

TITLE OF THE INVENTION**A METHOD OF IDENTIFYING AND LOCATING MISSING AND/OR WANDERING ALZHEIMER'S DEMENTIA PATIENTS****FIELD OF THE INVENTION**

- 5 The present application generally relates to method of accessing or identifying Alzheimer's Dementia patients. In particular, the present application relates to method for locating a missing and/or wandering Alzheimer's Dementia patient via application of QR code, 2D barcode or RFID technology.

BACKGROUND OF THE INVENTION

- 10 Dementia is a general term for a decline in mental ability severe enough to interfere with daily life. Memory loss is an example. Alzheimer's is the most common type of dementia. Dementia affects the brain, leading to failing memory, deterioration of intellectual function and personality changes. Alzheimer accounts for 60-80 percent of dementia patients. There has been increasing demand for methods and devices to allow parents or guardians to monitor the
15 location of their children or elderlies and/or patients, particularly when these people are in public places. These devices are useful for locating or accessing other individuals, such as Alzheimer's Dementia patients, who may become disoriented or lost their ways.

- There is a need to "leave the house" being natural for Alzheimer's dementia sufferers as it is very stressful for the Alzheimer pressure sufferers for them to be trapped in a confined area
20 for a long time. Often, these patients wander alone outdoor from their residents and are unable to find their way home. After a lapsed of several hours, their family members and next-of-kin will naturally search for them.

- Currently, there are more than 10 companies in the market that supply different forms of GPS devices to track these patients where-about. Some in the form of a walkie talkie, wristband
25 watch, and others even hide the GPS device in the patient's shoe. Again these patients usually will reject wearing these GPS devices or forget to bring along or even remove the GPS devices as these new devices are strangers to them. In addition, these devices are rather expensive and the charging of the device is needed.

- U.S. Pat. No. 5,748,087 to Ingargiola et al. discloses a system having a receiver worn by a
30 child or an Alzheimer's patient and a transmitter carried by a parent or a guardian. The parent or guardian may use the transmitter to emit a "find" signal if the child or patient is missing. Upon receipt of the "find" signal, the receiver generates an auditory alarm via speakers and a

visual alarm via illuminated LED's. A disadvantage of such a system is that the receiver does not provide location coordinates of the child or patient to the parent or guardian. Consequently, the parent or guardian is required to be within audible or visual range of the alarm in order to locate the child or patient. This process of locating the source of the alarm may be especially difficult in locations having large crowds and a high level of ambient noise or bright lighting.

US Patent Publication No. US20030151506A1 entitled "Method And Apparatus For Locating Missing Persons" discloses a system for locating a person including a mobile transmitter removably secured to the person and a portable monitoring unit carried by a user monitoring the location of the person. The mobile transmitter receives GPS ranging signals from GPS satellites. Each of the GPS ranging signals includes an offset proportional to the distance of the mobile transmitter from the respective GPS satellite broadcasting the GPS ranging signal. The GPS ranging signals, including the respective offsets, are transmitted to the portable monitoring unit.

There is another system in existence which relates to personal monitoring and locating systems using incorporating Global Positioning System (GPS) technology. The system includes a portable transmitting unit worn by an individual that receives GPS ranging signals from the GPS satellite and relays them to a portable monitoring unit which determines the location of the portable transmitting unit with GPS and displays the location on a display screen on the portable monitoring unit. The disadvantage of such a system is that the system requires a few expensive components.

Other conventional type of tracking or locating for instance an animal or a patient is by use of Ultra High Frequency (UHF) Transmitters provide long-range tracking through orbiting satellite receivers by using very low data rates. The low data rates allow the use of very narrow bandwidths to communicate with an identification on the wearer's position by measuring the Doppler shift of the transmitter's carrier. Such a method is complicated and is an expensive method to implement. Further, the narrow band systems can only service a limited number of tags wearers.

Conventional medical monitoring devices that monitor patient vital signs generally operate only within institutional settings such as in a hospital, school, or prison facility. Therefore, these medical monitoring devices are not designed for wide-area or global service areas.

To summarize, existing systems do not provide a simple, inexpensive way of locating a wandering person such as Alzheimer's Dementia using a QR code, and the present invention provides a method of identifying and locating missing and/or wandering Alzheimer's Dementia patients which mitigates the problem.

SUMMARY OF THE INVENTION

A quick response (QR) Code is a two-dimensional barcode (e.g., information provided in two dimensions) that was approved as an ISO international standard (ISO/IEC18004). QR codes
 5 are widely popular due to their ability to store information in a small space that can be read quickly, accuracy, and from a variety of perspectives, and can be conveniently recognized.

It is an object of the present invention to provide a method of identifying and locating missing and/or wandering Alzheimer's Dementia patients, wherein the method can prevent the patient removing the identity card/tag and GPS devices or other identification devices.

10 Another object of the present invention is to provide a method of identifying and locating missing and/or wandering Alzheimer's Dementia patients, wherein a low cost solution is implemented and beneficial to the patients family.

Still a further object of the present invention to provide a method of identifying and locating missing and/or wandering Alzheimer's Dementia patients, wherein printable QR Code labels
 15 are created and the QR Code uses four standardized encoding modes to store data efficiently, and the QR Code Label can be attached onto or iron onto the patient's clothing, especially on their shirts at a location where it is visible to the public.

A main object of the present invention is to provide a method for locating a person wearing a shirt with a QR code label, said method comprising the steps of:

20 (a) providing to the person a shirt having mounted with the QR code label or the combination thereof that can identify the person who is a Alzheimer's Dementia patient, said QR code is in response to a scanning by a QR code reading app installed in a smart phone to reveal information containing therein;

(b) determining the information to match with that of the specific Alzheimer's Dementia patient;

25 (c) transmitting the information back to a control center, an application cloud server or a host server.

Yet another object of the present invention is to provide a method for locating a person wearing a shirt with a QR code label, wherein the QR code contains the Alzheimer's Dementia patient's identity and an URL website address of the Alzheimer's Dementia patient.

30 Still yet another object of the present invention is to provide a method for locating a person wearing a shirt with a QR code label, wherein the QR code label is superimposed onto a four

leaf clover or the like as a background together with an imprint "Resource Connect" thereon, allowing the public to read the patient's identity.

A further yet another object of the present invention is to provide a method for locating a person wearing a shirt with a QR code label, wherein the QR code label is either ironed on or
5 sown onto the shirt at the back thereof for easy identification.

Still a further object of the present invention is to provide a method for locating a person wearing a shirt with a QR code label, wherein the QR code label contains an unique identity number and the URL website address which are accessible by public with a mobile device.

Another further object of the present invention is to provide a method for locating a person
10 wearing a shirt with a QR code label, wherein the QR code label is linked to either the application cloud server or the local host server.

Yet a further object of the present invention is to provide a method for locating a person wearing a shirt with a QR code label, wherein the application cloud server or host server is used to function to receive message or signal via cellular or wifi network from the QR code
15 code and re-transmit the received message to the patient's family member or the next-of-kin.

Still yet another object of the present invention is to provide a method for locating a person wearing a shirt with a QR code label , wherein the message that are being transferred by the application cloud server/host server includes the name of the patient, location on Google Map and the time where the patient was located.

Yet still a further object of the present invention is to provide a method of identifying and
20 locating missing and/or wandering Alzheimer's Dementia patients, wherein the QR Code label contains a printed QR Code superimposed onto a four leaf clover at the background, indicating that the person is a Alzheimer's Dementia patient.

Another further object of the present invention is to provide a method of identifying and locating
25 missing and/or wandering Alzheimer's Dementia patients, wherein when a patient be found wandering aimlessly or lost, anyone with the QR Code apps downloaded on their mobile device can read the patient's identity, and transmit the patients identity, the location, the current time and send a message to the family members mobile device informing them of the time and current location of the patient.

30 To the accomplishment of the foregoing and related ends, the following description and annexed drawings set forth certain illustrative aspects and implementations. These are indicative of but a few of the various ways in which one or more aspects may be employed.

Other aspects, advantages, and novel features of the disclosure will become apparent from the following detailed description when considered in conjunction with the annexed drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is an example of a QR code label of an embodiment of a method for identifying and
5 locating a wandering Alzheimer's Dementia in accordance with the present application, wherein the label can be ironed on or sown onto the shirts of the Dementia patient.

FIG. 2 is an illustration of an example embodiment of mounting a QR code onto a shirt for the Alzheimer's Dementia patient in accordance with the present invention.

FIG. 3 is a flow chart of an embodiment of a method for identifying and locating a wandering
10 Alzheimer's Dementia patient in accordance with the present invention.

FIG. 4 is an operational flow diagram showing the method of identifying and locating a wandering Alzheimer's Dementia patient in accordance with the present invention.

The features and advantages of the present invention will become more apparent from the detailed description set forth below when taken in conjunction with the drawings, in which like
15 reference characters identify corresponding elements throughout. In the drawings, like reference numbers generally indicate identical, functionally similar, and/or structurally similar elements.

DETAILED DESCRIPTION OF THE INVENTION

In accordance with a preferred embodiment of the present invention, the QR Code label
20 comprises a programmable printed QR code with a unique identity number of a patient and a URL website superimposed onto a four-leaf clover in the background.

In accordance with a preferred embodiment of the present invention, as shown in FIG. 1, there is shown a QR code label for identifying and locating a wandering Alzheimer's Dementia, wherein the label can be ironed on or sown onto the shirts of the Alzheimer's Dementia patient.

25 Any other types of identity and logo for Alzheimer's Dementia patients can also be used in the method of the preferred embodiment.

The four-leaf clover with the QR code in the middle of the clover is the background which can be detected by a QR code app installed in a smart phone. As shown, there is an outline of a Four-leaf clover at the background and a QR code is superimposed onto it. RFID technology
30 using a plurality of RFID tags can also be added behind the QR code label (10). The QR code (12) can be read by any mobile devices, while the passive RFID tag can only be read by

mobile devices that have an in-built RFID reader. The QR Code (12) and the passive RFID tag (not shown) both contain the same patient's identity and the URL website address that automatically sent the patient's identity together with the mobile device's current GPS location, the exact time the patient being located, and the mobile number to the application cloud sever
 5 or local host server (40) (FIG.4).

FIG. 2 is an illustration of an example embodiment of mounting a QR Code (10) onto a shirt (13) for the Alzheimer's Dementia patient in accordance with the present invention. The designated locations (21, 22, 23) on the shirt (13) indicate a plurality of preferred positions that the QR Code label (10) be mounted thereto. These locations (21, 22, 23) are significant area
 10 on the shirt (13) that can be seen easily by someone if the patient is wandering around on the streets or the like.

FIG. 3 is a flow chart of an embodiment of a method for identifying and locating a wandering Alzheimer's Dementia patient in accordance with the present invention.

In accordance with the present invention, the QR Code (12) on the QR Code Label (10) of any
 15 Alzheimer's Dementia patient wearing a shirt (13) with a QR Code label (10) is scanned (step 32), the location, phone number will be sent to a system application server (step 33), and a receipt of acknowledgement and appreciation (34) will be notified to the sender.

In general, the method for locating a person wearing a shirt with a QR code label, or a 2D barcode, or a RFID, or a combination thereof comprises the steps of:

- 20 (a) providing to the person a shirt (13) having mounted with the QR code label (10) that can identify the person who is a Alzheimer's Dementia patient, said QR code label is in response to a scanning by a QR code reading app installed in a smart phone to reveal information containing therein;
- (b) determining the information to match with that of the specific Alzheimer's Dementia patient;
- 25 (c) transmitting the information back to a control center, an application cloud server or a host server (40).

When a Alzheimer's Dementia patient is found wandering aimlessly or lost, anyone with a QR Code reader apps downloaded on this mobile device can read the patient's identity, and transmit the identity, the location the current time and the mobile device's identity number to
 30 an application cloud-based server or a local host server (40). The system server will check and authenticate the genuineness of the QR code with a smart video analytic software.

The server application will in turn send a message to the family member's mobile device informing them of the time and the current location of the patient.

In the preferred embodiment, a mobile device refers to any mobile handphone, tablets pc, mini tablets etc which are equipped with a built-in camera and a SIM card.

- 5 FIG. 4 is an operational flow diagram showing the method of identifying and locating a wandering Alzheimer's Dementia patient in accordance with the present invention.

Referring to FIG. 4, the public can easily identify the Alzheimer's Dementia patient with the imprinted logo symbol on the patient's shirt or clothing (13).

- 10 The application cloud server or the local host server (40) upon receipt of the information such as the Unique Patient's ID number, the GPS coordinates, the time the patient was found, and the mobile device number shall feed the information to the system (100), where the received GPS coordinates shall be converted and plotted onto the Google Map, the patient's ID number shall be checked against the database and the system in turn identify the registered family member.

- 15 A message shall be generated by the system (100) and send via either one of the available messaging apps like SMS, Whats App, Wechat, etc to the respective family member's mobile device informing the patient's name, the location on the Google Map, and the time the patient was found.

- 20 Upon receipt of the message, the recipient shall press an "acknowledge" button on the mobile device confirming that the message was received back to the server (40). If the server (40) failed to receive the "acknowledgement" message in one minute adjustable, the system (100) shall repeat and send the same information to the same person or the second contactable person in the registered contact list of the database of the system (100). If the system (100) fail to receive the acknowledgement the second time, the system shall proceed to send the
25 information to the police. Another message generated by the system (100) shall be sent to the sender to thank and acknowledge receipt of the patient's information.

- Again referring to FIG. 4, the Alzheimer's Dementia patient wearing a shirt with a QR code label (10) is located by a public with QR Code reading App (20). The public reads the identity of the Alzheimer's Dementia patient. The patient's identity GPS location and current time were
30 sent to the application cloud server or host server (40) via cellular/wifi network (30). The application cloud server/host server (40) sends SMS or Whatsapp or WeChat messages via a celllar/wifi network to the patient's family, member or next of kin (70).

In the present invention, other than using QR code label (10), the 2D barcode, or the RFID label contains the Alzheimer's Dementia patient's identity and an URL website address of the Alzheimer's Dementia patient can also be used. In another preferred embodiment, the information of the Alzheimer's Dementia patient can be varied to include an URL website address of the Alzheimer's Dementia patient, or other details.

The QR code label of the present invention is provided with an imprint "Resource Connect" thereon, allowing the public to read the patient's identity, and the information which is being transferred by the application cloud server/host server includes the name of the patient, location on Google Map and the time where the patient was located. If the patient is wearing a polo T-shirt, or a jersey or a blouse, or a overcoat or a singlet, the QR code label is either ironed on or sown onto a polo T-shirt, a jersey, a blouses, a overcoat or singlet at the back thereof for easy identification. In accordance with the present invention, the method can be used to locate a missing animal or a missing child, wherein the animal or the missing child with a QR code worn is locatable via the application cloud sever or host server to function to receive message or signal via cellular or wifi network from the QR code and re-transmit the received message to the animal's or child's family member.

Obviously, numerous modifications and variations of the present invention are possible in light of the above teachings. It is therefore understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described herein.

WHAT IS CLAIMED IS

1. A method for locating a person wearing a shirt with a QR code label, said method comprising the steps of:

(a) providing to the person a shirt having mounted with the QR code that can identify the person who is a Alzheimer's Dementia patient, said QR code label is in response to a scanning by a QR code reading app installed in a smart phone to reveal information containing therein;

(b) determining the information to match with that of the specific Alzheimer's Dementia patient; and

(c) transmitting the information back to a control center, an application cloud server or a host server.

2. The method of claim 1, wherein the QR code label contains the Alzheimer's Dementia patient's identity and an URL website address of the Alzheimer's Dementia patient.

3. The method of claim 1 or 2, wherein the QR code label is superimposed onto a four leaf clover or the like as a background together with an imprint "Resource Connect" thereon, allowing the public to read the patient's identity.

4. The method of claim 1, wherein the QR code label is either ironed on or sown onto the shirt at the back thereof for easy identification.

5. The method of claim 1, wherein the QR code label contains a unique identity number and the URL website address which are accessible by public with a mobile device.

6. The method of claim 1, wherein the QR code label is linked to either the application cloud server or the local host server.

7. The method of claim 6, wherein the application cloud server or host server is used to function to receive message or signal via cellular or wifi network from the QR code and re-transmit the received message to the patient's family member or the next-of-kin.

8. The method of claim 7, wherein the message that is being transferred by the application cloud server/host server includes the name of the patient, location on Google Map and the time where the patient was located.

9. The method of claim 1, wherein the QR code label is either ironed on or sown onto a polo T-shirt, a jersey, a blouses, a overcoat or singlet at the back thereof for easy identification.

10. The method of claim 1, wherein an animal or a missing child with a QR code worn is locatable via the application cloud sever or host server to function to receive message or signal via cellular or wifi network from the QR code and re-transmit the received message to the animal's or child's family member.