

An Android-Based Emergency Alarm Message and Healthcare Management System

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Abstract: This paper consist of an emergency alarm message and healthcare management system, which is mainly installed in an android-based phone that is most conveniently used and carried. Our system is suitable for most of the people. This is done with the help of the GPS and GSM network, the system can make sure the exact location of the users when they are in danger and put the alarm on. When the doctor or family members receive the alarm message, they can immediately take measures to protect the user. It can also manage the health record of the user who has logged in. This user can take online medical test to send their physical condition and then doctor will send prescription to the users phone. Also the family member or close friends can track the location of the concerned person using GPS and Google Maps.

Keywords: Medicines reminder, Healthcare, Emergency alarm message.

I. INTRODUCTION

There is no doubt that healthcare has become social-scale problem. Especially with the ever increasing population, the burden of healthcare is increasing steadily. Also, health care providers are faced with a care giving force, which means there is a great need for the patients' family members and friends to involve in the care activities. Thus, there is a need for building a collaborative care and safe environment to maximize caregiver's efficiency. To improve the safety and quality of care by providing timely health information to health care providers, patients and patient's family members or friends. In addition, there are many contemporary 3G smart phones which include internal database, GPS position and continuous access to local wireless networks such as Wi-Fi and the Internet. This makes newer cellular phones a very good mobile platform for advanced applications. The advantages of Google sheet includes: (1) our software provides information sharing between patients and multiple health care providers; (2) It maintains comprehensive PHRs and makes it easy access to the patient's own PHRs from any location at any time through GPS. (3) exports the PHRs into a trusted third-part healthcare system for analysis purpose. Thus, it is possible to bring android phone and Google sheet together to create a personalized, integrated and care system for real-time, long-term and remote self-monitoring the physical signs of patients on a regular basis, which would improve people's long-term health, specially for chronic patients.

II. LITERATURE SURVEY

In literature we have done a survey between the Existing system and proposed system which can be seen below:

1. EXISTING SYSTEM

Normally, a healthcare emergency alarm system is installed on an any independent android device, wired or wirelessly linked to a gateway, and then connected to the hospital, such as [7] and [8]. But the disadvantage of such systems is obvious: once getting out of the coverage of the

range, the system won't work anymore. A healthcare management system has two main functions. The first is life reminder system. The second is Online medical i.e it gives medicines list. However the life reminder function is useful and helpful for the older people and chronic patients to give a user friendly reminder for medicine and so on, such as [9]. But most of the healthcare management system is divided from the emergency alarm system, which means that the users have to keep two systems at the same time. By looking this it is not convenient at all. According to these disadvantages, Installing the systems on cell phone is undoubtedly a better choice.

2. PROPOSED SYSTEM

Our system has two main functions: emergency alarm message and healthcare management. Emergency alarm system can be clicked manually or automatically when the unexpected event happens, for instance myocardial infarction. The alarm action will send emergency messages to all the registered user's family and the doctors. And the emergency message can include the location information, in order for the rescue staff to locate the user. Further the user's family and friends can also track the exact location of the person on time to time basis using the GPS system. The location of the person will be displayed on a website using Google Maps.

III. METHODOLOGY

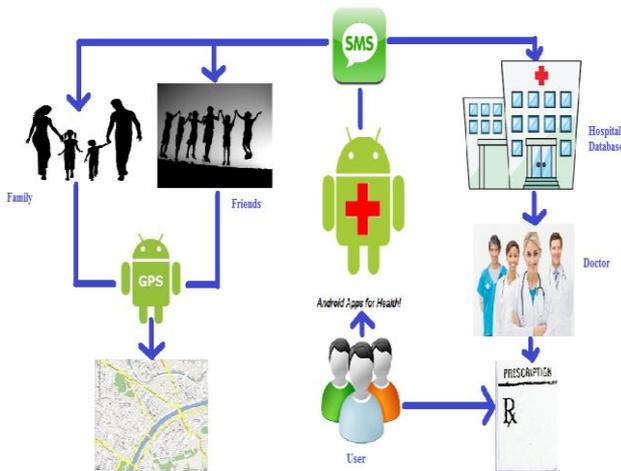
Modules

✓ Personal Information Gathering:

The user has to register himself in the Android HealthCare Application. The user has to enter his personal details in order to complete the registration. The user can then login into the account using his username and password which will be verified by the administrator.

✓ Account Details:

After successful login, the user will be directed to his account page.



Here the user has to enter the emergency contact details of his family, friends and family doctor. The user also has to enter his health record so that this detail will be directly connected to the hospital database for proper treatment.

✓ Emergency System:

This module helps the user to contact his family and friends in case of any emergencies. If the person feels an emergency health wise, with a press of a button, alert messages will be sent to his family, friends and doctor. The alert message will include the detail about the emergency and also the location of the user. This will help his family to take appropriate measures.

✓ Prescriptions:

This module helps the user to stay in time to time contact with his physician or doctor. The user will mention his problems or health record from time to time to the concerned doctor and will be updated in the hospital database. The doctor will prescribe medicines to the user which will be displayed in the Android Application. The user can directly ask the doctor about any health at his disposal with a click of a button.

✓ Tracking (User's Safety):

This module helps the user for safety purposes. The family or friends can login into the account of the user through a website and track the position of the user. Here the longitude and the latitude of the user location will be updated on a timely basis to the database. The family members can login into a website. The geopoints will be provided to the Google API and the location of the person can be tracked using Google Maps. Here the GPS system will be used and the name of the location will be displayed in the website.

IV. CONCLUSION

In this article, we present an android-based Emergency Alarm message and Healthcare Management System, which is practically installed on android-based Phones. The system gives emergency alarm message help at anywhere and anytime, and also remind users for medicines according to the doctor's prescription, and can provide the function of seeing a doctor to the user. These not only provide the senior people and the chronic patients

the more convenience and safety, but also provide most of people.

REFERENCES

1. <http://www.acponline.org/computer/telemedicine/glossary.html>
2. The MOMEDA project. <http://www.biomed.ntua.gr/momeda>
3. Pavlopoulos, S. Prentza, A. Kyriacou, E. Marinos, S. Stassis, A. Kalivas, D. Koutsouris, D. Filippatos, G., "A personalized medical information system for patient education-MOMEDA", MES/EMBS Conference, 1999. Proceedings of the First Joint Volume 2, Issue, Oct 1999 Page(s):1238
4. S. Pavlopoulos, E. Kyriacou, A. Berler, S. Dembeyiotis, D. Koutsouris "A novel emergency telemedicine system based on wireless communication technology – AMBULANCE," IEEE Trans. Inform. Tech. Biomed. – Special Issue on Emerging Health Telematics Applications in Europe, vol.2, no.4, pp.261-267,1998.
5. The EMERGENCY 112 project, <http://www.biomed.ntua.gr/emergency112>, 1998.
6. Project E-vita, http://www.projectevita.com/products/what_is_pe.aspx
7. Hernandez Munoz, L.U.; Woolley, S.I.; Baber, C.; A mobile health device to help people with severe allergies, Pervasive Computing Technologies for Healthcare, 2008.
8. Munoz, L.U.H.; Woolley, S.I.; A user-centered mobile health device to manage life-threatening anaphylactic allergies and Applications in Biomedicine, 2009.
9. Hairong Yan ; Hongwei Huo ; Youzhi Xu ; Gidlund, M. ; Wireless sensor network based E-health system, implementation and experimental results, Consumer Electronics.