Handling Encoded Information

Field of the Invention

The invention relates to the handling of encoded information.

Background to the Invention

Identity cloning is an increasingly common phenomenon. Fraudsters use a wide variety of mechanisms to in order to illegally elicit personal information such as usernames, passwords, dates of birth and addresses with a view to cloning identities. One such mechanism is where a fraudster provides a spoof (or clone) of a website, which to an unsuspecting user appears identical to the original. Believing that the website is the original, the user provides personal information, such as login details or credit card details, which are recorded by the fraudster. A more sophisticated approach is a **"**man-in-the-middle attack**"** in which a fraudster provides the clone website and records the personal information, but also passes the personal information to the real website, which logs the user in as normal. In this way, the user does not notice anything different and the fraudster is able to obtain the personal information without alerting the user. This invention was made with a view to preventing these and other similar types of fraudulent activity.

Summary of the Invention

According to a first aspect, this specification describes a method ~~comprising a device obtaining an encoded information item, decoding the encoded information from the encoded information item, and transmitting a first message to first server apparatus, the first message including the decoded information and a first identifier identifying the device or a user of the device; and the first server apparatus receiving the first message from the device, using the first identifier to establish the identity of the user of the device, and in response to establishing the identity of the user, performing an action based on the decoded information~~comprising:

a portable device:

obtaining a graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign;

decoding the encoded information from the encoded information item; and

transmitting a first message to first server apparatus, the first message including the decoded information and a first identifier identifying the device or a user of the device, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus,

the first server apparatus:

receiving the first message from the device;

establishing the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus;

in response to establishing the identity of the user, authorising the user to access a service; and:

using the apparatus identification information item to transmit a signal to the electronic apparatus, and

the electronic apparatus providing the service to the user.

According to a second aspect, this specification describes a method comprising:

a portable device:

obtaining a graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign; and

transmitting a first message to first server apparatus, the first message including the encoded information item and a first identifier identifying the device or a user of the device,

the first server apparatus:

receiving the first message from the device;

decoding the encoded information from the encoded information item, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus;

establishing the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus; and

in response to establishing the identity of the user, authorising the user to access a service; and:

using the apparatus identification information item to transmit a signal to the electronic apparatus, and

the electronic apparatus providing the service to the user ~~comprising a device obtaining an encoded information item, and transmitting a first message to first server apparatus, the first message including the encoded information item and a first identifier identifying the device or a user of the device, and the first server apparatus receiving the first message from the device, decoding the encoded information from the encoded information item, using the first identifier to establish the identity of the user of the device, and in response to establishing the identity of the user, performing an action based on the decoded information~~.

In the method of either aspect, the decoded information may comprise a verification information item, and the method may further comprise the first server apparatus:

comparing the verification information item with a reference verification item;

if there is identity between the verification information item and the reference verification item, providing the service to the user via the electronic apparatus using the apparatus identification information item; and

if there is not identity between the verification information item and the reference verification item aborting the method prior to providing the service to the user via the electronic apparatus using the apparatus identification information item.

In the method of the first aspect, the encoded information may comprise a third identifier, the third identifier identifying the first server apparatus, and the first message may be transmitted to the first server apparatus based on the third identifier.

The method of either aspect may comprise:

the portable device:

prior to transmitting the first message, receiving a user input;

comparing the received user input to a stored reference input; and

transmitting the first message, when it is determined that there is identity between the received user input and the stored reference user input.

In the method of either aspect, establishing the identity of the user of the device may comprise:

initiating a communication channel with the device based on the first identifier;

receiving user-provided information from the device via the communication channel;

comparing the received user-provided information with stored reference user-provided information; and

verifying, and thereby establishing, the identity of the user when it is determined that there is identity between the received user-provided information and the reference user-provided information.

~~Preferably, the decoded information comprises a verification information item, the method further comprising the first server apparatus: comparing the verification information item with a reference verification item; if there is identity between the verification information item and the reference verification item, performing the action based on the decoded information; and if there is not identity between the verification information item and the reference verification item aborting the method before prior to performing the action based on the decoded information.~~

Preferably, the decoded information includes an apparatus identification information item for allowing identification of computing apparatus on, by, or near to which the encoded information object is provided.

Preferably, performing the action comprises sending a signal to the computing apparatus based on the apparatus identification information item.

Preferably, performing the action also comprises allowing the user to access a service, and the signal comprises an indication that the user is allowed access to the service.

Preferably, the encoded information comprises a second identifier, the second identifier identifying second server apparatus and wherein performing an action based on the decoded information comprises sending a second message to the second server, the second message including authorisation information relating to the identified user.

Preferably, the decoded information includes an apparatus identification information item for allowing identification of computing apparatus on, by, or near to which the encoded information object is provided and wherein the second message includes the apparatus identification information item, the method further comprising the second server apparatus: responding to receipt of the second message by sending a signal to the computing apparatus based on the apparatus identification information item.

Preferably, the method comprises the second server apparatus: responding to receipt of the second message by allowing the user to access a service, and wherein the signal comprises an indication that the user is allowed access to the service.

~~Preferably, the encoded information comprises a third identifier, the third identifier identifying the first server apparatus, and wherein the first message is transmitted to the first server apparatus based on the third identifier.~~

~~Preferably, the method comprises: the device: prior to transmitting the first message, receiving a user input; comparing the received user input to a stored reference input; and transmitting the first message, when it is determined that there is identity between the received user input and the stored reference user input.~~

~~Preferably, establishing the identity of the user of the device comprises: initiating a communication channel with the device based on the first identifier; receiving a user-provided information from the device via the communication channel; comparing the received user-provided information with stored reference user-provided information; and verifying, and thereby establishing, the identity of the user when it is determined that there is identity between the received user-provided information and the reference user-provided information.~~

According to a third aspect, this specification describes a system comprising:

a portable device configured:

to obtain an graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign;

to decode the encoded information from the encoded information item; and

to transmit a first message to first server apparatus, the first message including the decoded information and a first identifier identifying the device or a user of the device, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus.

first server apparatus configured:

to receive the first message from the device;

to establish the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus;

in response to establishing the identity of the user, to authorise the user to access a service; and

to use the apparatus identification information item to transmit a signal to the electronic apparatus, and

electronic apparatus configured to provide the service to the user~~a device configured to obtain an encoded information item, to decode the encoded information from the encoded information item, and to transmit a first message to first server apparatus, the first message including the decoded information and a first identifier identifying the device or a user of the device, and first server apparatus configured to receive the first message from the device, to use the first identifier to establish the identity of the user of the device, and in response to establishing the identity of the user, to perform an action based on the decoded information~~.

According a fourth aspect, this specification describes a system comprising:

~~a device configured to obtain an encoded information item, and to transmit a first message to first server apparatus, the first message including the encoded information item and a first identifier identifying the device or a user of the device, and first server apparatus configured to receive the first message from the device, to decode the encoded information from the encoded information item, to use the first identifier to establish the identity of the user of the device, and in response to establishing the identity of the user, to perform an action based on the decoded information~~a portable device configured:

to obtain a graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign; and

to transmit a first message to first server apparatus, the first message including the encoded information item and a first identifier identifying the device or a user of the device,

first server apparatus configured:

to receive the first message from the device;

to decode the encoded information from the encoded information item, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus;

to establish the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus;

in response to establishing the identity of the user, to authorise the user to access a service; and

to use the apparatus identification information item to transmit a signal to the electronic apparatus, and

electronic apparatus configured to provide the service to the user.

In either of the above systems, the decoded information may comprise a verification information item, and the first server apparatus may be configured:

to compare the verification information item with a reference verification item;

if there is identity between the verification information item and the reference verification item, to provide the service to the user via the electronic apparatus using the apparatus identification information item; and

if there is not identity between the verification information item and the reference verification item, to abort the method before prior to providing service to the user via the electronic apparatus using the apparatus identification information item.

In the system of the fourth aspect, the encoded information may comprise a third identifier, the third identifier identifying the first server apparatus, and the device may be configured to transmit the first message to the first server apparatus based on the third identifier.

In any of the above systems, the device may be configured:

prior to transmitting the first message, to receive a user input;

to compare the received user input to a stored reference input; and

to transmit the first message, when it is determined that there is identity between the received user input and the stored reference user input.

In any of the above systems, the first server apparatus may be configured to establish the identity of the user of the device by being configured:

to initiate a communication channel with the device based on the first identifier;

to receive a user-provided information from the device via the communication channel;

to compare the received user-provided information with stored reference user-provided information; and

to verify, and thereby to establish, the identity of the user when it is determined that there is identity between the received user-provided information and the reference user-provided information. ~~Preferably, the decoded information comprises a verification information item, the first server apparatus being configured: to compare the verification information item with a reference verification item; if there is identity between the verification information item and the reference verification item, to perform the action based on the decoded information; and if there is not identity between the verification information item and the reference verification item, to abort the method before prior to performing the action based on the decoded information.~~

~~Preferably, the decoded information includes an apparatus identification information item for allowing identification of computing apparatus on, by, or near to which the encoded information object is provided.~~

~~Preferably, the system being configured to perform the action comprises being configured to send a signal to the computing apparatus based on the apparatus identification information item.~~

~~Preferably, the system being configured to perform the action also comprises being configured to allow the user to access a service, and wherein the signal comprises an indication that the user is allowed access to the service.~~

~~Preferably, the encoded information comprises a second identifier, the second identifier identifying second server apparatus and wherein being configured to perform an action based on the decoded information comprise being configured to send a second message to the second server, the second message including authorisation information relating to the identified user.~~

~~Preferably, the decoded information includes an apparatus identification information item for allowing identification of computing apparatus on, by, or near to which the encoded information object is provided and wherein the second message includes the apparatus identification information item, the method further comprising the second server apparatus: responding to receipt of the second message by sending a signal to the computing apparatus based on the apparatus identification information item.~~

~~Preferably, the decoded information includes an apparatus identification information item for allowing identification of computing apparatus on, by, or near to which the encoded information object is provided.~~

~~Preferably, the system being configured to perform the action comprises being configured to send a signal to the computing apparatus based on the apparatus identification information item.~~

~~Preferably, the system being configured to perform the action also comprises being configured to allow the user to access a service, and wherein the signal comprises an indication that the user is allowed access to the service.~~

~~Preferably, the encoded information comprises a second identifier, the second identifier identifying second server apparatus and wherein being configured to~~

perform an action based on the decoded information comprise being configured to send a second message to the second server, the second message including authorisation information relating to the identified user.

Preferably, the decoded information includes an apparatus identification information item for allowing identification of computing apparatus on, by, or near to which the encoded information object is provided and wherein the second message includes the apparatus identification information item, the method further comprising the second server apparatus: responding to receipt of the second message by sending a signal to the computing apparatus based on the apparatus identification information item.

Preferably, the system comprising the second server apparatus, the second server apparatus being configured to: respond to receipt of the second message by allowing the user to access a service, and wherein the signal comprises an indication that the user is allowed access to the service.

Preferably, the encoded information comprises a third identifier, the third identifier identifying the first server apparatus, and wherein the device is configured to transmit the first message to the first server apparatus based on the third identifier.

Preferably, the device is configured: prior to transmitting the first message, to receive a user input; to compare the received user input to a stored reference input; and to transmit the first message, when it is determined that there is identity between the received user input and the stored reference user input.

Preferably, the first server apparatus being configured to establish the identity of the user of the device comprises being configured: to initiate a communication channel with the device based on the first identifier; to receive a user-provided information from the device via the communication channel; to compare the received user-provided information with stored reference user-provided information; and to verify, and thereby to establish, the identity of the user when it is determined that

~~there is identity between the received user-provided information Jo and the reference user-provided information.~~

~~The device and the first server apparatus may be configured as described above by way of one or more processors operating under control of computer-readable code, optionally stored on one or more memory. The one or more memory may comprise one or more non-transitory memory media.~~

According to a fifth aspect, this specification describes computer-readable code, option stored on a non-transitory memory medium, which when executed by computing apparatus, causes the computing apparatus to perform the methods of either of the first and second aspects to be performed.

Brief Description of the Figures

For a more complete understanding of example embodiments of the present invention, reference is now made to the following description taken in connection with the accompanying drawings in which:

Figure 1 is a schematic illustration of a system in which embodiments of the invention can be implemented;

Figure 2 is a schematic illustration of a method according to embodiments outside the scope of the claims~~of the invention~~; and

Figure 3 is a schematic diagram illustration of a system and methods according to alternative embodiments~~ of the invention~~.

Detailed Description of Embodiments of the Invention

In the drawings and the following description, like reference numerals refer to like elements.

Figure 1 is a schematic illustration of a system in which embodiments of the invention can be implemented.

The system 1 comprises computing apparatus 10, a mobile device 12, a first server apparatus 14 and a second server apparatus 16. The first and second server apparatuses 14, 16 may be located in "the cloud".

5 The mobile device 12 is operable to communicate wirelessly with the first server apparatus 14. Wireless communication with the first server apparatus is carried out

mouse, a touch pad, or a keyboard via which a user input can be received. The computing apparatus 10 comprises a controller 100 and one or more memory 102. The controller 100 comprises at least one processor 100A. The controller 100 may also comprise at least one application specific integrated circuit (ASIC) not shown. The at least one memory 102 may comprise any suitable type of fixed or removable memory medium, such as but not limited to ROM, RAM or EEPROM. The at least one memory 100 has stored thereon computer-readable instructions 102A. The controller 100 is operable to read the computer-readable instructions 102A and to operate under their control. The controller 100 is operable under the control of the computer-readable code to control the other components, such as the display 104 and the transceiver 106.

Figure 2 is a schematic illustration of a method according to a first embodiment that is outside the scope of the claims~~of the invention~~.

In step S2-1, the second server apparatus 16, which is in this example a web server, provides the computing apparatus 10 with information. In this example, the information is web page information. The provision of the web page information may be in response to a request received from the computing apparatus 10 following receipt at the computing apparatus 10 of a user input.

In step S2-2, the computing apparatus receives and displays the web page information. In this example, the webpage information comprises a "Login" page 110. The "Login" page 110 contains fields into which a user is able to provide details, in this example a username and password. The second server apparatus 16 is operable to verify these details and subsequently to allow the user to access services and content provided within the web page.

The web page comprises an encoded information item 112 which contains encoded information. In this example, the encoded information item 112 is a graphical object (GO) (which is depicted in the Figures as a "quick response" (QR) code). It will be appreciated that various other types of graphical object may instead be used. Examples of such are barcodes, fractal patterns and moving images.

the steps may be conducted using messages, such as instant messages, sent using internet protocol.

Figure 3 depicts an alternate system ~~in which the invention can be implemented and illustrates a method according to the invention~~that is outside the scope of the claims.

The example of Figure 3 is similar to that of Figures 1 and 2, but differs in that it does not include the second server apparatus 16. Thus, the system comprises the computing apparatus 10, the mobile device 12 and the first server apparatus 14.

In the system 3 of Figure 3, the first server apparatus 14 is a web server and thus is operable to provide web page information to the computing apparatus 10 to display for consumption by the user.

A method ~~according to the invention~~ will now be described with reference to Figure 3.

In step S3-1, the first server apparatus 14 provides the computing apparatus 10 with web page information. The provision of the web page information may be in response to a request received from the computing apparatus 10 following receipt at the computing apparatus 10 of a user input.

In step S3-2, the computing apparatus 10 receives and displays the web page information. In this example, the web page information comprises a "Login" page 110. The "Login" page 110 is as described with reference to Figure 2 and comprises the encoded information item 312, which is in this example is a graphical object (GO), in particular a "quick response" (QR) code.

The GO 312 comprises a GO address information item. The GO address information item comprises an address of the computer apparatus 10 on or by

which the GO 312 is displayed. The GO address information item may comprise a code, for example a numeric code or an alpha-numeric code, which identifies a

with reference to Figures 2 and 3, the GO 112, 312 is used instead of a username and password to log the user into the web page, it will be understood the GO 112, 312 could be used in conjunction with a conventional login procedure using the username and password fields. This adds an extra layer of security both for the web server and the user.

It will be understood that the invention may be implemented within systems other ~~that~~ than those described above. Such implementations are described in brief below. Although these are described briefly, it will be understood that the operations may be substantially the same as those described above and may include the some or all of the same steps and features.

According to one ~~alternative~~ embodiment, the invention can be implemented in a building security system. In such an embodiment, the computing apparatus 10 may comprise an electronic door lock. The encoded information item 112, 312, such as a GO as described above, may be displayed on a sign geographically proximate to the electronic door lock. ~~Alternatively~~In embodiments outside the scope of the claims, the GO 112, 312 may be provided on an electronic display geographically proximate to the electronic door lock. In such embodiments, the encoded information item may be periodically updated following receipt of signals from the first server apparatus 14 (or from the second server apparatus 16 if the system is as shown in Figure 2). The GO 112, 312 includes a GO address information allowing the electronic door look to be identified. The encoded information item 112, 312 may also include an FSID information item as described above. Upon approaching the door, a user uses their mobile device 12 to obtain and decode the encoded information item 112, 312. Subsequently, optionally following the successful provision of security information by the user to the mobile device, a first message 214, 314 (including the GO address information object and the UID or DID information item) is sent to the first server apparatus 14. In this example, the first message 214, 314 comprises an "entry request". In response to receiving the entry request 214, 314, the first server apparatus 14 establishes the identity of the user using the UID or DID information item. Next, if the system does not comprise the

second server apparatus, the first server apparatus 14 transmits a signal to the electronic door lock (using the GO address information item) authorising the electronic door look to open and thereby to allow the user to pass through the door. Alternatively, if the system does comprise the second server apparatus 16, the first server apparatus 14 transmits the second message 216 (including authorisation information indicating that the user is authorised to enter the door) to the second server apparatus 16 which responds by transmitting a signal to the electronic door lock (using the GO address information item), authorising the electronic door lock to open.

According to another alternative embodiment outside the scope of the claims, ~~the invention may be implemented within~~ there is an ATM system. In this embodiment, the computing apparatus 10 is an ATM. The user requests withdrawal of an amount of money from the ATM. In response to this the ATM produces and displays an encoded information item 112, 312, in this example a GO. The GO 112, 312 comprises a GO address information item to allow the ATM to be identified and information indicating the withdrawal amount. The GO 112 may also comprise a SSID information item. Following provision of security information, such as a pin etc., to the mobile device 12 by the user, the application of the mobile device 12 transmits the first message 214 (a withdrawal request) to the first server apparatus 14. The withdrawal request 214 includes the GO address information item, the UID or DID information item identifying the device or the user, the withdrawal amount information and if applicable the SSID information item. The identity of the user is established by the first server apparatus 14 using the UID or DID information item, and in response to establishing the identity of the user, the first server apparatus 14, which in this example is associated with the a banking establishment, authorises the withdrawal and debits the user's account by the amount indicated by the withdrawal amount information. Next, if the system does not comprise the second server apparatus 16, the first server apparatus 14 transmits (using the GO address information item) a signal to the ATM authorising the ATM to dispense the requested amount. Alternatively, if the system does comprise the second server apparatus 16, the first server apparatus 14 transmits (using the SSID information

item) the second message 216 to the second server apparatus 16 (which may be associated with a banking establishment that owns the ATM, if this is not the same as the user's banking establishment) which responds transmits the signal (using the GO address information item) to the ATM authorising the ATM to dispense the requested amount.

According to another alternative embodiment outside the scope of the claims, ~~the invention can be implemented in~~ there is a self-service shopping environment. In such an embodiment, an encoded information item 112, in this example a GO, may be provided on a smart tag of a product for sale. The user obtains the GO 112 using their mobile device 14. In this embodiment, the GO 112, 312 contains the GO address information item for allowing the smart tag to be identified (as described above) and a price of the product. The GO 112, 312 may also comprise an information item identifying (or allowing identification by the application of) a banking establishment to which the monies are to be paid. Optionally following provision by the user of security information to the mobile device 12, the application of the mobile device transmits the first message 214 (a purchase request) which includes the GO address information item, the UID or DID information item and the price information to the first server apparatus. The identity of the user is then established by the first server apparatus 14 using the UID or DID and in response to establishing the identity of the user, the first server apparatus 14 authorises payment for an amount identified by the price information. Next, the first server apparatus 14 transmits the second message 216 to the second server apparatus 16, which may be an in-store security system. The second message 216 comprises the GO address information item and authorisation information indicating that the product has been paid for. In response to receiving the second message 216, the second server apparatus uses the GO address information item to transmit a signal to the smart tag thereby to disable it, such that an alarm is not activated when the user attempts to leave the shop).

Although in the above embodiments the encoded information item 112, 312 has been described as a graphical object, it will be understood that this may instead be a

different type of encoded information item. ~~These may include, for example, an encoded audible information item, which may be emitted by the computing apparatus 10 and recorded and decoded by the mobile device 12. Other types of encoded information item include encoded radio frequency (RF) information items.~~

In some embodiments, the encoded information item 112, 312 may comprise a sequence of numbers, letters or symbols. In such embodiments, the device 12 may obtain the encoded information item as a result of the user manually typing the sequence into the device using the user interface 126. In other alternative embodiments, the encoded information item may be obtained via a wired connection between the device 12 and the computing apparatus 10.

In some embodiments, the encoded information item 112, 312 may be changed periodically, for example, by updating the verification item. In such embodiments, when the verification item is not created by the same entity that is responsible for checking it, the verification item is transmitted to the checking entity each time it is updated.

In the embodiments described above, the encoded information object 312, 112 is decoded by the device prior to sending the first message 214 to the first server apparatus 14. However, in alternative embodiments the encoded information item 112, 312 may be transmitted in the first message 214 for decoding by the first server apparatus 14. In such embodiments, the device 12 has pre-stored the address of the first server apparatus. The application may be configured to send the first message 214 to that address when each time encoded information item 112, 312 is obtained. Alternatively, the user may select the address to which the first message 214 is to be sent from a plurality of addresses stored in the device 12. In these embodiments in which the first message includes the encoded information item, it will be appreciated that, where the encoded information item includes a verification item, this will be verified by the first server apparatus 14 and not by the device 12.

In Figures 2 and 3, the mobile device 12 is depicted as a mobile telephone. However, it will be appreciated that it may be any other type of device comprising obtaining means 124 for obtaining an encoded information item in one or more of the aforementioned manners. The obtaining means 124 may comprise, for example, a physical interface for receiving from the computing apparatus 10 an encoded information item in the form of a computer-readable electrical signal, an RF

Claims

1. A method comprising:

a portable device:

obtaining a graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign ~~geographically proximate to the electronic apparatus~~;

decoding the encoded information from the encoded information item; and

transmitting a first message to first server apparatus, the first message including the decoded information and a first identifier identifying the device or a user of the device, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus,

the first server apparatus:

receiving the first message from the device;

establishing the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus;

in response to establishing the identity of the user, authorising the user to access a service; and:

using the apparatus identification information item to transmit a signal to the ~~computing~~ electronic apparatus, and

the ~~computing~~ electronic apparatus providing the service to the user.

2. A method comprising:

a portable device:

obtaining a graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign ~~geographically proximate to the electronic apparatus~~; and

transmitting a first message to first server apparatus, the first message including the encoded information item and a first identifier identifying the device or a user of the device~~,; and~~

the first server apparatus:

receiving the first message from the device;

decoding the encoded information from the encoded information item, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus;

establishing the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus; and

in response to establishing the identity of the user, authorising the user to access a service; and:

using the apparatus identification information item to transmit a signal to the electronic ~~computing~~ apparatus, and

the electronic ~~computing~~ apparatus providing the service to the user.

3. The method of claim 1 or claim 2, wherein the decoded information comprises a verification information item, the method further comprising the first server apparatus:

comparing the verification information item with a reference verification item;

if there is identity between the verification information item and the reference verification item, providing the service to the user via the ~~computing~~electronic apparatus using the apparatus identification information item; and

if there is not identity between the verification information item and the reference verification item aborting the method prior to providing the service to the user via the ~~computing~~electronic apparatus using the apparatus identification information item.

4. The method of any of claims 1 or claim 3, when dependent on claim 1, wherein the encoded information comprises a third identifier, the third identifier identifying the first server apparatus, and wherein the first message is transmitted to the first server apparatus based on the third identifier.

5. The method of any preceding claim, comprising:

the portable device:

prior to transmitting the first message, receiving a user input;

comparing the received user input to a stored reference input; and

transmitting the first message, when it is determined that there is identity between the received user input and the stored reference user input.

6. The method of any preceding claim, wherein establishing the identity of the user of the device comprises:

initiating a communication channel with the device based on the first identifier;

receiving user-provided information from the device via the communication channel;

comparing the received user-provided information with stored reference user-provided information; and

verifying, and thereby establishing, the identity of the user when it is determined that there is identity between the received user-provided information and the reference user-provided information.

7. A system comprising:

a portable device configured:

to obtain an graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign ~~geographically proximate to the electronic apparatus~~;

to decode the encoded information from the encoded information item; and

to transmit a first message to first server apparatus, the first message including the decoded information and a first identifier identifying the device or a user of the device, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus.

first server apparatus configured:

to receive the first message from the device;

to establish the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus; ~~and~~

in response to establishing the identity of the user, to authorise the user to access a service; and

to use the apparatus identification information item to transmit a signal to the <u>electronic</u> ~~computing~~ apparatus, and

<u>electronic</u> ~~computing~~ apparatus configured to provide the service to the user.

8. A system comprising:

a portable device configured:

to obtain a graphical encoded information item which is displayed on a display of a computing apparatus, wherein the computing apparatus comprises the display and an electronic apparatus, and wherein the display is a sign ~~geographically proximate to the electronic apparatus~~; and

to transmit a first message to first server apparatus, the first message including the encoded information item and a first identifier identifying the device or a user of the device,

first server apparatus configured:

to receive the first message from the device;

to decode the encoded information from the encoded information item, wherein the decoded information includes an apparatus identification information item for allowing identification of the computing apparatus;

to establish the identity of the user of the device, wherein establishing the identity of the user comprises using the first identifier to determine if the user is registered with the first server apparatus; ~~and~~

in response to establishing the identity of the user, to authorise the user to access a service; and

to use the apparatus identification information item to transmit a signal to the electronic ~~computing~~ apparatus, and

electronic ~~computing~~ apparatus configured to provide the service to the user.

9. The system of claim 7 or claim 8, wherein the decoded information comprises a verification information item, the first server apparatus being configured:

to compare the verification information item with a reference verification item;

if there is identity between the verification information item and the reference verification item, to provide the service to the user via the ~~computing~~electronic apparatus using the apparatus identification information item; and

if there is not identity between the verification information item and the reference verification item, to abort the method before prior to providing service to the user via the electronic ~~computing~~ apparatus using the apparatus identification information item.

10. The system of claim 7 or of claim 9 when dependent on claim 7, wherein the encoded information comprises a third identifier, the third identifier identifying the first server apparatus, and wherein the device is configured to transmit the first message to the first server apparatus based on the third identifier.

11. The system of any of claims 7 to 10, wherein the device is configured:

prior to transmitting the first message, to receive a user input;

to compare the received user input to a stored reference input; and

to transmit the first message, when it is determined that there is identity between the received user input and the stored reference user input.

12. The system of any of claims 7 to 11, wherein the first server apparatus being configured to establish the identity of the user of the device comprises being configured:

to initiate a communication channel with the device based on the first identifier;

to receive a user-provided information from the device via the communication channel;

to compare the received user-provided information with stored reference user-provided information; and

to verify, and thereby to establish, the identity of the user when it is determined that there is identity between the received user-provided information and the reference user-provided information.

13. Computer-readable code, which when executed by a system comprising a portable device, first server apparatus and computing apparatus, causes the system to perform the method of any of claims 1 to 7.