Integration of Big Data Technologies for Human Centric Wellness Data with Fingerprint Sensor

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Abstract:
The advancement in new technologies and their data generation at substantial rate gave birth to the Big Data and require a robust platform to capture, retrieve, store, and process it. Data generated by Human centric services and applications such as sensors, healthcare applications, social networks, and smart-phones need to be collected and processed to provide in-depth knowledge. In this paper we propose new users clinical, personalized, and feedback data along with Fingerprint Sensor to provide clinical, physical, social, and mental health monitoring platform. We implement a Big Data service engine which provides storage services to health monitoring systems and analytics services to visualize and monitor clinical information, physical activities and emotions performed by the users along with their fingerprint. Our prototype system successfully integrates various technology platforms and provides centralized health monitoring system.

I. INTRODUCTION:

Big Data is a collection of large datasets that cannot be processed using traditional computing techniques. Big data is not merely a data; rather it has become a complete subject, which involves various tools, techniques and frameworks. Big data involves the data produced by different devices and applications. Big data technologies are important in providing more accurate analysis, which may lead to more concrete decision-making resulting in greater operational efficiencies, cost reductions, and reduced risks for the business.

II. LITERATURE SURVEY

Luis M. Camarinha-Matos; Filipa Ferrada; A. Ines Oliveira; Joao Rosas; Jorge N. Monteiro- A conceptual architecture for an ambient assisted living ecosystem is introduced with the objective of facilitating the development and provision of integrated care and assistance services for senior citizens. These services are the result of collaboration among various stakeholders. An example of service design in this context is also presented. B. Selic-The potential benefits of using models are significantly greater in software than in other engineering disciplines because of the potential for a seamless link between models and the systems they represent. Unfortunately, models have rarely produced anticipated benefits. The key lies in resolving pragmatic issues related to the artifacts and culture of the previous generation of software technologies. Elena Tavlaki-In FP7 research projects, medical or/ and biometric data is used for research reasons. Researchers should be aware of the privacy issues arising from improper or not-existent disclosure control in the collection, use, storage and disposal of medical and/or biometric data that has been accumulated during the implementation an FP7 project. The articulation of code of conduct for FP7 researchers in medical and biometric data privacy is necessary as to provide guidance in practical terms. Mohammad Derawi; Iurii Voitenko; Pal Erik Endrerud Over the last years, there has been an increasing research interest in the application of medical biometrics data for many kinds of automated recognition algorithms. The need for more security and health monitoring is increasing with new functionalities and features made available. To improve different device/ application security and health monitoring we propose a stable biometric electrocardiography (ECG) recognition approach with a stable cycle detection mechanism and comparison algorithm. Unlike previous work on wearable ECG recognition, which was based from cabled non-wireless systems, this paper reports new wireless technology and techniques for which can improve the performance, by using simple and low cost approaches. Pre-processing.

III. ARCHITETURE DIGRAM
The Human Centric Wellness Data with Fingerprint Sensor. We propose a more secure system to maintain the patient medical records in more efficient way. The fingerprint sensor allows the authorized user to access their prescription details by scanning and verifying their fingerprint. The user can access their prescription even if they are in critical condition since only fingerprint verification is needed and they don’t need to type in their patient id. Highly secure no anonymous user can access the patient details. The user doesn’t need to manually enter their id. Patient can access their prescription with the help of the fingerprint verification during critical condition

**Problem Definition**

The large amount of health data is monitored without any secure and accurate solution i.e., without fingerprint sensor. Therefore there are some constraints in accessing the patient details. Even anonymous users can access the patient prescription by providing patient user id. If the patient is in a critical condition he can’t access his prescription because he needs to manually enter the Patient ID. Insecure, anonymous user can access the patient details. Patients cannot access their prescription if they are in critical condition. Patients must manually enter their user id to access their prescription

**Modules:**

1. **Doctor Interface:**
   - Doctor can login and manage database.
   - Add new patient, update patient information.
2. **Patient Interface:**
   - Patient can access and modify database.
3. **Finger Print Verification:**
   - Patient can only view medical data.
   - Other doctor can only view patient information.
4. **Secure retrieve data’s:**
   - Secure retrieve data's:
   - Finger print verification technique. Doctor can create account using fingerprint.

**Doctor Interface:**

In this Module first we create small network for interface between doctor and patient, for secure communication we use finger print verification technique. Doctor can create account in the medical database. The patient must verify his fingerprint using finger print verification technique. The patient can access the prescription and update the prescription details. The patient can login in secure manner. The patient can only view his medical history and is blocked from view other patient details.

**IV. CONCLUSION**

The Big Data platform centered in MC UDP contains a data lake which is a subset of the institutional data set generated by MC clinical and research communities. The governance, ownership, standards, privacy, security and ROI of the platform need to get strengthened in the near future by correctly implementation of the following polices A client (human or application program) is required to obtain the right managerial approval at MC before it is issued a valid user name and password to access the corresponding nodes in a Hadoop cluster on the platform. A client can only access and use the authorized data in the data lake by implementing different security layers and authorization mechanisms on the platform. In order to access and use any PHI (Protected Health Information) data in the data lake, a client such a scientific researcher and/or his/her application must first get an approval from the Institutional Review Board (IRB) at MC, and is then authorized, based on a valid IRB number, to access and use the dedicated data in the data lake. A practice management client or administrator can access and use the data in the data lake as needed. Intake of data by the platform is steered by MC Big Data Intake Process Committee, which is composed of representatives from IT department, the clinical practice management and research communities at MC while the intake process contains the steps to examine each request for appropriate usage of the data lake and to verify that the intake data is valid for practice management or research usage; and The construction, day-to-day operations, and maintenance of the Big Data platform are performed and managed by MC IT while all the related cost is shared by clinical practice, research communities and IT department at MC.

**V. REFERENCE**


for Patients with Type 2 Diabetes, 1997 to 2005,” Annals of Internal Medicine, vol. 151, no. 6, pp. 386-393, Sep. 2009.


