

“Medicine Reminder Android App”

Deepak Kumar, Prof. Sandip Shrote

Bachelor of technology

(electronics and communication engineering)

Mit art, design and technology university, mit school of engineering,

Loni-kalbhori, pune

Submitted: 01-06-2022

Revised: 10-06-2022

Accepted: 15-06-2022

ABSTRACT

This is an Android-based application in which an automatic alarm ringing system is implemented. It focuses on doctor and patient interaction. Patients need not remember their medicine dosage timings as they can set an alarm on their dosage timings. The alarm can be set for multiple medicines and timings including date, time and medicine description. A notification will be sent to them through email or message inside the system preferably chosen by the patients. They can search doctor disease wise. The patients will get the contact details of doctors as per their availability. Also the users can see different articles related to medical fields and health care tips. The system focuses on easy navigation and good user interface. Many such Medical 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 economical, time-saving and supports medication adherence.

KEYWORDS: Automatic Alarm, Reminder System, Notification System, Medication Adherence, Medicine Scheduler

GOALS

The application is designed on Eclipse. It can be helpful in defense sector and emergency conditions (accidents) and 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.

OBJECTIVE

We are introducing an Android application whose objective is to remind the patients of their dosage timings through Alarm Ringing system so that they can stay fit and healthy. Through navigation they can search doctors and hospitals and contact details so that they can easily get proper treatment on time. 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, time and medicine description which will allow them to set alarm for multiple medicines at different time intervals. The notification system will send a notification after setting an alarm. The user can activate or deactivate the notification accordingly. It will be sent as email or message as selected by the user. The patients can search doctor disease wise and area wise which will provide easy searching facility along with doctor's contact information, visiting place and availability time. Medication reminders help in decreasing medication dispensing errors and wrong dosages

System Design and Implementation

Medication reminders help in decreasing medication dispensing errors and wrong dosages. The Reminder system consists of two parts –setting Alarm and getting notification.

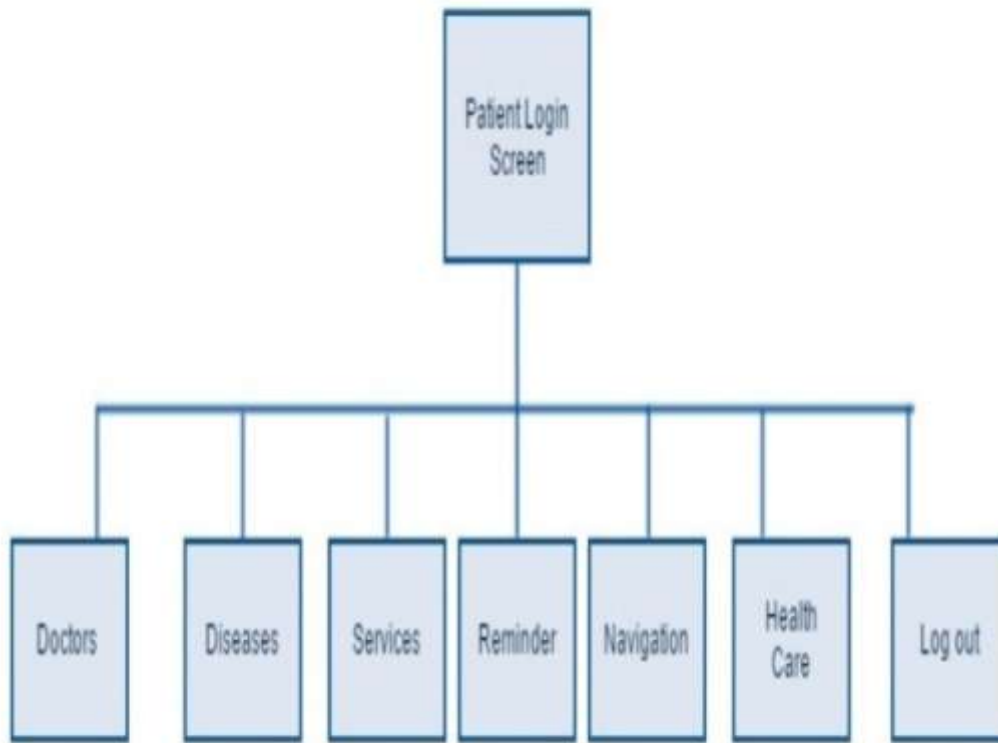
Set Alarm module.

It helps in reminding about the medicines. User can add details of his dosage schedules. Using the date field one can enter the starting and ending dates between which he has to take medicines. The time field shows the time of dosage and on that time the alarm will get rung. The user can add the description of the medicine, including name, purpose and other related description. All the information will be saved in the database. This makes any time availability of the patients' records. They can change the ringtone of the alarm from the ringtones stored in the devices.

Get Notification module.

Once the alarm is set then the user gets the notification. The users can activate or deactivate this accordingly. If he does not require the notification he can turn off it. If he requires this system then a notification will be sent into his device. Again if he wants the notification in email form, he can select the 'Notification through Email Mode' or if he requires it in a message format he can go with 'Notification through Message Mode'.

FLOW CHART



FUTURE DEVELOPMENT

1 Reducing documents by introducing OCR

The mobile application can be updated with OCR system. It can be trained to precisely understand a doctor's handwriting over time and after scanning any doctor's handwritten prescription or report, it will store the prescription or report in digital text form at which will be much easier to understand by patients.

2 Cloud based multi-end application

The mobile application can be developed and made cloud based. Doctor's version of the application can be developed so that doctors can access their patient's data easily and follow up easily with their patients on a regular basis. Doctors will be able to update their status on their availability and patients will be able to use this information and set appointments with the doctor or their assistants.

Many Medication Reminder Systems have been developed on different platforms. Many of these systems require special hardware devices to remind the patients about the medicine in-take timings. Purchasing new hardware devices becomes costly and more time and money

consuming. So in the given work an attempt has been made to implement a system which is economical, easily accessible and improves medication adherence. Medication non-adherence reduces the effectiveness of a treatment and imposes a financial burden on health care systems. The patients will get the schedule of medicine intake time with medicine description, starting and ending date of medicine, notification through message or email, automatic alarm ringing system and navigation system. 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. The patients can also search doctors disease wise (depending upon the specialization of the doctor), which provides easy searching facility to the users and saves the time. Doctors can view all the fixed appointments along with date and time, which he fixed and through this he can make new appointment schedules. We plan to focus on improving the overall performance of the system. Also, interaction between patients and doctors through video calling and secure prescription will be focused upon.

Some more ways to achieve medication adherence will be focused.

CONCLUSION

Thus by referring many existing products, previous projects and research papers based on medicine dispenser and also taking into consideration problems faced by disabled people, Geriatrics, etc. We thought of such a system which will help to overcome the disadvantage of existing or previous system.

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.

REFERENCE

- [1]. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC544449/> This is an gov.website article from where we got the Idea.
- [2]. Park, KeeHyun& Lim, SeungHyeon, (2012) "Construction of a Medication Reminder Synchronization System based on Data Synchronization", International Journal of Bio-Science and Bio-Technology, Vol.4, No. 4,pp1-10.
- [3]. "Smartphone medication adherence apps: Potential benefits to patients and providers", available at:<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3919626/>
- [4]. Slagle, J.M., Gordon, J.S., Harris, C.E., Davison, C.L., Culpepper, D.K., Scott P. and Johnson, K.B., (2011) "MyMediHealth – Designing a next generation system for child-centered medication management", Journal of Biomedical Informatics, Vol. 43,No. 5, pp.27-31.
- [5]. Becker, E., Metsis, V., Arora, R., Vinjumur, J.K., Xu, Y. and Makedon, F. (2009) "SmartDrawer: RFID- Based smart medicine drawer for assistive environments", Proc. of Pervasive technologies related to assistive environments, June, pp1-8.
- [6]. Ammouri, S. and Bilodeau, G.A. (2008) "Face and hands detection and tracking applied to the monitoring of medication intake", Proc. of Canadian Conf. on Computer and Robot Vision, May, pp.147-154.
- [7]. Batz, D., Batz, M., Lobo, N.D.V. and Shah, M. (2005) "A computer vision system for monitoring medication intake", Canadian Conf. on Computer and Robot Vision, May, pp. 362-369.
- [8]. Prasad, B., (2013) "Social media, health care, and social networking", GastrointestEndosc. Vol. 77, pp492–495.