operator computing device **108**. The hardware cryptocurrency wallet **726** may be in wired or wireless communication with the orb operator computing device **108**. In the computing environment **700**C, the orb operator computing device **108** includes a management application **728** that enables the orb operator **104** to interact with the hardware cryptocurrency wallet **726** when the hardware cryptocurrency wallet **726** is connected to the orb operator computing device **108**. The management application **728** may display a management GUI **730** that presents information about the hardware cryptocurrency wallet **726** when the hardware cryptocurrency wallet **726** is connected to the orb operator computing device **108**.

[0067] FIGS. **8** and **9** illustrate exemplary methodologies relating to distributing cryptocurrency. While the methodologies are shown and described as being a series of acts that are performed in a sequence, it is to be understood and appreciated that the methodologies are not limited by the order of the sequence. For example, some acts can occur in a different order than what is described herein. In addition, an act can occur concurrently with another act. Further, in some instances, not all acts may be required to implement a methodology described herein.

[0068] Moreover, the acts described herein may be computer-executable instructions that can be implemented by one or more processors and/or stored on a computer-readable medium or media. The computer-executable instructions can include a routine, a sub-routine, programs, a thread of execution, and/or the like. Still further, results of acts of the methodologies can be stored in a computer-readable medium, displayed on a display device, and/or the like.

[0069] Referring now to FIG. **8**, a methodology **800** performed by a server computing device that facilitates distributing cryptocurrency is illustrated. The methodology **800** begins at **802**, and at **804**, the server computing device receives a code that is generated based upon an image of an iris of a first user. The image of the iris of the first user is captured by an iris scanning device, where a second user is responsible for the iris scanning device. At **806**, the server computing device executes a search over a plurality of

codes. The plurality of codes are generated based upon images of irises of a plurality of users. At **808**, the server computing device determines whether the code is included in the plurality of codes based upon search results for the search. At **810**, upon negative determination (i.e., the code is not included in the plurality of codes), the server computing device causes cryptocurrency to be transferred to a first cryptocurrency wallet of the first user and a second cryptocurrency wallet of the second user (e.g., a first amount of cryptocurrency is transferred to the first cryptocurrency wallet and a second amount of cryptocurrency is transferred to the second cryptocurrency wallet). At **812**, subsequent to transferring the cryptocurrency, the server computing device adds the code to the plurality of codes. At **814**, upon positive determination (e.g., the code is included in the plurality of codes), the server computing device outputs an error message. The methodology **800** concludes at **816**.

[0070] Turning now to FIG. **9**, a methodology **900** performed by an iris scanning device that facilitates distributing cryptocurrency is illustrated. The methodology **900** begins at **902**, and at **904**, the iris scanning device captures an image of a two-dimensional barcode displayed on a display of a computing device of a first user, where the two-dimensional barcode is indicative of an address of a cryptocurrency wallet of the first user. The first user is responsible for the iris scanning device. At **906**, the iris scanning device decodes the two-dimensional barcode into data that is indicative of the address of the cryptocurrency wallet of the first user. At **908**, the iris scanning device transmits the data to a computing system. At **910**, the iris scanning device captures an image of an iris of a second user. At **912**, the iris scanning device generates a code based upon the image of the iris of the second user. At **914**, the iris scanning device transmits the code to a computing system. The computing system determines whether the code is included in a plurality of codes stored in a data store. Upon negative determination, the computing system causes an amount of cryptocurrency to be transferred to a cryptocurrency wallet of the first user based upon the image of two-dimensional barcode. Upon positive determination, the computing system outputs an error message. The methodology **900** concludes at **916**.

[0071] Referring now to FIG. **10**, a high-level illustration of an exemplary computing device **1000** that can be used in accordance with the systems and methodologies disclosed herein is illustrated. For instance, the computing device **1000** may be used in a system that distributes cryptocurrency. By way of another example, the computing device **1000** can be used in a system that displays a GUI that facilitates distribution of cryptocurrency. The computing device **1000** includes at least one processor **1002** that executes instructions that are stored in a memory **1004**. The instructions may be, for instance, instructions for implementing functionality described as being carried out by one or more components discussed above or instructions for implementing one or more of the methods described above. The processor **1002** may access the memory **1004** by way of a system bus **1006**. In addition to storing executable instructions, the memory **1004** may also store images of irises, images of two-dimensional barcodes, public and private keys associated with cryptocurrency, codes derived from images of irises, etc.

[0072] The computing device **1000** additionally includes a data store **1008** that is accessible by the processor **1002** by way of the system bus **1006**. The data store **1008** may include executable instructions, images of irises, images of two-dimensional barcodes, public and private keys associated with cryptocurrency, codes derived from images of irises, etc. The computing device **1000** also includes an input interface **1010** that allows external devices to communicate with the computing device **1000**. For instance, the input interface **1010** may be used to receive instructions from an external computer device, from a user, etc. The computing device **1000** also includes an output interface **1012** that interfaces the computing device **1000** with one or more external devices. For example, the computing device **1000** may display text, images, etc. by way of the output interface **1012**.

[0073] It is contemplated that the external devices that communicate with the computing device **1000** via the input interface **1010** and the output interface **1012** can be included in an environment that provides substantially any type of user interface with which a user can interact. Examples of user interface types include graphical user interfaces, natural user interfaces, and so forth. For instance, a graphical user interface may accept input from a user employing input device(s) such as a keyboard, mouse, remote control, or the like and provide output on an output device such as a display. Further, a natural user interface may enable a user to interact with the computing device **1000** in a manner free from constraints imposed by input devices such as keyboards, mice, remote controls, and the like. Rather, a natural user interface can rely on speech recognition, touch and stylus recognition, gesture recognition both on screen and adjacent to the screen, air gestures, head and eye tracking, voice and speech, vision, touch, gestures, machine intelligence, and so forth.

[0074] Additionally, while illustrated as a single system, it is to be understood that the computing device **1000** may be a distributed system. Thus, for instance, several devices may be in communication by way of a network connection and may collectively perform tasks described as being performed by the computing device **1000**.

[0075] Various functions described herein can be implemented in hardware, software, or any combination thereof. If implemented in software, the functions can be stored on or transmitted over as one or more instructions or code on a computer-readable medium. Computer-readable media includes computer-readable storage media. A computer-readable storage media can be any available storage media that can be accessed by a computer. Such computer-readable storage media can include 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 magnetic storage devices, or any other medium that can be used to store desired program code in the form of instructions or data structures and that can be accessed by a computer. Disk and disc, as used herein, include compact disc (CD), laser disc, optical disc, digital versatile disc (DVD), floppy disk, and blu-ray disc (BD), where disks usually reproduce data magnetically and discs usually reproduce data optically with lasers. Further, a propagated signal is not included within the scope of computer-readable storage media. Computer-readable media also includes communication media including any medium that facilitates transfer of a computer program from one place to another. A connection can be a communication medium. For example, if the software is transmitted from a

website, server, or other remote source using a coaxial cable, fiber optic cable, twisted pair, digital subscriber line (DSL), or wireless technologies such as infrared, radio, and microwave, then the coaxial cable, fiber optic cable, twisted pair, DSL, or wireless technologies such as infrared, radio and microwave are included in the definition of communication medium. Combinations of the above should also be included within the scope of computer-readable media.

[0076] Alternatively, or in addition, the functionally described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Application-specific Integrated Circuits (ASICs), Application-specific Standard Products (ASSPs), System-on-a-chip systems (SOCs), Complex Programmable Logic Devices (CPLDs), etc.

[0077] What has been described above includes examples of one or more embodiments. It is, of course, not possible to describe every conceivable modification and alteration of the above devices or methodologies for purposes of describing the aforementioned aspects, but one of ordinary skill in the art can recognize that many further modifications and permutations of various aspects are possible. Accordingly, the described aspects are intended to embrace all such alterations, modifications, and variations that fall within the spirit and scope of the appended claims. Furthermore, to the extent that the term "includes" is used in either the detailed description or the claims, such term is intended to be inclusive in a manner similar to the term "comprising" as "comprising" is interpreted when employed as a transitional word in a claim.

What is claimed is:

1. An iris scanning device under control of a permitted operator, the iris scanning device comprising:

at least one camera that is configured to:

capture an image of a two-dimensional barcode displayed on a display of a computing device of the permitted operator, wherein the two-dimensional barcode represents an address of a cryptocurrency wallet of the permitted operator;

capture an image of an iris of a scanned user, wherein the scanned user and the permitted operator are different people and have different cryptocurrency wallets;

a processor; and

memory storing instructions that, when executed by the processor, cause the processor to perform acts comprising:

generating a code based upon the image of the iris of the scanned user; and

causing the code to be transmitted to a computing system over a network connection, wherein the computing system determines whether the code is included in a plurality of codes stored in a data store, wherein the computing system causes an amount of cryptocurrency to be transferred to the cryptocurrency wallet of the permitted operator based upon:

a determination that the code generated based upon the image of the iris of the scanned user is not included in the plurality of codes; and

the image of the two-dimensional barcode.

2. The iris scanning device of claim **1**, wherein the code is a hash of pixel values of the image of the iris of the scanned user.

3. The iris scanning device of claim **1**, wherein:

the at least one camera is further configured to capture an image of a second two-dimensional bar code, wherein the second two-dimensional barcode represents a second address of a second cryptocurrency wallet of the scanned user; and

the computing system further causes a second amount of cryptocurrency to be transferred to the second cryptocurrency wallet of the scanned user based upon:

the determination that the code generated based upon the image of the iris of the scanned user is not included in the plurality of codes; and

the image of the second two-dimensional barcode.

4. The iris scanning device of claim **1**, the acts further comprising:

determining that the scanned user is physically present in proximity of the iris scanning device prior to the image of the iris of the scanned user being captured by the iris scanning device.

5. The iris scanning device of claim **1**, wherein the image of the iris of the scanned user is temporarily stored in the memory and is removed from the memory responsive to generation of the code.

6. The iris scanning device of claim **1**, further comprising:

a geolocator that is configured to identify a geographic location in which the iris scanning device is present.

7. The iris scanning device of claim **1**, further comprising:

an indicator light configured to output a visual indication signifying whether the code generated based upon the image of the iris of the scanned user is or is not included in the plurality of codes.

8. The iris scanning device of claim **1**, further comprising:

a speaker configured to output an audible sound signifying whether the code generated based upon the image of the iris of the scanned user is or is not included in the plurality of codes.

9. The iris scanning device of claim **1**, wherein the at least one camera comprises:

a first camera configured to capture an image of a face of the scanned user; and

a second camera configured to capture the image of the iris of the scanned user, wherein the image of the face of the scanned user is used to align the second camera and the iris to enable the image of the iris of the scanned user to be captured by the second camera.

10. The iris scanning device of claim **1**, further comprising:

an illumination device configured to output light to illuminate the iris of the scanned user.

11. The iris scanning device of claim **1**, the acts further comprising:

decoding the two-dimensional barcode to obtain data indicative of the address of the cryptocurrency wallet of the permitted operator; and

causing the data indicative of the address of the cryptocurrency wallet of the permitted operator to be transmitted to the computing system over the network connection.

12. A method executed by a processor of an iris scanning device, comprising:

capturing an image of a two-dimensional barcode displayed on a display of a computing device of a permitted operator of the iris scanning device, wherein the two-dimensional barcode represents an address of a cryptocurrency wallet of the permitted operator;

capturing an image of an iris of a scanned user, wherein the scanned user and the permitted operator are different people and have different cryptocurrency wallets;

generating a code based upon the image of the iris of the scanned user; and

causing the code to be transmitted to a computing system over a network connection, wherein the computing system determines whether the code is included in a plurality of codes stored in a data store, wherein the computing system causes an amount of cryptocurrency to be transferred to the cryptocurrency wallet of the permitted operator based upon:

a determination that the code generated based upon the image of the iris of the scanned user is not included in the plurality of codes; and

the image of the two-dimensional barcode.

13. The method of claim **12**, wherein the code is a hash of pixel values of the image of the iris of the scanned user.

14. The method of claim **12**, further comprising:

determining that the scanned user is physically present in proximity of the iris scanning device prior to the image of the iris of the scanned user being captured by the iris scanning device.

15. The method of claim **12**, further comprising:

identifying a geographic location in which the iris scanning device is present.

16. The method of claim **12**, further comprising:

causing an indicator light of the iris scanning device to output a visual indication signifying whether the code generated based upon the image of the iris of the scanned user is or is not included in the plurality of codes.

17. The method of claim **12**, further comprising:

causing a speaker of the iris scanning device to output an audible sound signifying whether the code generated based upon the image of the iris of the scanned user is or is not included in the plurality of codes.

18. The method of claim **12**, further comprising:

capturing an image of a face of the scanned user;

aligning a camera of the iris scanning device and the iris of the scanned user to enable the image of the iris of the scanned user to be captured.

19. The method of claim **12**, further comprising:

decoding the two-dimensional barcode to obtain data indicative of the address of the cryptocurrency wallet of the permitted operator; and

causing the data indicative of the address of the cryptocurrency wallet of the permitted operator to be transmitted to the computing system over the network connection.

20. A computer-readable medium having stored thereon instructions that, when executed by the processor, cause the processor to perform acts comprising:

receiving an image of a two-dimensional barcode displayed on a display of a computing device of a permitted operator of a iris scanning device, the image of the two-dimensional barcode being captured via the iris scanning device, wherein the two-dimensional barcode represents an address of a cryptocurrency wallet of the permitted operator;

receiving an image of an iris of a scanned user captured via the iris scanning device, wherein the scanned user and the permitted operator are different people and have different cryptocurrency wallets;

generating a code based upon the image of the iris of the scanned user; and

causing the code to be transmitted to a computing system over a network connection, wherein the computing system determines whether the code is included in a plurality of codes stored in a data store, wherein the computing system causes an amount of cryptocurrency to be transferred to the cryptocurrency wallet of the permitted operator based upon:

a determination that the code generated based upon the image of the iris of the scanned user is not included in the plurality of codes; and

the image of the two-dimensional barcode.

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