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The special heart and respiration on networks using Christina theory

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ABSTRACT

In this work we have proposed a new application on mobile to cater the well being of heart and we designing a new mobile which is incorporating with stethoscope. We call it as "Mobile Steth" with automatic application for suggesting the food and heart related problems. Mobile steth will record the user datum; with this datum critical label will be checked. If the subject (patient) reaches the critical label, mobile steth will initiates an alarm to their family members and if the subject needs it will fix appointment in the nearest hospital.

Introduction

It's an automatic mobile application for preventing heart related problems and we implementing a mobile agent for suggesting healthy tips and in food habits. At first if the person has heart related problem, but he is consuming non vegetarian foods and more calories without any care about his life. This is modern life; no one can change the habit and habitat suddenly, but we can try in a modern approach. Mobile Stethoscope will suggest you the food principles by giving the input datum (user feeding datum)

The proposed idea of Sharon mobile phone alarm allows all authenticated individuals to suggest for their food schedule and diet mechanisms. Authentication is validated by capturing the small user information and by comparing with the existing stored database of food zone with the help of array matching scheme. The health transactions and communication of the individual is carried over using synthesized information what he provided before using this software. It has 3 label stages say normal, medium, and critical. Our target is mainly focusing the critical label patients, because they are in risk levels in their health. We added a new mechanism called instant appointment fixing in hospital zone, if the patient reaches the critical label or he is feeling in uncomfortable state, our mobile agent will search in the hospital zone for the appointment with doctor. If the doctor is not free or the hospital server is busy, then our agent will switch to the next hospital zone.

The rest of this paper is organized as follows: Section 2 & 3 represents the notation and definitions needed to give a hierarchical structure to the data source. Section 3 proposes the new time bound health management&138 module accesses with instant datum, all the user details will be stored in health database.

Related Work & System Model

Related work regarding mobile based heart alert

M. Wegmuller [4] has proposed a technique to Validate Heart Mechanisms. The methodology is based on hidden health model and decision trees to recognize the ridge structure of the user health. Ridge extraction uses array classification algorithm where the fingerprint images are stored as arrays of health datum with self alarm meter.

R. E. Sorace, V. S. Reinhardt [5] has focused their work to evaluate the performance of heart beat and cardiovascular related problems and verification system. This paper reviews the various biometric classifier and their testing initiatives and assesses the state-of-the-art in CVD problems.

R.E Haskell, C.T Case [9] The automated SMS reminders transmitted was timed so that they did not reach the recipients at inappropriate times, such as night-time. The attendance/non T attendance statuses for patients who received and did not receive an SMS appointment reminder were recorded using the IT software installed data on cancellations by patients.

S. Chen, B. Mulgrew, [19] Information for the reminder messages was extracted from the hospital's outpatient clinic scheduling system and loaded into a database (Access 2000, Microsoft, Redmond, Wash, USA). A query was then run on the database to select, for each outpatient appointment with the telephone number, the clinic name, contact telephone number, and the day with the appointment.

Definitions and Notation

Let S be the patient (source) health records to be updated in our database. We assume that G partitioned into blocks of data called nodes. The policy base PB is the set of access control policies defined for G. In our setting, each food datum contains a temporal interval (I) among its components, which specifies the time period in which the food datum is valid with the user feed.

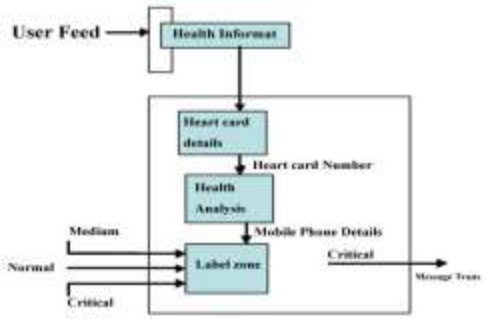

Fig.1: User Health Datum Feed / HCN

Christina theory for health suggestions

An important advantage of our scheme is that the patient can change the class keys of system at anytime without

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having to reissue new devices to the users, whereas only the user with valid class and the daily food information need to be updated in HCN. However, when an individual authenticated user wants to change the profile, a new device needs to be issued. This also needs to be done when a different class is desired for personnel data to be accessed with the Christina theory for food habits [5]. It contains the entire accessing records that how to change their profile schemes in a detailed manner. User can use that files for their diet process and to upload their personnel contents.

The following definition introduces dietary steps for the patient to be followed defined over C.

Definition 1: If patient reached the CHR level, then our agent will initiate automatically, it will connect to the nearest hospital server zone. It will check the appointments status of doctor, who is free now or today. It will fix the appointment for the patient instantly. At the opening of my application, user must feed his personnel details especially their family members phone number. Husband means wife phone number. Bachelor means parents or best friend number is, orphan means they can use their guardian or well wisher. Our agent will save this datum in our database and the user personnel info and their health status cater with the alarm meter. This approach allows rapid integration of new sensors. In addition processing within the handlers, separate data processing modules are added to retrieve process and store computed data (e.g. heart rate).

The food database chooses three random values and a keyed in normal zone for health datum [5] built with a storing and affixed secrete keys. It serves as the system master data and it is updated only by the user.

Patient's can update all his health report includes the medical status. It will be stored in our database with credit labels. It will analyze your today input(health records) with the stored database range.

Fig .2: Message Trans Function

Appointment zone for critical label

The system manager values CHR with constructed keys and health point, such a way that the patient reaches the CHR of the key. Then the validated point will be in initialize data generator, Christina theory will generate the key image of the entire hospital zone which is nearby to the area. In their heart card, holds all the data about patient's record of previous medical report, and the protected datum value belonging to them will be verified with their key class CHR in the nearest hospital database all the personnel datum about the worker will be authenticated and saved in the hospital database zone and it will intimate to the concerned doctor that the patient needs appointment in critical condition.

Fig. 3: Data Info with CHR Access

In addition, although we were able to identify whether SMS messages were successfully transmitted, we did not know whether they received by the correct recipient. A major reason for omitting patient details from the message was concern that the mobile telephone contact number might be incorrect or, if correct, that it might not be the patient or carer who received the message.

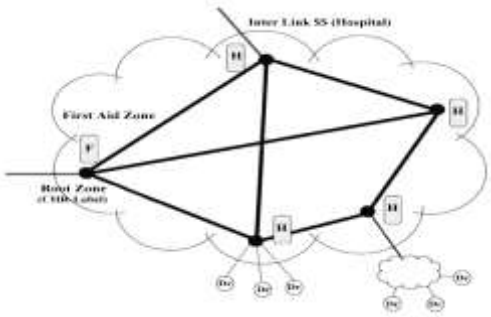

Fig .4: Doctor's vacancy is traced in the hospital zone

Heart Card Number Schema (HCN)

Note that the mobile application in our scheme is an alarm based. That does calculation in the Decrypting Key Derivation process. This raises the question of whether such an application can be attacked by an adversary to gain secret information to subvert this process. This concern is necessary, since cosset lock scheme has been successfully attacked, due to the weakness of the security [3][4], we face a similar situation here also.

Misuse from unwanted peoples (wrong usage)

First, any misuse against our scheme with only one input to the application without the heart card number. Any attempt to gain the temporal decrypting key with only one input key K to the device with identity without HCN will not succeed, unless the input is the right class key with HCN bound to the same device. This can easily be seen, since in this case, the device will compute the patient for granting point to his heart card.

Doctor zone is busy or congested

Second, any congestion happens in the network with more than one input id to the device is requesting appointment in the hospital under critical emergency request. By the time our user application will holds in its current state. Since the encryption information for a device with HCN is not likely to be modified because of the doctor zone is busy with many patients currently or the hospital is fully congested with various network accesses, during that time our program will check the next hospital area. If the patient is really critical in range, immediately our program will changed into most critical zone label, so the patient now created a separate queue with the doctor.

We implemented a research prototype of an end to end Health monitoring system, providing pervasive monitoring of health data targeted for health applications. The solution centers around a mobile phone that collects sensed data from on body sensors, then aggregates, processes, stores, displays, securing and then forwards the data. The system is designed to be extensible to the different use cases in the health domain, including the use of different sensors, algorithms, and user interfaces.

NHR, MHR, CHR label marker

Our target is only critical range. If the patient reached CHR means, a small alert message will send to their corresponding family members via short message service

A small alert message will send to his wife,

Hello MRS. Sundaram,

"Your husband has reached CHR level; he is eating more Non vegetarian food items. Please take care of him"

If he reached the CHR level, so my agent will initiate automatically, it will connect to the nearest hospital server zone and it will check the vacancy position of doctor, who is free now or today. It will fix the appointment for the patient instantly. Finally the phonemes and prosody information are used to produce the alarm for each label. There are many ways in which the health datum can be produced from the phoneme and prosody Information. Most current systems do it in one of two ways: concatenation of chunks of recorded human health chart, or formant synthesis using bio techniques based on knowledge of how phonemes sound and how prosody affects those phonemes. The details of health info generation are not typically important to the RVP users and hospital management area.

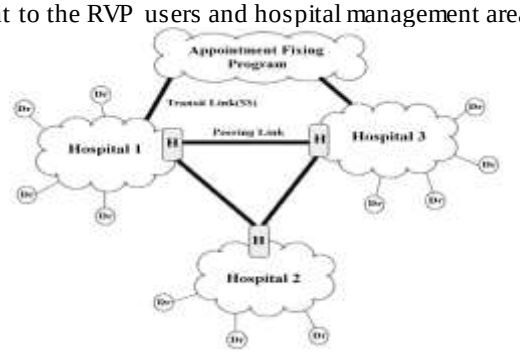

Fig .5: Hospital Tracing with CER request

This health datum is typically a pattern of features or unique landmarks that allows a given individual to be uniquely identified. For active mobile phone number recognition, these features are typically minutia points such as ridge endings (the termination points of health and friction ridges) and ridge bifurcations. The final phase of a Christina system is the decision-making phase. In this phase, the feature pattern that was extracted from the health datum is compared to a previously known example. A decision is then made regarding the identity of the individual is verified, otherwise, the claimed identity is rejected. So if an accurate health data is not obtained in the first phase, the rest of the process will be inaccurate.

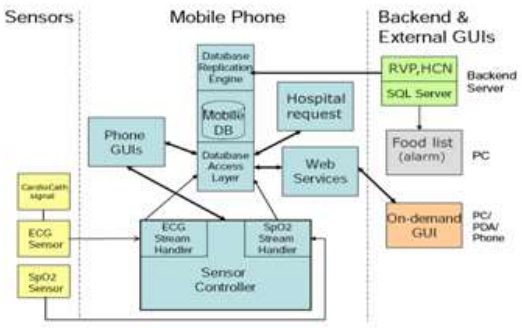

Fig .6: System Overview

Application Architecture

We targeted the Windows Mobile 5 operating system, .NET compact framework and C#, which enabled rapid development and support for multiple hardware options. The application architecture running on the Mobile phone consists of four main components, the sensor controller, the GUI, the database and the web service. The database serves as the central repository of the data, and all components share data through it. The sensor controller is responsible for establishing and maintaining wireless connections with the on-body sensors, receiving sensor data, parsing it and storing the information in the database.

Sensor controller with 138 mobile program

It abstracts out the common aspects of connectivity into a generic controller. Small bio sensor-specific modules are included to interpret and process data from specific sensors. This approach allows rapid integration of new sensors which is entrenching with mobile application. Finally data processing modules are added to retrieve process and store computed data. The graphical user interface consists of a linear heart beat data display component and a configuration component. The data display retrieves the latest scalar data from the database and displays it to the user.

SQL mobile database with RVP

We used the SQL mobile database tool on the aggregator and developed generic schemas to support all the different sensors that we intend to support. We also developed an access layer to the database to pull together all the common functionality with HCN records of the patient simplify the heart database interface to the different application components. Finally, we implemented a replication mechanism to support periodic synchronization of sensor readings and the data configuration parameters with the backend database with the configuration component allows the user to configure the sensing devices and manipulate some of the operating parameters of the aggregator (e.g. frequency of data push to back end). We used the SQL mobile database on the aggregator and developed generic schemas to support all the different sensors that we intend to support.

Participatory Research Support

This Sharon mobile architecture is well suited for participatory research as it enables the user to be involved in the sampling process. We highlighted below some of the advantages of this architecture. Easy integration of off-the-shelf sensors which provides the user with a large selection of sensors.

This flexibility is a result of three different factors. First, using Bluetooth which is very ubiquitous today and leveraging the serial port profile as it is typically used in Bluetooth implementations. Second, the design of a flexible sensor controller that separated the connectivity of the communication from the sensor data format which is stored in the HCN, enabling minimal code customization as new sensors are added to the system.

Finally, the architecture design of extremely generic database schemas to support different data types, sampling rates and data sizes. We verified this flexibility by connecting 3 different types of bio-sensors including accelerometers, SpO2,ECG, temp, humidity and GSR. The design of this bio database schema that supported annotations of the data. We designed two main tables for the data, an observation table which stores all the raw information received from the sensors and an annotation table, enabling the user and/or the device to annotate the observation data with more information. Again, due to the generic schemas, these annotations can be of different types including text, location, audio, etc. Local display of (patient) sensed data enabling the user to be aware of the current state and take actions and/or annotate the data accordingly. For example, the IMP- GSR sensor could indicate that it detected that the user is highly stressed.

Performance Evaluation

The proposed system is implemented in VB.net platform with SQL as backend process. Since the HCN is user friendly it supports a single specified language. It processes a single input lock stream. It can optionally adapt to the health datum print of

its users. Hidden Markov model is used as a print proposed methodology is compared with histogram recognition technique. The number of successful health transaction is compared on various timing interval for sample training set is shown here. It shows that no of transactions is 3.8% more in proposed model, Even a smart card can do this in a few seconds. Our scheme is in fact, faster than Goldberg Lee R, Piette John D [6] in which only heart computations are widely used. However, it is still very efficient from the point of view of application and provides enhanced with health security for all heart patients.

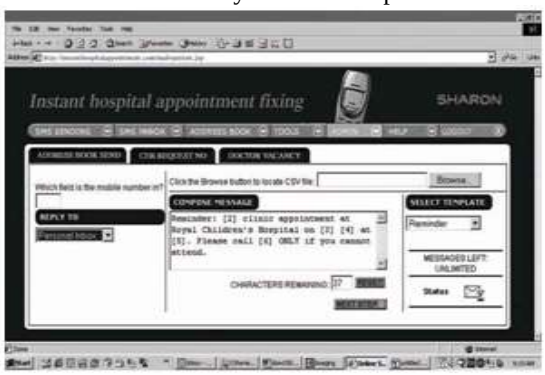

Fig .7: Sharon mobile-Hospital SMS appointment system

Table 1: Details of the RVP, HCN and Hospital Database

Goal	Description
Heart Card	Ensuring that information is not disclosed to unauthorized person
Doctor Record (RVP list)	Ensuring that information held in a system is proper representation of the information intended and that it has not been modified by an unauthorized person
Availability (Hospital)	Information processing resources are not made unavailable by immediate action with the hospital records.
Non-Repudiation	Cancelling the appointment (patient) our system will recheck the condition of the patient.

Appendix

Comparison of Christina schemes for HCN, RVP & heart patients Attending between the trial and control groups.

Conclusion

The Christina process is a new protection method in digital DB function for healthy life with 138 modules is now becoming more and more important for user security management. This involves embedding, identification and rights validation for all patients. The instant SMS system sent a single batch of reminder messages daily to a single mobile telephone number for each patient. If the patient had given more than one mobile number, the message was sent to the preferred number given, based on the above values performance has been evaluated.

References

1. S. M. Metev and V. P. Veiko, Laser Assisted pervasive computing, 2nd ed., R. M. Osgood, Jr., Ed. Berlin, Germany: Springer-Verlag, 2010.
2. J. Breckling, Ed., The Analysis of Directional Temporal and spatial Database Series: Applications to Regular and Direction, ser. Lecture Notes in Statistics. Berlin, Germany: Springer, 2008, vol. 61.
3. S. Zhang, C. Zhu, J. K. O. Sin, and P. K. T. Mok, "A novel method for data mining for the Enterprise," IEEE Electron Device Lett., vol. 20, pp. 569–571, Nov. 1999.
4. M. Wegmuller, J. P. von der Weid, P. Oberson, and N. Gisin, "Statistical Database and distributed measurements with Business OFDR," in Proc. ECOC'00, 2009, paper 11.3.4, p. 109-1247 Po/ISE/Mig78113.
5. R. E. Sorace, V. S. Reinhardt, and S. A. Vaughn, "Empirical study on applications of data mining in health care," U.S. Patent 5 668 842, Sept. 16, 2006.
6. FLEXChip Digital Signal Processor with Mobile Communication Mechanisms (MC68175/D), Motorola, 1996.
7. "PDCA12-70 data sheet," Opto Speed SA, Mezzovico, Switzerland.
8. A. Karnik, "The Next Generation Clinical Decision Support: Linking Evidence to Best Practice" M. Eng. thesis, Indian Institute of Science, Bangalore, India, Jan. 2008.
9. J. Padhye, V. Firoiu, and D. Towsley, "Data Mining with SQL Server 2005," Univ. of Massachusetts, Amherst, MA, CMPSCI Tech. Rep. 99-02, 2006.
10. A Primer for Understanding and applying Specification with Data Mining, IEEE Std. 802.11, 2007.
11. R. E. Haskell and C. T. Case, "Transient signal propagation in mobile handoff mechanisms (Report style)," USAF Cambridge Res. Lab., Cambridge, MA Rep. ARCRL-66-234 (II), 1994, vol. 2.
12. E. E. Reber, R. L. Michell, and C. J. Carter, "Acceptance Model of Electronic Medical Record," ISCM Corp., Los Angeles, CA, Tech. Rep. TR-0200 (420-46)-3, Nov. 2005.
13. Transmission Systems for Mobile Health Care Communications, 3rd ed., Western Electric Co., Winston-Salem, NC, 2009, pp. 44–60.
14. Motorola Semiconductor Data Manual, Motorola Semiconductor Products Inc., Phoenix, AZ, 1989.
15. J. Jones. (2007, May 10). "A healthcare-driven framework for facilitating the secure sharing of data across boundaries,".
16. G. W. Juette and L. E. Zeffanella, "Grid Based Semantic Integration and dissemination of Medical Information (Presented Conference Paper style)," presented at the IEEE Summer power Meeting, Dallas, TX, June 22–27, 2008, Paper 90 SM 690-0 PWRS.
17. J. G. Kreifeldt, "Types of Resources and their discovery in health grids," presented at the 2009 Int. Conf. Medicine and Biological Engineering, Chicago, IL.
18. J. Williams, "A Grid enabled PSE for medical Imaging: Experiences on MedIGrid (Thesis or Dissertation style)," Ph.D. dissertation, Dept. Elect. Eng., Harvard Univ., Cambridge, MA, 2005.
19. S. Chen, B. Mulgrew, and P. M. Grant, "A clustering technique for mobile communications using radial basis function networks," IEEE Trans. Neural Networks, vol. 4, pp. 570–578, July 2002.
20. R. W. Lucky, "Clinicians attitudes to clinical practice guidelines: a systematic review," Bell Syst. Tech. J., vol. 44, no. 4, pp. 547–588, Apr. 2009.
21. S. P. Bingulac, "Wearable Devices in Health Care", Intelligent Paradigms for Healthcare Enterprises (Published Conference Proceedings style)," in Proc. 4th Annu. Allerton Conf. Circuits and Systems Theory, New York, 2009.
22. G. R. Faulhaber, "Design of Mobile Computing and Technology to health care services," in Conf. Rec. 2007 IEEE Int. Conf. Communications, pp. 3–8.
23. W. D. Doyle, "Mobile Information and Communication in the Hospital Outpatient Service," in 2007 Proc. INTERMAG Conf., pp. 2.2-1–2.2-6.GDallas, TX, Paper 90 SM 690-0 PWRS.