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(54) Title: A METHOD AND SYSTEM FOR STORING AND COMMUNICATING PERSONAL DATA

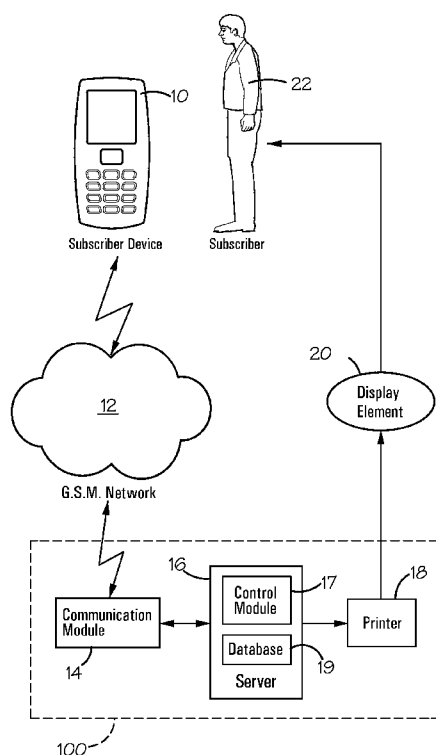


FIG 1

(57) Abstract: The invention provides a method of providing personal data. The method includes providing a system, including a system database, and, for each of a plurality of subscribers, storing personal data, including data relevant to treatment of the subscriber in an emergency situation, in the system database in association with an identifier of the subscriber. It includes further providing the subscriber with display elements each displaying his identifier and a contact number of the system. It further includes, upon receiving from a remote data request device, communicating to the contact number, an output data request message including any one of the identifiers, sending to the remote data request device an output data message including the personal data associated with the identifier. The invention extends also to a system providing for the above method to be performed and to a method of obtaining personal data from such a system.



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5 **A METHOD AND SYSTEM FOR STORING AND
 COMMUNICATING PERSONAL DATA**

10 **FIELD OF INVENTION**

This invention relates to communicating data in an emergency situation, and specifically to a method and system for storing personal data and communicating the data in an emergency situation.

15 **BACKGROUND OF INVENTION**

Medical data, as used herein, refers to data of a person relevant to treatment of the person in an emergency situation. It may include any of medical aid details, medical conditions, medical history, allergies, etc.

The inventor is aware that when medical personnel arrive at the scene of an emergency, for example a traffic accident involving injury, they are often unable to obtain a victim's medical data required by them to provide the victim with appropriate medical treatment. The inventor believes that if this medical data could be easily obtained by medical personnel in emergency situations, they could provide the victim with better medical treatment.

The Inventor thus desires a method and system for providing medical data in an emergency situation.

SUMMARY OF INVENTION

According to a first aspect of the invention there is provided a method of providing personal data, including data relevant to treatment of persons in emergency situations, the method including:

- 5 providing a system including a system database;
 - for each of a plurality of subscribers, receiving in the system personal data, including data relevant to treatment of the subscriber in an emergency situation, and registering the subscriber in the system database by storing the
 - 10 personal data in the system database in association with an identifier assigned to the subscriber;
 - providing the subscriber with at least one display element displaying his identifier and a contact number of the system;
 - receiving from a remote data request device, communicating to the
 - 15 contact number, an output data request message including any one of the identifiers; and
 - responding to the output data request message by retrieving from the system database the personal data stored in association with the identifier and sending to the remote data request device an output data message
 - 20 including the personal data.

The remote data request device may be a mobile telephone.

25 The personal data may include any of a name, an ID number, medical aid details, medical history, and next-of-kin details.

The method may include receiving an initiation message from a remote communication device, further referred to as 'the subscriber device'. The subscriber device may be a mobile telephone.

30

The method may include sending an input data request message in response to receiving the initiation message, the input data request message requesting personal data, including medical data, to be submitted. The sending of the input data request message may be to the subscriber device.

The input data request message may include prompts for specific personal data of a subscriber, for example a name, an ID number, medical aid details, next-of-kin details, and the like. For example, if the subscriber device includes
5 a display, the input data request message may be displayed on the subscriber device. The input data request message may include the identifier assigned to the subscriber.

The receiving of personal data from the subscriber may be by way of an input
10 data message received from the subscriber device of the subscriber. The input data message may be sent from the subscriber device in response to receiving the input data request message. The input data message may include the identifier included in the input data request message.

15 Alternatively, the receiving of personal data may be via an Internet-based website or via a call centre.

The method may include prompting the subscriber to verify the personal data contained in the input data message. The subscription process may be
20 finalised once the subscriber verifies the personal data.

The method may include sending a subscription verification message to the subscriber.

25 Any of the messages in the method may be sent by way of a known protocol, for example any one of WAP (Wireless Application Protocol), SMS (Short Message Service), USSD (Unstructured Supplementary Service Data), e-mail, Internet-based communication or the like.

30 The at least one display element may include a tag. The tag may be a sticker securable to a motor vehicle. Alternatively or additionally, the tag may be securable to an item of clothing (for example a shoe).

The at least one display element may include a bracelet.

Each display element may have printed thereon the identifier of a particular subscriber and the contact number of the system.

- 5 In the case of the personal data including a next-of-kin contact number, the method may include sending, in response to the output data request message, to the next-of-kin contact number a notification message notifying the recipient of the request message and thus of an emergency involving the subscriber. A recipient of such a message is thus notified that there is an
10 emergency involving the subscriber. The notification message may include the contact number of the remote data request device.

According to a second aspect of the invention there is provided a method of obtaining personal data, including data relevant to treatment of persons in
15 emergency situations, from a system database, the method including:

transmitting from a data request device an output data request message to a contact number of a system, the system including a system database having stored therein, for each of a plurality of subscribers, personal data, including data of the subscriber relevant to treatment of the subscriber in
20 an emergency situation, in association with an identifier of the subscriber, the output data request message including one of the identifiers; and

receiving on the data request device an output data message from the system, the message including the personal data stored in association with the identifier.

25

In the method of the second aspect of the invention, the communication device may be a mobile telephone.

Still in the method of the second aspect of the invention, either message may
30 be sent by way of a known protocol, for example any one of WAP (Wireless Application Protocol), SMS (Short Message Service), USSD (Unstructured Supplementary Service Data), e-mail, Internet-based communication or the like.

According to a third aspect of the invention, there is provided a system for providing personal data, including data relevant to treatment of persons in emergency situations, the system including:

5 a system database having stored therein, for each of a plurality of subscribers, an identifier and, in association with the identifier, personal data of the subscriber, including data relevant to treatment of the subscriber in an emergency situation;

10 a communication module operable to receive from a remote data request device a data request message which includes one of the identifiers; and

a control module operable to query the system database with the identifier in the data request message, to retrieve the associated personal data,
the communication module further being operable to send an output data
15 message, including the personal data, to the remote data request device.

The system may include a processor and control module. The control module may be a conceptual module corresponding to a functional task performed by the processor.

20 The system may be compatible with the remote data request device being a mobile telephone.

In the system, the personal data may include any of a name, an ID number,
25 age, medical aid details, medical history, and next-of-kin details. The personal data may include a next-of-kin contact number, the system being operable to send, in response to the output data request message, to the next-of-kin contact number a notification message notifying the recipient of the request message and thus of an emergency involving the subscriber.

30 The system may be operable to include in the notification message the contact number of the remote data request device.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be further described, by way of example, with reference to the accompanying diagrammatic drawings.

5

In the drawings:

Figures 1 and 2 show schematics of a system in accordance with the third aspect of the invention;

Figure 3 and 4 show flow diagrams together illustrating methods in accordance with the first and second aspects of the invention;

10

Figure 5 shows a display element in the form of a sticker used in the above methods; and

Figure 6 shows an alternative display element in the form of a tag for attachment to a shoe.

15

DETAILED DESCRIPTION OF AN EMBODIMENT

In Figure 1, reference numeral 100 indicates a system, in accordance with the third aspect of the invention. A subscriber device in the form of a mobile telephone 10 is operable to communicate across a GSM network 12.

20

The system 100 includes:

a server 16;

a GSM communication module 14 operable to communicate across the GSM network 12; and

25

a display element generator in the form of a sticker printer 18.

The server 16 includes a control module 17 and storage means in which it stores a system database 19. The control module 17 may be a conceptual module corresponding to functional tasks performed by a processor.

30

The system database 19 has stored therein a plurality of identifiers generated by the control module 17. Each identifier is uniquely associated with a different subscriber, in association with personal data of the subscriber, as will

be described below. One subscriber 22, the owner of the telephone 10, is shown.

5 The printer 18 is for printing display elements such as a sticker 20 (see also Figure 5).

10 With reference to Figures 2 and 3, the communication module 14 is operable by the control module 17 to receive messages sent from remote communication devices, such as the telephone 10, and to transmit messages to such devices.

15 In Figure 2, a remote data request device in the form of a mobile telephone 30 is shown in communication with the communication module 14 via the GSM network 12.

The telephone 30 is for use by emergency personnel, say particularly by a paramedic. Such use will be reverted to below.

20 An example implementation of the method of the first aspect of the invention is now described with reference to the drawings generally, but primarily to Figures 3 and 4. In Figures 3 and 4, reference numerals 300 and 400 designate respective sequences of method steps included in the method.

25 A person 22 notices an advertisement inviting subscription to a data communication service which provides for his personal data to be provided to emergency personnel by way of the method of the invention. The advertisement includes instructions for subscription, including a contact number associated with the system 100 on the GSM network 12.

30 Following the instructions, the person 22 sends an initiation message, in the form of an SMS, to a system, the number being provided in the advert. The message includes the name and ID number of the person 22.

At 302, the communication module 14 receives the initiation message and communicates it to the server 16.

At 304, the control module 17 queries the system database 19 to determine whether or not the ID number is stored in the system database, i.e. if the person 22 is subscribed to the data communication service by being registered on the system 100. If the person 22 has already been subscribed, steps 306 to 316 are omitted.

The control module 17 generates, at 306, an identifier uniquely associated with the ID number of the person 22 as well as an input data request message. The input data request message includes the identifier and personal data required from the person 22 for subscription, including: full names, contact particulars, medical aid number, medical history, contact numbers of next-of-kin, etc.

The communication module 14 sends, at 308, the input data request message in the form of an SMS to the telephone 10. At the same time, the identifier is temporarily stored in the system database 19. All details of the person 22 may be deleted from the system database 19 if the person 22 does not continue with registration within a predefined time, for example 24 hours.

If the person 22 wishes to register on the system 100, he may compose an SMS message including the requested personal data on the telephone 10. This data is sent as an SMS via the network 12 and received by the communication module 14, at 310, in the form of an input data message.

At 311, the control module 17 extracts the personal data from the input data message, verifies it according to conventional methods and, upon successful verification, saves it in the system database 19 in association with the identifier.

The person 22 is now subscribed and thus referred to as the subscriber 22.

At 312, the control module 17 sends a verification message in the form of an SMS to the telephone 10.

At 314, the control module 17 sends an output data message to the printer 18,
5 the message including the identifier, the contact number of the system 100, and other wording, as shown on a tag in the form of a sticker 20 in Figure 5. The printer 18 prints a number of these stickers 20, say four.

Alternatively, such stickers may be supplied pre-printed. Printing of the
10 stickers may be outsourced to a printing house. These stickers may be made available from vendors and be activated online when subscribers subscribe and data is confirmed. This will save on mailing and turnaround times for activation.

Another four stickers (not shown) include data indicating that the subscriber
15 22 is registered with the system 100, but do not include the identifier. Instructions provided to the subscriber 22 recommend locations for affixing at least some of the stickers to a motor vehicle regularly used by him. The stickers 20, including the identifier, are to be affixed in locations not visible
20 from the outside of the vehicle including, for example, the visor of the vehicle. The others are for affixing in locations conspicuous from the outside of the vehicle.

At 316, the stickers 20 are sent to the subscriber 22.

25 It is envisaged that medical personnel will be trained in advance that if a sticker relating to the system 100 is noticed on a vehicle involved in a collision, they must search for a sticker 20 on the vehicle and obtain personal data by means of the identifier on the sticker 20, as will be described below.

30 It is assumed for this example that the subscriber 22 is injured in a motor vehicle accident in his motor vehicle and is unable to provide personal data to medical personnel at the scene, including the paramedic using the telephone

30 of Figure 2. The paramedic finds one of the stickers 20 after noticing the other stickers on the vehicle.

5 With reference to Figures 2 and 4, using his mobile telephone 30, the paramedic composes an SMS on the telephone, including the identifier and sends it via the GSM network 12 to the contact number provided on the sticker 20.

10 At 410, the communication module 14 receives the SMS as an output data request message. The control module 17 extracts the identifier from the output data request message and, at 412, queries the system database 19 with the identifier and retrieves the associated personal data of the subscriber 22 from the system database 19.

15 At 414, the control module 17 generates an output data message including the personal data and identifier and sends it as an SMS to the mobile telephone 30. The paramedic views the personal data on a display of the telephone 30 and uses it in deciding on appropriate treatment of the subscriber 22. He may also use the contact numbers of the next-of-kin to
20 contact them.

At 416, the control module 17 generates a notification message, including the name of the subscriber 22 and the contact number of the mobile phone 30, and sends it as an SMS to each next-of-kin contact number stored in the
25 system database 19 for the subscriber 22.

The method described above by which the paramedic obtains personal data from the system 100 is a method in accordance with the second aspect of the invention.

30

Figure 6 shows a display element in the form of a tag 500. The tag 500 may be attached to an item of clothing, for example to a shoe by threading a shoe-lace through a hole 502 defined through the tag. Other display elements may be any of a sticker, a belt buckle, an elastic rubber band or bracelet, etc.

The Inventor believes that the invention, as exemplified, may enable medical personnel to make life saving decisions and result in better medical care being provided to subscribers.

5

It will be appreciated that any message in the example may, in lieu of by way of SMS, be sent by way of any other suitable protocol, for example any one of WAP (Wireless Application Protocol), SMS (Short Message Service), USSD (Unstructured Supplementary Service Data), e-mail, Internet-based communication or the like.

10

It is further envisaged that subscription to the data communication service may be most conveniently provided for in the system of the invention via an Internet-based website or via a call centre, as an alternative to the SMS subscription in the above example. It will be appreciated that the invention is sufficiently broad to cover all such alternatives.

15

CLAIMS

1. A method of providing personal data, including data relevant to treatment of persons in emergency situations, the method including:
 - 5 providing a system including a system database;
for each of a plurality of subscribers, receiving in the system personal data, including data relevant to treatment of the subscriber in an emergency situation, and registering the subscriber in the system database by storing the personal data in the system database in association with an identifier assigned to the subscriber;
10 providing the subscriber with at least one display element displaying his identifier and a contact number of the system;
receiving from a remote data request device, communicating to the contact number, an output data request message including any one of the identifiers; and
15 responding to the output data request message by retrieving from the system database the personal data stored in association with the identifier and sending to the remote data request device an output data message including the personal data.
20
2. A method as claimed in claim 1, in which the remote data request device is a mobile telephone.
3. A method as claimed in claim 1, in which the personal data includes
25 any of a name, an ID number, medical aid details, medical history, and next-of-kin details.
4. A method as claimed in claim 1, in which the at least one display element includes a tag.
30
5. A method as claimed in claim 4, in which the tag is a sticker securable to a motor vehicle.

6. A method as claimed in claim 4, in which the tag is securable to an item of clothing.
7. A method as claimed in claim 1, in which the at least one display element includes a bracelet.
8. A method as claimed in claim 1, in which each display element has printed thereon the identifier of a particular subscriber and the contact number of the system.
9. A method as claimed in claim 1, in which the personal data includes a next-of-kin contact number and the method includes sending, in response to the output data request message, to the next-of-kin contact number a notification message notifying the recipient of the request message and thus of an emergency involving the subscriber.
10. A method as claimed in claim 9, in which the notification message includes the contact number of the remote data request device.
11. A method of obtaining personal data, including data relevant to treatment of persons in emergency situations, from a system database, the method including:
- transmitting from a data request device an output data request message to a contact number of a system, the system including a system database having stored therein, for each of a plurality of subscribers, personal data, including data of the subscriber relevant to treatment of the subscriber in an emergency situation, in association with an identifier of the subscriber, the output data request message including one of the identifiers; and
- receiving on the data request device an output data message from the system, the message including the personal data stored in association with the identifier.

12. A method as claimed in claim 11, in which the communication device is a mobile telephone.
13. A system for providing personal data, including data relevant to treatment of persons in emergency situations, the system including:
- 5 a system database having stored therein, for each of a plurality of subscribers, an identifier and, in association with the identifier, personal data of the subscriber, including data relevant to treatment of the subscriber in an emergency situation;
- 10 a communication module operable to receive from a remote data request device a data request message which includes one of the identifiers; and
- a control module operable to query the system database with the identifier in the data request message, to retrieve the associated personal data,
- 15 the communication module further being operable to send an output data message, including the personal data, to the remote data request device.
- 20 14. A system as claimed in claim 13, which is compatible with the remote data request device being a mobile telephone.
15. A system as claimed in claim 13, in which the personal data includes any of a name, an ID number, age, medical aid details, medical history,
- 25 and next-of-kin details.
16. A system as claimed in claim 13, in which the personal data includes a next-of-kin contact number, the system being operable to send, in response to the output data request message, to the next-of-kin contact number a notification message notifying the recipient of the request message and thus of an emergency involving the subscriber.
- 30

17. A system as claimed in claim 13, which is operable to include in the notification message the contact number of the remote data request device.

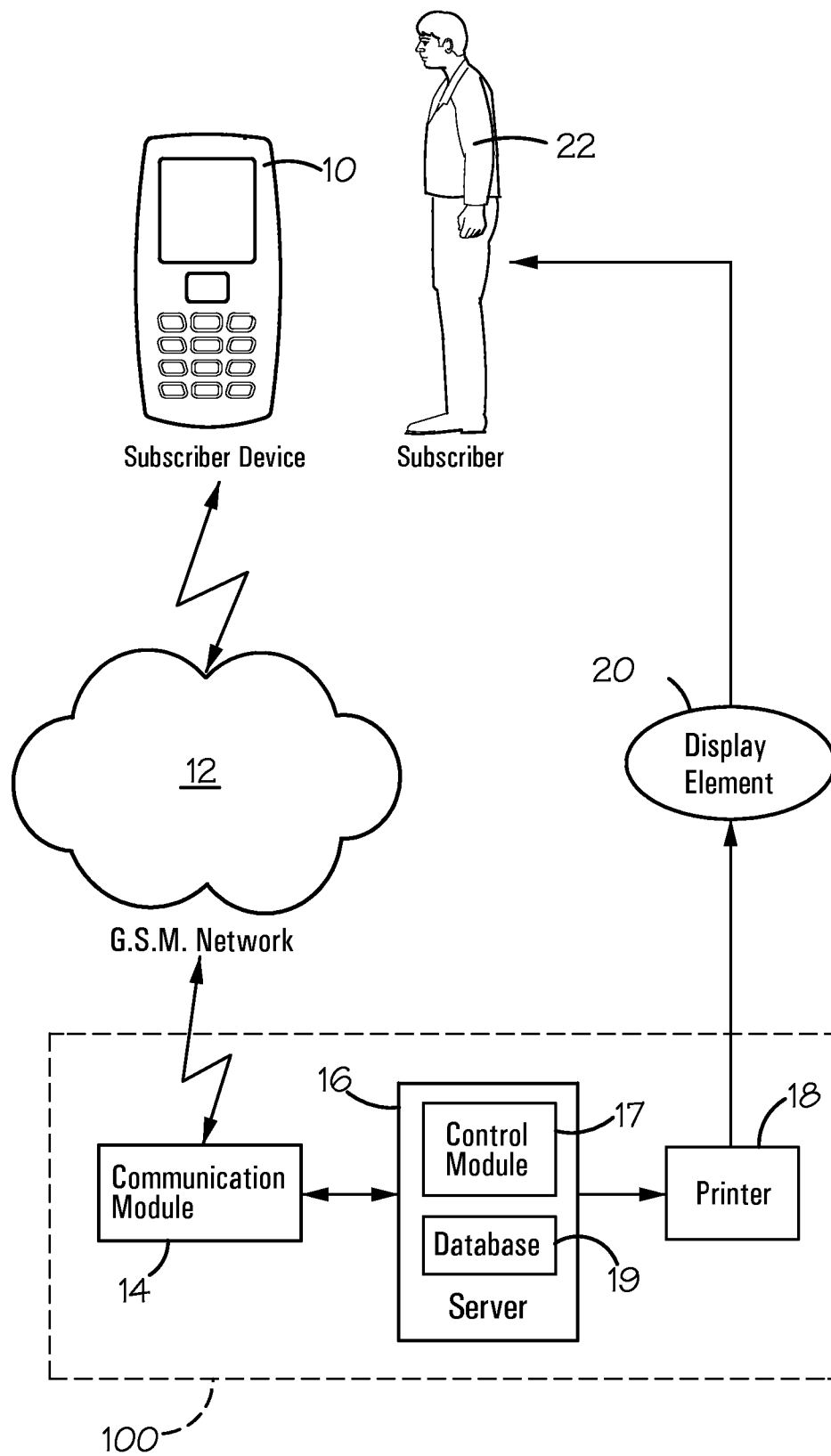


FIG 1

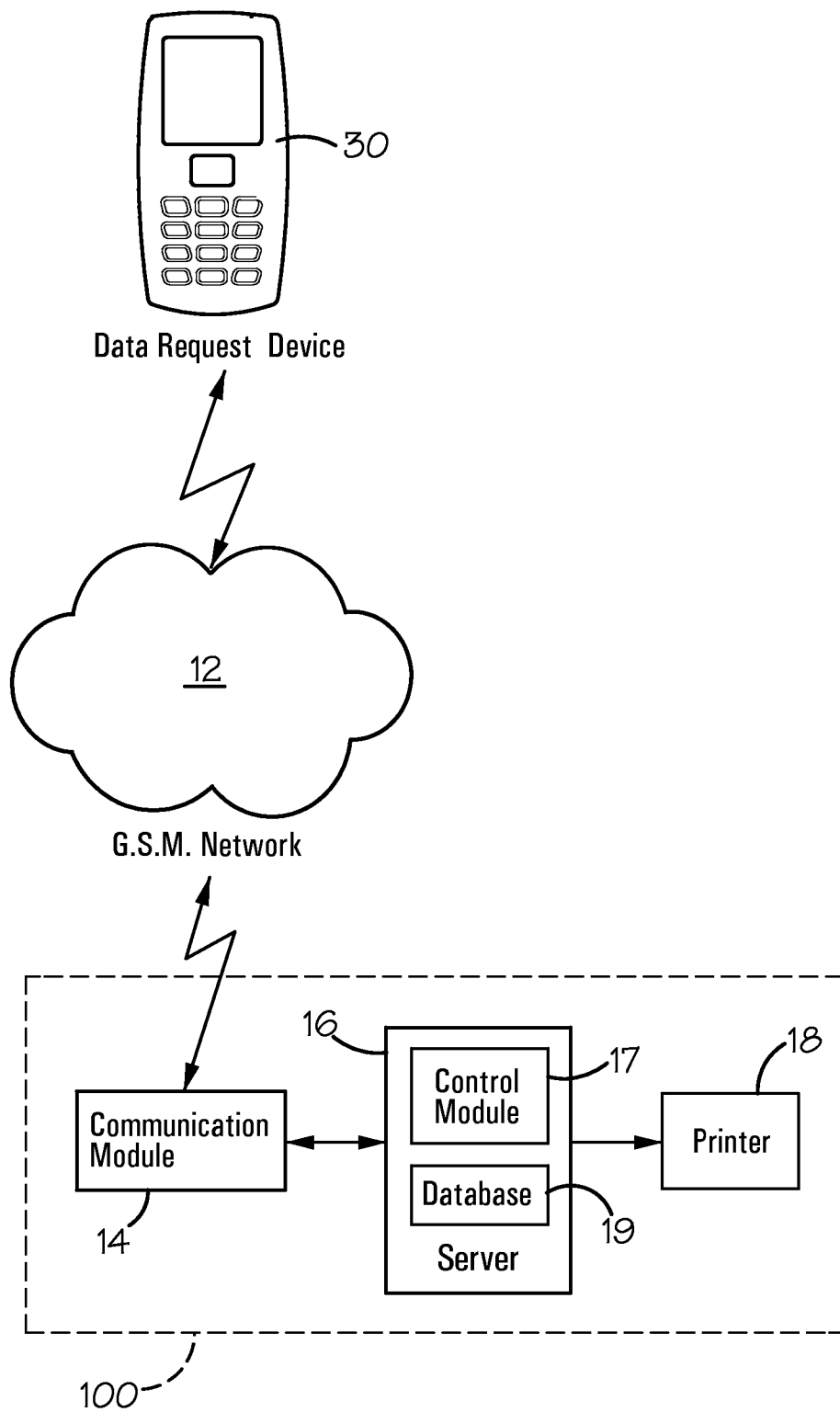
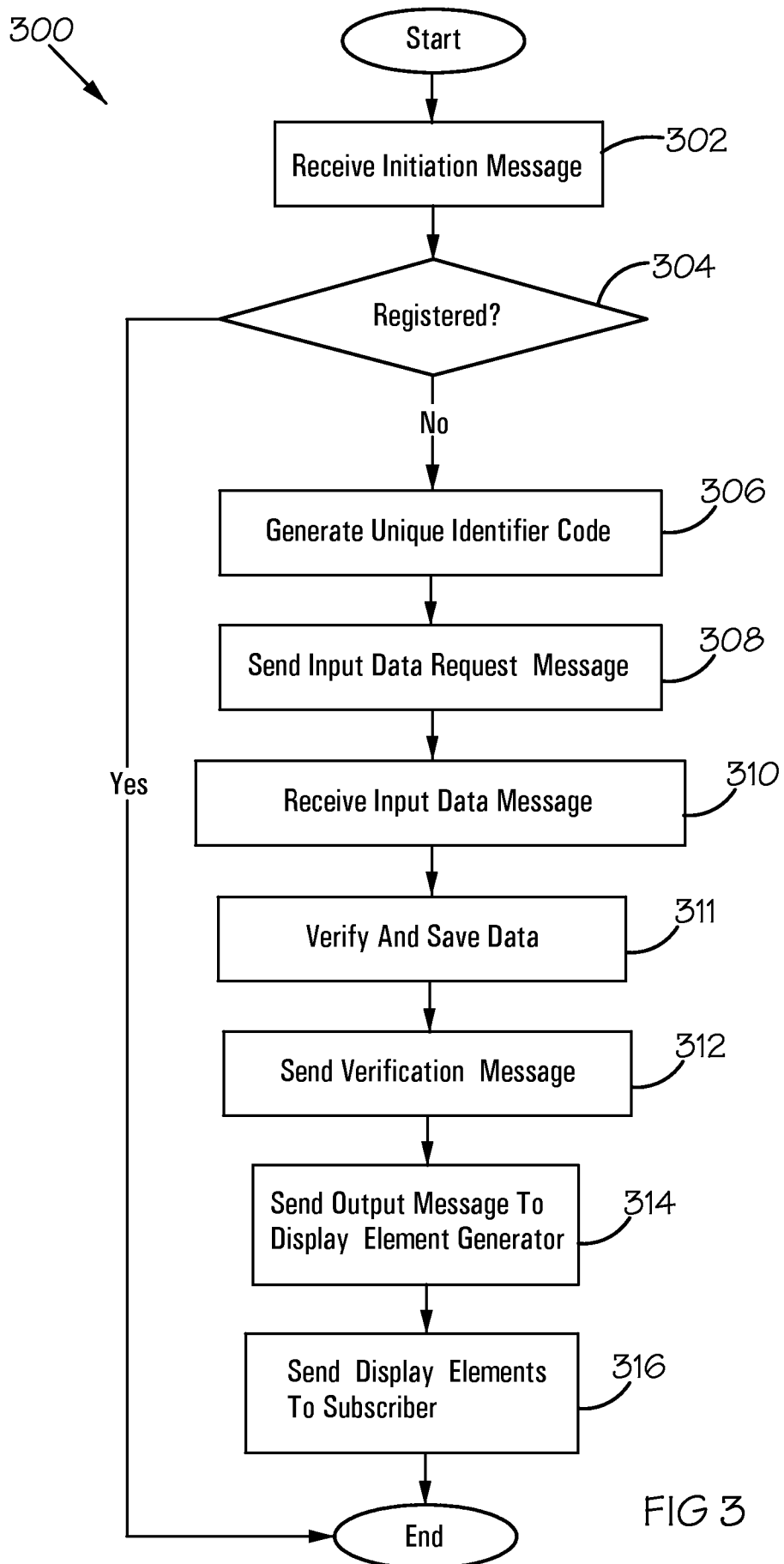


FIG 2



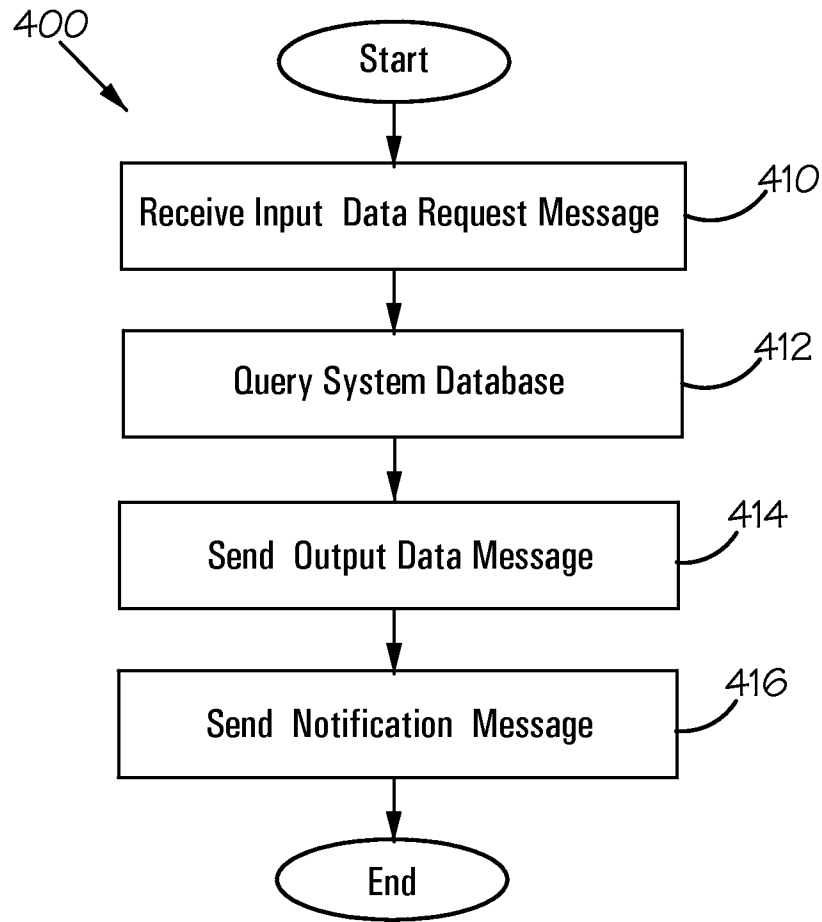


FIG 4

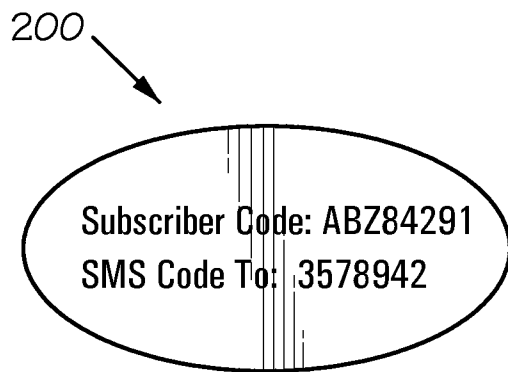


FIG 5

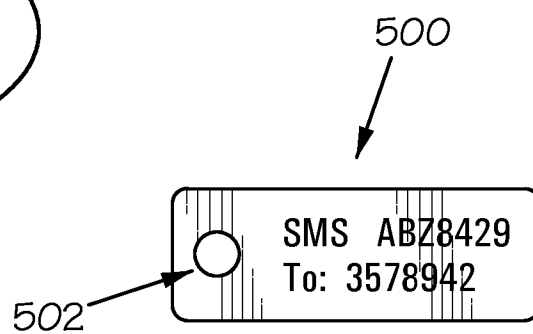


FIG 6