CIVIL COVER SHEET

JS-44 (Rev. 6/17 DC)

I. (a) PLAINTIFFS

SOLOMON SYSTEMS, INC.

(b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF 88888
(EXCEPT IN U.S. PLAINTIFF CASES)

DEFENDANTS

THE DISTRICT OF COLUMBIA; MURIEL BOWSER, MAYOR, ACTING IN AN OFFICIAL CAPACITY; WAYNE TURNAGE, DIRECTOR, DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH CARE FINANCE, ACTING IN AN OFFICIAL CAPACITY; AND THE CHESAPEAKE REGIONAL INFORMATION SERVICE FOR OUR PATIENTS, DC

COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT _____
(IN U.S. PLAINTIFF CASES ONLY)
NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED

(c) ATTORNEYS (FIRM NAME, ADDRESS, AND TELEPHONE NUMBER)

Jonathan D. Link, Esq.
Morris, Manning & Martin, LLP
1401 Eye Street, N.W., Suite 600, Washington, D.C. 20005
Tel: (202) 971-4253

ATTORNEYS (IF KNOWN)

II. BASIS OF JURISDICTION
(PLACE AN x IN ONE BOX ONLY)

- ○ 1 U.S. Government Plaintiff
- ◉ 3 Federal Question (U.S. Government Not a Party)
- ○ 2 U.S. Government Defendant
- ○ 4 Diversity (Indicate Citizenship of Parties in item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (PLACE AN x IN ONE BOX FOR PLAINTIFF AND ONE BOX FOR DEFENDANT) **FOR DIVERSITY CASES ONLY!**

	PTF	DFT		PTF	DFT
Citizen of this State	○ 1	○ 1	Incorporated or Principal Place of Business in This State	○ 4	○ 4
Citizen of Another State	○ 2	○ 2	Incorporated and Principal Place of Business in Another State	○ 5	◉ 5
Citizen or Subject of a Foreign Country	○ 3	○ 3	Foreign Nation	○ 6	○ 6

IV. CASE ASSIGNMENT AND NATURE OF SUIT

(Place an X in one category, A-N, that best represents your Cause of Action and one in a corresponding Nature of Suit)

○ **A.** *Antitrust*

- ☐ 410 Antitrust

○ **B.** *Personal Injury/ Malpractice*

- ☐ 310 Airplane
- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- ☐ 360 Other Personal Injury
- ☐ 362 Medical Malpractice
- ☐ 365 Product Liability
- ☐ 367 Health Care/Pharmaceutical Personal Injury Product Liability
- ☐ 368 Asbestos Product Liability

○ **C.** *Administrative Agency Review*

- ☐ 151 Medicare Act

Social Security
- ☐ 861 HIA (1395ff)
- ☐ 862 Black Lung (923)
- ☐ 863 DIWC/DIWW (405(g))
- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

Other Statutes
- ☐ 891 Agricultural Acts
- ☐ 893 Environmental Matters
- ☐ 890 Other Statutory Actions (If Administrative Agency is Involved)

○ **D.** *Temporary Restraining Order/Preliminary Injunction*

Any nature of suit from any category may be selected for this category of case assignment.

(If Antitrust, then A governs)

◉ **E.** *General Civil (Other)* **OR** ○ **F.** *Pro Se General Civil*

Real Property
- ☐ 210 Land Condemnation
- ☐ 220 Foreclosure
- ☐ 230 Rent, Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
- ☐ 290 All Other Real Property

Personal Property
- ☐ 370 Other Fraud
- ☐ 371 Truth in Lending
- ☐ 380 Other Personal Property Damage
- ☐ 385 Property Damage Product Liability

Bankruptcy
- ☐ 422 Appeal 27 USC 158
- ☐ 423 Withdrawal 28 USC 157

Prisoner Petitions
- ☐ 535 Death Penalty
- ☐ 540 Mandamus & Other
- ☐ 550 Civil Rights
- ☐ 555 Prison Conditions
- ☐ 560 Civil Detainee – Conditions of Confinement

Property Rights
- ☐ 820 Copyrights
- ☒ 830 Patent
- ☐ 835 Patent – Abbreviated New Drug Application
- ☐ 840 Trademark

Federal Tax Suits
- ☐ 870 Taxes (US plaintiff or defendant)
- ☐ 871 IRS-Third Party 26 USC 7609

Forfeiture/Penalty
- ☐ 625 Drug Related Seizure of Property 21 USC 881
- ☐ 690 Other

Other Statutes
- ☐ 375 False Claims Act
- ☐ 376 Qui Tam (31 USC 3729(a))
- ☐ 400 State Reapportionment
- ☐ 430 Banks & Banking
- ☐ 450 Commerce/ICC Rates/etc.
- ☐ 460 Deportation
- ☐ 462 Naturalization Application
- ☐ 465 Other Immigration Actions
- ☐ 470 Racketeer Influenced & Corrupt Organization
- ☐ 480 Consumer Credit
- ☐ 490 Cable/Satellite TV
- ☐ 850 Securities/Commodities/ Exchange
- ☐ 896 Arbitration
- ☐ 899 Administrative Procedure Act/Review or Appeal of Agency Decision
- ☐ 950 Constitutionality of State Statutes
- ☐ 890 Other Statutory Actions (if not administrative agency review or Privacy Act)

○ G. *Habeas Corpus/ 2255* ☐ 530 Habeas Corpus – General ☐ 510 Motion/Vacate Sentence ☐ 463 Habeas Corpus – Alien Detainee	○ H. *Employment Discrimination* ☐ 442 Civil Rights – Employment (criteria: race, gender/sex, national origin, discrimination, disability, age, religion, retaliation) *(If pro se, select this deck)*	○ I. *FOIA/Privacy Act* ☐ 895 Freedom of Information Act ☐ 890 Other Statutory Actions (if Privacy Act) *(If pro se, select this deck)*	○ J. *Student Loan* ☐ 152 Recovery of Defaulted Student Loan (excluding veterans)
○ K. *Labor/ERISA (non-employment)* ☐ 710 Fair Labor Standards Act ☐ 720 Labor/Mgmt. Relations ☐ 740 Labor Railway Act ☐ 751 Family and Medical Leave Act ☐ 790 Other Labor Litigation ☐ 791 Empl. Ret. Inc. Security Act	○ L. *Other Civil Rights (non-employment)* ☐ 441 Voting (if not Voting Rights Act) ☐ 443 Housing/Accommodations ☐ 440 Other Civil Rights ☐ 445 Americans w/Disabilities – Employment ☐ 446 Americans w/Disabilities – Other ☐ 448 Education	○ M. *Contract* ☐ 110 Insurance ☐ 120 Marine ☐ 130 Miller Act ☐ 140 Negotiable Instrument ☐ 150 Recovery of Overpayment & Enforcement of Judgment ☐ 153 Recovery of Overpayment of Veteran's Benefits ☐ 160 Stockholder's Suits ☐ 190 Other Contracts ☐ 195 Contract Product Liability ☐ 196 Franchise	○ N. *Three-Judge Court* ☐ 441 Civil Rights – Voting (if Voting Rights Act)

V. ORIGIN

◉ 1 Original Proceeding ○ 2 Removed from State Court ○ 3 Remanded from Appellate Court ○ 4 Reinstated or Reopened ○ 5 Transferred from another district (specify) ○ 6 Multi-district Litigation ○ 7 Appeal to District Judge from Mag. Judge ○ 8 Multi-district Litigation – Direct File

VI. CAUSE OF ACTION (CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE A BRIEF STATEMENT OF CAUSE.)

Action for patent infringement under the laws of the United States, including 35 U.S.C. §§ 271, 281 and 284-285.

VII. REQUESTED IN COMPLAINT — CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23 — **DEMAND $** — **JURY DEMAND:** — Check YES only if demanded in complaint — YES ☒ NO ☐

VIII. RELATED CASE(S) IF ANY — (See instruction) — YES ☐ NO ☒ — If yes, please complete related case form.

DATE: 11/01/2019 — **SIGNATURE OF ATTORNEY OF RECORD** _____

INSTRUCTIONS FOR COMPLETING CIVIL COVER SHEET JS-44
Authority for Civil Cover Sheet

The JS-44 civil cover sheet and the information contained herein neither replaces nor supplements the filings and services of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. Consequently, a civil cover sheet is submitted to the Clerk of Court for each civil complaint filed. Listed below are tips for completing the civil cover sheet. These tips coincide with the Roman Numerals on the cover sheet.

I. COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF/DEFENDANT (b) County of residence: Use 11001 to indicate plaintiff if resident of Washington, DC, 88888 if plaintiff is resident of United States but not Washington, DC, and 99999 if plaintiff is outside the United States.

III. CITIZENSHIP OF PRINCIPAL PARTIES: This section is completed only if diversity of citizenship was selected as the Basis of Jurisdiction under Section II.

IV. CASE ASSIGNMENT AND NATURE OF SUIT: The assignment of a judge to your case will depend on the category you select that best represents the primary cause of action found in your complaint. You may select only one category. You must also select one corresponding nature of suit found under the category of the case.

VI. CAUSE OF ACTION: Cite the U.S. Civil Statute under which you are filing and write a brief statement of the primary cause.

VIII. RELATED CASE(S), IF ANY: If you indicated that there is a related case, you must complete a related case form, which may be obtained from the Clerk's Office.

Because of the need for accurate and complete information, you should ensure the accuracy of the information provided prior to signing the form.

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

SOLOMON SYSTEMS, INC., 2810 Foxglove Way, Springdale, Maryland, 20774 Plaintiff, v. THE DISTRICT OF COLUMBIA, 441 4th Street NW, Washington, DC 20001; MURIEL BOWSER, MAYOR, ACTING IN AN OFFICIAL CAPACITY, 441 4th Street NW, Washington, DC 20001; WAYNE TURNAGE, DIRECTOR, DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH CARE FINANCE, ACTING IN AN OFFICIAL CAPACITY, 441 4th Street NW, Washington, DC 20001; AND THE CHESAPEAKE REGIONAL INFORMATION SERVICE FOR OUR PATIENTS, DC, 1200 G Street NW, Suite 851, Washington, DC, 20005 Defendants.	**COMPLAINT** **DEMAND FOR JURY TRIAL**

Plaintiff Solomon Systems, Inc. ("Plaintiff" or "Solomon Systems") files this Complaint against the District of Columbia (the "District"), Muriel Bowser, Mayor, acting in an official capacity, Wayne Turnage, Director, the District of Columbia Department of Health Care Finance, acting in an official capacity (collectively, the "District of Columbia") and the Chesapeake Regional Information Services for our Patients, DC ("CRISP DC") (collectively the "Defendants"), for infringement of U.S. Patent Nos. 10,186,330 (the "'330 Patent"), 10,269,451 (the "'451 Patent") and 10,418,131 (the "'131 Patent")(collectively the "Asserted Patents").

THE PARTIES

1. Plaintiff Solomon Systems is a Maryland-incorporated company with a principal place of business at Springdale, Maryland, 20774.

2. Upon information and belief, Defendant District of Columbia is a government entity located at 441 4th Street NW, Washington, DC 20001.

3. Defendant Muriel Bowser, as Mayor of the District of Columbia, is the chief executive officer of the District, D.C. Code § 1-204.22, and is responsible for the District's compliance with federal law. Id. § 1-204.22(11). Defendant Bowser supervises the official conduct of all District administrative boards, offices, and agencies, including the Department of Health Care Finance ("DHCF"). Id. § 1-204.22(4). She appoints the directors of the DHCF. Id. §§ 7-771.04, 7-1141.03(1). Defendant Bowser is sued acting in an official capacity.

4. Defendant Wayne Turnage, is the Director of the DHCF, the District agency responsible for the administration of the District's Medicaid program. D.C. Code§ 7-771.07. Defendant Turnage supervises and directs DHCF's operations, including receiving, managing, and disbursing funds for various programs, including Medicare and the Health Information Exchange ("HIE") program. Id. § 7-771.05. Defendant Turnage is sued acting in an official capacity.

5. Defendant Chesapeake Regional Information Services for our Patients, DC ("CRISP DC"), is a regional HIE program serving the District of Columbia. http://dc.crisphealth.org/#home-page. The mission of CRISP DC is to "enable and support the healthcare community of the District and our region to appropriately and securely share data in order to facilitate care, reduce costs, and improve health outcomes." *Id.* CRISP DC has offices at 1200 G Street NW, Suite 851, Washington, DC, 20005. http://dc.crisphealth.org/contact-us/.

JURISDICTION AND VENUE

6. Plaintiff brings this action for patent infringement under the laws of the United States, including 35 U.S.C. §§ 271, 281 and 284-285. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331, 1338(a) and (b) and 1367.

7. Defendants are subject to this Court's specific and general personal jurisdiction pursuant to due process, due at least to their substantial business in the District of Columbia and this judicial district, including: committing acts of infringement in this judicial district as described herein; and regularly conducting or soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from goods and products sold and services provided to District of Columbia residents.

8. Venue is proper pursuant to 28 U.S.C. § 1400(b) because a substantial part of the events or omissions giving rise to the claims herein occurred in this district, and because all Defendants named herein maintain offices in and have a regular and established place of business in this district.

BACKGROUND FACTS

9. Solomon Systems was founded in 2009 and is based in Springdale, Maryland. Solomon Systems engages in the development of systems and technologies that assist in the sharing of patient medical information with medical service providers.

10. Solomon Systems recognized that patients may have difficulty effectively communicating medical information to medical service providers, such as nurses, doctors or emergency medical technicians ("EMT"). These difficulties can range from lack of understanding or education by the patient as to the medical information needed, incomplete information in the possession of the patient, or even the patient being physically incapable of communicating that information.

11. To combat these problems, Solomon Systems developed systems and technologies that allow patient information to be shared with medical services providers as needed.

12. Solomon Systems has invested substantial time, money and effort into creating, developing and protecting these and other products and methods. These efforts have included obtaining patent protection for its inventions.

THE '330 PATENT

13. On January 22, 2019, United States Patent No. 10,186,330 (the "'330 Patent") titled "System for Providing Identification and Information, and for Scheduling Alerts" was issued. A true and accurate copy of the '330 Patent is attached hereto as Exhibit A and made a part thereof.

14. Solomon Systems is the owner of the '330 patent, as evidenced by the assignment recorded on January 16, 2019 and is listed as an assignee on the face of the '330 patent.

15. The '330 Patent claims its earliest priority to Application No. 13/270,672, which was filed on October 11, 2011.

16. The '330 Patent incorporates by reference Application No. 15/173,331, Application No. 14/856,083 (now U.S Patent No. 9,390,231), Application No. 14/458,877 (now U.S. Patent No. 9,165,335), Application No. 13/917,374 (now U.S. Patent No. 8,833,649), Application No. 13/313,821 (now U.S. Patent No. 8,485,439) and Application No. 13/270,672 (now U.S. Patent No. 8,181,862).

17. The technology described in the '330 Patent includes a device and system to provide identification and medical information of a patient to a healthcare provider.

18. Each claim of the '330 Patent is presumed valid.

19. Each claim of the ‘330 Patent is directed to patent eligible subject matter under 35 U.S.C. § 101.

THE ‘451 PATENT

20. On April 23, 2019, United States Patent No. 10,269,451 (the “‘451 Patent”) titled “System for Providing Identification and Information, and for Scheduling Alerts” was issued. A true and accurate copy of the ‘451 Patent is attached hereto as Exhibit B and made a part thereof.

21. Solomon Systems is the owner of the ‘451 patent, as evidenced by the assignment recorded on December 6, 2017 and is listed as an assignee on the face of the ‘451 patent.

22. The ‘451 Patent claims its earliest priority to Application No. 13/270,672, which was filed on October 11, 2011.

23. The ‘451 Patent incorporates by reference Application No. 15/173,331, Application No. 14/856,083 (now U.S Patent No. 9,390,231), Application No. 14/458,877 (now U.S. Patent No. 9,165,335), Application No. 13/917,374 (now U.S. Patent No. 8,833,649), Application No. 13/313,821 (now U.S. Patent No. 8,485,439) and Application No. 13/270,672 (now U.S. Patent No. 8,181,862).

24. The technology described in the ‘451 Patent includes a device and system to provide identification and medical information of a patient to a healthcare provider.

25. Each claim of the ‘451 Patent is presumed valid.

26. Each claim of the ‘451 Patent is directed to patent eligible subject matter under 35 U.S.C. § 101.

THE ‘131 PATENT

27. On September 17, 2019, United States Patent No. 10,418,131 (the “‘131 Patent”) titled “System for Providing Identification and Information, and for Scheduling Alerts” was

issued. A true and accurate copy of the '131 Patent is attached hereto as Exhibit C and made a part thereof.

28. Solomon Systems is the owner of the '131 patent, as evidenced by the assignment recorded on August 2, 2019 and is listed as an assignee on the face of the '131 patent.

29. The '131 Patent claims its earliest priority to Application No. 13/270,672, which was filed on October 11, 2011.

30. The '131 Patent incorporates by reference Application No. 15/817,688, Application No. 15/173,331 (now U.S. Patent No. 10,061,895), Application No. 14/856,083 (now U.S Patent No. 9,390,231), Application No. 14/458,877 (now U.S. Patent No. 9,165,335), Application No. 13/917,374 (now U.S. Patent No. 8,833,649), Application No. 13/313,821 (now U.S. Patent No. 8,485,439) and Application No. 13/270,672 (now U.S. Patent No. 8,181,862).

31. The technology described in the '131 Patent includes a device and system to provide identification and medical information of a patient to a healthcare provider.

32. Each claim of the '131 Patent is presumed valid.

33. Each claim of the '131 Patent is directed to patent eligible subject matter under 35 U.S.C. § 101.

INFRINGEMENT OF THE '330 PATENT BY DEFENDANTS

34. The Department of Health Care Finance ("DHCF") is the District of Columbia's state Medicaid agency. The District of Columbia website states that:

> The mission of the Department of Health Care Finance is to improve health outcomes by providing access to comprehensive, cost-effective and quality healthcare services for residents of the District of Columbia.

https://dhcf.dc.gov/page/about-dhcf

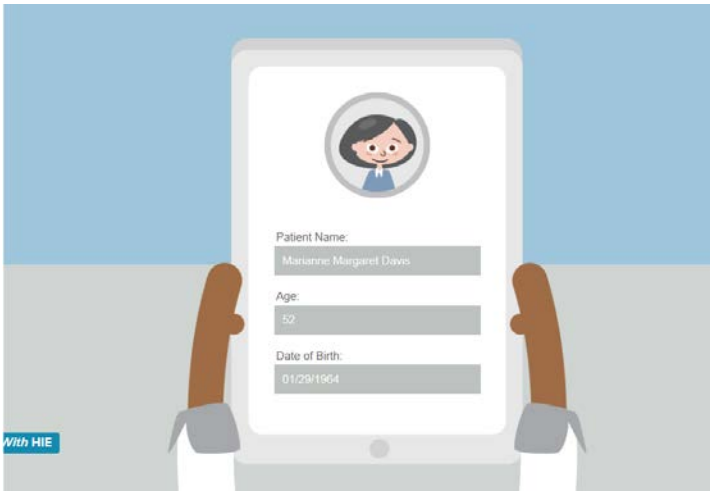
35. Among other things, the DHCF works with CRISP DC to administer the DC Health Information Exchange ("HIE"). The HIE helps connect health care stakeholders to improve care delivery and outcomes. More specifically:

> HIE provides some of the best tools to connect health system partners and gives providers the right information at the right time regardless of location, organization, or [electronic health records]. HIEs aggregate information from multiple sources and display specific health information for specific purposes to improve individual care, population health management, and the public's health.

https://dhcf.dc.gov/page/dc-hie

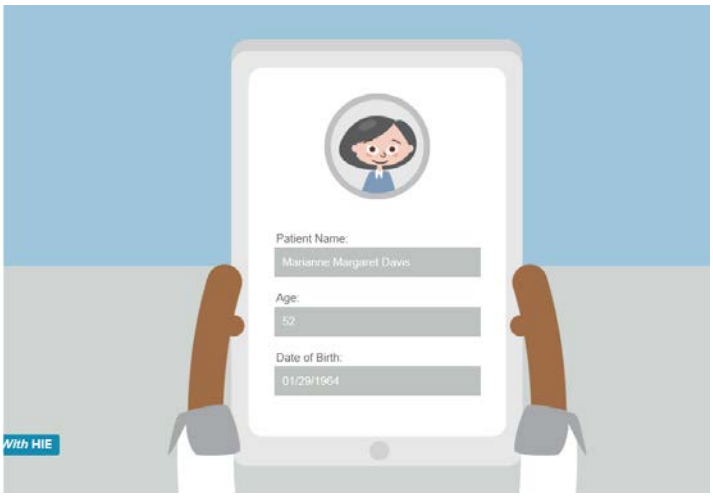
36. The District of Columbia website includes animations showing how patients and healthcare providers interact in the HIE system. These animations can be found at https://www.himss.org/library/health-information-exchange/improving-patient-care.

37. The HIE system allows a medical service provider to access patient information, wherein the device is portable and comprises a first system, such as a tablet.



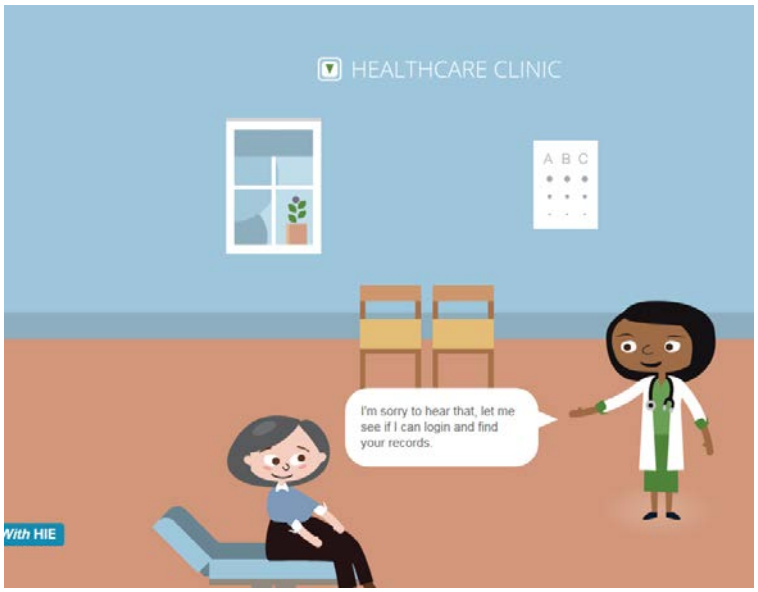
https://www.himss.org/library/health-information-exchange/improving-patient-care

38. The device used in the HIE includes a readable code that contains medical biographical information of a subject. The medical biographical information, among other things, includes the patient's name, age and date of birth.



https://www.himss.org/library/health-information-exchange/improving-patient-care

39. The medical biographical information from the HIE allows responders, such as a medical practitioner using the tablet, to obtain the subject's medical information in order to provide care.



https://www.himss.org/library/health-information-exchange/improving-patient-care

40. A programmable reporter element, such as a graphical user interface on the tablet, is programmed to electronically store at least one particular event relating to the subject. By way of example, the one particular event may be a medical condition or a hospitalization.

https://www.himss.org/library/health-information-exchange/improving-patient-care

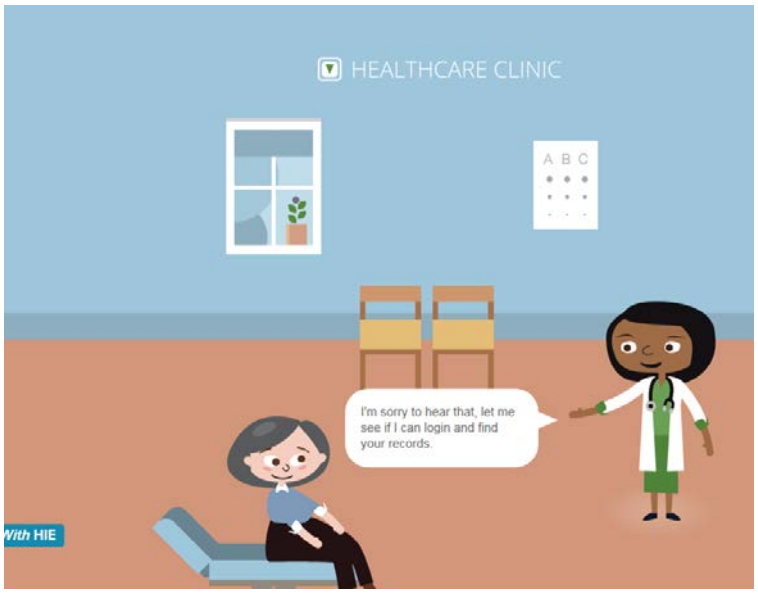
41. The tablet has a signal producing element that functionally relates to the programmable reporter element.

https://www.himss.org/library/health-information-exchange/improving-patient-care

42. The programmable reporter element is further programmed to provide a signal to the functionally related signal producing element to inform a user of the device of the at least one particular event relating to the subject. For example, information is provided about hospitalizations, prescriptions, etc., so that the user of the device, e.g., practitioner, is informed of the at least one particular event relating to the subject.

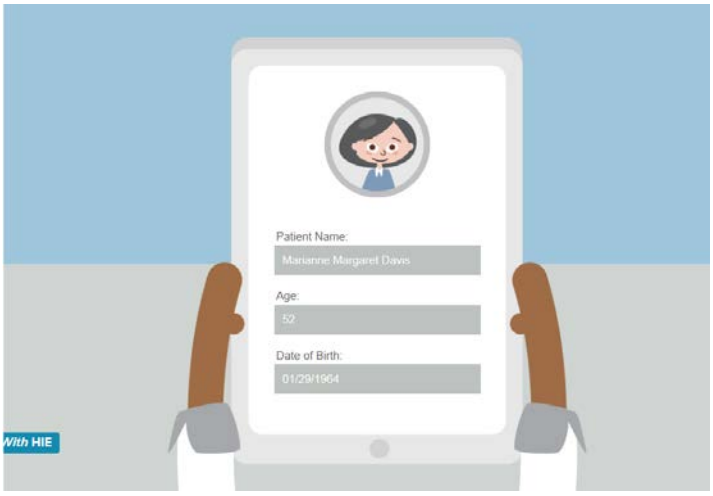
https://www.himss.org/library/health-information-exchange/improving-patient-care

43. The programmable element is programmed by a second system, e.g., the HIE system.



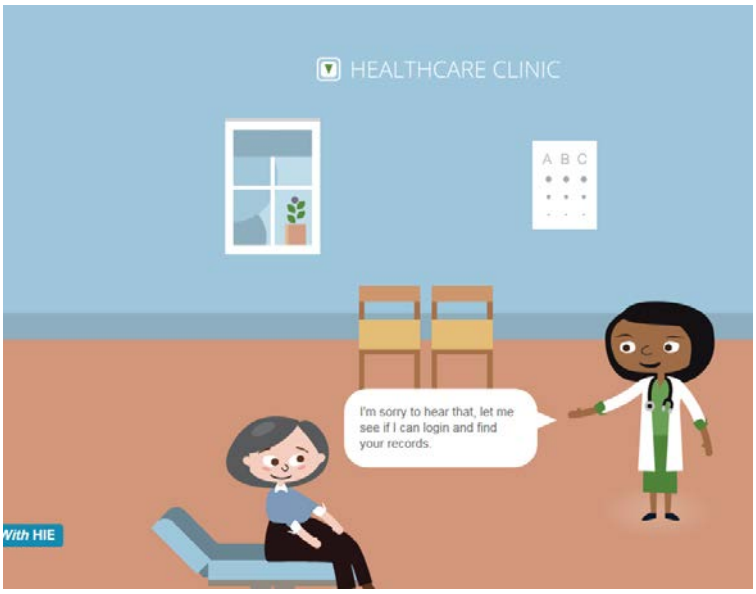
https://www.himss.org/library/health-information-exchange/improving-patient-care

44. The device, e.g., the tablet, is not linked to a medical sensor.



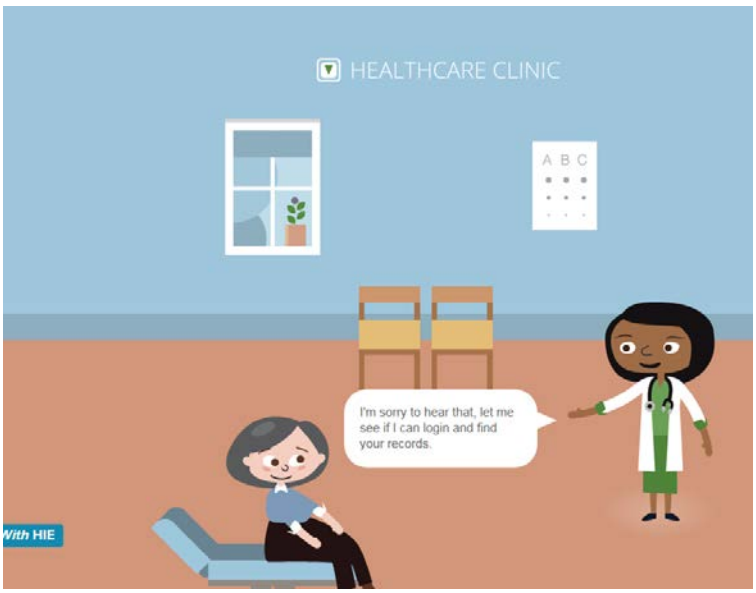
https://www.himss.org/library/health-information-exchange/improving-patient-care

45. Based on information and belief, the records, as referred to by a medical practitioner in the HIE animation, contain stored information about a scheduled or past appointment.



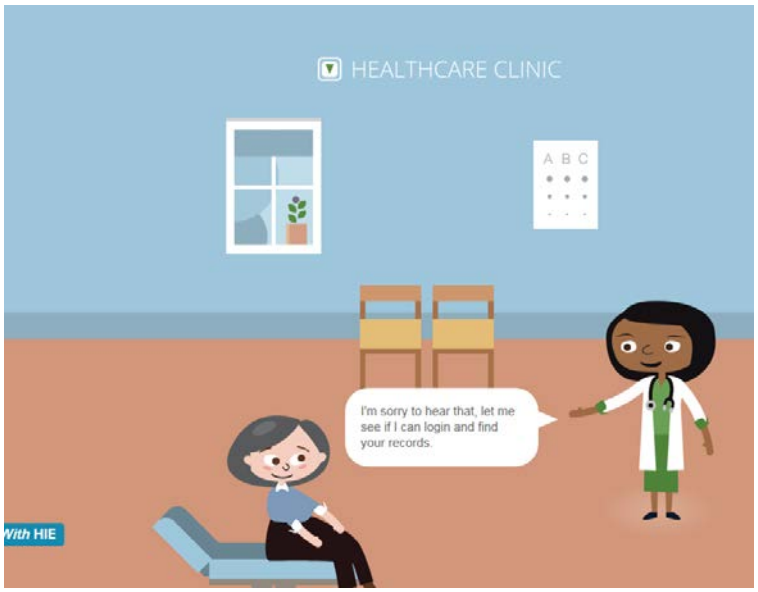
https://www.himss.org/library/health-information-exchange/improving-patient-care

46. Based on information and belief, the records, as referred to by a medical practitioner in the HIE animation, contain stored information about a scheduled or past medical appointment.



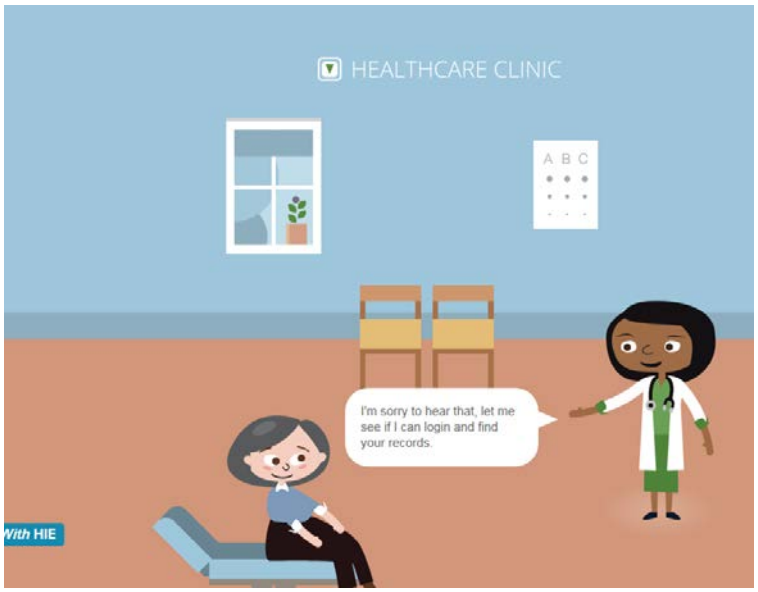
https://www.himss.org/library/health-information-exchange/improving-patient-care

47. Based on information and belief, the records, as referred to by a medical practitioner in the HIE animation, contain stored information about scheduled or past medical appointments for at least one of a physical examination, a physical therapy session, a mental examination and a mental therapy session.



https://www.himss.org/library/health-information-exchange/improving-patient-care

48. Based on information and belief, the records, as referred to by a medical practitioner in the HIE animation, contain stored information about a scheduled or past follow-up to a visit by the subject to a medical facility, such as a healthcare clinic.



https://www.himss.org/library/health-information-exchange/improving-patient-care

49. The device, e.g., the tablet, has a reporter element that is programmed to issue a signal at a predetermined time prior to the at least one particular event. For example, the animation below shows the results of a signal that indicates the patient "should refill every month." Based on information and belief, once a refill occurs, it signals to the user of the tablet when the next refill needs to take place.

https://www.himss.org/library/health-information-exchange/improving-patient-care

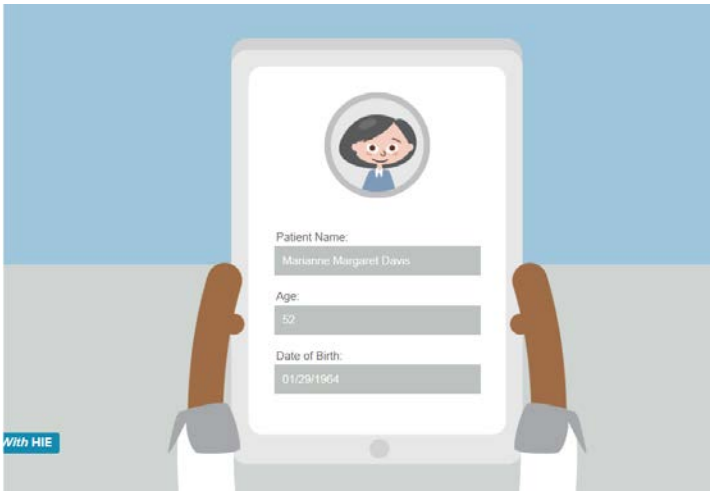
50. The device, e.g., the tablet, has a signal that repeats or remains until the subject fulfills the event and the reporter element is reset. For example, the animation below shows the results of a signal that indicates the patient "should refill every month." Based on information and belief, the signal repeats to the user of the tablet until the medication is refilled, and then resets to when the next refill needs to take place.

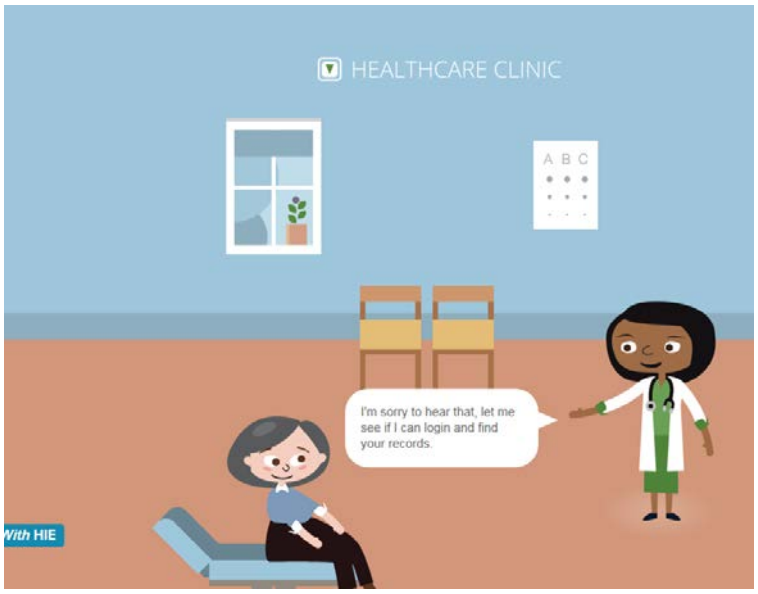
https://www.himss.org/library/health-information-exchange/improving-patient-care

51. The device, e.g., the tablet, has a reporter element that is programmed to issue a signal at a predetermined time prior to the at least one particular event. For example, the animation below shows the results of a signal that indicates the patient "should refill every month." Based on information and belief, the medical practitioner using the tablet would reset the reporter element.

https://www.himss.org/library/health-information-exchange/improving-patient-care

52. The medical biological information includes, among other things, at least the patient's name, date of birth, medical conditions, and medical records.





https://www.himss.org/library/health-information-exchange/improving-patient-care

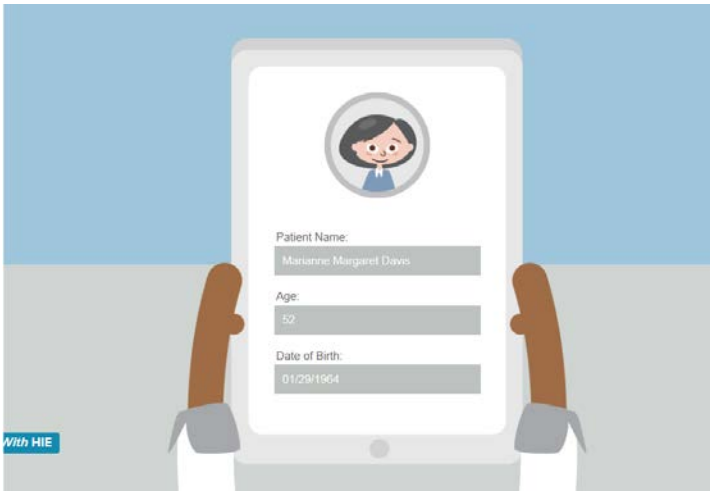
53. The device, e.g., the tablet, has a programmable reporter element that is programmed to be reset after the subject fulfills the event. For example, the animation below shows the results of a signal that indicates the patient "should refill every month." Based on information and belief, the signal is reset after the medication prescription is refilled.

https://www.himss.org/library/health-information-exchange/improving-patient-care

54. As shown in paragraphs 34-53 above, the HIE contains all of the elements of at least claims 1-8, 10 and 16 of the ‘330 patent.

INFRINGEMENT OF THE ‘451 PATENT BY DEFENDANTS

55. The HIE system provides a method that assists practitioners in identifying and providing appropriate care, where the method first involves collecting medical biographical information about the subject. The medical biographical information includes, among other things, the patient’s name, age and date of birth.



https://www.himss.org/library/health-information-exchange/improving-patient-care

56. The collected medical biographical information, which includes the medical history of the subject, is stored in a database. By way of example, the medical history may include a medical condition or a hospitalization.

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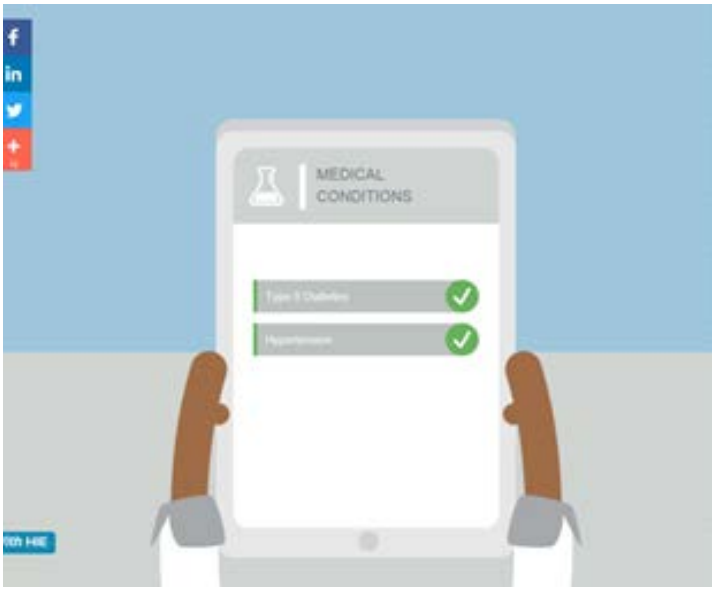
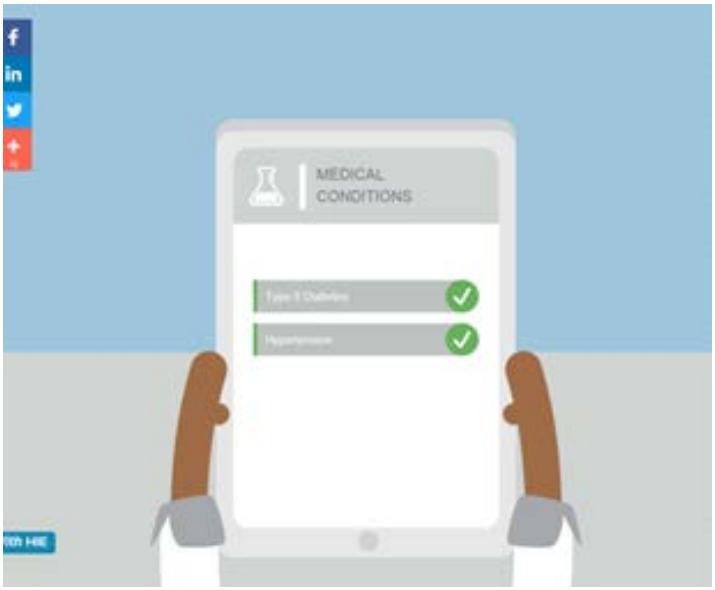
57. The method also permits adding the medical biographical information in a readable code of a portable device, such as a tablet. For example, the animation below shows that information about medical conditions or recent hospitalizations is sent to the device, e.g., the tablet. Based on information and belief, the medical biographical information may also be updated via the practitioner using the device. The device, e.g., the tablet is not linked to a medical sensor.



https://www.himss.org/library/health-information-exchange/improving-patient-care

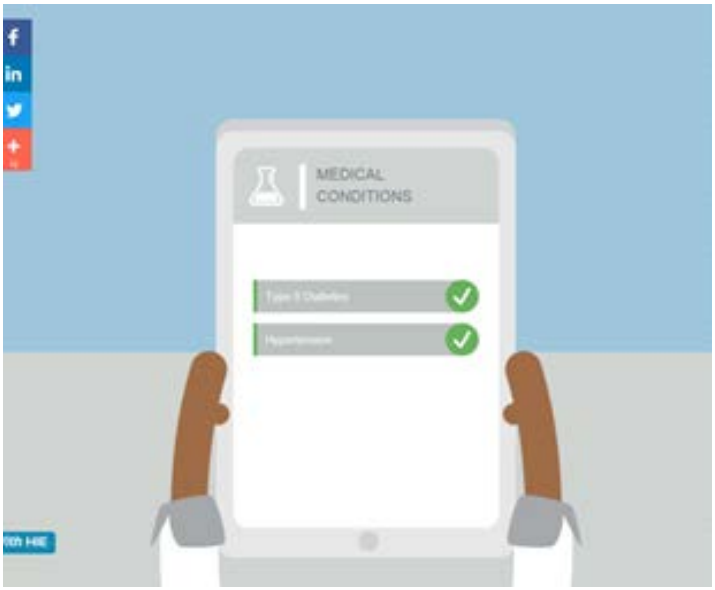
58. The medical biographical information is displayed, such as on the tablet.



https://www.himss.org/library/health-information-exchange/improving-patient-care

59. A programmable reporter element, such as a graphical user interface on the tablet, is programmed to electronically store at least one particular event relating to the subject. The tablet also has a signal producing element that is functionally connected to the programmable

reporter element and is part of the tablet. By way of example, the one particular event may be a medical condition or a hospitalization.



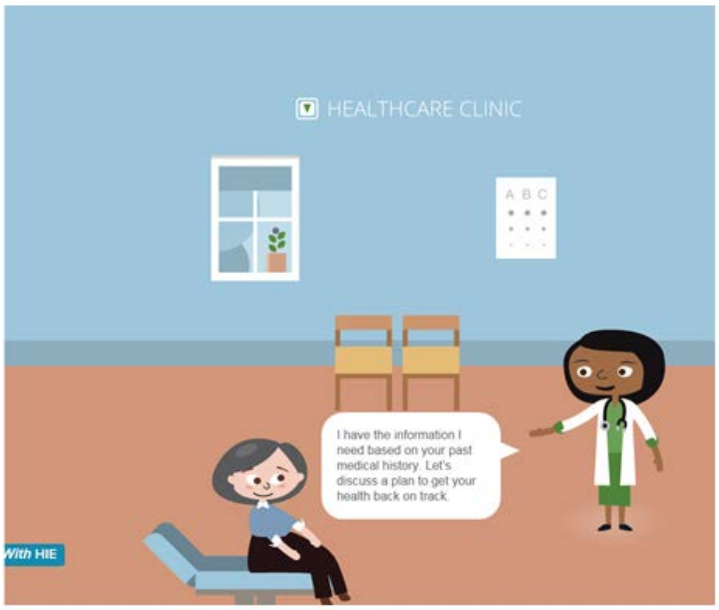
https://www.himss.org/library/health-information-exchange/improving-patient-care

60. The programmable reporter element is further programmed to provide a signal to the functionally related signal producing element to inform a user of the device of the at least one particular event relating to the subject. For example, information is provided about

hospitalizations, prescriptions, etc., so that the user of the device, e.g., practitioner, is informed of the at least one particular event relating to the subject. On information and belief, the particular event is also stored on a second system in the HIE.

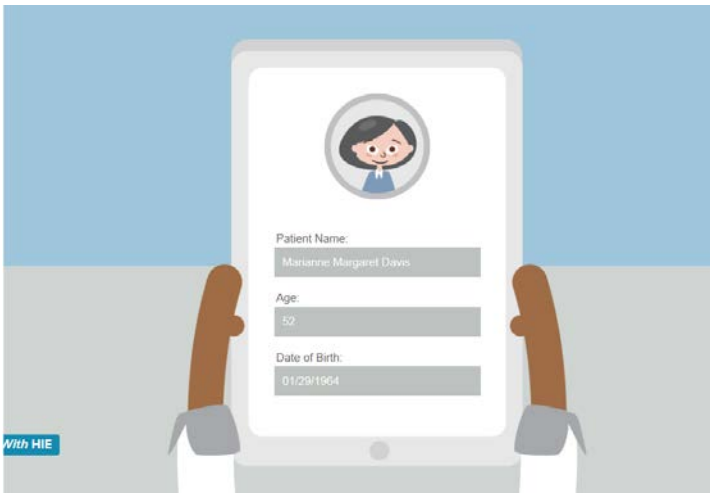
https://www.himss.org/library/health-information-exchange/improving-patient-care

61. A plan for medical care is developed by the practitioner based on at least one particular event, e.g., a hospitalization, prescription, or medical event, of the subject.



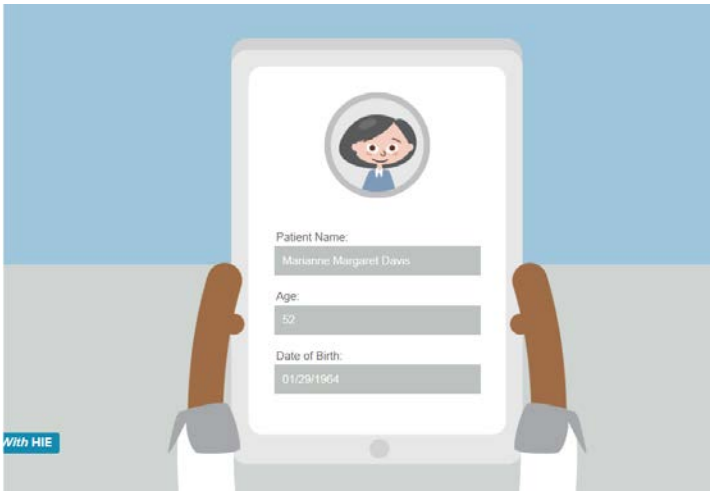
https://www.himss.org/library/health-information-exchange/improving-patient-care

62. On information and belief, the portable devices, e.g., tablets, used with the HIE system are solid state devices.



https://www.himss.org/library/health-information-exchange/improving-patient-care

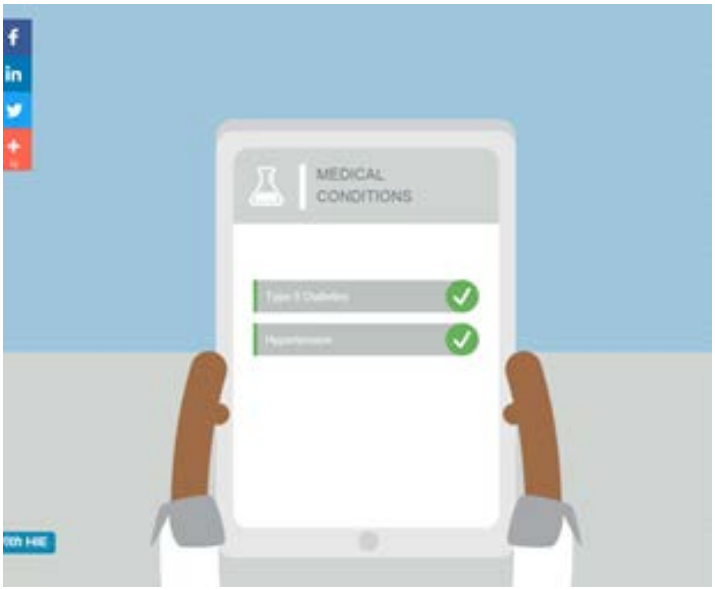
63. The information is displayed on the tablet in an integrated display.



https://www.himss.org/library/health-information-exchange/improving-patient-care

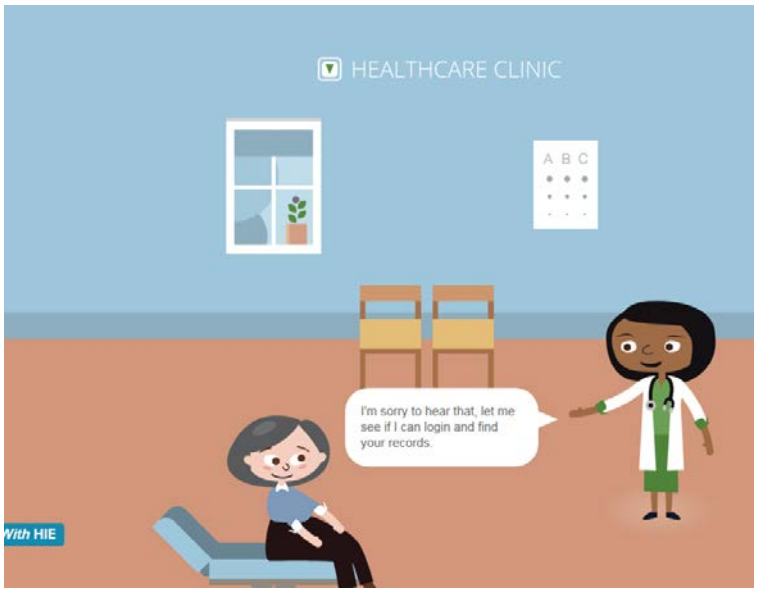
64. The portable device, e.g., the tablet is used by a medical practitioner who receives the medical biographical information, such as at the medical practitioner's office. By way of

example, the medical biographical information received may be a medical condition or a hospitalization.



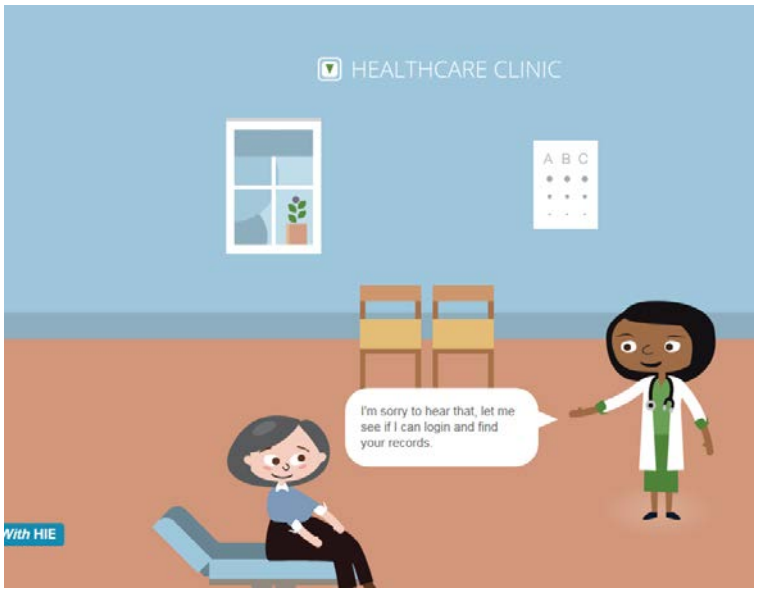
https://www.himss.org/library/health-information-exchange/improving-patient-care

65. The care is at a medical facility, such as a health care clinic.



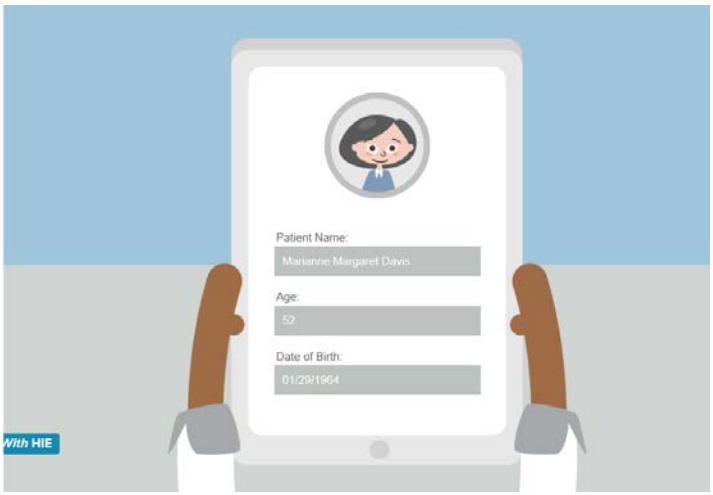
https://www.himss.org/library/health-information-exchange/improving-patient-care

66. The user is a medical professional, such as a doctor.



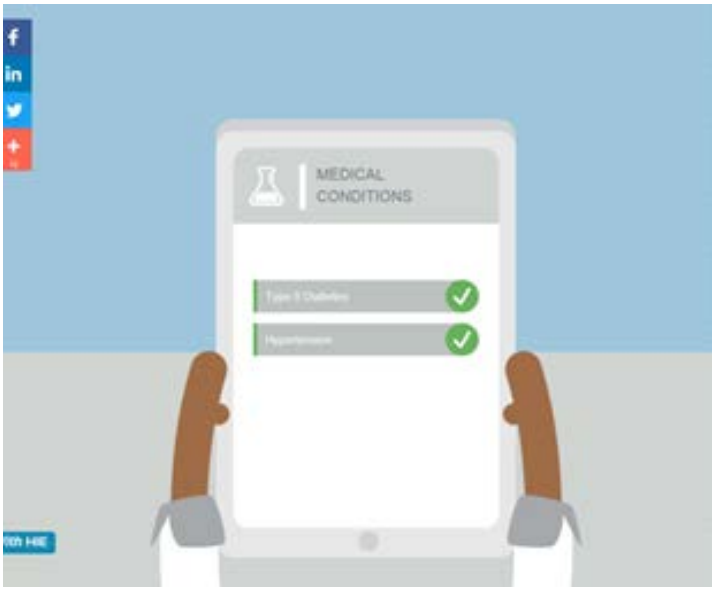
https://www.himss.org/library/health-information-exchange/improving-patient-care

67. The HIE system assists practitioners in identifying and providing appropriate care of a subject using a portable device, such as a tablet.



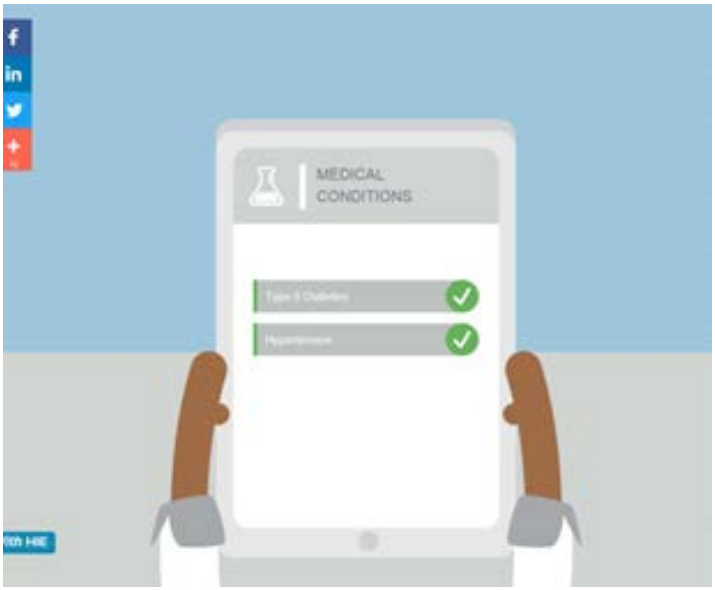
https://www.himss.org/library/health-information-exchange/improving-patient-care

68. Collected medical biographical information, which includes the medical history of the subject, is stored in a database. By way of example, the medical history may include a medical condition or a hospitalization.



https://www.himss.org/library/health-information-exchange/improving-patient-care

69. The method also permits adding the medical biographical information in a readable code of a portable device, such as a tablet. For example, the animation below shows that information about medical conditions or recent hospitalizations. The device, e.g., the tablet is not linked to a medical sensor.



https://www.himss.org/library/health-information-exchange/improving-patient-care

70. The medical biographical information is displayed, such as on the tablet.

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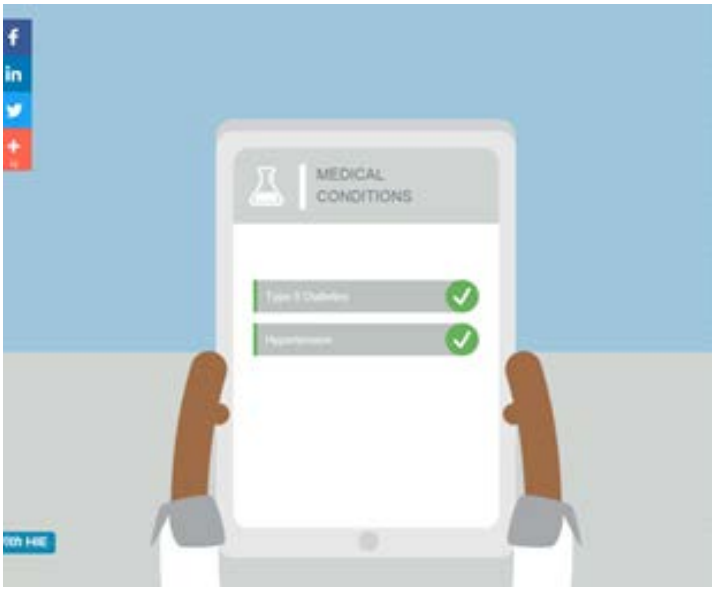
71. A programmable reporter element, such as a graphical user interface on the tablet, is programmed to electronically store at least one particular event relating to the subject. The tablet also has a signal producing element that is functionally connected to the programmable reporter element and is part of the table. By way of example, the one particular event may be a medical condition or a hospitalization.

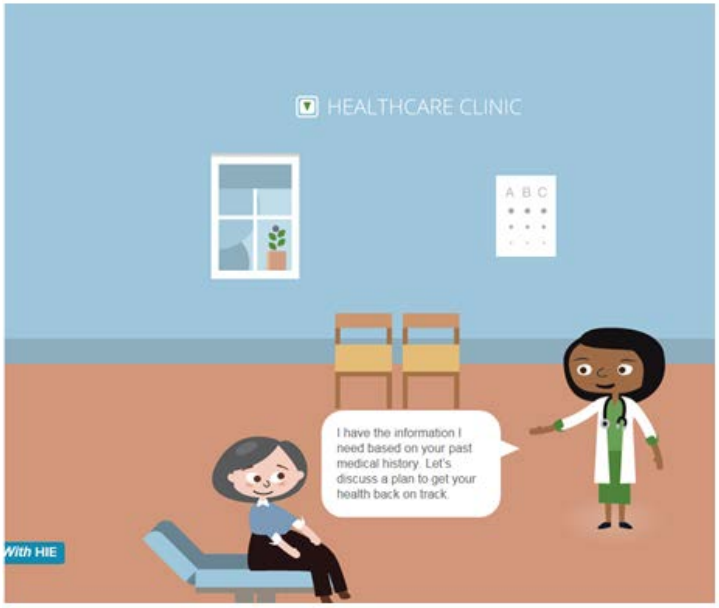


https://www.himss.org/library/health-information-exchange/improving-patient-care

72. The programmable reporter element is further programmed to provide a signal to the functionally related signal producing element to inform a user of the device of the at least one particular event relating to the subject. For example, information is provided about hospitalizations, prescriptions, etc., so that the user of the device, e.g., a medical practitioner, is informed of the at least one particular event relating to the subject. On information and belief, the particular event is also stored on a second system in the HIE.

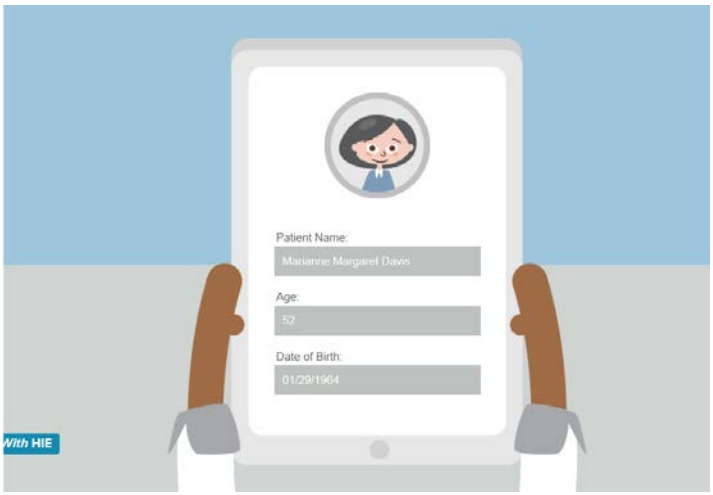
https://www.himss.org/library/health-information-exchange/improving-patient-care

73. The plan for medical care is developed by the practitioner based on at least one particular event, e.g., a hospitalization, prescription, or medical event, of the subject.



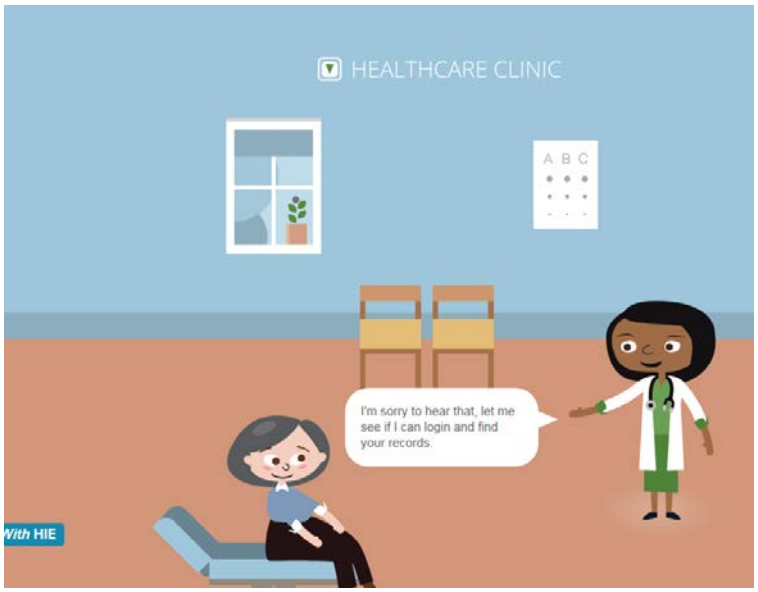
https://www.himss.org/library/health-information-exchange/improving-patient-care

74. On information and belief, the portable devices, e.g., tablets, used with the HIE system are solid state devices.



https://www.himss.org/library/health-information-exchange/improving-patient-care

75. The user is at a medical professional, such as a doctor.

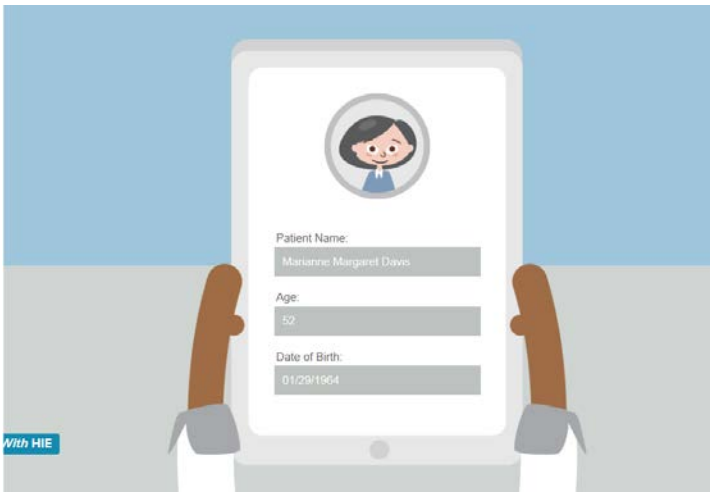


https://www.himss.org/library/health-information-exchange/improving-patient-care

76. As shown in paragraphs 55-75 above, the HIE contains all of the elements of at least claims 1-4 and 8-12 of the ‘451 patent.

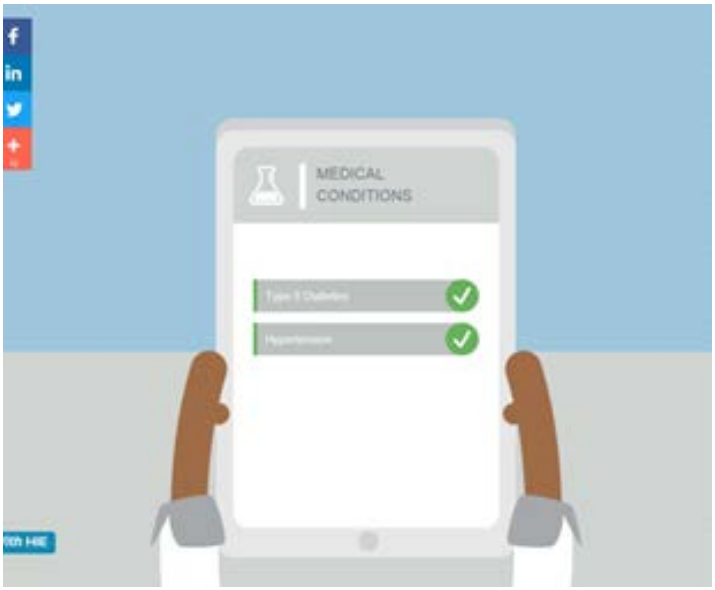
INFRINGEMENT OF THE ‘131 PATENT BY DEFENDANTS

77. The HIE system provides a method that assists practitioners in identifying and providing appropriate care, where the method first involves collecting medical biographical information about the subject. The medical biographical information includes, among other things, the patient's name, age and date of birth.



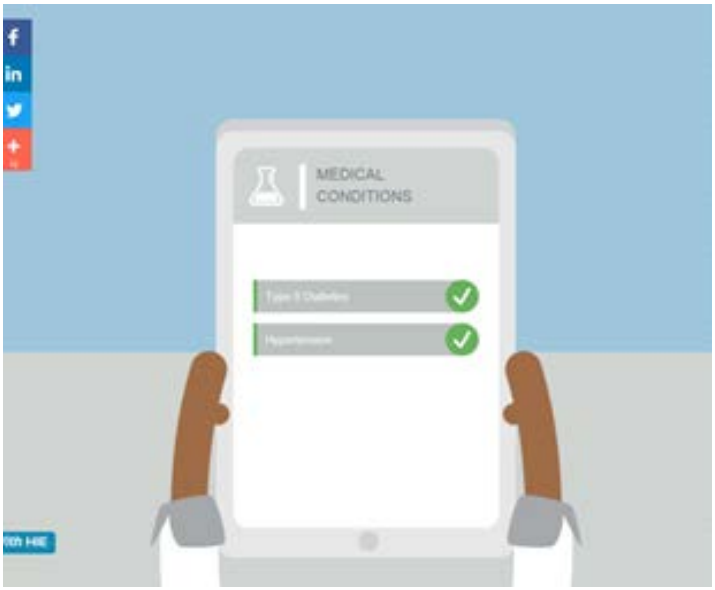
https://www.himss.org/library/health-information-exchange/improving-patient-care

78. The collected medical biographical information, which includes the medical history of the subject, is stored in a first database. By way of example, the medical history may include a medical condition or a hospitalization.



https://www.himss.org/library/health-information-exchange/improving-patient-care

79. A programmable reporter element, such as a graphical user interface on the tablet, is programmed to electronically store at least a first event relating to the subject. The programmable reporter element belongs to a first system. By way of example, the one particular event may be a medical condition or a hospitalization.



https://www.himss.org/library/health-information-exchange/improving-patient-care

80. The tablet has a signal producing element that functionally relates to the programmable reporter element. The signal producing element belongs to the first system.

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81. The programmable reporter element is further programmed to provide a signal to the functionally linked signal producing element to inform a user of a second event relating to

the subject. For example, information is provided about hospitalizations, prescriptions, etc., so that the user of the device, e.g., a medical practitioner, is informed of the at least one particular event relating to the subject.

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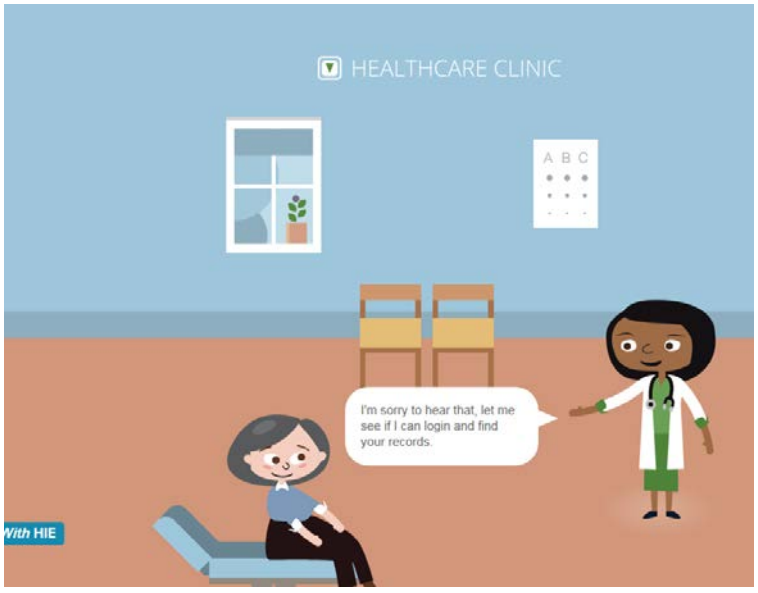
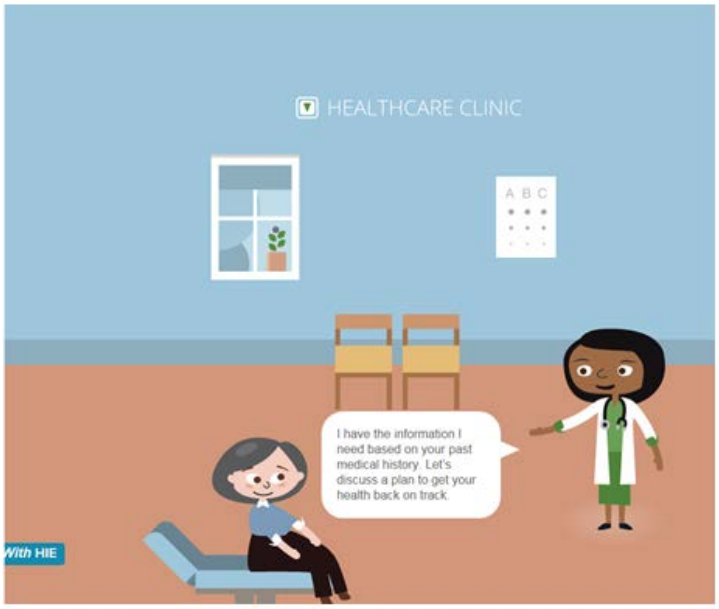
82. The second event relating to the subject is electrically stored by a second system, e.g., the HIE system.



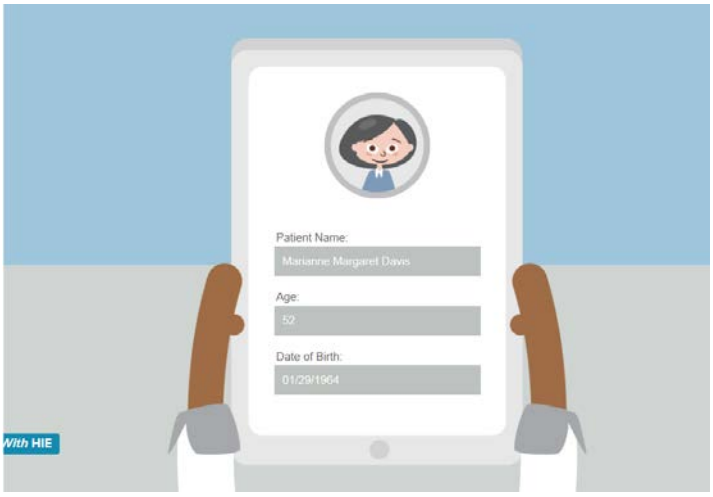
https://www.himss.org/library/health-information-exchange/improving-patient-care

83. A plan for medical care for the subject is developed based on the first and second events relating to the subject.



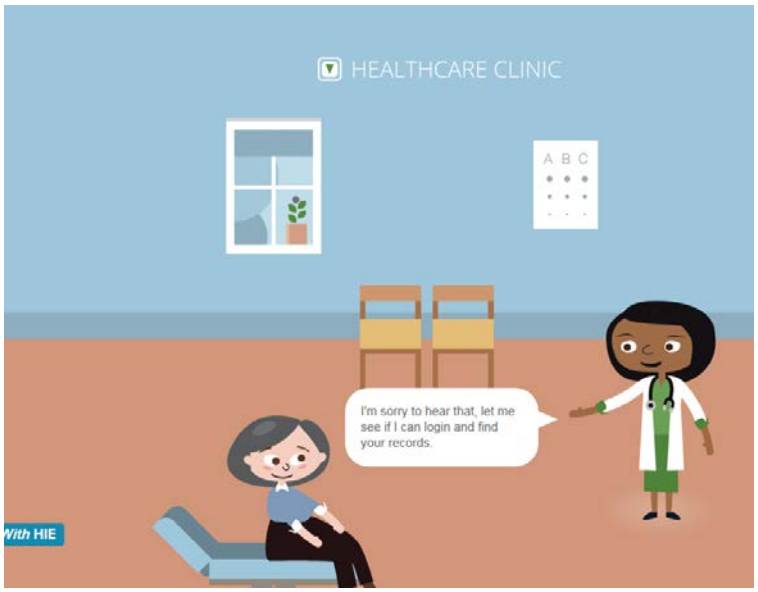
https://www.himss.org/library/health-information-exchange/improving-patient-care

84. The signal producing element is a portable device, i.e., a tablet.



https://www.himss.org/library/health-information-exchange/improving-patient-care

85. The user is a medical professional, such as a doctor.



https://www.himss.org/library/health-information-exchange/improving-patient-care

86. As shown in paragraphs 77-85 above, the HIE contains all of the elements of at least claims 1, 2 and 6 of the '131 patent.

COUNT I

(INFRINGEMENT OF U.S. PATENT NO. 10,186,330)

87. Plaintiff incorporates paragraphs 1 through 86 herein by reference.

88. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq*.

89. Plaintiff is the owner by assignment of all right, title and interest in the '330 patent, include all right to enforce, sue and recover damages for past and future infringement. A copy of the '330 Patent is attached as Exhibit A.

90. The '330 Patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

DIRECT INFRINGEMENT (35 U.S.C. § 271(a))

91. Plaintiff incorporates paragraphs 1 through 90 herein by reference.

92. One or more Defendants have, and continue to, directly infringe one or more claims of the ‘330 Patent in this judicial district, and elsewhere in the United States.

93. Defendants are liable for these infringements of the ‘330 Patent pursuant to 35 U.S.C. § 271.

94. Defendants have had knowledge of infringement of the ‘330 Patent since at least March 15, 2019, or will have knowledge of infringement of the ‘330 Patent no later than the service of this Complaint. Defendants’ infringement of the ‘330 Patent is thus knowing and intentional.

95. In particular, one or more Defendants have, and continues to, infringe at least claims 1-8, 10, and 16 of the ‘330 Patent by, among other things, making, using, selling, offering for sale or offering for the use by others, the HIE.

96. Defendants do not have a license or authorization to use any product or system covered by the claims of the ‘330 Patent.

97. As a direct and proximate result of Defendants’ direct infringement of the ‘330 Patent, Plaintiff has been and continues to be damaged.

98. By engaging in the conduct described herein, Defendants have injured Plaintiff and are thus liable for direct infringement of the ‘330 Patent, pursuant to 35 U.S.C. § 271(a).

99. As a result of Defendants’ infringement of the ‘330 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendants’ past infringement, together with interests and costs.

100. If infringement of the ‘330 Patent by Defendants is not enjoined, Plaintiff will suffer substantial and irreparable harm now and in the future for which there is no adequate remedy at law.

INDIRECT INFRINGEMENT (INDUCEMENT - 35 U.S.C. § 271(b))

101. Each of the preceding paragraphs 1 through 100 are realleged and incorporated as if fully set forth.

102. In violation of at least 35 U.S.C. §§ 271, Defendants are now, and have been indirectly infringing the ‘330 Patent.

103. Defendants have indirectly infringed and continue to indirectly infringe at least claims 1-8, 10 and 16 of the ‘330 Patent by actively inducing and/or contributing to its respective customers, users, and/or licensees to directly infringe by providing and using the HIE. Defendants engaged or will have engaged in such indirect infringement having knowledge of the ‘330 Patent. Defendants also knew or should have known that their actions would result in direct infringement by others and intended that their actions would result in direct infringement by others. For example, Defendants sell, offer to sell, and encourage the use of the HIE.

104. Furthermore, Defendants’ use of the HIE is facilitated by the use of the system described and claimed in the ‘330 Patent. As a direct and proximate result of Defendants’ indirect infringement of the ‘330 Patent, Plaintiff has been and continues to be damaged.

105. Defendants and its customers, licensees, or users do not have a license to the ‘330 Patent and are not authorized to use the ‘330 Patent.

106. Defendant have had knowledge of infringement of the ‘330 Patent since at least March 15, 2019, or will have knowledge of infringement of the ‘330 Patent no later than the service of this Complaint. Defendants’ indirect infringement of the ‘330 Patent is thus knowing and intentional.

107. As a result of Defendants' indirect infringement of the '330 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendants' past infringement, together with interests and costs.

108. If Defendants' direct and indirect infringement of the '330 Patent is not enjoined, Plaintiff will suffer substantial and irreparable harm now and in the future for which there is no adequate remedy at law.

COUNT II

(INFRINGEMENT OF U.S. PATENT NO. 10,269,451)

109. Plaintiff incorporates paragraphs 1 through 108 herein by reference.

110. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq*.

111. Plaintiff is the owner by assignment of all right, title and interest in the '451 Patent, include all right to enforce, sue and recover damages for past and future infringement. A copy of the '451 Patent is attached as Exhibit B.

112. The '451 Patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

DIRECT INFRINGEMENT (35 U.S.C. § 271(a))

113. Plaintiff incorporates paragraphs 1 through 112 herein by reference.

114. One or more Defendants have, and continue to, directly infringe one or more claims of the '451 Patent in this judicial district, and elsewhere in the United States.

115. Defendants are liable for these infringements of the '451 Patent pursuant to 35 U.S.C. § 271.

116. Defendants have had knowledge of infringement of the ‘451 Patent since at least no later than the service of this Complaint. Defendants’ infringement of the ‘451 Patent will thus be knowing and intentional.

117. In particular, one or more Defendants have, and continues to, infringe at least claims 1-4 and 8-12 of the ‘451 Patent by, among other things, making, using, selling, offering for sale or offering for the use by others, the HIE.

118. Defendants do not have a license or authorization to use any product or system covered by the claims of the ‘451 Patent.

119. As a direct and proximate result of Defendants’ direct infringement of the ‘451 Patent, Plaintiff has been and continues to be damaged.

120. By engaging in the conduct described herein, Defendants have injured Plaintiff and are thus liable for direct infringement of the ‘451 Patent, pursuant to 35 U.S.C. § 271(a).

121. As a result of Defendants’ infringement of the ‘451 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendants’ past infringement, together with interests and costs.

122. If infringement of the ‘451 Patent by Defendants is not enjoined, Plaintiff will suffer substantial and irreparable harm now and in the future for which there is no adequate remedy at law.

INDIRECT INFRINGEMENT (INDUCEMENT - 35 U.S.C. § 271(b))

123. Each of the preceding paragraphs 1 through 122 are realleged and incorporated as if fully set forth.

124. In violation of at least 35 U.S.C. §§ 271, Defendants are now, and have been indirectly infringing the ‘451 Patent.

125. Defendants have indirectly infringed and continue to indirectly infringe at least claims 1-4 and 8-12 of the ‘451 Patent by actively inducing and/or contributing to its respective customers, users, and/or licensees to directly infringe by providing and using the HIE. Defendants engaged or will have engaged in such indirect infringement having knowledge of the ‘451 Patent. Defendants also knew or should have known that their actions would result in direct infringement by others and intended that their actions would result in direct infringement by others. For example, Defendants sell, offer to sell, and encourage the use of the HIE.

126. Furthermore, Defendants’ use of the HIE is facilitated by the use of the system described and claimed in the ‘451 Patent. As a direct and proximate result of Defendants’ indirect infringement of the ‘451 Patent, Plaintiff has been and continues to be damaged.

127. Defendants and its customers, licensees, and users do not have a license to the ‘451 Patent and are not authorized to use the ‘451 Patent.

128. Defendants have had knowledge of their infringement of the ‘451 Patent since at least no later than the service of this Complaint. Defendants’ indirect infringement of the ‘451 Patent will thus be knowing and intentional.

129. As a result of Defendants’ indirect infringement of the ‘451 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendants’ past infringement, together with interests and costs.

130. If Defendants’ direct and indirect infringement of the ‘451 Patent is not enjoined, Plaintiff will suffer substantial and irreparable harm now and in the future for which there is no adequate remedy at law.

COUNT III

(INFRINGEMENT OF U.S. PATENT NO. 10,418,131)

131. Plaintiff incorporates paragraphs 1 through 130 herein by reference.

132. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq*.

133. Plaintiff is the owner by assignment of all right, title and interest in the '131 Patent, include all right to enforce, sue and recover damages for past and future infringement. A copy of the '131 Patent is attached as Exhibit C.

134. The '131 Patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

DIRECT INFRINGEMENT (35 U.S.C. § 271(a))

135. Plaintiff incorporates paragraphs 1 through 134 herein by reference.

136. One or more Defendants have, and continue to, directly infringe one or more claims of the '131 Patent in this judicial district, and elsewhere in the United States.

137. Defendants are liable for these infringements of the '131 Patent pursuant to 35 U.S.C. § 271.

138. Defendants have had knowledge of infringement of the '131 Patent since at least no later than the service of this Complaint. Defendants' infringement of the '131 Patent will thus be knowing and intentional.

139. In particular, one or more Defendants have, and continues to, infringe at least claims 1, 2 and 6 of the '131 Patent by, among other things, making, using, selling, offering for sale or offering for the use by others, the HIE.

140. Defendants do not have a license or authorization to use any product or system covered by the claims of the ‘131 Patent.

141. As a direct and proximate result of Defendants’ direct infringement of the ‘131 Patent, Plaintiff has been and continues to be damaged.

142. By engaging in the conduct described herein, Defendants have injured Plaintiff and are thus liable for direct infringement of the ‘131 Patent, pursuant to 35 U.S.C. § 271(a).

143. As a result of Defendants’ infringement of the ‘131 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendants’ past infringement, together with interests and costs.

144. If infringement of the ‘131 Patent by Defendants is not enjoined, Plaintiff will suffer substantial and irreparable harm now and in the future for which there is no adequate remedy at law.

INDIRECT INFRINGEMENT (INDUCEMENT - 35 U.S.C. § 271(b))

145. Each of the preceding paragraphs 1 through 144 are realleged and incorporated as if fully set forth.

146. In violation of at least 35 U.S.C. §§ 271, Defendants are now, and have been indirectly infringing the ‘131 Patent.

147. Defendants have indirectly infringed and continue to indirectly infringe at least claims 1, 2 and 6 of the ‘131 Patent by actively inducing and/or contributing to its respective customers, users, and/or licensees to directly infringe by providing and using the HIE. Defendants engaged or will have engaged in such indirect infringement having knowledge of the ‘131 Patent. Defendants also knew or should have known that their actions would result in direct

infringement by others and intended that their actions would result in direct infringement by others. For example, Defendants sell, offer to sell, and encourage the use of the HIE.

148. Furthermore, Defendants' use of the HIE is facilitated by the use of the system described and claimed in the '131 Patent. As a direct and proximate result of Defendants' indirect infringement of the '131 Patent, Plaintiff has been and continues to be damaged.

149. Defendants and its customers, licensees, and users do not have a license to the '131 Patent and are not authorized to use the '131 Patent.

150. Defendants have had knowledge of their infringement of the '131 Patent since at least no later than the service of this Complaint. Defendants' induced infringement of the '131 Patent will thus be knowing and intentional.

151. As a result of Defendants' indirect infringement of the '131 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendants' past infringement, together with interests and costs.

152. If Defendants' direct and indirect infringement of the '131 Patent is not enjoined, Plaintiff will suffer substantial and irreparable harm now and in the future for which there is no adequate remedy at law.

COUNT IV

(WILLFUL INFRINGEMENT)

153. Plaintiff incorporates paragraphs 1 through 152 herein by reference.

154. Defendants have had knowledge of the '330 Patent and its priority from the parent since at least receipt of Plaintiff's March 15, 2019, letter putting Defendant D.C. Government on notice of its infringement.

155. In addition, on April 15, 2019, Plaintiff's sent a follow up letter regarding the '330 Patent.

156. On May 31, 2019, Plaintiff sent Defendant DC Government a claim chart detailing Defendant's infringement of the '330 Patent.

157. To date, despite corresponding with Plaintiff on numerous occasions, Defendant DC Government has failed to identify a non-infringement or invalidity position or any other position or argument that the '330 patent is invalid, unenforceable or not infringed.

158. Despite being aware of the '330 Patent and its infringement of the '330 Patent, Defendants have not changed or otherwise altered the HIE in an effort to avoid infringement of the '330 Patent.

159. Rather, despite having knowledge of the '330 Patent, Defendants have and continue to infringe the '330 Patent in complete disregard of Plaintiff's rights.

160. Defendants have had knowledge of the '451 patent since at least the service of this Complaint.

161. Defendants have had knowledge of the '131 patent since at least the service of this Complaint.

162. Defendants' actions in this regarding are reckless and/or egregious.

163. Defendants continue to willfully, wantonly and deliberately engage in acts of infringement of the Asserted Patents, justifying a finding of willful infringement and an award to Plaintiff of increased damages under 35 U.S.C. § 284, and attorney's fees and costs incurred under 35 U.S.C. § 285.

JURY DEMAND

164. Plaintiff requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff asks that the Court find in its favor and against Defendants and that the Court grant Plaintiff the following relief:

A. That Defendants be adjudged to have infringed each of the Asserted Patents directly, literally and/or under the doctrine of equivalents;

B. An order permanently enjoining Defendants, their affiliates, subsidiaries, and each of its officers, agents, servants and employees, and those acting in privity or concert with it, from making, using, offering to sell, or selling in the United States, or importing into the United States, the HIE, any component of the HIE that constitutes a material part of the claimed invention, or any product that infringes the Asserted Patents until after the expiration date of the Asserted Patents, including any extensions and/or additional periods of exclusivity to which Plaintiff is, or becomes, entitled;

C. An award of damages pursuant to 35 U.S.C. §284 sufficient to compensate Plaintiff for the Defendants' past infringement and any continuing or future infringement up until the date that Defendants are finally and permanently enjoined from further infringement, including compensatory damages;

D. An assessment of pre-judgment and post-judgment interest and costs against Defendants, together with an award of such interest, expert fees, and costs incurred during this litigation, in accordance with 35 U.S.C. §284;

E. That Defendants' infringement after notice of the Asserted Patents is intentional and knowing infringement and an assessment of three times the damages found for infringement after such notice, in accordance with 35 U.S.C. §284;

F. That Defendants be directed to pay enhanced damages, including Plaintiff's attorneys' fees incurred during this litigation pursuant to 35 U.S.C. §285; and

G. Such further relief as this Court deems proper and just, including but not limited to any appropriate relief under Title 35.

Dated: November 1, 2019

Respectfully submitted,

/s/ Jonathan D. Link

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Counsel for Plaintiff Solomon Systems, Inc.

US010186330B2

(12) **United States Patent**
Walker

(10) **Patent No.: US 10,186,330 B2**
(45) **Date of Patent: Jan. 22, 2019**

(54) **SYSTEM FOR PROVIDING IDENTIFICATION AND INFORMATION, AND FOR SCHEDULING ALERTS**

(71) Applicant: **SOLOMON SYSTEMS, INC.**, Springdale, MD (US)

(72) Inventor: **Timothy T. Walker**, Springdale, MD (US)

(73) Assignee: **SOLOMON SYSTEMS, INC.**, Springdale, MD (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **16/045,067**

(22) Filed: **Jul. 25, 2018**

(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation of application No. 15/173,331, filed on Jun. 3, 2016, now Pat. No. 10,061,895, which is a (Continued)

(51) **Int. Cl.**
G06K 5/00 (2006.01)
G16H 40/20 (2018.01)
(Continued)

(52) **U.S. Cl.**
CPC ***G16H 40/20*** (2018.01); ***A61B 90/90*** (2016.02); ***A61B 90/96*** (2016.02); ***A61B 90/98*** (2016.02);
(Continued)

(58) **Field of Classification Search**
CPC G06K 5/00; G06K 19/00; G06K 19/06; G06K 7/08; G06K 7/01; G06F 17/00; G06Q 50/00
(Continued)

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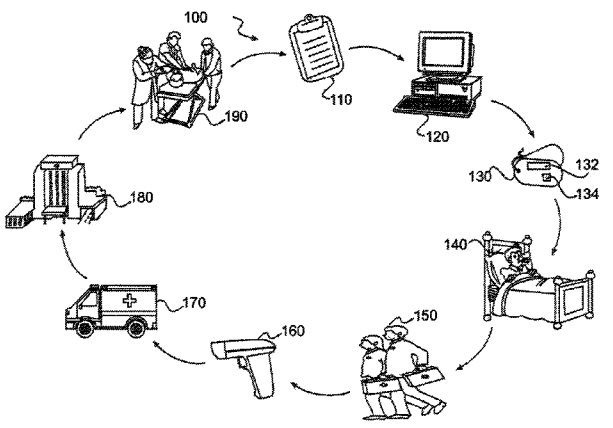
Primary Examiner — Edwyn Labaze
(74) *Attorney, Agent, or Firm* — Ping Wang; Morris, Manning & Martin, LLP

(57) **ABSTRACT**

A device and system for providing identification and medical information are disclosed. The device includes a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element. The system includes collecting and storing medical biographical information of a subject, embedding the medical biographical information in a readable code of the device, and scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject. The medical biographical information allows medical professionals to obtain the subject's medical information in order to provide medical care. Also disclosed is an integrated system for alerting subjects to upcoming events related to their continued care.

18 Claims, 4 Drawing Sheets



Related U.S. Application Data

continuation of application No. 14/856,083, filed on Sep. 16, 2015, now Pat. No. 9,390,231, which is a continuation of application No. 14/458,877, filed on Aug. 13, 2014, now Pat. No. 9,165,335, which is a continuation of application No. 13/917,374, filed on Jun. 13, 2013, now Pat. No. 8,833,649, which is a continuation-in-part of application No. 13/313,821, filed on Dec. 7, 2011, now Pat. No. 8,485,439, which is a continuation of application No. 13/270,672, filed on Oct. 11, 2011, now Pat. No. 8,181,862.

(51) **Int. Cl.**

G06Q 10/06	(2012.01)
G06Q 50/22	(2018.01)
G04G 11/00	(2006.01)
G04G 13/02	(2006.01)
G06K 19/06	(2006.01)
G06Q 50/24	(2012.01)
A61B 90/96	(2016.01)
A61B 90/90	(2016.01)
A61B 90/98	(2016.01)
G06F 19/00	(2018.01)
G06K 7/14	(2006.01)
G16H 40/63	(2018.01)
G16H 10/60	(2018.01)
G16H 50/20	(2018.01)
G16H 40/67	(2018.01)

(52) **U.S. Cl.**

CPC ***G04G 11/00*** (2013.01); ***G04G 13/02*** (2013.01); ***G06F 19/00*** (2013.01); ***G06F 19/3418*** (2013.01); ***G06K 7/1413*** (2013.01); ***G06K 19/06046*** (2013.01); ***G06Q 10/06*** (2013.01); ***G06Q 50/22*** (2013.01); ***G06Q 50/24*** (2013.01); ***G16H 10/60*** (2018.01); ***G16H 40/63*** (2018.01); ***G16H 40/67*** (2018.01); ***G16H 50/20*** (2018.01)

(58) **Field of Classification Search**

USPC 235/380, 487, 375, 382.5, 382, 451, 492; 705/3

See application file for complete search history.

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File history of U.S. Appl. No. 13/917,374, filed Jun. 13, 2013.
File history of U.S. Appl. No. 14/458,877, filed Aug. 13, 2014.
File history of U.S. Appl. No. 14/856,083, filed Sep. 16, 2015.
File history of U.S. Appl. No. 15/173,331, filed Jun. 3, 2016.

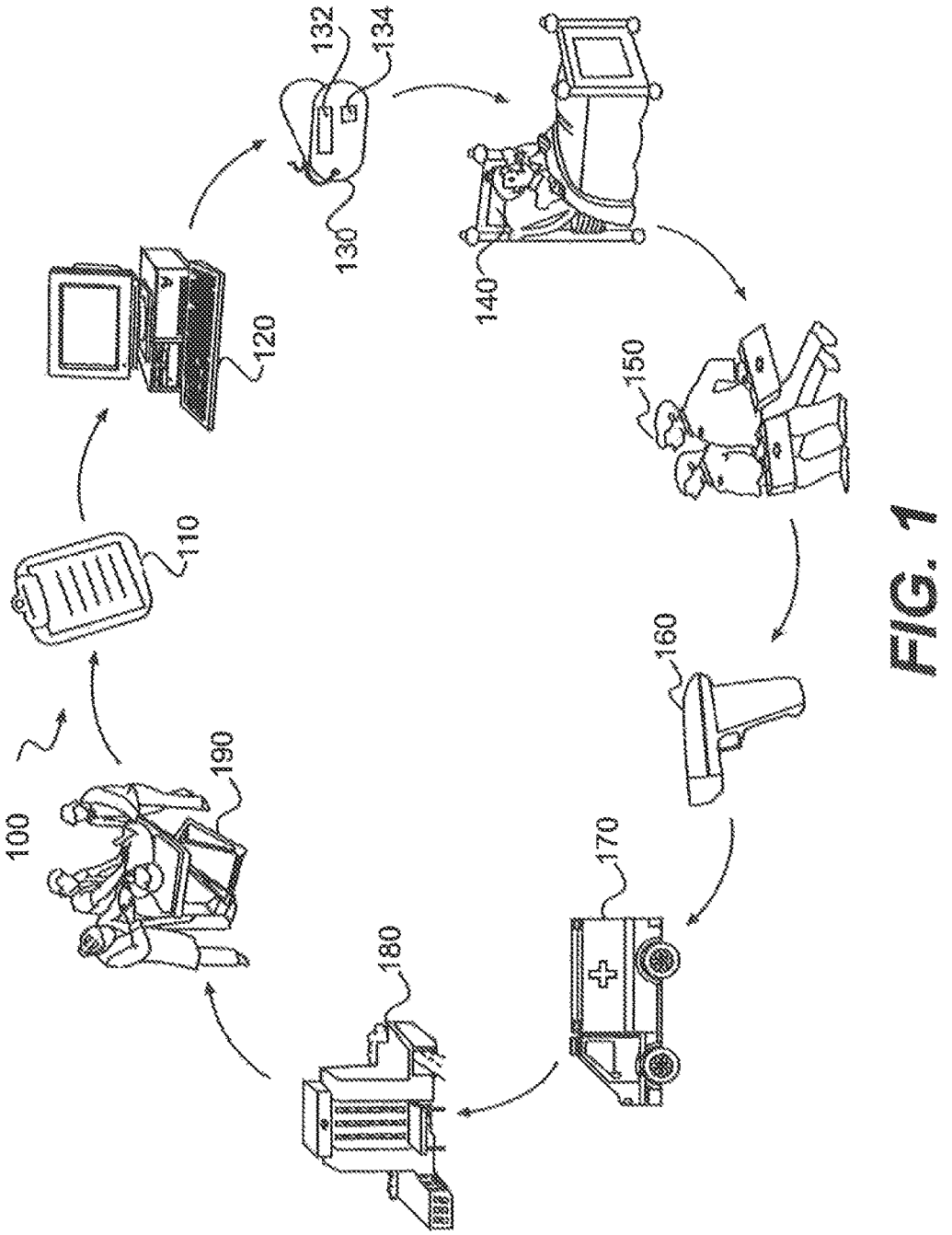

FIG. 1

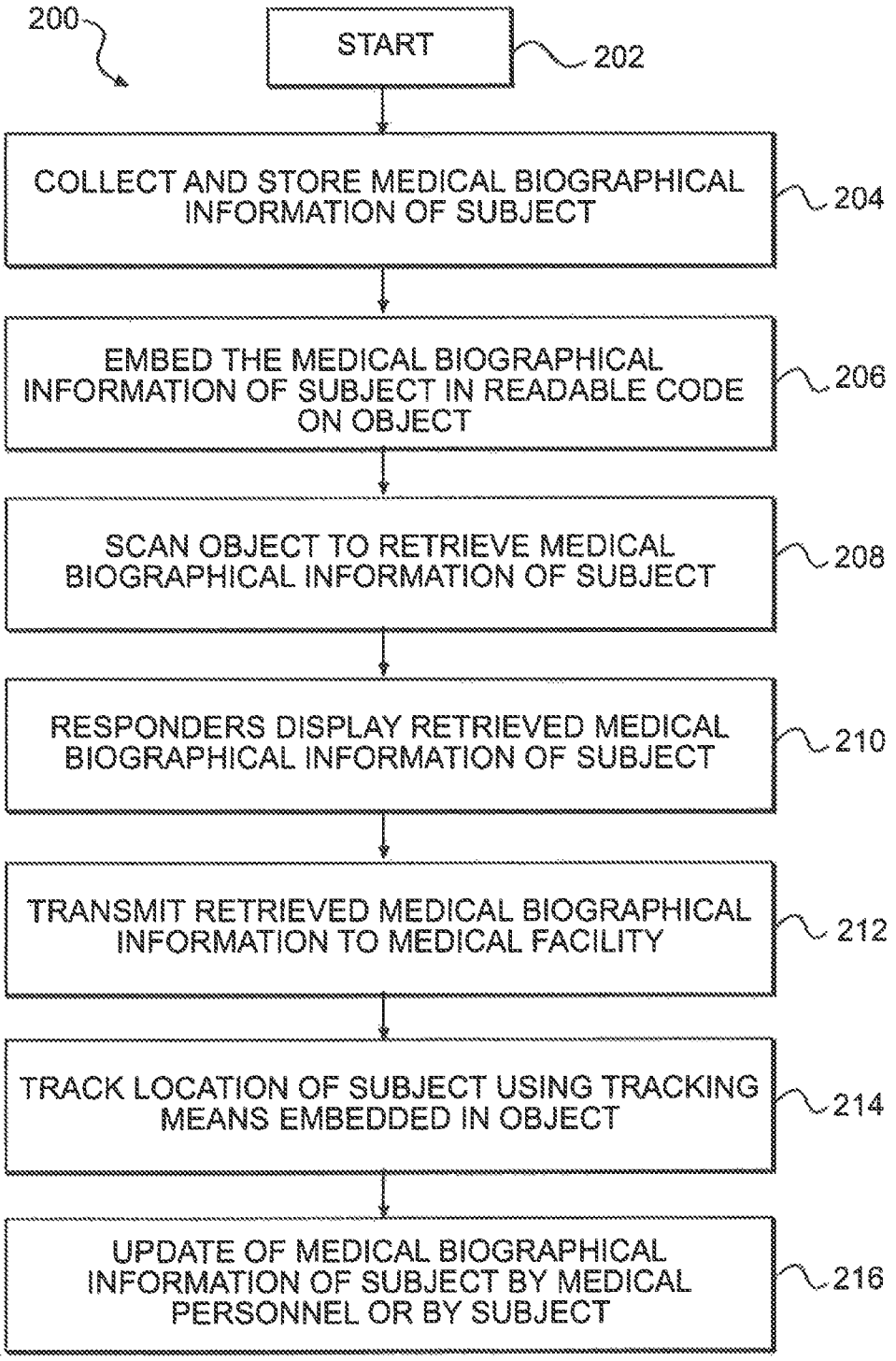
200
START
202
COLLECT AND STORE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
204
EMBED THE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT IN READABLE CODE ON OBJECT
206
SCAN OBJECT TO RETRIEVE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
208
RESPONDERS DISPLAY RETRIEVED MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
210
TRANSMIT RETRIEVED MEDICAL BIOGRAPHICAL INFORMATION TO MEDICAL FACILITY
212
TRACK LOCATION OF SUBJECT USING TRACKING MEANS EMBEDDED IN OBJECT
214
UPDATE OF MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT BY MEDICAL PERSONNEL OR BY SUBJECT
216

FIG. 2

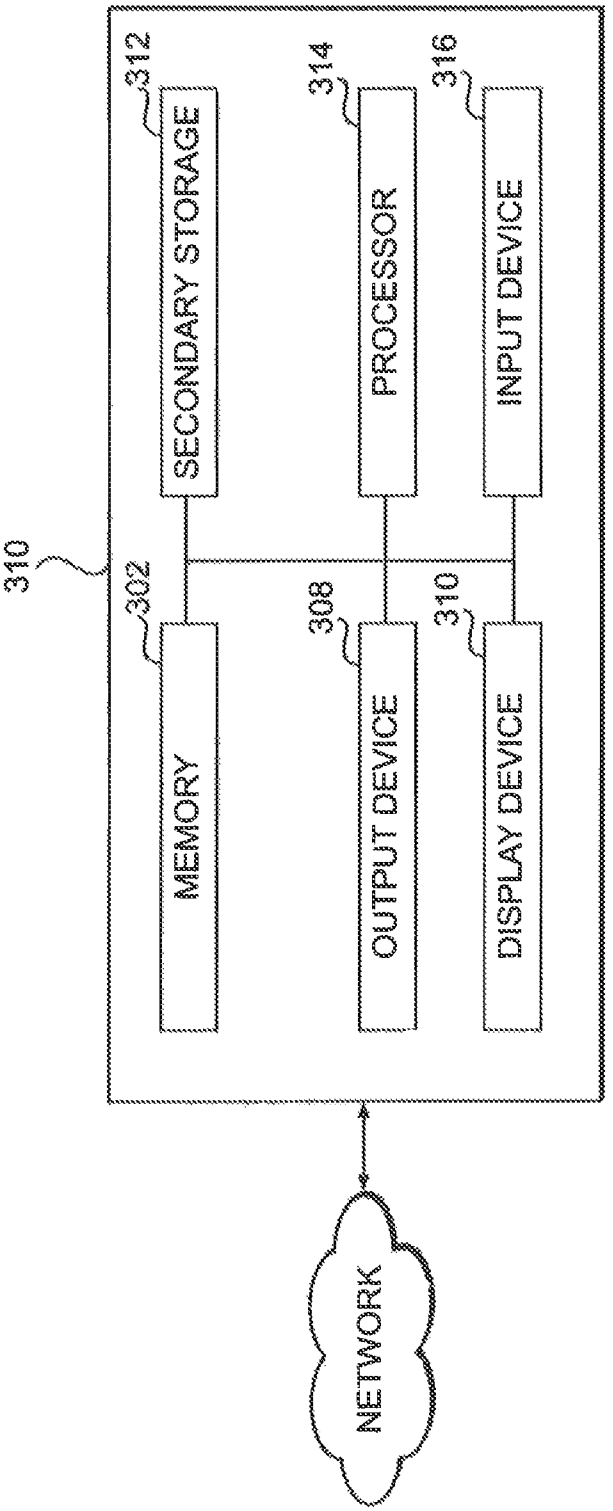
310
312
SECONDARY STORAGE
314
PROCESSOR
316
INPUT DEVICE
302
MEMORY
308
OUTPUT DEVICE
310
DISPLAY DEVICE
NETWORK

FIG. 3

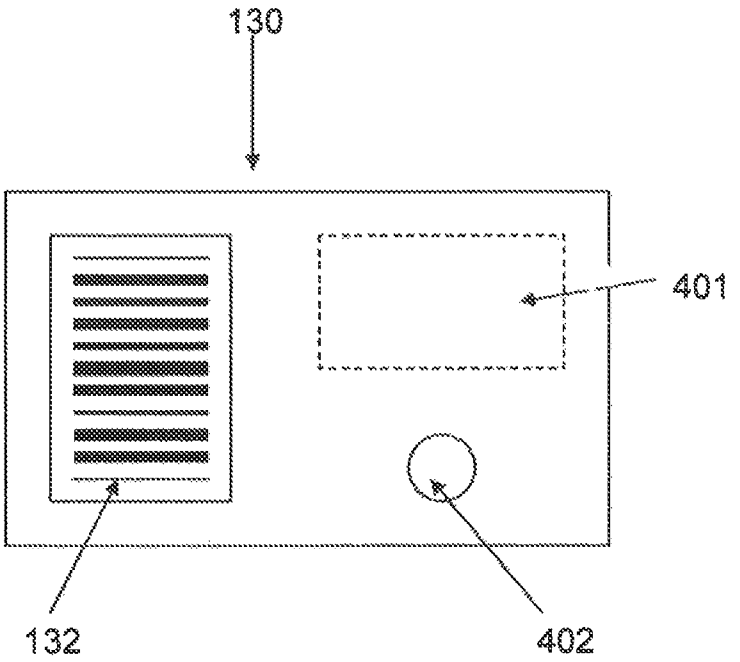

FIG. 4

SYSTEM FOR PROVIDING IDENTIFICATION AND INFORMATION, AND FOR SCHEDULING ALERTS

This application is a Continuation of U.S. patent application Ser. No. 15/173,331, filed on Jun. 3, 2016, which is a Continuation of U.S. patent application Ser. No. 14/856,083, filed on Sep. 16, 2015, now U.S. Pat. No. 9,390,231, which is a Continuation of U.S. patent application Ser. No. 14/458,877, filed on Aug. 13, 2014, now U.S. Pat. No. 9,165,335, which is a Continuation of U.S. patent application Ser. No. 13/917,374, filed on Jun. 13, 2013, now U.S. Pat. No. 8,833,649, which is a Continuation of U.S. patent application Ser. No. 13/313,821, filed Dec. 7, 2011, now U.S. Pat. No. 8,485,439, which is a Continuation-In-Part of U.S. patent application Ser. No. 13/270,672, filed Oct. 11, 2011, now U.S. Pat. No. 8,181,862. The entirety of the aforementioned applications is incorporated herein by reference.

FIELD

This application generally relates to relates to a system for providing identification and/or information; in particular, medical information. The application further relates to an additional system for alerting a subject to upcoming events.

BACKGROUND

When a subject, to whom lacks the ability to effectively communicate needs urgent medical care, responders typically arrive at the scene within a short period of time without any information regarding the person in distress (i.e., subject). To properly provide medical care, the responders typically ask the subject relevant questions, such as current medications, allergies to medications, prior medical histories, i.e. surgeries, hospital visits, and other conditions. However, even if the subject is alert, he or she typically cannot provide accurate answers to such questions under the circumstances. Consequently, responders often provide urgent medical care without some medical history information. Likewise, after the subject is transported to a medical facility, doctors and other medical personnel at the hospital are not equipped with some of the medical history information regarding the subject, especially if the subject has never gone to the hospital before. Medical personnel may need to contact the subject's physician and/or other hospitals to get the needed information, which can cost time, and potentially life. Therefore, it is a great need for a system which can provide biographical information and allows medical professionals to obtain a subject's medical information.

Additionally, there exists a need for such a system, wherein the system further comprises an integrated element that can remind the subject of upcoming events related to their care and alert practitioners when the subject fails to fulfill those events.

SUMMARY

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve medical biographical information of the subject, wherein the retrieved medical biographical information allows responders to obtain the subject's medical information in order to provide care.

Another aspect of the present application relates to a non-transitory computer readable medium providing instructions for providing identification and medical information, the instructions comprising: collecting and storing medical biographical information of a subject; embedding the medical biographical information in a readable code of a removable device that is adapted to be worn by or in the possession of the subject; scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject; wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide medical care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting; and programming a reporter element that provides a signal to a functionally linked signal producing element to inform the subject of at least one particular event relating to the subject, wherein said programming is by a second system that electronically stores at least one particular event relating to the subject.

BRIEF DESCRIPTION OF THE DRAWINGS

The detailed description will refer to the following drawings, wherein like numerals refer to like elements.

FIG. **1** illustrates an embodiment of the system for providing identification and medical information.

FIG. **2** is a flow charting illustrating an embodiment of the method for providing identification and medical information.

FIG. **3** is a block diagram illustrating exemplary hardware components of the exemplary computer system or server for implementing embodiments of the system and method for providing identification and medical information.

FIG. **4** is a representative schematic view of the elements of the removable device.

DETAILED DESCRIPTION

The following detailed description is presented to enable any person skilled in the art to make and use the invention. For purposes of explanation, specific nomenclature is set forth to provide a thorough understanding of the present invention. However, it will be apparent to one skilled in the art that these specific details are not required to practice the invention.

Descriptions of specific applications are provided only as representative examples. The present application is not intended to be limited to the embodiments shown, but is to

be accorded the widest possible scope consistent with the principles and features disclosed herein.

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

In particular embodiments, the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting.

In particular embodiments, said reporter element is programmed by a second system that electronically stores at least one particular event relating to the subject. In a further embodiment, the second system additionally alerts a medical practitioner if the subject fails to fulfill the event.

In particular embodiments, the event is an appointment. In a further embodiment, said appointment is a medical appointment. In a still further embodiment, said medical appointment is selected from the group consisting of a physical examination, a physical therapy session, a mental examination and a mental therapy session. In another further embodiment, said appointment is a follow-up to a visit by the subject to a medical facility.

In particular embodiments, the reporter element is programmed to issue a signal a predetermined time prior to the at least one particular event. In a further embodiment, the signal repeats or remains until the subject fulfills the event and the reporter element is reset. In a still further embodiment, the reporter element is reset by a medical practitioner.

In particular embodiments, the device further comprises a tracking circuit that is capable of tracking the subject's location.

In particular embodiments, the medical biographical information includes one or more of the subject's name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of medications, emergency contacts, and complete medical records.

In particular embodiments, the device is a bracelet or a necklace worn by the subject.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve medical biographical information of the subject, wherein the retrieved medical biographical information allows responders to obtain the subject's medical information in order to provide care.

In particular embodiments, the system further comprises a computer screen located in an emergency vehicle to display the retrieved medical biographical information.

In particular embodiments, the system further comprises transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

In particular embodiments, the medical biographical information is updated after the subject is treated at the medical facility.

Another aspect of the present application relates to a non-transitory computer readable medium providing instructions for providing identification and medical information, the instructions comprising: collecting and storing medical biographical information of a subject; embedding the medical biographical information in a readable code of a removable device that is adapted to be worn by or in the possession of the subject; scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject; wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide medical care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting; and programming a reporter element that provides a signal to a functionally linked signal producing element to inform the subject of at least one particular event relating to the subject, wherein said programming is by a second system that electronically stores at least one particular event relating to the subject.

In particular embodiments, the computer readable medium further comprises instructions for resetting the reporter element after the subject fulfills the event.

In a particular embodiment, the computer readable medium comprises instructions for displaying the retrieved medical biographical information on a computer screen located in an emergency vehicle when the subject needs medical care.

In another particular embodiment, the computer readable medium comprises instructions for transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

In another particular embodiment, the computer readable medium comprises instructions for tracking the subject's location using a tracking circuit located on the device worn by or in the possession of the subject.

As used herein, a "medical sensor" refers to an appliance or apparatus that measures or monitors a dynamic bodily function, process or condition. Examples of medical sensors are those that measure or monitor heart rate, temperature, blood oxygen or other blood gasses, an electrocardiogram, or an electroencephalogram.

As used herein, a "removable" device refers to an object or device that a subject or a person attending the subject can place on, or remove from, the body, clothing or an accessory (such as a wallet or in a purse or bag) of the subject at will. The removable device is adapted to be worn on a daily basis, at all times, or at only particular times chosen by the subject, such as, but not limited to, during sleep, exercise, at home, travel, work, outdoors, or indoors.

A system and method are disclosed to assist a medical professional or responder to identify and provide appropriate medication and care to subjects unable to communicate for themselves in non-emergency or emergency scenarios.

One aspect of the present application relates to a first system for providing identification and information. In a particular embodiment, as illustrated in FIG. **1**, the first system **100** collects a subject's medical biographical information **110** from various sources, such as the subject's doctors' offices, medical facilities that the subject has visited in the past, and medical records or notes prepared or assembled by the subject. Examples of the subject's medical biographical information **110** include name, sex, date of birth, height, weight, blood type, allergies, sicknesses/medi-

cal conditions, use of prescribed medications, emergency contacts, as well as complete medical records if available.

In a particular embodiment, the system **100** electronically stores the subject's medical biographical information **110** in a database of a computer system **120**. In some embodiments, the subject's medical biographical information **110** stored in the database is updated by the subject's doctors or the subject as needed. The first system **100** embeds the stored subject's medical biographical information **110** in a readable code **132** of a device **130** that is worn by or in the possession of the subject **140**. In some embodiments, the device **130** is a bracelet, pendant, key chain, fob, belt clip, dog tag, necklace, jewelry, button or other object that is worn by the subject. In particular embodiments, the device **130** is kept in the subject's wallet, purse or pocket. In particular embodiments, the device is water resistant, water proof or comprises a water proof coating or sheath that protects the readable code. In particular embodiments, the device is wear resistant, wear proof or comprises a wear proof coating or sheath that protects the readable code.

In another embodiment, the device **130** is a card or a computer readable device, such as, but not limited to, a flash drive, solid state storage device, compact disc, or digital video disc (DVD). In particular embodiments, the readable code is contained on the removable device in electronic form.

In other particular embodiments, the readable code is present on the removable device in a printed form. In further embodiments, the printed form may be in the form of a bar code, a binary code, a matrix code, pictogram or a quick response (QR) code.

In some embodiments, the readable code is present on the removable device in both an electronic form and in a printed form. In some further embodiments, the data stored in electronic form and in printed form on the removable device is the same. In other further embodiments, the data stored in electronic form and in printed form on the removable device is different.

In some embodiments, the readable code is. In other embodiments, the readable code is non-encrypted code. In still other embodiments, the readable code is a combination of encrypted code and non-encrypted code.

In particular embodiments, a responder **150** uses an appliance **160** to scan the readable code **132** of the device **130** worn by, or in the possession of, the subject **140**. In particular embodiments, the appliance **160** obtains the subject's medical biographical information **110**, which may include, for example, the subject's name, sex, date of birth, height, weight, blood type, allergies, medical histories and conditions, sicknesses, use of prescribed medications, emergency contacts, as well as the complete medical records if available.

In particular embodiments, the responder **150** is a paramedic, emergency medical technician (EMT), fire fighter, policeman/woman, medical professional, or care worker. The term "medical professional" or "medical practitioner" as used herein, includes any person who cares for the medical needs of a subject such as, but not limited to, a physician, surgeon, dentist, chiropractor, osteopath, nurse, nurse's aide, orderly or volunteer.

In some embodiments, the appliance **160** is a handheld scanner. In other embodiments, the appliance **160** is a cellular telephone or a computer, including, but not limited to a laptop, pad or tablet computer. In particular embodiments, the appliance **160** includes an integrated display that displays the subject's medical biographical information **110** to assist the responder on the scene to provide care to the subject **140**. In another embodiment, the obtained medical biographical information **110** is displayed on a computer or other appliance or equipment. In a particular embodiment, the appliance and/or display is located in an emergency vehicle **170**.

In another embodiment, the first system **100** transmits the medical biographical information **110** to a medical facility **180** that is designated to receive the subject **140**. The designated medical facility **180** uses the medical biographical information **110** and the current medical needs of the subject **140** to develop a plan for medical care. In a particular embodiment, said plan for medical care is developed before the subject arrives at the designated medical facility **180**.

In a particular embodiment, the medical facility **180** is a hospital. In another particular embodiment, the medical facility **180** is an emergency room. In another particular embodiment, the medical facility **180** is an outpatient facility, including an outpatient urgent care facility. In another particular embodiment, the medical facility **180** is a clinic. In another particular embodiment, the medical facility **180** is a nursing home. In another particular embodiment, the medical facility **180** is a physician's office. In yet another particular embodiment, the medical facility **180** is a dentist's office.

In particular embodiments, transmittal of the medical biographical information **110** and the current medical needs of the subject **140** to the medical facility **180** allows a medical professional **190** at the medical facility **180** to be prepared for the subject's **140** arrival.

In particular embodiments, a medical professional **190** and/or responder **150** submits updated medical biographical information **110** to the database **120**. In another embodiment, the subject submits updated medical biographical information **110** to the database **120**. In particular embodiments, the updated medical biographical information **110** is automatically synced with data embedded in the readable code **132** of the device **130**.

In a particular embodiment, the device **130** comprises a GPS or other tracking circuit **134**. In particular embodiments, the medical professional **190** tracks the location of the subject **140**. In a particular embodiment, the distance and the travel time before arrival at the medical facility **180** is determined.

In particular embodiments, the first system **100** is used for emergency circumstances. In other particular embodiments, the first system **100** is used for non-emergency circumstances. In a related embodiment, the non-emergency circumstance is transport of a subject **140** from one medical facility **180** to a different medical facility **180**.

FIG. **2** is a flow chart showing a non-limiting example of an embodiment of a method **200** for providing identification and medical information. In a particular embodiment, method **200** comprises the collection and storage of medical biographical information of the subject **204**. In a particular embodiment, the medical biographical information is embedded in a readable code of a device that is adapted to be worn by or in the possession of the subject **206**. In particular embodiments, an appliance reads the readable code **208** of the device **206** to retrieve the medical biographical information of the subject **204**. In some embodiments, the retrieved medical biographical information **204** is displayed on a computer screen located in an emergency vehicle **210**. In particular embodiments, the retrieved medical biographical information **204** is wirelessly transmitted to a medical facility that is designated to receive the subject **212**. In some embodiments, the location of the subject is determined using a GPS tracking circuit located on the

device worn by the subject **214**. In particular embodiments, the medical biographical information **204** is updated by a medical professional or responder **216**.

In particular embodiments, as illustrated in FIG. **3**, the system disclosed in the present application comprises a computer system or server **300** for implementing embodiments of the system **100** (FIG. **1**) and method **200** (FIG. **2**) for providing identification and medical information. In an exemplary embodiment, the computer system or server **300** is the computer system **120** of FIG. **1**. In particular embodiments, the computer system or server **300** includes and executes software programs to perform functions described herein, including the steps of the method **200** described above. In other embodiments, computer system **300** is a mobile device that performs the steps of the method **200** described above. In particular embodiments. The computer system **300** connects with a network **318**, to receive inquires, obtain data, and transmit information as described above. In some embodiments, the network is the internet. In other embodiments, the network is an intranet, WAN, or LAN.

In an exemplary embodiment, the computer system **300** includes a memory **302**, a processor **314**, and, optionally, a secondary storage device **312**. In some embodiments, the computer system **300** includes a plurality of processors **314** and is configured as a plurality of, e.g., bladed servers, or other known server configurations. In particular embodiments, the computer system **300** also includes an input device **316**, a display device **310**, and an output device **308**. In some embodiments, the memory **302** includes RAM or similar types of memory. In particular embodiments, the memory **302** stores one or more applications for execution by the processor **314**. In some embodiments, the secondary storage device **312** includes a hard disk drive, floppy disk drive, CD-ROM or DVD drive, or other types of non-volatile data storage. In particular embodiments, the processor **314** executes the application(s) that are stored in the memory **302** or the secondary storage **312**, or received from the internet or other network **318**. In some embodiments, processing by the processor **314** may be implemented in software, such as software modules, for execution by computers or other machines. These applications preferably include instructions executable to perform the functions and methods described above and illustrated in the Figures herein. The applications preferably provide GUIs through which users may view and interact with the application(s).

In some embodiments, the processor **314** may execute one or more software applications in order to provide the functions described in this specification, specifically to execute and perform the steps and functions in the methods described above. Such methods and the processing may be implemented in software, such as software modules, for execution by computers or other machines. The GUIs may be formatted, for example, as web pages in HyperText Markup Language (HTML), Extensible Markup Language (XML) or in any other suitable form for presentation on a display device depending upon applications used by users to interact with the system **100**.

In particular embodiments, the input device **316** may include any device for entering information into the computer system **300**, such as a touch-screen, keyboard, mouse, cursor-control device, microphone, digital camera, video recorder or camcorder. The input device **316** may be used to enter information into GUIs during performance of the methods described above. In some embodiments, the display device **310** may include any type of device for presenting visual information such as, for example, a computer monitor or flat-screen display, mobile device screen, or a printer. The display device **310** may display the GUIs and/or output from a software program. In particular embodiments, the output device **308** may include any type of device for presenting a hard copy of information, such as a printer, and other types of output devices include speakers or any device for providing information in audio form.

Exemplary embodiments of the computer system **300** include dedicated server computers, such as bladed servers, personal computers, laptop computers, notebook computers, palm top computers, network computers, mobile devices, or any processor-controlled device capable of executing a web browser or other type of application for interacting with the system.

In particular embodiments, the first system **100** and/or method **200** may use multiple computer systems or servers as necessary or desired to support the users and may also use backup or redundant servers to prevent network downtime in the event of a failure of a particular server. In addition, although aspects of an implementation consistent with the above are described as being stored in the memory **302**, one skilled in the art will appreciate that these aspects can also be stored on or read from other types of computer program products or computer-readable media, such as secondary storage devices **312**, including hard disks, floppy disks, or CD-ROM; DVD or other forms of RAM or ROM. In particular embodiments, the computer-readable media may include instructions for controlling a computer system, such as the computer system **300**, to perform a particular method, such as the methods described above.

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, as exemplified in the non-limiting example shown in FIG. **4**. The device **130** comprises a readable code **132** that contains medical biographical information of the subject, a programmable reporter **401** that electronically stores at least one particular event relating to the subject, and a signal producing element **402** functionally related to the programmable reporter element.

In a particular embodiment, the removable device **130** that is adapted to be worn or in the possession of the subject consists of a readable code **132** that contains medical biographical information of the subject, a programmable reporter element that is programmed by a second system that electronically stores at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

In a particular embodiment, the reporter element **401** is programmed to store data regarding at least one particular event relating to the subject and an algorithm for producing an alert signal in the signal producing element **402** to inform the subject of the at least one particular event relating to the subject. In a further embodiment, the alert signal is a light signal. In another embodiment, the signal is an audible signal. In yet another embodiment, the alert signal is a vibrating signal. In yet another embodiment, the alert signal is an alphanumeric display on a LED or LCD display. In yet another embodiment, the alert signal is a signal transmitted from the device to a caregiver or medical practitioner. In yet another embodiment, the device comprises two or more alert signals that are functionally related to the programmable reporter element, comprising two or more of the same type of alert signal or any combination thereof. In a particular embodiment, the reporter element is a separate element of the removable device **130** from the readable code **132**.

In particular embodiments, at least one signal producing element of the device is a transmitter. In a related embodiment, the reporter element signals notification of an upcom-

ing event and/or an unfulfilled event related to the subject to a family member, friend, caregiver and/or medical practitioner.

In a particular embodiment, the removable device further comprises a power source for the reporter element and the signal producing element. In a further embodiment, the power source is a battery. In a still further embodiment, the battery is rechargeable. In another still further embodiment, the battery is removable. In another further embodiment, the removable device further comprises a solar cell for recharging the power source.

In a particular embodiment, the removable device that is adapted to be worn or in the possession of the subject consists of a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed by a second system that electronically stores at least one particular event relating to the subject, a signal producing element functionally related to the programmable reporter element, and a power source.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn by or in the possession of the subject, the device including a readable code that contains medical biographical information; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve the medical biographical information of the subject, wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting, and wherein the device worn by or in the possession of the subject further comprises a reporter element that provides a signal to inform the subject of at least one particular event relating to the subject.

In a particular embodiment, said reporter element is programmed manually.

In another particular embodiment, said reporter element is programmed by a second system that electronically stores at least one particular event relating to the subject. In a further particular embodiment, the second system is the same as the first system. In another further particular embodiment, the second system is separate from the first system.

In a particular embodiment, the at least one particular event is an appointment. In some embodiments, the appointment is a follow-up to a visit by the subject to a medical facility. In a further embodiment, the appointment is a medical appointment. In some embodiments, the medical appointment is selected from the group consisting of a physical examination, a physical therapy session, a mental examination and a mental therapy session. In another particular embodiment, the event is a reminder to schedule an appointment.

In a particular embodiment, the reporter element is programmed to issue a signal a predetermined time prior to the event. In a related embodiment, the predetermined time is about one month prior to the event. In another related embodiment, the predetermined time is about two weeks prior to the event. In another related embodiment, the predetermined time is about one week prior to the event. In other related embodiments, the predetermined time is about 30, 28, 25, 21, 20, 15, 14, 7, 6, 5, 4, 3, 2 or 1 day(s) prior to the event. In another related embodiment, the predetermined time is about 24, 18, 12, 6, 5, 4, 3, 2, or 1 hour(s) prior to the event.

In a particular embodiment, the signal repeats or remains until the subject fulfills the event and the reporter element is reset. In a particular embodiment, the reporter element is reset by the subject. In another particular embodiment, the reporter element is reset by a relative, friend or caregiver. In another particular embodiment, the reporter element is reset by a medical practitioner. In a particular embodiment, the reporter element is reset manually. In another particular embodiment, the reporter element is reset by resetting the second system.

In another particular embodiment, the reporter element is programmed to issue an alert signal a predetermined time after the event if the event was not fulfilled or the reporter element was not reset, in a related embodiment, the warning signal is issued on a repeating basis. In a related embodiment, the predetermined time is 15, 30, 45 or 60 minutes after the scheduled time of the event. In another related embodiment, the predetermined time is 1, 2, 3, 4, 5, 6, 12, 18 or 24 hour(s) after the scheduled time of the event. In another related embodiment, the predetermined time is 1, 2, 3, 4, 5, 6, 7, 14, 15, 20, 21, 25, 28 or 30 day(s) after the scheduled time of the event.

In some embodiments, the reporter element is programmed to issue an alert signal before an event in addition to, if the event is not fulfilled by the subject, after said event. In particular embodiments, the signals before and after the event are the same. In other particular embodiments, the signals before and after the event are different.

In a particular embodiment, if the subject fails to fulfill the event, the second system alerts a medical practitioner.

The above description is for the purpose of teaching the person of ordinary skill in the art how to practice the present invention, and it is not intended to detail all those obvious modifications and variations of it which will become apparent to the skilled worker upon reading the description. It is intended, however, that all such obvious modifications and variations be included within the scope of the present invention, which is defined by the following claims. The claims are intended to cover the components and steps in any sequence which is effective to meet the objectives there intended, unless the context specifically indicates the contrary.

What is claimed is:

1. A removable device, wherein the device is portable and comprises a first system comprising:

a readable code that contains medical biographical information of a subject, wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide care;

a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject; and

a signal producing element functionally relates to the programmable reporter element,

wherein the programmable reporter element is further programmed to provide a signal to the functionally related signal producing element to inform a user of the device of the at least one particular event relating to the subject, wherein said programming is performed by a second system, and wherein the device is not linked to a medical sensor.

2. The device of claim **1**, wherein said event is an appointment.

3. The device of claim **2**, wherein said appointment is a medical appointment.

4. The device of claim **3**, wherein said medical appointment is selected from the group consisting of a physical

examination, a physical therapy session, a mental examination and a mental therapy session.

5. The device of claim **2**, wherein said appointment is a follow-up to a visit by the subject to a medical facility.

6. The device of claim **1**, wherein the reporter element is programmed to issue a signal a predetermined time prior to the at least one particular event.

7. The device of claim **6**, wherein the signal repeats or remains until the subject fulfills the event and the reporter element is reset.

8. The device of claim **7**, wherein the reporter element is reset by a medical practitioner.

9. The device of claim **1**, further comprising a tracking circuit that is capable of tracking the subject's location.

10. The device of claim **1**, wherein the medical biographical information includes one or more of the subject's name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of medications, emergency contact, and complete medical records.

11. The device of claim **1**, wherein the device is a bracelet or a necklace worn by the subject.

12. A system for providing identification and medical information of a subject in a removable device, comprising:

a database tor collecting and storing medical biographical information of the subject:

the removable device of claim **1**; and

an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve medical biographical information of the subject,

wherein the retrieved medical biographical information allows responders to obtain the subject's medical information in order to provide care.

13. The system of claim **12**, further comprising a computer screen located in an emergency vehicle to display the retrieved medical biographical information.

14. The system of claim **12**, further comprising transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

15. The system of claim **12**, wherein the medical biographical information is updated after the subject is treated at the medical facility.

16. The removable device of claim **1**, wherein the programmable reporter element is programmed to be reset after the subject fulfills the event.

17. A non-transitory computer readable medium providing instructions for providing identification and medical information, the instructions comprising:

collecting and storing medical biographical information of a subject;

embedding the medical biographical information in a readable code of a removable device that is adapted to be worn by or in the possession of the subject;

scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject:

wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide medical care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting; and

programming a reporter element that provides a signal to a functionally linked signal producing element to inform the subject of at least one particular event relating to the subject,

wherein said programming is by a second system that electronically stores at least one particular event relating to the subject.

18. The computer readable medium of claim **17**, comprising instructions for resetting the reporter element after the subject fulfills the event.

* * * * *

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(12) **United States Patent**
Walker

(10) **Patent No.: US 10,269,451 B2**
(45) **Date of Patent: Apr. 23, 2019**

(54) **SYSTEM FOR PROVIDING IDENTIFICATION AND INFORMATION, AND FOR SCHEDULING ALERTS**

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(73) Assignee: **SOLOMON SYSTEMS, INC.**, Springdale, MD (US)

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G06K 7/14 (2006.01)
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(52) **U.S. Cl.**
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(58) **Field of Classification Search**
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(Continued)

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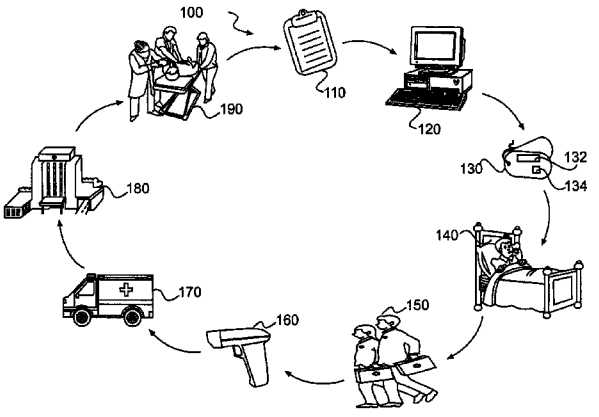
(74) *Attorney, Agent, or Firm* — Ping Wang; Morris, Manning & Martin, LLP

(57) **ABSTRACT**

A device and system for providing identification and medical information are disclosed. The device includes a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element. The system includes collecting and storing medical biographical information of a subject, embedding the medical biographical information in a readable code of the device, and scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject. The medical biographical information allows medical professionals to obtain the subject's medical information in order to provide medical care. Also disclosed is an integrated system for alerting subjects to upcoming events related to their continued care.

14 Claims, 4 Drawing Sheets



Related U.S. Application Data

No. 14/856,083, filed on Sep. 16, 2015, now Pat. No. 9,390,231, which is a continuation of application No. 14/458,877, filed on Aug. 13, 2014, now Pat. No. 9,165,335, which is a continuation of application No. 13/917,374, filed on Jun. 13, 2013, now Pat. No. 8,833,649, which is a continuation of application No. 13/313,821, filed on Dec. 7, 2011, now Pat. No. 8,485,439, which is a continuation-in-part of application No. 13/270,672, filed on Oct. 11, 2011, now Pat. No. 8,181,862.

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G16H 40/20	(2018.01)
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G04G 11/00	(2006.01)
G04G 13/02	(2006.01)
G06Q 50/24	(2012.01)
A61B 90/96	(2016.01)
A61B 90/90	(2016.01)
A61B 90/98	(2016.01)
G06F 19/00	(2018.01)
G16H 40/63	(2018.01)
G16H 10/60	(2018.01)
G16H 50/20	(2018.01)
G16H 40/67	(2018.01)

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(58) **Field of Classification Search**

USPC 235/380, 487, 375, 382.5, 382, 451, 492; 705/3

See application file for complete search history.

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File history of U.S. Appl. No. 15/173,331, filed Jun. 3, 2016.

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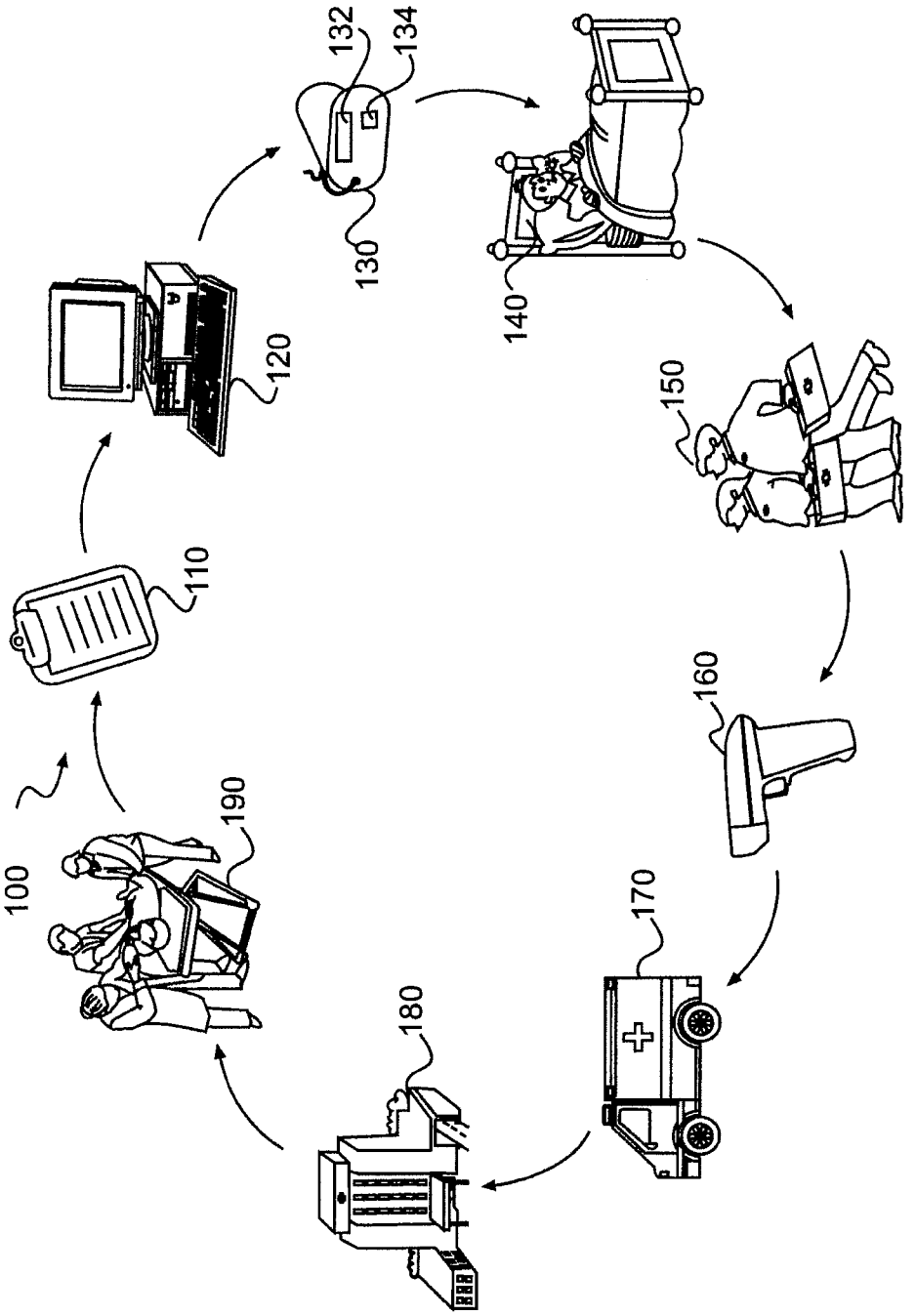

FIG. 1

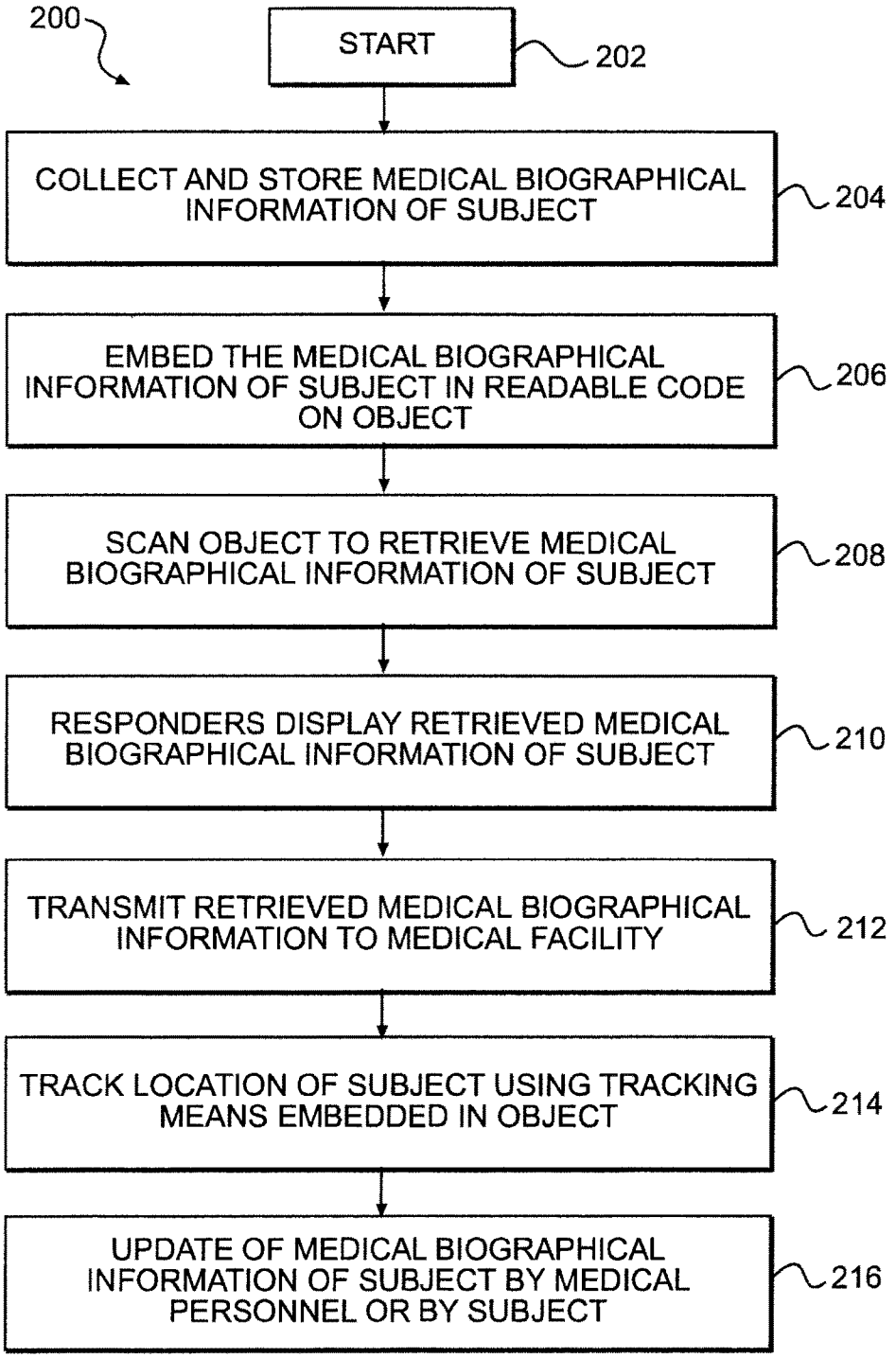
200
START
202
COLLECT AND STORE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
204
EMBED THE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT IN READABLE CODE ON OBJECT
206
SCAN OBJECT TO RETRIEVE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
208
RESPONDERS DISPLAY RETRIEVED MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
210
TRANSMIT RETRIEVED MEDICAL BIOGRAPHICAL INFORMATION TO MEDICAL FACILITY
212
TRACK LOCATION OF SUBJECT USING TRACKING MEANS EMBEDDED IN OBJECT
214
UPDATE OF MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT BY MEDICAL PERSONNEL OR BY SUBJECT
216

FIG. 2

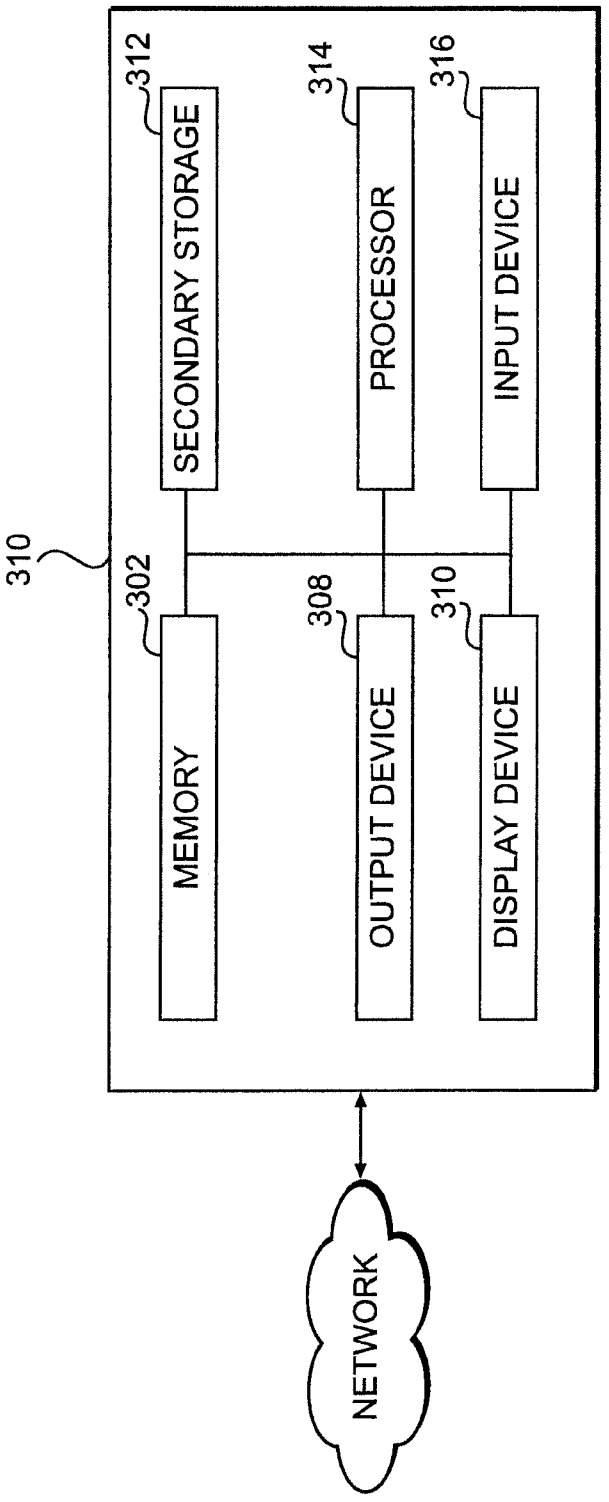
310
302
MEMORY
308
OUTPUT DEVICE
310
DISPLAY DEVICE
312
SECONDARY STORAGE
314
PROCESSOR
316
INPUT DEVICE
NETWORK

FIG. 3

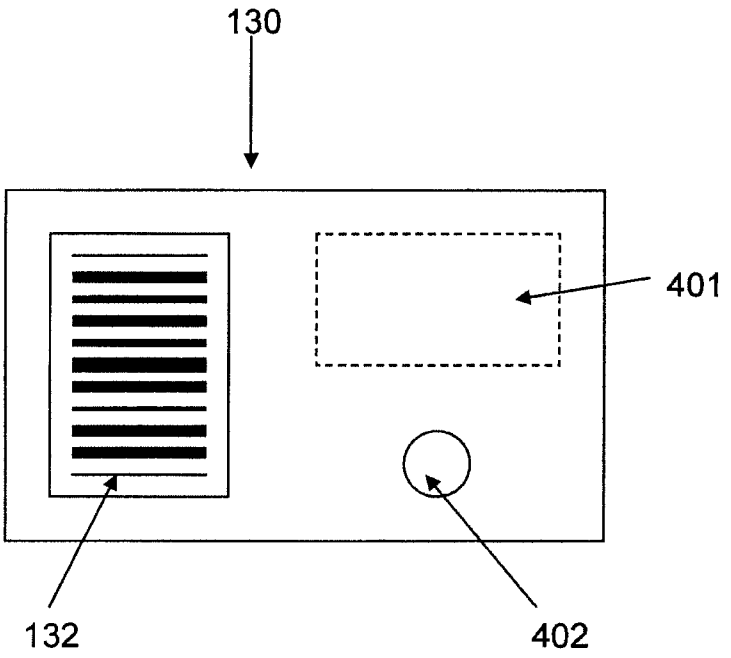

FIG. 4

SYSTEM FOR PROVIDING IDENTIFICATION AND INFORMATION, AND FOR SCHEDULING ALERTS

This application is a Continuation of U.S. patent application Ser. No. 15/173,331, filed on Jun. 3, 2016, which is a Continuation of U.S. patent application Ser. No. 14/856,083, filed on Sep. 16, 2015, now U.S. Pat. No. 9,390,231, which is a Continuation of U.S. patent application Ser. No. 14/458,877, filed on Aug. 13, 2014, now U.S. Pat. No. 9,165,335, which is a Continuation of U.S. patent application Ser. No. 13/917,374, filed on Jun. 13, 2013, now U.S. Pat. No. 8,833,649, which is a Continuation of U.S. patent application Ser. No. 13/313,821, filed Dec. 7, 2011, now U.S. Pat. No. 8,485,439, which is a Continuation-In-Part of U.S. patent application Ser. No. 13/270,672, filed Oct. 11, 2011, now U.S. Pat. No. 8,181,862. The entirety of the aforementioned applications is incorporated herein by reference.

FIELD

This application generally relates to relates to a system for providing identification and/or information; in particular, medical information. The application further relates to an additional system for alerting a subject to upcoming events.

BACKGROUND

When a subject, to whom lacks the ability to effectively communicate needs urgent medical care, responders typically arrive at the scene within a short period of time without any information regarding the person in distress (i.e., subject). To properly provide medical care, the responders typically ask the subject relevant questions, such as current medications, allergies to medications, prior medical histories, i.e. surgeries, hospital visits, and other conditions. However, even if the subject is alert, he or she typically cannot provide accurate answers to such questions under the circumstances. Consequently, responders often provide urgent medical care without some medical history information. Likewise, after the subject is transported to a medical facility, doctors and other medical personnel at the hospital are not equipped with some of the medical history information regarding the subject, especially if the subject has never gone to the hospital before. Medical personnel may need to contact the subject's physician and/or other hospitals to get the needed information, which can cost time, and potentially life. Therefore, it is a great need for a system which can provide biographical information and allows medical professionals to obtain a subject's medical information.

Additionally, there exists a need for such a system, wherein the system further comprises an integrated element that can remind the subject of upcoming events related to their care and alert practitioners when the subject fails to fulfill those events.

SUMMARY

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve medical biographical information of the subject, wherein the retrieved medical biographical information allows responders to obtain the subject's medical information in order to provide care.

Another aspect of the present application relates to a non-transitory computer readable medium providing instructions for providing identification and medical information, the instructions comprising: collecting and storing medical biographical information of a subject; embedding the medical biographical information in a readable code of a removable device that is adapted to be worn by or in the possession of the subject; scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject; wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide medical care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting; and programming a reporter element that provides a signal to a functionally linked signal producing element to inform the subject of at least one particular event relating to the subject, wherein said programming is by a second system that electronically stores at least one particular event relating to the subject.

BRIEF DESCRIPTION OF THE DRAWINGS

The detailed description will refer to the following drawings, wherein like numerals refer to like elements.

FIG. **1** illustrates an embodiment of the system for providing identification and medical information.

FIG. **2** is a flow charting illustrating an embodiment of the method for providing identification and medical information.

FIG. **3** is a block diagram illustrating exemplary hardware components of the exemplary computer system or server for implementing embodiments of the system and method for providing identification and medical information.

FIG. **4** is a representative schematic view of the elements of the removable device.

DETAILED DESCRIPTION

The following detailed description is presented to enable any person skilled in the art to make and use the invention. For purposes of explanation, specific nomenclature is set forth to provide a thorough understanding of the present invention. However, it will be apparent to one skilled in the art that these specific details are not required to practice the invention.

Descriptions of specific applications are provided only as representative examples. The present application is not intended to be limited to the embodiments shown, but is to

be accorded the widest possible scope consistent with the principles and features disclosed herein.

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

In particular embodiments, the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting.

In particular embodiments, said reporter element is programmed by a second system that electronically stores at least one particular event relating to the subject. In a further embodiment, the second system additionally alerts a medical practitioner if the subject fails to fulfill the event.

In particular embodiments, the event is an appointment. In a further embodiment, said appointment is a medical appointment. In a still further embodiment, said medical appointment is selected from the group consisting of a physical examination, a physical therapy session, a mental examination and a mental therapy session. In another further embodiment, said appointment is a follow-up to a visit by the subject to a medical facility.

In particular embodiments, the reporter element is programmed to issue a signal a predetermined time prior to the at least one particular event. In a further embodiment, the signal repeats or remains until the subject fulfills the event and the reporter element is reset. In a still further embodiment, the reporter element is reset by a medical practitioner.

In particular embodiments, the device further comprises a tracking circuit that is capable of tracking the subject's location.

In particular embodiments, the medical biographical information includes one or more of the subject's name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of medications, emergency contacts, and complete medical records.

In particular embodiments, the device is a bracelet or a necklace worn by the subject.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve medical biographical information of the subject, wherein the retrieved medical biographical information allows responders to obtain the subject's medical information in order to provide care.

In particular embodiments, the system further comprises a computer screen located in an emergency vehicle to display the retrieved medical biographical information.

In particular embodiments, the system further comprises transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

In particular embodiments, the medical biographical information is updated after the subject is treated at the medical facility.

Another aspect of the present application relates to a non-transitory computer readable medium providing instructions for providing identification and medical information, the instructions comprising: collecting and storing medical biographical information of a subject; embedding the medical biographical information in a readable code of a removable device that is adapted to be worn by or in the possession of the subject; scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject; wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide medical care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting; and programming a reporter element that provides a signal to a functionally linked signal producing element to inform the subject of at least one particular event relating to the subject, wherein said programming is by a second system that electronically stores at least one particular event relating to the subject.

In particular embodiments, the computer readable medium further comprises instructions for resetting the reporter element after the subject fulfills the event.

In a particular embodiment, the computer readable medium comprises instructions for displaying the retrieved medical biographical information on a computer screen located in an emergency vehicle when the subject needs medical care.

In another particular embodiment, the computer readable medium comprises instructions for transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

In another particular embodiment, the computer readable medium comprises instructions for tracking the subject's location using a tracking circuit located on the device worn by or in the possession of the subject.

As used herein, a "medical sensor" refers to an appliance or apparatus that measures or monitors a dynamic bodily function, process or condition. Examples of medical sensors are those that measure or monitor heart rate, temperature, blood oxygen or other blood gasses, an electrocardiogram, or an electroencephalogram.

As used herein, a "removable" device refers to an object or device that a subject or a person attending the subject can place on, or remove from, the body, clothing or an accessory (such as a wallet or in a purse or bag) of the subject at will. The removable device is adapted to be worn on a daily basis, at all times, or at only particular times chosen by the subject, such as, but not limited to, during sleep, exercise, at home, travel, work, outdoors, or indoors.

A system and method are disclosed to assist a medical professional or responder to identify and provide appropriate medication and care to subjects unable to communicate for themselves in non-emergency or emergency scenarios.

One aspect of the present application relates to a first system for providing identification and information. In a particular embodiment, as illustrated in FIG. **1**, the first system **100** collects a subject's medical biographical information **110** from various sources, such as the subject's doctors' offices, medical facilities that the subject has visited in the past, and medical records or notes prepared or assembled by the subject. Examples of the subject's medical biographical information **110** include name, sex, date of birth, height, weight, blood type, allergies, sicknesses/medi-

cal conditions, use of prescribed medications, emergency contacts, as well as complete medical records if available.

In a particular embodiment, the system **100** electronically stores the subject's medical biographical information **110** in a database of a computer system **120**. In some embodiments, the subject's medical biographical information **110** stored in the database is updated by the subject's doctors or the subject as needed. The first system **100** embeds the stored subject's medical biographical information **110** in a readable code **132** of a device **130** that is worn by or in the possession of the subject **140**. In some embodiments, the device **130** is a bracelet, pendant, key chain, fob, belt clip, dog tag, necklace, jewelry, button or other object that is worn by the subject. In particular embodiments, the device **130** is kept in the subject's wallet, purse or pocket. In particular embodiments, the device is water resistant, water proof or comprises a water proof coating or sheath that protects the readable code. In particular embodiments, the device is wear resistant, wear proof or comprises a wear proof coating or sheath that protects the readable code.

In another embodiment, the device **130** is a card or a computer readable device, such as, but not limited to, a flash drive, solid state storage device, compact disc, or digital video disc (DVD). In particular embodiments, the readable code is contained on the removable device in electronic form.

In other particular embodiments, the readable code is present on the removable device in a printed form. In further embodiments, the printed form may be in the form of a bar code, a binary code, a matrix code, pictogram or a quick response (QR) code.

In some embodiments, the readable code is present on the removable device in both an electronic form and in a printed form. In some further embodiments, the data stored in electronic form and in printed form on the removable device is the same. In other further embodiments, the data stored in electronic form and in printed form on the removable device is different.

In some embodiments, the readable code is. In other embodiments, the readable code is non-encrypted code. In still other embodiments, the readable code is a combination of encrypted code and non-encrypted code.

In particular embodiments, a responder **150** uses an appliance **160** to scan the readable code **132** of the device **130** worn by, or in the possession of, the subject **140**. In particular embodiments, the appliance **160** obtains the subject's medical biographical information **110**, which may include, for example, the subject's name, sex, date of birth, height, weight, blood type, allergies, medical histories and conditions, sicknesses, use of prescribed medications, emergency contacts, as well as the complete medical records if available.

In particular embodiments, the responder **150** is a paramedic, emergency medical technician (EMT), fire fighter, policeman/woman, medical professional, or care worker. The term "medical professional" or "medical practitioner" as used herein, includes any person who cares for the medical needs of a subject such as, but not limited to, a physician, surgeon, dentist, chiropractor, osteopath, nurse, nurse's aide, orderly or volunteer.

In some embodiments, the appliance **160** is a handheld scanner. In other embodiments, the appliance **160** is a cellular telephone or a computer, including, but not limited to a laptop, pad or tablet computer. In particular embodiments, the appliance **160** includes an integrated display that displays the subject's medical biographical information **110** to assist the responder on the scene to provide care to the subject **140**. In another embodiment, the obtained medical biographical information **110** is displayed on a computer or other appliance or equipment. In a particular embodiment, the appliance and/or display is located in an emergency vehicle **170**.

In another embodiment, the first system **100** transmits the medical biographical information **110** to a medical facility **180** that is designated to receive the subject **140**. The designated medical facility **180** uses the medical biographical information **110** and the current medical needs of the subject **140** to develop a plan for medical care. In a particular embodiment, said plan for medical care is developed before the subject arrives at the designated medical facility **180**.

In a particular embodiment, the medical facility **180** is a hospital. In another particular embodiment, the medical facility **180** is an emergency room. In another particular embodiment, the medical facility **180** is an outpatient facility, including an outpatient urgent care facility. In another particular embodiment, the medical facility **180** is a clinic. In another particular embodiment, the medical facility **180** is a nursing home. In another particular embodiment, the medical facility **180** is a physician's office. In yet another particular embodiment, the medical facility **180** is a dentist's office.

In particular embodiments, transmittal of the medical biographical information **110** and the current medical needs of the subject **140** to the medical facility **180** allows a medical professional **190** at the medical facility **180** to be prepared for the subject's **140** arrival.

In particular embodiments, a medical professional **190** and/or responder **150** submits updated medical biographical information **110** to the database **120**. In another embodiment, the subject submits updated medical biographical information **110** to the database **120**. In particular embodiments, the updated medical biographical information **110** is automatically synced with data embedded in the readable code **132** of the device **130**.

In a particular embodiment, the device **130** comprises a GPS or other tracking circuit **134**. In particular embodiments, the medical professional **190** tracks the location of the subject **140**. In a particular embodiment, the distance and the travel time before arrival at the medical facility **180** is determined.

In particular embodiments, the first system **100** is used for emergency circumstances. In other particular embodiments, the first system **100** is used for non-emergency circumstances. In a related embodiment, the non-emergency circumstance is transport of a subject **140** from one medical facility **180** to a different medical facility **180**.

FIG. **2** is a flow chart showing a non-limiting example of an embodiment of a method **200** for providing identification and medical information. In a particular embodiment, method **200** comprises the collection and storage of medical biographical information of the subject **204**. In a particular embodiment, the medical biographical information is embedded in a readable code of a device that is adapted to be worn by or in the possession of the subject **206**. In particular embodiments, an appliance reads the readable code **208** of the device **206** to retrieve the medical biographical information of the subject **204**. In some embodiments, the retrieved medical biographical information **204** is displayed on a computer screen located in an emergency vehicle **210**. In particular embodiments, the retrieved medical biographical information **204** is wirelessly transmitted to a medical facility that is designated to receive the subject **212**. In some embodiments, the location of the subject is determined using a GPS tracking circuit located on the

device worn by the subject **214**. In particular embodiments, the medical biographical information **204** is updated by a medical professional or responder **216**.

In particular embodiments, as illustrated in FIG. **3**, the system disclosed in the present application comprises a computer system or server **300** for implementing embodiments of the system **100** (FIG. **1**) and method **200** (FIG. **2**) for providing identification and medical information. In an exemplary embodiment, the computer system or server **300** is the computer system **120** of FIG. **1**. In particular embodiments, the computer system or server **300** includes and executes software programs to perform functions described herein, including the steps of the method **200** described above. In other embodiments, computer system **300** is a mobile device that performs the steps of the method **200** described above. In particular embodiments. The computer system **300** connects with a network **318**, to receive inquires, obtain data, and transmit information as described above. In some embodiments, the network is the internet. In other embodiments, the network is an intranet, WAN, or LAN.

In an exemplary embodiment, the computer system **300** includes a memory **302**, a processor **314**, and, optionally, a secondary storage device **312**. In some embodiments, the computer system **300** includes a plurality of processors **314** and is configured as a plurality of, e.g., bladed servers, or other known server configurations. In particular embodiments, the computer system **300** also includes an input device **316**, a display device **310**, and an output device **308**. In some embodiments, the memory **302** includes RAM or similar types of memory. In particular embodiments, the memory **302** stores one or more applications for execution by the processor **314**. In some embodiments, the secondary storage device **312** includes a hard disk drive, floppy disk drive, CD-ROM or DVD drive, or other types of non-volatile data storage. In particular embodiments, the processor **314** executes the application(s) that are stored in the memory **302** or the secondary storage **312**, or received from the internet or other network **318**. in some embodiments, processing by the processor **314** may be implemented in software, such as software modules, for execution by computers or other machines. These applications preferably include instructions executable to perform the functions and methods described above and illustrated in the Figures herein. The applications preferably provide GUIs through which users may view and interact with the application(s).

In some embodiments, the processor **314** may execute one or more software applications in order to provide the functions described in this specification, specifically to execute and perform the steps and functions in the methods described above. Such methods and the processing may be implemented in software, such as software modules, for execution by computers or other machines. The GUIs may be formatted, for example, as web pages in HyperText Markup Language (HTML), Extensible Markup Language (XML) or in any other suitable form for presentation on a display device depending upon applications used by users to interact with the system **100**.

In particular embodiments, the input device **316** may include any device for entering information into the computer system **300**, such as a touch-screen, keyboard, mouse, cursor-control device, microphone, digital camera, video recorder or camcorder. The input device **316** may be used to enter information into GUIs during performance of the methods described above. In some embodiments, the display device **310** may include any type of device for presenting visual information such as, for example, a computer monitor or flat-screen display, mobile device screen, or a printer. The display device **310** may display the GUIs and/or output from a software program. In particular embodiments, the output device **308** may include any type of device for presenting a hard copy of information, such as a printer, and other types of output devices include speakers or any device for providing information in audio form.

Exemplary embodiments of the computer system **300** include dedicated server computers, such as bladed servers, personal computers, laptop computers, notebook computers, palm top computers, network computers, mobile devices, or any processor-controlled device capable of executing a web browser or other type of application for interacting with the system.

In particular embodiments, the first system **100** and/or method **200** may use multiple computer systems or servers as necessary or desired to support the users and may also use back-up or redundant servers to prevent network downtime in the event of a failure of a particular server. In addition, although aspects of an implementation consistent with the above are described as being stored in the memory **302**, one skilled in the art will appreciate that these aspects can also be stored on or read from other types of computer program products or computer-readable media, such as secondary storage devices **312**, including hard disks, floppy disks, or CD-ROM; DVD or other forms of RAM or ROM. In particular embodiments, the computer-readable media may include instructions for controlling a computer system, such as the computer system **300**, to perform a particular method, such as the methods described above.

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, as exemplified in the non-limiting example shown in FIG. **4**. The device **130** comprises a readable code **132** that contains medical biographical information of the subject, a programmable reporter **401** that electronically stores at least one particular event relating to the subject, and a signal producing element **402** functionally related to the programmable reporter element.

In a particular embodiment, the removable device **130** that is adapted to be worn or in the possession of the subject consists of a readable code **132** that contains medical biographical information of the subject, a programmable reporter element that is programmed by a second system that electronically stores at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

In a particular embodiment, the reporter element **401** is programmed to store data regarding at least one particular event relating to the subject and an algorithm for producing an alert signal in the signal producing element **402** to inform the subject of the at least one particular event relating to the subject. In a further embodiment, the alert signal is a light signal. In another embodiment, the signal is an audible signal. In yet another embodiment, the alert signal is a vibrating signal. In yet another embodiment, the alert signal is an alphanumeric display on a LED or LCD display. In yet another embodiment, the alert signal is a signal transmitted from the device to a caregiver or medical practitioner. In yet another embodiment, the device comprises two or more alert signals that are functionally related to the programmable reporter element, comprising two or more of the same type of alert signal or any combination thereof. In a particular embodiment, the reporter element is a separate element of the removable device **130** from the readable code **132**.

In particular embodiments, at least one signal producing element of the device is a transmitter. In a related embodiment, the reporter element signals notification of an upcom-

ing event and/or an unfulfilled event related to the subject to a family member, friend, caregiver and/or medical practitioner.

In a particular embodiment, the removable device further comprises a power source for the reporter element and the signal producing element. In a further embodiment, the power source is a battery. In a still further embodiment, the battery is rechargeable. In another still further embodiment, the battery is removable. In another further embodiment, the removable device further comprises a solar cell for recharging the power source.

In a particular embodiment, the removable device that is adapted to be worn or in the possession of the subject consists of a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed by a second system that electronically stores at least one particular event relating to the subject, a signal producing element functionally related to the programmable reporter element, and a power source.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn by or in the possession of the subject, the device including a readable code that contains medical biographical information; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve the medical biographical information of the subject, wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting, and wherein the device worn by or in the possession of the subject further comprises a reporter element that provides a signal to inform the subject of at least one particular event relating to the subject.

In a particular embodiment, said reporter element is programmed manually.

In another particular embodiment, said reporter element is programmed by a second system that electronically stores at least one particular event relating to the subject. In a further particular embodiment, the second system is the same as the first system. In another further particular embodiment, the second system is separate from the first system.

In a particular embodiment, the at least one particular event is an appointment. In some embodiments, the appointment is a follow-up to a visit by the subject to a medical facility. In a further embodiment, the appointment is a medical appointment. In some embodiments, the medical appointment is selected from the group consisting of a physical examination, a physical therapy session, a mental examination and a mental therapy session. In another particular embodiment, the event is a reminder to schedule an appointment.

In a particular embodiment, the reporter element is programmed to issue a signal a predetermined time prior to the event. In a related embodiment, the predetermined time is about one month prior to the event. In another related embodiment, the predetermined time is about two weeks prior to the event. In another related embodiment, the predetermined time is about one week prior to the event. In other related embodiments, the predetermined time is about 30, 28, 25, 21, 20, 15, 14, 7, 6, 5, 4, 3, 2 or 1 day(s) prior to the event. In another related embodiment, the predetermined time is about 24, 18, 12, 6, 5, 4, 3, 2, or 1 hour(s) prior to the event.

In a particular embodiment, the signal repeats or remains until the subject fulfills the event and the reporter element is reset. In a particular embodiment, the reporter element is reset by the subject. In another particular embodiment, the reporter element is reset by a relative, friend or caregiver. In another particular embodiment, the reporter element is reset by a medical practitioner. In a particular embodiment, the reporter element is reset manually. In another particular embodiment, the reporter element is reset by resetting the second system.

In another particular embodiment, the reporter element is programmed to issue an alert signal a predetermined time after the event if the event was not fulfilled or the reporter element was not reset. In a related embodiment, the warning signal is issued on a repeating basis. In a related embodiment, the predetermined time is 15, 30, 45 or 60 minutes after the scheduled time of the event. In another related embodiment, the predetermined time is 1, 2, 3, 4, 5, 6, 12, 18 or 24 hour(s) after the scheduled time of the event. In another related embodiment, the predetermined time is 1, 2, 3, 4, 5, 6, 7, 14, 15, 20, 21, 25, 28 or 30 day(s) after the scheduled time of the event.

In some embodiments, the reporter element is programmed to issue an alert signal before an event in addition to, if the event is not fulfilled by the subject, after said event. In particular embodiments, the signals before and after the event are the same. In other particular embodiments, the signals before and after the event are different.

In a particular embodiment, if the subject fails to fulfill the event, the second system alerts a medical practitioner.

The above description is for the purpose of teaching the person of ordinary skill in the art how to practice the present invention, and it is not intended to detail all those obvious modifications and variations of it which will become apparent to the skilled worker upon reading the description. It is intended, however, that all such obvious modifications and variations be included within the scope of the present invention, which is defined by the following claims. The claims are intended to cover the components and steps in any sequence which is effective to meet the objectives there intended, unless the context specifically indicates the contrary.

What is claimed is:

1. A method for assisting a practitioner to identify and provide appropriate care to a subject, comprising the steps of:

collecting medical biographical information of the subject;

storing the collected medical biographical information in a database, wherein the information comprises a medical history of the subject;

adding the medical biographical information in a readable code of a portable device, wherein the device is not linked to a medical sensor;

displaying the information;

programming a reporter element to electronically store at least one particular event relating to the subject, wherein a signal producing element is functionally related to the programmable reporter element, and wherein the readable code, the signal producing element, and the programmable reporter element belong to a first system;

programming the reporter element to provide a signal to the functionally linked signal producing element to inform a user of the device of at least one particular event relating to the subject, wherein said at least one

particular event relating to the subject is electronically stored by a second system, and

developing a plan of medical care for the subject based on the at least one particular event relating to the subject.

2. The method of claim **1**, wherein the portable device is a solid state storage device.

3. The method of claim **2**, wherein the information is displayed on an integrated display.

4. The method of claim **1**, further comprising transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

5. The method of claim **1**, further comprising the step of updating the medical biographical information of the subject after the subject's visit to the medical facility.

6. The method of claim **1**, wherein the medical biographical information of a subject includes name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of prescribed medications, emergency contacts, test results and medical records.

7. The method of claim **1**, wherein the medical biographical information is collected from one or more sources selected from the group consisting of the subject's doctor's office, medical facilities that the subjected visited in the past, and medical records or notes prepared or assembled by the subject.

8. The method of claim **1**, wherein the care is at a medical facility.

9. The method of claim **1**, wherein the user is a medical professional.

10. A system for providing identification and medical information of a subject in a portable device, the system including a first system and a second system, the first system comprising:

a database for collecting and storing medical biographical information of the subject, wherein the information comprises a medical history of the subject;

a portable device comprising a readable code that contains medical biographical information of the subject, wherein the device is not linked to a medical sensor; and

an integrated display for displaying the information,

a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject,

a signal producing element is functionally related to the programmable reporter element,

wherein the programmable reporter element is further programmed to provide a signal to the functionally linked signal producing element to inform a user of the device of at least one particular event relating to the subject, wherein said at least one particular event relating to the subject is electronically stored by the second system, and

wherein a plan of medical care for the subject is developed based on the at least one particular event relating to the subject.

11. The system of claim **10**, wherein the portable device is a solid state storage device.

12. The system of claim **10**, wherein the user is a medical professional.

13. The system of claim **10**, wherein the medical biographical information of a subject includes name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of prescribed medications, emergency contacts, test results and medical records.

14. The system of claim **10**, wherein the medical biographical information is collected from one or more sources selected from the group consisting of the subject's doctor's office, medical facilities that the subjected visited in the past, and medical records or notes prepared or assembled by the subject.

* * * * *

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Walker

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(45) **Date of Patent: Sep. 17, 2019**

(54) **SYSTEM FOR PROVIDING IDENTIFICATION AND INFORMATION, AND FOR SCHEDULING ALERTS**

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G06K 19/06 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***G16H 40/20*** (2018.01); ***A61B 90/90*** (2016.02); ***A61B 90/96*** (2016.02); ***A61B 90/98*** (2016.02);
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(58) **Field of Classification Search**
CPC G06K 5/00; G06K 19/00; G06K 19/06; G06K 7/08; G06K 7/01; G06F 17/00; G06Q 50/00
(Continued)

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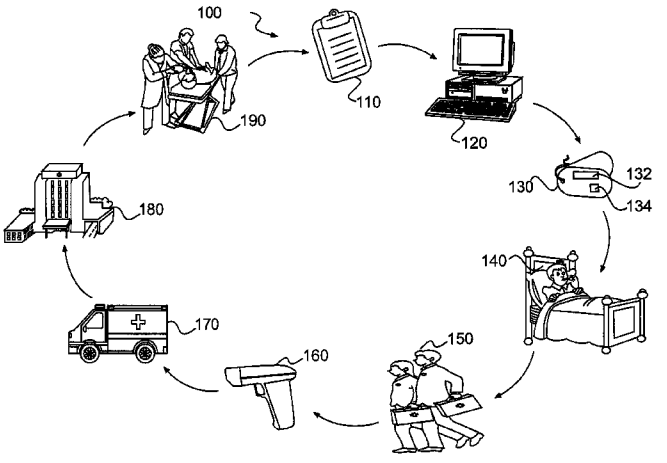
(57) **ABSTRACT**

A device and system for providing identification and medical information are disclosed. The device includes a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element. The system includes collecting and storing medical biographical information of a subject, embedding the medical biographical information in a readable code of the device, and scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject. The medical biographical information allows medical professionals to obtain the subject's medical information in order to provide medical care. Also disclosed is an integrated system for alerting subjects to upcoming events related to their continued care.

9 Claims, 4 Drawing Sheets



Related U.S. Application Data

continuation of application No. 15/173,331, filed on Jun. 3, 2016, now Pat. No. 10,061,895, which is a continuation of application No. 14/856,083, filed on Sep. 16, 2015, now Pat. No. 9,390,231, which is a continuation of application No. 14/458,877, filed on Aug. 13, 2014, now Pat. No. 9,165,335, which is a continuation of application No. 13/917,374, filed on Jun. 13, 2013, now Pat. No. 8,833,649, which is a continuation of application No. 13/313,821, filed on Dec. 7, 2011, now Pat. No. 8,485,439, which is a continuation of application No. 13/270,672, filed on Oct. 11, 2011, now Pat. No. 8,181,862.

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G06K 7/14	(2006.01)
G16H 40/20	(2018.01)
G06Q 50/22	(2018.01)
G04G 11/00	(2006.01)
G04G 13/02	(2006.01)
G06Q 50/24	(2012.01)
A61B 90/96	(2016.01)
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G16H 40/63	(2018.01)
G16H 10/60	(2018.01)
G16H 50/20	(2018.01)
G16H 40/67	(2018.01)

(52) **U.S. Cl.**

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(58) **Field of Classification Search**

USPC 235/380, 487, 375, 382.5, 382, 451, 492; 705/3

See application file for complete search history.

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File history of U.S. Appl. No. 14/458,877, filed Aug. 13, 2014.
File history of U.S. Appl. No. 14/856,083, filed Sep. 16, 2015.
File history of U.S. Appl. No. 15/173,331, filed Jun. 3, 2016.
File history of U.S. Appl. No. 15/817,688, filed Nov. 20, 2017.

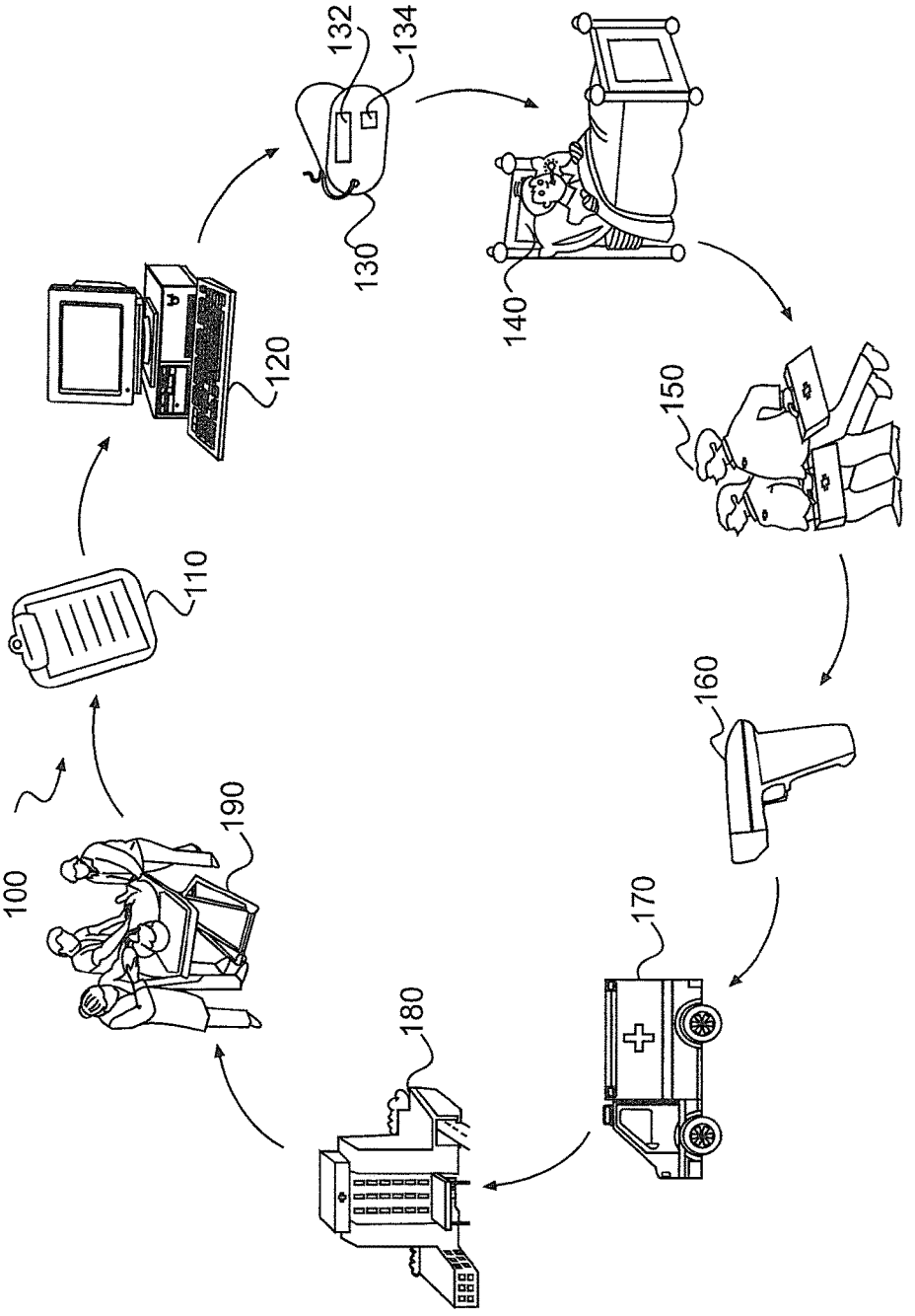

FIG. 1

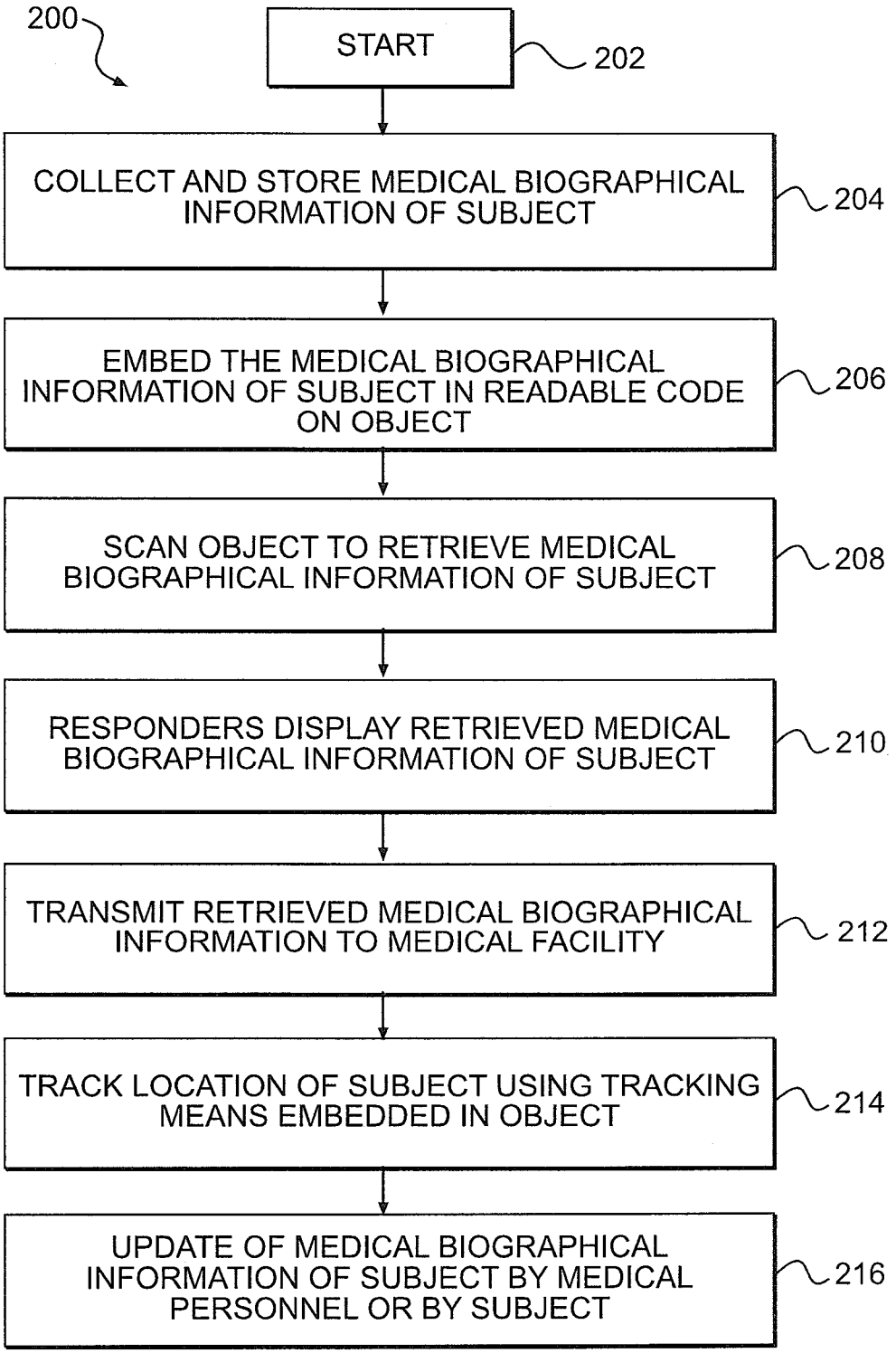
200
START
202
COLLECT AND STORE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
204
EMBED THE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT IN READABLE CODE ON OBJECT
206
SCAN OBJECT TO RETRIEVE MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
208
RESPONDERS DISPLAY RETRIEVED MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT
210
TRANSMIT RETRIEVED MEDICAL BIOGRAPHICAL INFORMATION TO MEDICAL FACILITY
212
TRACK LOCATION OF SUBJECT USING TRACKING MEANS EMBEDDED IN OBJECT
214
UPDATE OF MEDICAL BIOGRAPHICAL INFORMATION OF SUBJECT BY MEDICAL PERSONNEL OR BY SUBJECT
216

FIG. 2

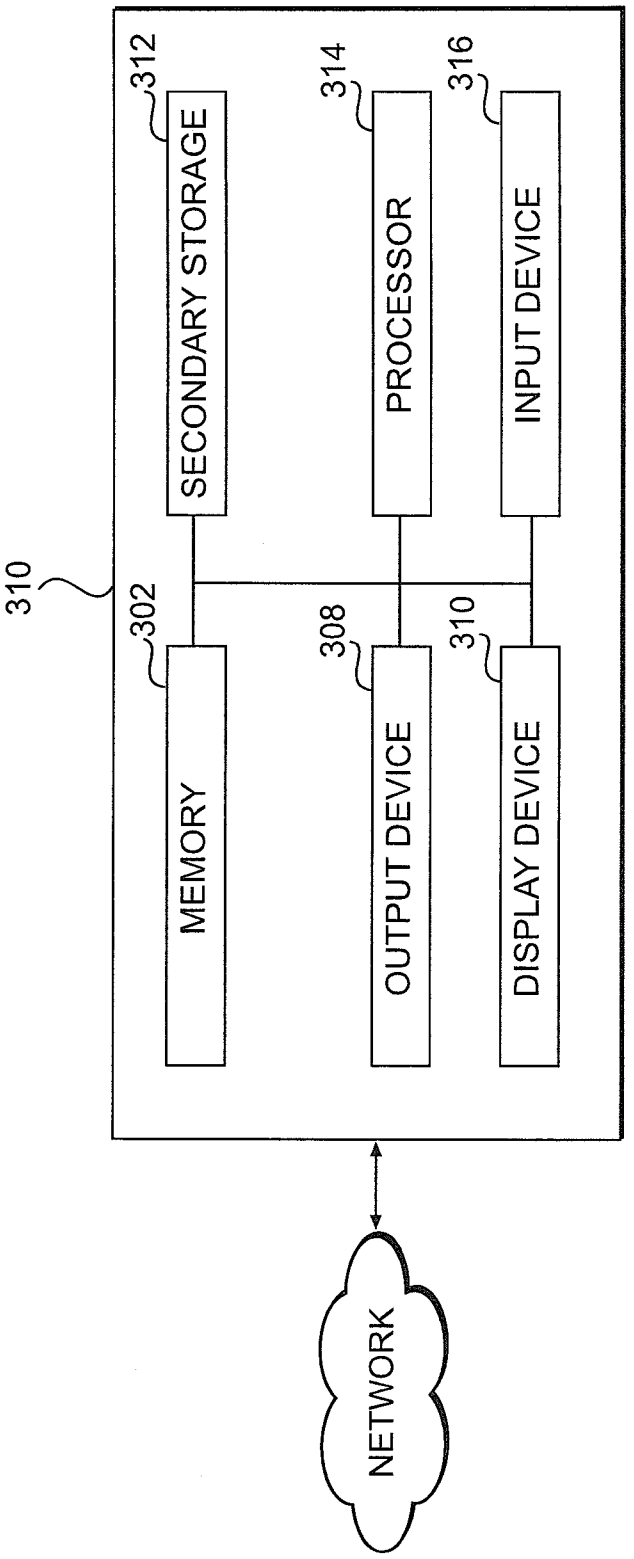
310
312
SECONDARY STORAGE
314
PROCESSOR
316
INPUT DEVICE
302
MEMORY
308
OUTPUT DEVICE
310
DISPLAY DEVICE
NETWORK

FIG. 3

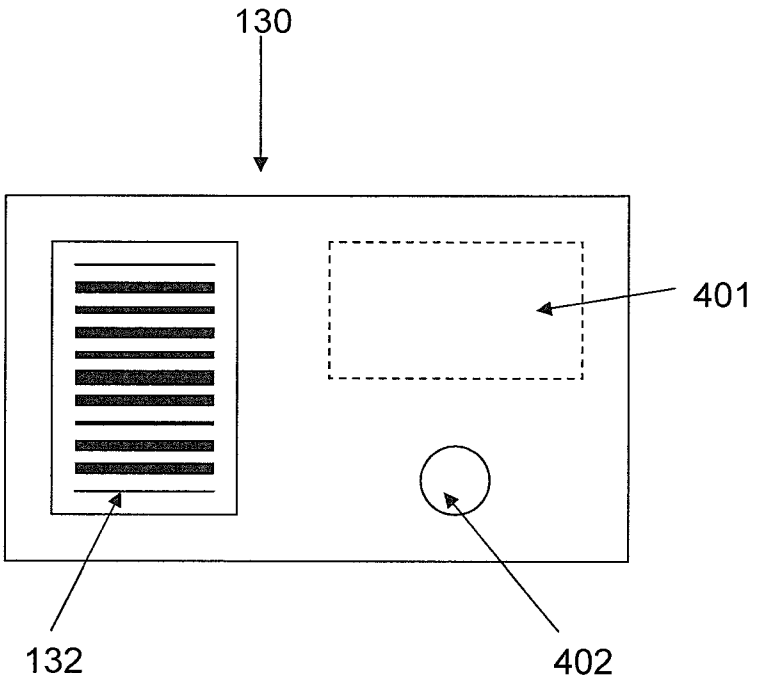

FIG. 4

SYSTEM FOR PROVIDING IDENTIFICATION AND INFORMATION, AND FOR SCHEDULING ALERTS

This application is a Continuation of U.S. patent application Ser. No. 15/817,688, filed on Nov. 20, 2017, which is a Continuation of U.S. patent application Ser. No. 15/173,331, filed on Jun. 3, 2016, now U.S. Pat. No. 10,061,895, which is a Continuation of U.S. patent application Ser. No. 14/856,083, filed on Sep. 16, 2015, now U.S. Pat. No. 9,390,231, which is a Continuation of U.S. patent application Ser. No. 14/458,877, filed on Aug. 13, 2014, now U.S. Pat. No. 9,165,335, which is a Continuation of U.S. patent application Ser. No. 13/917,374, filed on Jun. 13, 2013, now U.S. Pat. No. 8,833,649, which is a Continuation of U.S. patent application Ser. No. 13/313,821, filed Dec. 7, 2011, now U.S. Pat. No. 8,485,439, which is a Continuation-In-Part of U.S. patent application Ser. No. 13/270,672, filed Oct. 11, 2011, now U.S. Pat. No. 8,181,862. The entirety of the aforementioned applications is incorporated herein by reference.

FIELD

This application generally relates to a system for providing identification and/or information; in particular, medical information. The application further relates to an additional system for alerting a subject to upcoming events.

BACKGROUND

When a subject, to whom lacks the ability to effectively communicate needs urgent medical care, responders typically arrive at the scene within a short period of time without any information regarding the person in distress (i.e., subject). To properly provide medical care, the responders typically ask the subject relevant questions, such as current medications, allergies to medications, prior medical histories, i.e. surgeries, hospital visits, and other conditions. However, even if the subject is alert, he or she typically cannot provide accurate answers to such questions under the circumstances. Consequently, responders often provide urgent medical care without some medical history information. Likewise, after the subject is transported to a medical facility, doctors and other medical personnel at the hospital are not equipped with some of the medical history information regarding the subject, especially if the subject has never gone to the hospital before. Medical personnel may need to contact the subject's physician and/or other hospitals to get the needed information, which can cost time, and potentially life. Therefore, it is a great need for a system which can provide biographical information and allows medical professionals to obtain a subject's medical information.

Additionally, there exists a need for such a system, wherein the system further comprises an integrated element that can remind the subject of upcoming events related to their care and alert practitioners when the subject fails to fulfill those events.

SUMMARY

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve medical biographical information of the subject, wherein the retrieved medical biographical information allows responders to obtain the subject's medical information in order to provide care.

Another aspect of the present application relates to a non-transitory computer readable medium providing instructions for providing identification and medical information, the instructions comprising: collecting and storing medical biographical information of a subject; embedding the medical biographical information in a readable code of a removable device that is adapted to be worn by or in the possession of the subject; scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject; wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide medical care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting; and programming a reporter element that provides a signal to a functionally linked signal producing element to inform the subject of at least one particular event relating to the subject, wherein said programming is by a second system that electronically stores at least one particular event relating to the subject.

BRIEF DESCRIPTION OF THE DRAWINGS

The detailed description will refer to the following drawings, wherein like numerals refer to like elements.

FIG. **1** illustrates an embodiment of the system for providing identification and medical information.

FIG. **2** is a flow charting illustrating an embodiment of the method for providing identification and medical information.

FIG. **3** is a block diagram illustrating exemplary hardware components of the exemplary computer system or server for implementing embodiments of the system and method for providing identification and medical information.

FIG. **4** is a representative schematic view of the elements of the removable device.

DETAILED DESCRIPTION

The following detailed description is presented to enable any person skilled in the art to make and use the invention. For purposes of explanation, specific nomenclature is set forth to provide a thorough understanding of the present invention. However, it will be apparent to one skilled in the art that these specific details are not required to practice the invention.

Descriptions of specific applications are provided only as representative examples. The present application is not

intended to be limited to the embodiments shown, but is to be accorded the widest possible scope consistent with the principles and features disclosed herein.

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

In particular embodiments, the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting.

In particular embodiments, said reporter element is programmed by a second system that electronically stores at least one particular event relating to the subject. In a further embodiment, the second system additionally alerts a medical practitioner if the subject fails to fulfill the event.

In particular embodiments, the event is an appointment. In a further embodiment, said appointment is a medical appointment. In a still further embodiment, said medical appointment is selected from the group consisting of a physical examination, a physical therapy session, a mental examination and a mental therapy session. In another further embodiment, said appointment is a follow-up to a visit by the subject to a medical facility.

In particular embodiments, the reporter element is programmed to issue a signal a predetermined time prior to the at least one particular event. In a further embodiment, the signal repeats or remains until the subject fulfills the event and the reporter element is reset. In a still further embodiment, the reporter element is reset by a medical practitioner.

In particular embodiments, the device further comprises a tracking circuit that is capable of tracking the subject's location.

In particular embodiments, the medical biographical information includes one or more of the subject's name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of medications, emergency contacts, and complete medical records.

In particular embodiments, the device is a bracelet or a necklace worn by the subject.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn or in the possession of the subject, wherein the device comprises: a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve medical biographical information of the subject, wherein the retrieved medical biographical information allows responders to obtain the subject's medical information in order to provide care.

In particular embodiments, the system further comprises a computer screen located in an emergency vehicle to display the retrieved medical biographical information.

In particular embodiments, the system further comprises transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

In particular embodiments, the medical biographical information is updated after the subject is treated at the medical facility.

Another aspect of the present application relates to a non-transitory computer readable medium providing instructions for providing identification and medical information, the instructions comprising: collecting and storing medical biographical information of a subject; embedding the medical biographical information in a readable code of a removable device that is adapted to be worn by or in the possession of the subject; scanning the readable code of the device worn by or in the possession of the subject using an appliance to retrieve the medical biographical information of the subject; wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide medical care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting; and programming a reporter element that provides a signal to a functionally linked signal producing element to inform the subject of at least one particular event relating to the subject, wherein said programming is by a second system that electronically stores at least one particular event relating to the subject.

In particular embodiments, the computer readable medium further comprises instructions for resetting the reporter element after the subject fulfills the event.

In a particular embodiment, the computer readable medium comprises instructions for displaying the retrieved medical biographical information on a computer screen located in an emergency vehicle when the subject needs medical care.

In another particular embodiment, the computer readable medium comprises instructions for transmitting the retrieved medical biographical information to a medical facility that is designated to receive the subject.

In another particular embodiment, the computer readable medium comprises instructions for tracking the subject's location using a tracking circuit located on the device worn by or in the possession of the subject.

As used herein, a "medical sensor" refers to an appliance or apparatus that measures or monitors a dynamic bodily function, process or condition. Examples of medical sensors are those that measure or monitor heart rate, temperature, blood oxygen or other blood gasses, an electrocardiogram, or an electroencephalogram.

As used herein, a "removable" device refers to an object or device that a subject or a person attending the subject can place on, or remove from, the body, clothing or an accessory (such as a wallet or in a purse or bag) of the subject at will. The removable device is adapted to be worn on a daily basis, at all times, or at only particular times chosen by the subject, such as, but not limited to, during sleep, exercise, at home, travel, work, outdoors, or indoors.

A system and method are disclosed to assist a medical professional or responder to identify and provide appropriate medication and care to subjects unable to communicate for themselves in non-emergency or emergency scenarios.

One aspect of the present application relates to a first system for providing identification and information. In a particular embodiment, as illustrated in FIG. **1**, the first system **100** collects a subject's medical biographical information **110** from various sources, such as the subject's doctors' offices, medical facilities that the subject has visited in the past, and medical records or notes prepared or assembled by the subject. Examples of the subject's medical biographical information **110** include name, sex, date of birth, height, weight, blood type, allergies, sicknesses/medi-

cal conditions, use of prescribed medications, emergency contacts, as well as complete medical records if available.

In a particular embodiment, the system **100** electronically stores the subject's medical biographical information **110** in a database of a computer system **120**. In some embodiments, the subject's medical biographical information **110** stored in the database is updated by the subject's doctors or the subject as needed. The first system **100** embeds the stored subject's medical biographical information **110** in a readable code **132** of a device **130** that is worn by or in the possession of the subject **140**. In some embodiments, the device **130** is a bracelet, pendant, key chain, fob, belt clip, dog tag, necklace, jewelry, button or other object that is worn by the subject. In particular embodiments, the device **130** is kept in the subject's wallet, purse or pocket. In particular embodiments, the device is water resistant, water proof or comprises a water proof coating or sheath that protects the readable code. In particular embodiments, the device is wear resistant, wear proof or comprises a wear proof coating or sheath that protects the readable code.

In another embodiment, the device **130** is a card or a computer readable device, such as, but not limited to, a flash drive, solid state storage device, compact disc, or digital video disc (DVD). In particular embodiments, the readable code is contained on the removable device in electronic form.

In other particular embodiments, the readable code is present on the removable device in a printed form. In further embodiments, the printed form may be in the form of a bar code, a binary code, a matrix code, pictogram or a quick response (QR) code.

In some embodiments, the readable code is present on the removable device in both an electronic form and in a printed form. In some further embodiments, the data stored in electronic form and in printed form on the removable device is the same. In other further embodiments, the data stored in electronic form and in printed form on the removable device is different.

In some embodiments, the readable code is. In other embodiments, the readable code is non-encrypted code. In still other embodiments, the readable code is a combination of encrypted code and non-encrypted code.

In particular embodiments, a responder **150** uses an appliance **160** to scan the readable code **132** of the device **130** worn by, or in the possession of, the subject **140**. In particular embodiments, the appliance **160** obtains the subject's medical biographical information **110**, which may include, for example, the subject's name, sex, date of birth, height, weight, blood type, allergies, medical histories and conditions, sicknesses, use of prescribed medications, emergency contacts, as well as the complete medical records if available.

In particular embodiments, the responder **150** is a paramedic, emergency medical technician (EMT), fire fighter, policeman/woman, medical professional, or care worker. The term "medical professional" or "medical practitioner" as used herein, includes any person who cares for the medical needs of a subject such as, but not limited to, a physician, surgeon, dentist, chiropractor, osteopath, nurse, nurse's aide, orderly or volunteer.

In some embodiments, the appliance **160** is a handheld scanner. In other embodiments, the appliance **160** is a cellular telephone or a computer, including, but not limited to a laptop, pad or tablet computer. In particular embodiments, the appliance **160** includes an integrated display that displays the subject's medical biographical information **110** to assist the responder on the scene to provide care to the subject **140**. In another embodiment, the obtained medical biographical information **110** is displayed on a computer or other appliance or equipment. In a particular embodiment, the appliance and/or display is located in an emergency vehicle **170**.

In another embodiment, the first system **100** transmits the medical biographical information **110** to a medical facility **180** that is designated to receive the subject **140**. The designated medical facility **180** uses the medical biographical information **110** and the current medical needs of the subject **140** to develop a plan for medical care. In a particular embodiment, said plan for medical care is developed before the subject arrives at the designated medical facility **180**.

In a particular embodiment, the medical facility **180** is a hospital. In another particular embodiment, the medical facility **180** is an emergency room. In another particular embodiment, the medical facility **180** is an outpatient facility, including an outpatient urgent care facility. In another particular embodiment, the medical facility **180** is a clinic. In another particular embodiment, the medical facility **180** is a nursing home. In another particular embodiment, the medical facility **180** is a physician's office. In yet another particular embodiment, the medical facility **180** is a dentist's office.

In particular embodiments, transmittal of the medical biographical information **110** and the current medical needs of the subject **140** to the medical facility **180** allows a medical professional **190** at the medical facility **180** to be prepared for the subject's **140** arrival.

In particular embodiments, a medical professional **190** and/or responder **150** submits updated medical biographical information **110** to the database **120**. In another embodiment, the subject submits updated medical biographical information **110** to the database **120**. In particular embodiments, the updated medical biographical information **110** is automatically synced with data embedded in the readable code **132** of the device **130**.

In a particular embodiment, the device **130** comprises a GPS or other tracking circuit **134**. In particular embodiments, the medical professional **190** tracks the location of the subject **140**. In a particular embodiment, the distance and the travel time before arrival at the medical facility **180** is determined.

In particular embodiments, the first system **100** is used for emergency circumstances. In other particular embodiments, the first system **100** is used for non-emergency circumstances. In a related embodiment, the non-emergency circumstance is transport of a subject **140** from one medical facility **180** to a different medical facility **180**.

FIG. **2** is a flow chart showing a non-limiting example of an embodiment of a method **200** for providing identification and medical information. In a particular embodiment, method **200** comprises the collection and storage of medical biographical information of the subject **204**. In a particular embodiment, the medical biographical information is embedded in a readable code of a device that is adapted to be worn by or in the possession of the subject **206**. In particular embodiments, an appliance reads the readable code **208** of the device **206** to retrieve the medical biographical information of the subject **204**. In some embodiments, the retrieved medical biographical information **204** is displayed on a computer screen located in an emergency vehicle **210**. In particular embodiments, the retrieved medical biographical information **204** is wirelessly transmitted to a medical facility that is designated to receive the subject **212**. In some embodiments, the location of the subject is determined using a GPS tracking circuit located on the

device worn by the subject **214**. In particular embodiments, the medical biographical information **204** is updated by a medical professional or responder **216**.

In particular embodiments, as illustrated in FIG. **3**, the system disclosed in the present application comprises a computer system or server **300** for implementing embodiments of the system **100** (FIG. **1**) and method **200** (FIG. **2**) for providing identification and medical information. In an exemplary embodiment, the computer system or server **300** is the computer system **120** of FIG. **1**. In particular embodiments, the computer system or server **300** includes and executes software programs to perform functions described herein, including the steps of the method **200** described above. In other embodiments, computer system **300** is a mobile device that performs the steps of the method **200** described above. In particular embodiments. The computer system **300** connects with a network **318**, to receive inquires, obtain data, and transmit information as described above. In some embodiments, the network is the internet. In other embodiments, the network is an intranet, WAN, or LAN.

In an exemplary embodiment, the computer system **300** includes a memory **302**, a processor **314**, and, optionally, a secondary storage device **312**. In some embodiments, the computer system **300** includes a plurality of processors **314** and is configured as a plurality of, e.g., bladed servers, or other known server configurations. In particular embodiments, the computer system **300** also includes an input device **316**, a display device **310**, and an output device **308**. In some embodiments, the memory **302** includes RAM or similar types of memory. In particular embodiments, the memory **302** stores one or more applications for execution by the processor **314**. In some embodiments, the secondary storage device **312** includes a hard disk drive, floppy disk drive, CD-ROM or DVD drive, or other types of non-volatile data storage. In particular embodiments, the processor **314** executes the application(s) that are stored in the memory **302** or the secondary storage **312**, or received from the internet or other network **318**. in some embodiments, processing by the processor **314** may be implemented in software, such as software modules, for execution by computers or other machines. These applications preferably include instructions executable to perform the functions and methods described above and illustrated in the Figures herein. The applications preferably provide GUIs through which users may view and interact with the application(s).

In some embodiments, the processor **314** may execute one or more software applications in order to provide the functions described in this specification, specifically to execute and perform the steps and functions in the methods described above. Such methods and the processing may be implemented in software, such as software modules, for execution by computers or other machines. The GUIs may be formatted, for example, as web pages in HyperText Markup Language (HTML), Extensible Markup Language (XML) or in any other suitable form for presentation on a display device depending upon applications used by users to interact with the system **100**.

In particular embodiments, the input device **316** may include any device for entering information into the computer system **300**, such as a touch-screen, keyboard, mouse, cursor-control device, microphone, digital camera, video recorder or camcorder. The input device **316** may be used to enter information into GUIs during performance of the methods described above. In some embodiments, the display device **310** may include any type of device for presenting visual information such as, for example, a computer monitor or flat-screen display, mobile device screen, or a printer. The display device **310** may display the GUIs and/or output from a software program. In particular embodiments, the output device **308** may include any type of device for presenting a hard copy of information, such as a printer, and other types of output devices include speakers or any device for providing information in audio form.

Exemplary embodiments of the computer system **300** include dedicated server computers, such as bladed servers, personal computers, laptop computers, notebook computers, palm top computers, network computers, mobile devices, or any processor-controlled device capable of executing a web browser or other type of application for interacting with the system.

In particular embodiments, the first system **100** and/or method **200** may use multiple computer systems or servers as necessary or desired to support the users and may also use back-up or redundant servers to prevent network downtime in the event of a failure of a particular server. In addition, although aspects of an implementation consistent with the above are described as being stored in the memory **302**, one skilled in the art will appreciate that these aspects can also be stored on or read from other types of computer program products or computer-readable media, such as secondary storage devices **312**, including hard disks, floppy disks, or CD-ROM; DVD or other forms of RAM or ROM. In particular embodiments, the computer-readable media may include instructions for controlling a computer system, such as the computer system **300**, to perform a particular method, such as the methods described above.

One aspect of the present application relates to a removable device that is adapted to be worn or in the possession of the subject, as exemplified in the non-limiting example shown in FIG. **4**. The device **130** comprises a readable code **132** that contains medical biographical information of the subject, a programmable reporter **401** that electronically stores at least one particular event relating to the subject, and a signal producing element **402** functionally related to the programmable reporter element.

In a particular embodiment, the removable device **130** that is adapted to be worn or in the possession of the subject consists of a readable code **132** that contains medical biographical information of the subject, a programmable reporter element that is programmed by a second system that electronically stores at least one particular event relating to the subject, and a signal producing element functionally related to the programmable reporter element.

In a particular embodiment, the reporter element **401** is programmed to store data regarding at least one particular event relating to the subject and an algorithm for producing an alert signal in the signal producing element **402** to inform the subject of the at least one particular event relating to the subject. In a further embodiment, the alert signal is a light signal. In another embodiment, the signal is an audible signal. In yet another embodiment, the alert signal is a vibrating signal. In yet another embodiment, the alert signal is an alphanumeric display on a LED or LCD display. In yet another embodiment, the alert signal is a signal transmitted from the device to a caregiver or medical practitioner. In yet another embodiment, the device comprises two or more alert signals that are functionally related to the programmable reporter element, comprising two or more of the same type of alert signal or any combination thereof. In a particular embodiment, the reporter element is a separate element of the removable device **130** from the readable code **132**.

In particular embodiments, at least one signal producing element of the device is a transmitter. In a related embodiment, the reporter element signals notification of an upcom-

ing event and/or an unfulfilled event related to the subject to a family member, friend, caregiver and/or medical practitioner.

In a particular embodiment, the removable device further comprises a power source for the reporter element and the signal producing element. In a further embodiment, the power source is a battery. In a still further embodiment, the battery is rechargeable. In another still further embodiment, the battery is removable. In another further embodiment, the removable device further comprises a solar cell for recharging the power source.

In a particular embodiment, the removable device that is adapted to be worn or in the possession of the subject consists of a readable code that contains medical biographical information of the subject, a programmable reporter element that is programmed by a second system that electronically stores at least one particular event relating to the subject, a signal producing element functionally related to the programmable reporter element, and a power source.

Another aspect of the present application relates to a system for providing identification and medical information of a subject in a removable device, comprising: a database for collecting and storing medical biographical information of the subject; a removable device that is adapted to be worn by or in the possession of the subject, the device including a readable code that contains medical biographical information; and an appliance for scanning the readable code of the device worn by or in the possession of the subject to retrieve the medical biographical information of the subject, wherein the medical biographical information allows responders to obtain the subject's medical information in order to provide care and wherein the device is not linked to a medical sensor and is worn by the subject in a non-hospital setting, and wherein the device worn by or in the possession of the subject further comprises a reporter element that provides a signal to inform the subject of at least one particular event relating to the subject.

In a particular embodiment, said reporter element is programmed manually.

In another particular embodiment, said reporter element is programmed by a second system that electronically stores at least one particular event relating to the subject. In a further particular embodiment, the second system is the same as the first system. In another further particular embodiment, the second system is separate from the first system.

In a particular embodiment, the at least one particular event is an appointment. In some embodiments, the appointment is a follow-up to a visit by the subject to a medical facility. In a further embodiment, the appointment is a medical appointment. In some embodiments, the medical appointment is selected from the group consisting of a physical examination, a physical therapy session, a mental examination and a mental therapy session. In another particular embodiment, the event is a reminder to schedule an appointment.

In a particular embodiment, the reporter element is programmed to issue a signal a predetermined time prior to the event. In a related embodiment, the predetermined time is about one month prior to the event. In another related embodiment, the predetermined time is about two weeks prior to the event. In another related embodiment, the predetermined time is about one week prior to the event. In other related embodiments, the predetermined time is about 30, 28, 25, 21, 20, 15, 14, 7, 6, 5, 4, 3, 2 or 1 day(s) prior to the event. In another related embodiment, the predetermined time is about 24, 18, 12, 6, 5, 4, 3, 2, or 1 hour(s) prior to the event.

In a particular embodiment, the signal repeats or remains until the subject fulfills the event and the reporter element is reset. In a particular embodiment, the reporter element is reset by the subject. In another particular embodiment, the reporter element is reset by a relative, friend or caregiver. In another particular embodiment, the reporter element is reset by a medical practitioner. In a particular embodiment, the reporter element is reset manually. In another particular embodiment, the reporter element is reset by resetting the second system.

In another particular embodiment, the reporter element is programmed to issue an alert signal a predetermined time after the event if the event was not fulfilled or the reporter element was not reset. In a related embodiment, the warning signal is issued on a repeating basis. In a related embodiment, the predetermined time is 15, 30, 45 or 60 minutes after the scheduled time of the event. In another related embodiment, the predetermined time is 1, 2, 3, 4, 5, 6, 12, 18 or 24 hour(s) after the scheduled time of the event. In another related embodiment, the predetermined time is 1, 2, 3, 4, 5, 6, 7, 14, 15, 20, 21, 25, 28 or 30 day(s) after the scheduled time of the event.

In some embodiments, the reporter element is programmed to issue an alert signal before an event in addition to, if the event is not fulfilled by the subject, after said event. In particular embodiments, the signals before and after the event are the same. In other particular embodiments, the signals before and after the event are different.

In a particular embodiment, if the subject fails to fulfill the event, the second system alerts a medical practitioner.

The above description is for the purpose of teaching the person of ordinary skill in the art how to practice the present invention, and it is not intended to detail all those obvious modifications and variations of it which will become apparent to the skilled worker upon reading the description. It is intended, however, that all such obvious modifications and variations be included within the scope of the present invention, which is defined by the following claims. The claims are intended to cover the components and steps in any sequence which is effective to meet the objectives there intended, unless the context specifically indicates the contrary.

What is claimed is:

1. A method for assisting a practitioner to identify and provide appropriate care to a subject, comprising the steps of:

collecting medical biographical information of the subject;

storing the collected medical biographical information in a first database, wherein the information comprises a medical history of the subject;

programming a reporter element to electronically store at least a first event relating to the subject, wherein a signal producing element is functionally related to the programmable reporter element, and wherein the signal producing element and the programmable reporter element belong to a first system;

programming the reporter element to provide a signal to the functionally linked signal producing element to inform a user of the element of a second event relating to the subject, wherein the second event relating to the subject is electronically stored by a second system, and

developing a plan of medical care for the subject based on the first and second events relating to the subject.

2. The method of claim **1**, wherein the signal producing element is a portable device.

3. The method of claim 1, further comprising the step of updating the medical biographical information of the subject after the subject's visit to the medical facility.

4. The method of claim 1, wherein the medical biographical information of a subject includes name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of prescribed medications, emergency contacts, test results and medical records.

5. The method of claim 1, wherein the medical biographical information is collected from one or more sources selected from the group consisting of the subject's doctor's office, medical facilities that the subjected visited in the past, and medical records or notes prepared or assembled by the subject.

6. The method of claim 1, wherein the user is a medical professional.

7. A system for providing identification and medical information of a subject in a portable device, the system including a first system and a second system, the first system comprising:

a database for collecting and storing medical biographical information of the subject, wherein the information comprises a medical history of the subject;

a programmable reporter element that is programmed to electronically store at least one particular event relating to the subject,

a signal producing element is functionally related to the programmable reporter element,

wherein the programmable reporter element is further programmed to provide a signal to the functionally linked signal producing element to inform a user of at least one particular event relating to the subject, wherein said at least one particular event relating to the subject is electronically stored by the second system, and

wherein a plan of medical care for the subject is developed based on the at least one particular event relating to the subject.

8. The system of claim 7, wherein the medical biographical information of a subject includes name, sex, date of birth, height, weight, blood type, allergies, sicknesses or medical conditions, use of prescribed medications, emergency contacts, test results and medical records.

9. The system of claim 7, wherein the medical biographical information is collected from one or more sources selected from the group consisting of the subject's doctor's office, medical facilities that the subjected visited in the past, and medical records or notes prepared or assembled by the subject.

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