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Salubrity - A medicine reminder application using android

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ABSTRACT

Nowadays, smartphones have reached every hand and every home. As a result, people are making use of the beneficial mobile applications to make their everyday life easier. This paper focuses on the development of a mobile application to help to provide an effective health care system. This is an android based application in which alarm is used which may be closed by tapping the close alarm button, under the image of the medicine which is to be taken at that particular time. It may even have the contact numbers of the doctors for an emergency. This application will be helping hand for the people who are busy in their day to day life or old age people who forget which medicine is to be taken and when. Many such medicine reminder systems have been developed where a new hardware is required but in our work, we have made an attempt to develop a system which is free of cost, time-saving and supports medication adherence without any extra hardware.

Keywords: *Medicine reminder application, Salubrity, Healthcare.*

1. INTRODUCTION

Healthcare is the basic need of human being. The category of patients involves all human beings housewives, businessmen, students, teachers, service men and also all of them have a busy hectic schedule. Today's life is full of responsibilities and stress. So, people are prone to diseases of different types and it is one's own duty to make themselves fit and healthy. Even the old age people who generally stay alone or with their servants find it difficult to remember which medicine is to be taken and when. In day to day life, it is difficult for one person to remind the other of their daily intake of medicines.

Today everyone has a smart phone. In our developing and technology dependent life we totally rely on gadgets especially smart phones. With this, we get an opportunity to use technology in a better way so that it can be made useful to us. And it plays an important part in our daily life and helps us staying fit in many ways.

We are introducing an Android application named Salubrity, whose objective is to remind the patients of their dosage timings through Alarm Ringing system so that they can stay fit and healthy. Through the image popping with the alarm, they may remember which medicine is to be taken. This application focusses on the people who forget to take medicines on time. It allows users to set an alarm along with the fields of date and time which will allow them to set alarm for multiple medicines at different time intervals. The patients may even have emergency doctor's contact information disease wise. Medication reminders help in decreasing medication dispensing errors and wrong dosages.

The application is designed for Android studio. It can be helpful for busy people and old age people and even can spread health care awareness. It is life-saving, money saving and time-saving application which is easy to use and provides a good user interface.

2. RELATED WORK

Many Medication Systems have been developed based on different platforms and concepts. Use of healthcare-related apps is growing but there are many issues related to their functionality. Our Salubrity is a medication reminder system for busy people and old age people. It runs on mobile devices such as smart phones, providing user interfaces for configuring medication schedules and user alerts for reminding users about the time and type of medication according to the image of medicine.

- Park et al [2012], proposed medication reminder synchronization system, based on data synchronization. It transmits OMA (open mobile alliance) DS (data synchronization) based messages containing the patient's medication data and the device configuration data to a remote manager/medical staff. It also synchronizes data (including medication schedules) modified/generated by this personnel in the medication server.

- Prasad B [2015], has discussed the approach of Medicine reminder pro. It is a free application which supports up to 15 reminders. The user can select them in either repeating or non-repeating alarm patterns. Any hourly time interval between alarms can be selected, starting from the minimum of 1 hour. At the scheduled time, the application will produce a notification with an alarm, vibration or LED indication.

- Zao et al [2016], has developed Wedjat – Smart Phone Application which tries to avoid medicine administration errors.

There are many loopholes in existing reminder systems. To list a few:

They do not provide Doctors, contact details no optional notification only compulsion. Some of the systems have a default normal alarm tone so the users cannot differentiate between normal alarm and the reminder. The scheduled reminder suggests any kind of medicine, a dose of medicine, etc. automatically without the image of the medicine to be taken. Lastly, many of the systems available require special hardware which needs to be purchased.

3. PROPOSED SYSTEM

The proposed system is based on Android Operating system which will remind the users to take medicines on time through notification and automatic alarm ringing system.

The medicine reminder system or the Salubrity application will have one duty and that would be to remind the user that he/she is due for taking the medicine. We are trying to make sure that the user never forgets to take the medicine. The alarm will hit at the time of intake of the medicine with an image of medicine, so to recognize which medicine is to be taken. The mobile application can be installed on the android devices. It will add recurring events to the mobile's calendar and will alert the user when he/she has to take the medicine with the image of medicines.

4. IMPLEMENTATION OF PROPOSED SYSTEM

Android is a Linux-based operating system designed primarily for touch screen mobile devices such as smart phones and tablet computers, developed by Google in conjunction with the Open Handset Alliance. Android was built from the ground-up to enable developers to create compelling mobile applications that take full advantage of all a handset has to offer. The system is specified on Android operating system only because the market share of Android is high. Android also comes with an application development framework (ADF), which provides an API for application development and includes services for building GUI applications, data access, and other component types. The framework is designed to simplify the reuse and integration of components. Android apps are built using a mandatory XML manifest file. The manifest file values are bound to the application at compile time. This file provides essential information to an Android platform for managing the life cycle of an application.

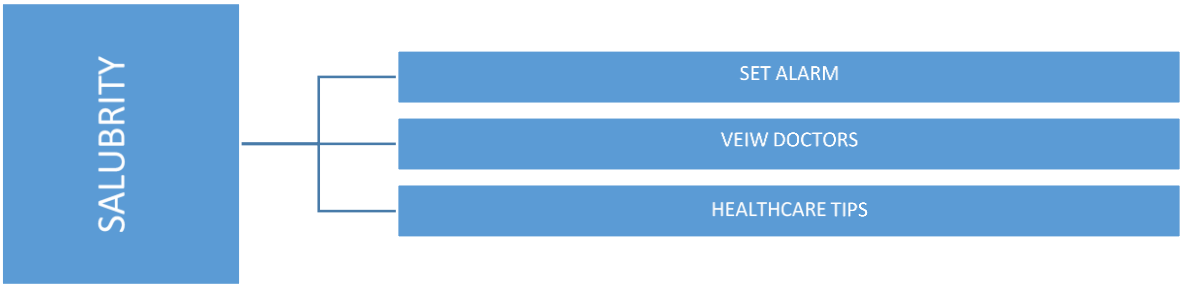

Figure 1: medicine reminder application's system

Figure 1 reflects the overview of the application input to the system is the information entered by the patient which includes date, time and medicine's image. The output of the system focuses on "Medication Adherence". Medication adherence usually refers to whether patients take their medications. Medication nonadherence is a growing concern to clinicians, healthcare systems, and other stakeholders because of mounting evidence that it is prevalent and associated with adverse outcomes and higher costs of care.

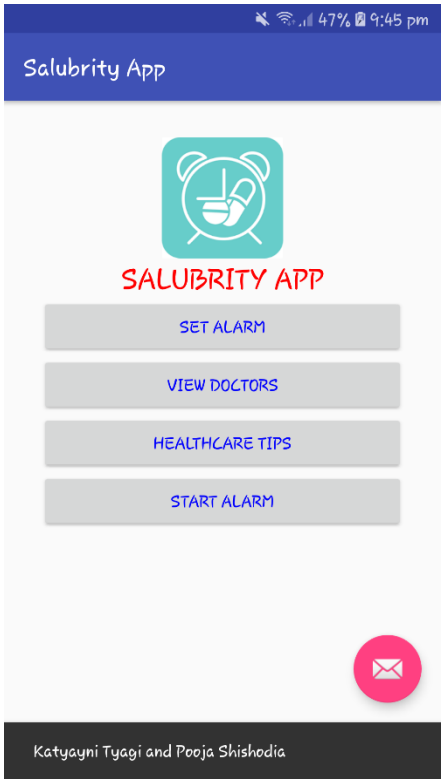

Figure 2: Home screen of Salubrity

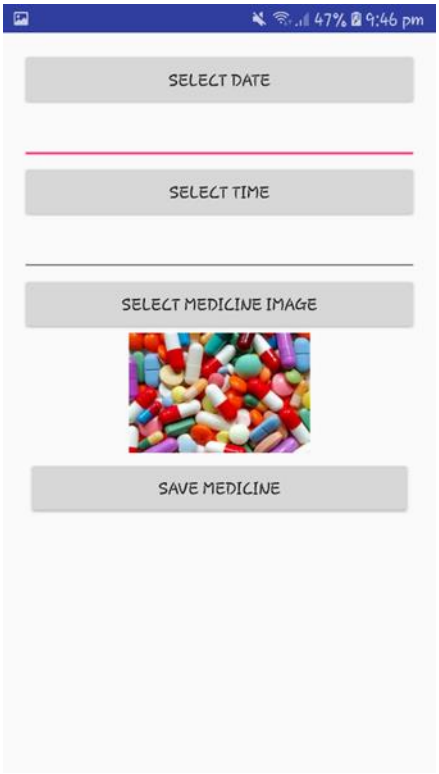

Figure 3: Setting of alarm

Figure 3 reflects, the setting of alarm in which the date is being selected along with time and medicine's image from the phone's gallery. After saving the medicine, the alarm will ring on its respective time.

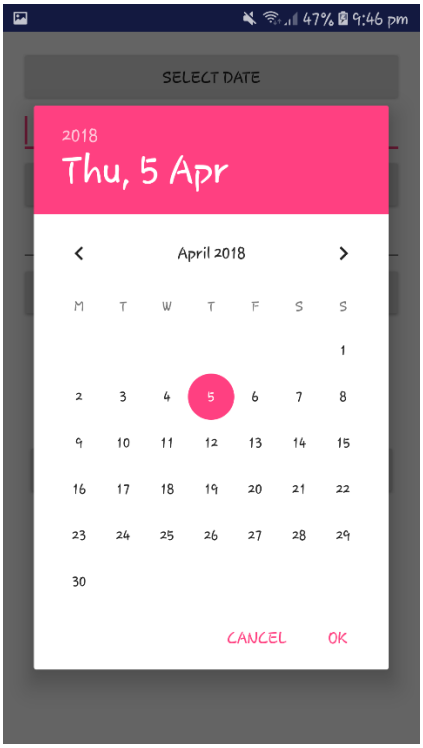

Figure 4: Setting of date

Figure 5: the setting of time

The application also provides the health-related quotes and the list of doctors along with their names, their specialization and their contact details. These doctors are 24x7 available and help their patients on call as well.

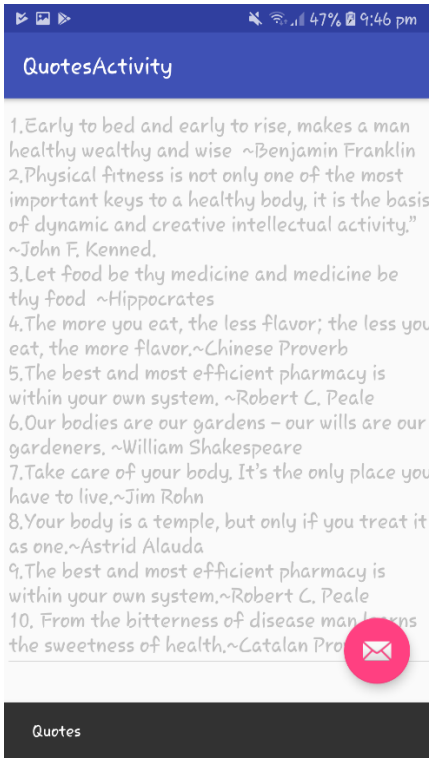

Figure 6: Quotes

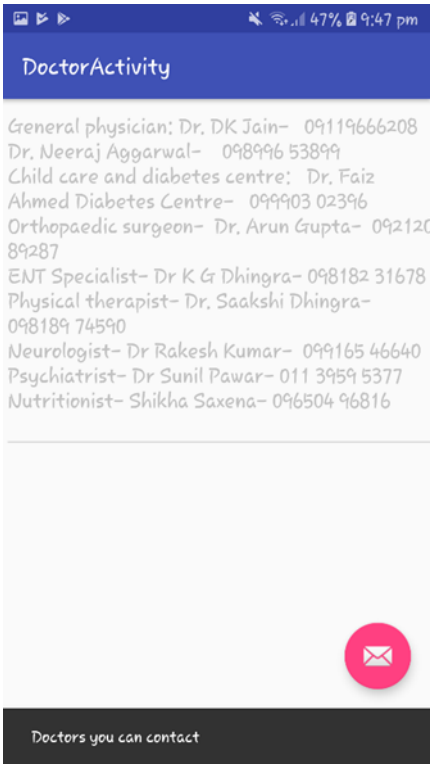

Figure 7: Doctors

5. CONCLUSION

A mobile-phone-based automated medication reminder system shows promise in improving medication adherence and blood pressure in high-cardiovascular-risk individuals.

- The patients will get the schedule of medicine in-take time with medicine image, starting and automatic alarm ringing system and doctor's contact details. The scheduled reminder will not suggest any kind of medicine which is not prescribed by the doctor that will assure the safety of the patient and also will avoid wrong dosages.

- This will be done without any extra cost.

- We plan to focus on improving the overall performance of the system. Some more ways to achieve medication adherence will be focused.

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