SYSTEM AND METHOD FOR EXTRACTING PERSONAL INFORMATION FOR EMERGENCY SITUATION

Field of the Invention

[0001] The present invention relates to a system and method for extracting personal information for emergency situation.

Background

[0002] During an emergency situation such as accident causing injury to a person, it is prudent to immediately obtain personal information of the injured person at the scene. Such personal information, which may include crucial health/medical information, which allows the medical personnel to be able to act appropriately and efficiently to save life. At the present moment, medical information is not available via a centralized source, which allows the medical personnel to obtain them through a central source, regardless of the medical institutions.

[0003] In any such emergency situation, different respondent personnel may require different sets of information to carry out their duty. The information that is not of the respondent personnel's concerns shall be kept out from the respondent personnel to maintain privacy. For example, police officer may only require the personal identify and contact information. Therefore, the personal health/medical information may not be of use to the police officer, and therefore, shall be kept unknown to the officers.

Summary

[0004] In accordance with one aspect of the present invention, there is provided a system for extracting personal particulars and health/medical information of a person in an emergency situation. The system comprises a centralized data center having subscribed users and relevant authority, wherein the personal particulars and health/medical information of each subscribed user are segmented into a general information and a restricted information; a personal device for each subscribed user, wherein the personal device having an indicator that is unique to the subscribed user; a scanner device adapted for scanning the identifier and it operationally communicates with the centralized data center to obtain at least the general information of the subscribed user, and the scanner device is accessible to the restricted information when it is given sufficient access right.

[0005] In one embodiment, the indicator is a machine-readable code.

[0006] In another embodiment, the scanner device is a mobile communication device having a optical imaging device, the optical imaging device is adapted for scanning and reading the indicator to extract the personal particulars and health/medical information therefrom. The scanner device may be deployed with generic machine-readable code module thereon for scanning and reading the indicator to extract the general information of the subscribed user. The scanner device may also be deployed with a authentication module thereon for scanning and reading the indicator to extract the general information and the restricted information.

[0007] In another aspect of the present invention, there is provided a method for extracting personal particulars and health/medical information of a person in an

emergency situation. The method comprises subscribing users and relevant authority on a centralized data center; storing the personal particulars and health/medical information of each subscribed user on the centralized data center; segmenting the personal particulars and health/medical information of each subscribed user into a general information and a restricted information; providing a personal device for each subscribed user, wherein the personal device having an indicator that is unique to the subscribed user; scanning the indicator through a scanner device; communicating with the centralized data center to obtain at least the general information of the subscribed user, and the scanner device is accessible to the restricted information when it is given sufficient access right.

[0008] In one embodiment, the indicator is a machine-readable code.

[0009] In another embodiment, the scanner device is a mobile communication device having a optical imaging device, the optical imaging device is adapted for scanning and reading the indicator to extract the personal particulars and health/medical information therefrom. The scanner device may further deploy with generic machine-readable code module thereon for scanning and reading the indicator to extract the general information of the subscribed user. The scanner device may also deployed with a authentication module thereon for scanning and reading the indicator to extract the general information and the restricted information.

Brief Description of the Drawings

[0010] Preferred embodiments according to the present invention will now be described with reference to the figures accompanied herein, in which like reference numerals denote like elements;

[0011] **FIG. 1** illustrates a general implementation of the system in accordance with one embodiment of the present invention;

[0012] **FIGs. 2A** to **2G** illustrates various physical embodiments of the present invention;

[0013] **FIG. 3** illustrates a portal access process in accordance with one embodiment of the present invention;

[0014] **FIG. 4** illustrates an information dissemination process in accordance with one embodiment of the present invention; and

[0015] **FIG. 5** illustrates an information dissemination process in accordance with one embodiment of the present invention.

Detailed Description

[0016] Embodiments of the present invention shall now be described in detail, with reference to the attached drawings. It is to be understood that no limitation of the scope of the invention is thereby intended, such alterations and further modifications in the illustrated device, and such further applications of the principles of the invention as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention relates.

[0017] The present invention aims to advocate personal safety, bring about peace of mind, assurance and hope in many situations. Specifically, the invention provides a means to enhance personal safety and protection with essential personal ID and health/medical information made available in time of personal emergencies.

[0018] The invention is useful to support first responders, paramedics and medical care practitioners in the provision of crucial personal ID and health/medical information to save lives of people in crisis with no or minimal discriminations. The present invention is beneficial to persons like the senior citizens, infirm, children, drivers and passengers travelling on the road, industrial workers, sports-men, and people with special needs.

[0019] **FIG. 1** illustrates a general implementation of the system in accordance with one embodiment of the present invention. The implementation includes a person **112** encounters an emergency situation at step **102**. It follows that relevant responders **114**, such as police officers, paramedic personnel, etc., arrive at the scene of the emergency situation at step **104**. The responders **114** attempt to locate for any personal device having an identifier **116** for the person. The personal device adapted as an aid for identifying the person's identity and other related information. The personal device can be a wearable or portable device that can be easily and conveniently located by the responders **114**. Once the identifier **116** is located, the responders **114** scan the identifier to determine the person's identity through a scanner **118** at step **106**, and the relevant information of the person **112** is then displayed on the scanner **118** at step **108**. With this information on hand, the paramedic personnel may proceed to send the person to the nearest medical institute **120** at step **110** for appropriate treatments.

[0020] **FIGs. 2A** to **2G** exemplify various physical embodiments of the present invention. **FIG. 2A** is a wristband having the identifier printed or attached at the inner side of the band. **FIG. 2B** is a helmet tag for attaching on a helmet. **FIG. 2C** is a bag tag for attaching on the bag. **FIG. 2D** is another form of bag tag that can be attached of the bag. **FIG. 2E** provides two different forms of pendants. **FIG. 2F** is a car-decal, which is

typically attached to the windshield of a vehicle. **FIG. 2G** provides both sides of an Identity Card (IC) having one side printed with the identifier.

[0021] It is to be noted that **FIGs. 2A** to **2G** exemplifies various the physical appearances of the personal device where the identifier may be attached thereto. However, it is well understood to a skilled person that the examples are not exhaustive. The personal device can also be available in stickers form, key chain, pendent and etc. without limitations.

[0022] Referring back to **FIG. 1**, the identifier in one embodiment can be a Quick Response (QR) Code. If another embodiment, the identifier can also be in bar code, or any machine-readable code. Such codes are readable through any optical scanning or imaging device, such as smart phone that equips with camera.

[0023] In one embodiment, the machine-readable code may comprise a reference to direct the scanner to communicate with a centralized information database to retrieve the personal information. The amount of information to be stored on he identifier will depend on the capacity of the identifier. For example, a QR code may store the person's user name, authentication code and the link/address of the centralized information database for obtaining the information. In an alternative embodiment, the person's identity and limited medical information may be stored on the QR code itself.

[0024] Still referring to the **FIG. 1**, where a smart phone is used to scan the identifier, it can quickly access the personal and medical information based on the identifier. As smart phones are typically equipped with a wireless communication module, such as WiFi, 3G, LTE module or the like, the responder who obtained the information may immediately transmit the relevant information to the medical institute

on the move so that the doctors and nurses would be able to understudy the person's health/medical information and records prior to arrival at the medical institute. It allows the doctors and nurses to be able to carry out pre-assessment of the person's health conditions and act efficiently when the person arrives at the medical institute.

[0025] During the step **104** of **FIG. 1**, other non-medical responder such as police officer may use his own scanner, similarly a smart phone, to also quickly scan the identifier of the personal device to obtain some identity information. The identity information may further include contact number of the person or even his next of kin/employer so that the police officer may contact the relevant person accordingly.

[0026] In one embodiment, the centralized information database may be a web portable accessible by subscribers registered with the web portal. The web portal is accessible by the subscribers via any web browsers on a computer or mobile computing devices or portable data terminals, which allows the users to review, add, change, delete and update their information at will. These web portals can be protected by any known authentication system and method.

[0027] Preferably, the information that can be obtained through the identifier may include personal particulars, notification information, and health/medical conditions. The table below exemplifies the information that may be included in a personal profile:

Personal Particulars	Notification Information	Health Conditions
Name ID number Age Sex Blood Type Race/Nationality Language (spoken/written) Disability (if any) Joined Association (if any) Address Contact number(s) Other Contact detail(s)	Next of kin Employer Insurer	Current/Past Medical Histories Drug Allergy Current Medication(s) Past Medical Treatment / Surgery Prone to suffering from, e.g. epilepsy Items carried on me, e.g. pacemaker Doctor's/Dentist's contact details

[0028] **FIG. 3** illustrates a portal access process **300** in accordance with one embodiment of the present invention. The portal access process **300** includes entering a general public web portal site at step **302**. The web portal site prompts the user to scan an identification code given to him at step **303**. Once identification code is obtained, a registration page will be shown at step **304**. If the user is a new user to the web portal, user may select new user option to subscribe as a new user at step **310**. The new user will be required to enter IC/Passport number that is to be used as username at step **312**, and the user is further required to activate the new account through known method at step **314**. Upon account activation, the device with the identification code is also activated at step **318**. Returning to the step **304**, if the user is an existing user/subscriber at step **330**, the user is required to key in current username (such as ID number or passport number) at step **332**.

[0029] Once the aforesaid steps are accomplished, the web portal **300** will direct the screen to show a member dashboard at step **320**. Under the member dashboard **320**, user is able to enter/update all the personal particulars and required information at step **322**, to change password at step **324**, to de-activate the account at step **326** or to view

devices link to all the existing account at step **334**. User may choose to log-out of the web portal at step **328**.

[0030] **FIG. 4** illustrates an information dissemination process in accordance with one embodiment of the present invention. In this process, the scanner may include a generic code module for scanning the identifier. The generic code module known in the market usually does not need any authentication for accessing the linked source. Such scanner may be held by a first responder or police officer at step **402**. At step **404**, the responder scans the identifier code at step **404**. The identifier may contain only the link and address for directing the scanner to connect to the centralized information database. With this identifier, the scanner is directed to the web portal, and basic information of the user will be displayed at step **406**. This information dissemination process does not require authentication and the basic information may include personal particular and Next-of-kin notification information only.

[0031] **FIG. 5** illustrates an information dissemination process in accordance with another embodiment of the present invention. In this process, the scanner is required to include an authentication module for scanning the identifier. Such scanner may be held by a second responder, such as paramedic, or medical professionals at step **502**. At step **504**, the second responder scans the identifier code with the authentication module at step **504**. The authentication module can be a smartphone application adapted for accessing the restricted information of the users stored on the web portal. The identifier code is required to contain only the link and address for directing the scanner to connect to the centralized information database. In the present embodiment, the second responder who uses the authentication module that possesses the relevant user ID and authentication code, such as passwords or the like, to access all the information, inclusive the restricted

information, available on the web portal at step **505**. The relevant user ID and authentication code may be of the actual user ID and authentication code, which can be encrypted on the identifier, or a user ID and authentication code especially assigned to the second responder to access all the information from the web portal. The scanner is then directed to the web portal, and the user ID and authentication code are inputted to access all the available information of the user, which will be displayed at step **506**. This information dissemination process requires authentication to access all the information available, which may include personal particular, notification information and health/medical information.

[0032] In yet another embodiment, the indicator may be any known electronic device embedded within the personal device, and a corresponding scanner or reader may be adapted for reading the electronic device. The electronic device may be a RFID chip or any available smart chips, for example. In another example, the system may adapts near-field communication (NFC) means allowing the personal details and health/medical information to be retrieve from a personal device wirelessly through a device, such as a smart phone. It is well understood to a skilled person that may adapt any active and passive wireless communication means for extracting information from a personal device carried by the user without departing from the scope of the invention.

[0033] In another embodiment, the authentication module may preset the access right thereon to determine its access right. The access right may be pre-assigned by the relevant authority with the relevant access right that defines the accessible personal data. In such arrangement, the authentication module may allow the scanner to access the restricted date even without logging into the user portal, so that the user authentication code is not required to be included on the authentication code in **FIG. 5**.

[0034] The present invention provides a system and method for managing various sets of personal data, which are accessible by the responders according to their access right. Responder who is provided with the authentication right may access the restricted data that one cannot obtain without the user authentication code. It can effectively control personal data to be released while maintaining the user privacy.

[0035] While specific embodiments have been described and illustrated, it is understood that many changes, modifications, variations, and combinations thereof could be made to the present invention without departing from the scope of the invention.

Claims

1. A system for extracting personal particulars and health/medical information of a person in an emergency situation, the system comprising:

a centralized data center having subscribed users and relevant authority, wherein the personal particulars and health/medical information of each subscribed user are segmented into a general information and a restricted information;

a personal device for each subscribed user, wherein the personal device having an indicator that is unique to the subscribed user;

a scanner device adapted for scanning the identifier and it operationally communicates with the centralized data center to obtain at least the general information of the subscribed user, and the scanner device is accessible to the restricted information when it is given sufficient access right.

2. The system according to claim 1, wherein the indicator is a machine-readable code.

3. The system according to claim 1, wherein the scanner device is a mobile communication device having a optical imaging device, the optical imaging device is adapted for scanning and reading the indicator to extract the personal particulars and health/medical information therefrom.

4. The system according to claim 3, wherein the scanner device is deployed with generic machine-readable code module thereon for scanning and reading the indicator to extract the general information of the subscribed user.

5. The system according to claim 3, wherein the scanner device is deployed with a authentication module thereon for scanning and reading the indicator to extract the general information and the restricted information.

6. A method for extracting personal particulars and health/medical information of a person in an emergency situation, the method comprising:

subscribing users and relevant authority on a centralized data center;

storing the personal particulars and health/medical information of each subscribed user on the centralized data center;

segmenting the personal particulars and health/medical information of each subscribed user into a general information and a restricted information;

providing a personal device for each subscribed user, wherein the personal device having an indicator that is unique to the subscribed user;

scanning the indicator through a scanner device,

communicating with the centralized data center to obtain at least the general information of the subscribed user, and the scanner device is accessible to the restricted information when it is given sufficient access right.

7. The method according to claim 6, wherein the indicator is a machine-readable code.

8. The method according to claim 6, wherein the scanner device is a mobile communication device having a optical imaging device, the optical imaging device is adapted for scanning and reading the indicator to extract the personal particulars and health/medical information therefrom.

9. The method according to claim 8, wherein the scanner device is deployed with generic machine-readable code module thereon for scanning and reading the indicator to extract the general information of the subscribed user.

10. The method according to claim 8, wherein the scanner device is deployed with a authentication module thereon for scanning and reading the indicator to extract the general information and the restricted information.