

Sharon: bio-sensor system in health care using Christina theory WHDM tool

T. Shantha Kumar

CSE, SKREC, Anna University, Chennai, T.N, India.

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ABSTRACT

In this work we have proposed a new mobile based health application on pervasive computing to cater the well being of human life and we designing a new bio-related mobile which is incorporated with an application called AIDS Awareness Application (A.A.A), we call it as "Sharon Mobile" with automatic application for suggesting the AIDS related frequently asked questions. This mobile has two different storage say server side and dB related storage in the mobile database itself. Gender wise searching option is implemented in this AIDS Awareness mobile. We are using heterogeneous data mining and mobile dB features for query searching with WHDM Tool.

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Introduction

Disclosed herein is a mobile phone with an AIDS awareness function. The mobile phone with an E-care biosensor function, of which the mobiles has communication data processing functions and it comprises of a biosensor with microphone which is arranged in a body of the mobile phone. The sound data obtained from the medical examination made on the part of a human body where the biosensor microphone is contacted are converted into digital sound data. The digital sound identifies corresponding sound data through search and comparison within allowable errors of data with the identified data, finally a diagnostic data is made available.

It's an automatic mobile application for preventing biological diseases. It is a J2ME mobile based application for suggesting healthy tips and lifestyle for AIDS. This mobile has a small pocket application called A.A.A module. This mobile is inbuilt with an e-care biosensor at the backside of the hardware. It can monitor patient's health status and it can respond the query related to AIDS and the basic details about awareness.

RELATED WORK AND EXISTING MODEL

Kill Kim from Los Angeles Invented the Mobile Communication with Stethoscope in the year 2004. In his Paper he mentioned the auscultated system and analog to digital conversion of the signals for the patients. But this paper is just an assumption process in the mobile communication.

Byung Hoon Lee, Seoul (KR) Invented the Mobile Communication with Medication System in the year 2008. In his Paper he mentioned the medication system and instant appointment fixing in the hospitals for the patients. But this paper didn't mention about any authenticated proof for the appointment fixing in the hospitals when any 3rd party user tries to hacks the system.

Sharon mobile expert system

The proposed idea of Sharon mobile phone allows all authenticated individuals to suggest their family lifestyle and intercourse awareness about AIDS. Authentication is validated by capturing the small user's information and by comparing with

the existing stored database of mobile dB zone with the help of array matching scheme. In general when a physician examines a patient, the first step is to identify the illness of a patient using a stethoscope in order to pinpoint the name of the patient's illness by the auscultated sound from the instrument. According to the diagnosis thus made with a stethoscope, a diagnosis plan for the patient is formulated. Depending upon the result of the initial diagnosis, further diagnostic procedure may be taken with higher precision diagnostic equipment.



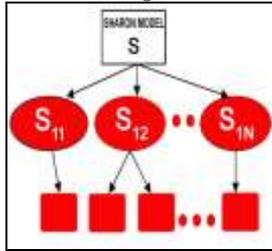
Fig. 1. SHARON - Mobile Interface

Back Ground Art - SHARON

SHARON: Scalable, Heuristic, Adaptive, Reliable, Onrule and Novel.

New generation AIDS Awareness Application System with Implantable Cardio defibrillator ICD & E-care sensor mechanisms. According to the Sharon Mobile, which were issued to the past inventor of the present application [1] [2] analog wave signals of the auscultated sound data collected from the "mobile hardware". Then microphone data are converted into digital signals by an A/D converter, and then the converted digital signals are compared through searches with various standardized digital auscultating sound data of various symptoms of various illnesses which are stored by computer circuits of a diagnostic system. By doing so, the auscultated sound data converted into digital auscultated data with allowable errors of data.

Concept Tree for Icon Searching in SHARON Model



In general when a physician examines a patient, the first step is to identify the illness of a patient using a stethoscope in order to pinpoint the name of the patient's illness by the auscultated sound from the instrument. According to the diagnosis thus made with a stethoscope, a diagnosis plan for the patient is formulated. Depending upon the result of the initial diagnosis, further diagnostic procedure may be taken with higher precision diagnostic equipment.

Therefore, the first diagnostic by a doctor is step by means of a stethoscope data and it is very important since it sets the course of the treatment for the patient.

However, people living in modern times, accustomed to science and technology, tend to rely more on the results obtained from mechanical or electronic apparatus than on the diagnosis performed by the intuition and skill of an experience physician.

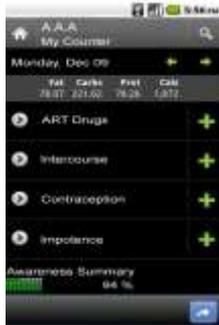


Fig. 2. AIDS Awareness Application Screen

Methodological facet of SHARON with Existing

The Sharon mobile system has been made combining bio sensor system stored in a small computer chip as used in the "Automatic diagnostic apparatus with Pager". The same J2ME application with recent communication function of an ordinary mobile phone provided with data processing circuits. With this combination, the apparatus enables a person to do a self-diagnosis without visiting a hospital, using the means of communication of a mobile phone equipped with a sensor based bio sensor and outputting and transmitting to the hospital at a long distance diagnostic data on the mobile screen itself.

In accordance with an aspect of the SHARON MOBILE, the above and other objects can be accomplished by the provision of a mobile phone with a bio sensor of which the mobile phone is provided with a small led display monitor and a communication function, the mobile phone with a stethoscope comprising bio sensor, microphone and ICD module, an operating switch for operating a bio sensor system embedded as a customized chip in the body of the mobile phone, said the mobile system comprising: A filter unit for amplifying the auscultated sound; An A/D converter unit for converting analog wave data of the sound into digital format.

The biosensor microphone according to the present invention may either be an interior microphone which is embed in a cover of the mobile phone, or an exterior microphone which is detachable from the body of the mobile phone, and either the interior or the exterior microphone is connected to the user

system which are stored in a customized Sharon bio-sensor chip in the body of mobile phone.

The Kill Kim (Base Paper) mobile phone application is made to resolve the above noted problem by providing a mobile phone equipped with a stethoscope function by which a person can provide the physician at a hospital with a diagnostic data obtained through self- diagnosis by means of a mobile communication system without visiting the doctor or the hospital. When a user wants to auscultate, he or she makes the mobile phone with a stethoscope contact where the auscultation is to be made, namely, the place where the medical examination is to be made on a human body.

The analog wave data of the auscultated sound are collected by the stethoscope microphone, and then they are collected by the microphone, and then they are filtered by the filter unit since they contain contact sounds and various other noises. Hardware is provided that has an adapter for connecting to the microphone of the headset and a chest piece for pressing to the chest or back of a person is being examined. The sounds sensed by the chest piece are received by the microphone and transferred to the device.



Fig. 3. First Generation Mobile Device

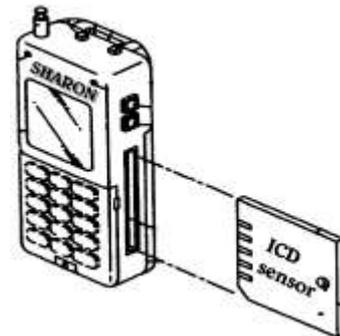


Fig. 4. Memory Card and ICD Sensor
Memory Card in SHARON

The memory card is preferably of a high memory capacity and a size to fit substantially inside the housing of the device so as not to protrude therefore and yet is of full width of the device to maximize the memory capacity of the card. SHARON mobile memory card is limited from the practical standpoint to a width that is comfortable in the health diagnostic level. SHARON, a palm sized device provides wireless communication for medical diagnosis and monitoring by providing a inbuilt stethoscope connectable to the cell phone and a camera for the user to transmit and/ or record medical information for real time or subsequent use, and with instant prescription printer. Since the SHARON device can be wirelessly connected to the internet, it is also possible to use the device for any other internet functions, such as sending and receiving email, health report transactions. Further in view of the recording capability of the device, the telephone conversations on the cell phone may be selectively recorded and the cell phone may be selectively recorded and the

device can be used for any sound recording for heart (Base Paper).

HETEROGENEOUS DATA MINING

Algorithm 1: WHDM (IS)

Step1: [Reading Database] If (object. Equal ("Read"))
 Read File obj = new Read File();
 Step2:[generation of tokens]StringTokenizerobj 1=new
 String Tokenizer ("seperator");
 Step3:[Decide the frequency or minimum Support]
 If (oject.equals ("Aall"))
 {Min-sup=ip; Aall (valueset1);}
 If (oject. equals ("Ball"))
 {Min-sup=ip; Ball (valueset2);}
 If (oject. Equals ("Call"))
 {Min-sup=ip; Call (valueset3);} Else
 {exit(1);}
 Step 4: Finish.

Algorithm 2: Aall (valueset1, Min-sup)

Step1:[Stores the value in Tbuf]
 For i=0 to n-1if (freq>=Min-sup) Tbuf=valueset1[i];
 Step2: [find the superset] Pbuf=[all the values>
 =Min-sup]
 Step3: [Delete the repeated values]
 Step4: Print the output
 Step5: Finish.

Algorithm 3: Aall (valueset3, Min-sup)

Step1: [Stores the value in Tbuf] For i=0 to n-1
 if (freq>=Min-sup) Tbuf=valueset1[i];
 Step2: [find the superset] Pbuf = [all the values
 >=Min-sup]
 Step3: [Delete the repeated values]
 Step4: Print the output
 Step5: Finish

The entire system architecture consists of three phases:

- 1) **Reading the Database.**
- 2) **Stores the value in Tbuf with different patterns.**
- 3) **Add the superset in the list and remove the related Subset from the list.**

In future we also work on the limitations that were faced by the researchers. In Future we also include the simulation result which shows our method is good than other traditional methods.

Assumptions in WHDM

WHDM - Wireless Heterogeneous Data Mining

IS - Instruction

Set Obj1=class object

Min-sup - Minimum Support

Aall - Applicable for mall A

Ball - Applicable for mall B

Call - Applicable for mall C

Dmall-ApplicableformallD

The fundamental branches of the J2ME platform are configurations. System configuration is a specification that describes a Java Virtual Machine and some set of APIs that are targeted at a specific class of device.

(CLDC) Connected, Limited Device Configuration is one such specification. The CLDC specifies the APIs for devices with less than 512 KB of RAM available for the Java system and an intermittent network connection. It specifies a stripped-down JVM Java virtual machine, called the KVM.

System Structure of A.A.A



ICT in SHARON

Accurate display of results as well as search term specifications are given using a novel mechanism called "Iconized Concept Trees (ICT)".

This mechanism makes use of concepts to image mapping (injective, surjective and bijective depending on homonym, synonym and unique words to concept matching). For example a key word god maps to a unique concept, heart, cardiology map to same concept. On the contrary jaguar can be mapped to two different concepts (wildlife or motor vehicle).



CONCLUSION

The Sharon mobile is a new protection method in digital DB function for healthy life and its mainly focusing in AIDS related awareness. Mobile with health care sensor is now becoming more and more important for security management. This involves embedding, identification and rights validation for all users. The instant message 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 calculated.

The apparatus as set forth wherein diagnostic data of A.A.A module produces diagnostic data during evaluation of the impression based report to identification of an illness.

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Author Details

Shantha Kumar T completed his B.E Degree in Computer Science & Engineering at VelTech Engineering College and currently pursuing his M.E Degree in CSE. He published 8 Journal Articles in Computer Science and Management. Journals akin to IEEE, Springer, IJRCM, Elixir, Scientific.net, SKIREC, Sensors & Transducers. He attended more than 15 Reputed Conferences, 8 International Workshops and He is a Student member of IAENG, I.J.C.R and IEEE. His main research interest includes Artificial Intelligence Software Project Management and Software Engineering.

TABLE I
SHARON – BLUE PRINT

S.no	SHARON - AIDS Awareness Application		
	Fundamental	Tool	Query
1	A.A.A in Mobile Hardware.	J2ME, JS, VB.Net.	Gender Wise Details for AIDS

APPENDIX: GENDER WISE SEARCHING

S.no	SHARON - AIDS Awareness Application		
	Male	Female	Transgender
1	Condom, Impotence	Contraception	STD, ART details