© 2019 IJSRSET | Volume 6 | Issue 2 | Print ISSN: 2395-1990 | Online ISSN : 2394-4099
Themed Section : Engineering and Technology
DOI : 10.32628/IJSRSET1962131

MED-CALL

Nitesh Ghodichor[1], Nilesh Tirale[2], Rina Panchbhai[2], Aniket Naitam[2], Piyush Gedam[2]

[1]Assistant Professor, Computer Technology, Priyadarshini College of Engineering, Nagpur, Maharashtra, India

[2]Computer Technology, Priyadarshini College of Engineering, Nagpur, Maharashtra, India

ABSTRACT

Med-call is an Android based application in which an alarm ringing system is implemented. This app concentrates on medicine dosage timings of patient. It reduces effort of patients of remembering of dosages timings as they can set an alarm on their dosages timing. The alarm can be set for so many medicines and multiple timings considering date, time and medicine description. A notification will be sent to the patients through message. In this app patient will be able to store prescription given by the doctor. Also the users can add expiry date of the medicines. It focuses on good user interface. Many medicine reminder systems have been developed before where a new hardware is required but our app can be downloaded in any smart phone. In our work we have made an attempt to develop a system which is time saving and helpful for patients.

Keywords : Automatic Alarm, Notification System, Reminder System, Medicine Scheduler, Prescription Storage System.

I. INTRODUCTION

Smart phones provide an instant connection to others, but for seniors who live on their own, a medical alert app, which can easily be installed onto a smart phone, can be a lifesaver.

Medical alert apps are designed for individuals who need immediate medical assistance. Not only can emergency personnel be immediately dispatched, but by activating the app, taking your medication should be as easy and automatic as possible, not yet another thing you need to add to your mental checklist.

Every year, thousands of senior citizens are placed in nursing homes because they did not take the right medication at the right time. Medication mix-ups are extremely dangerous. A medication reminder and organizer can help to prevent these life-threatening mistakes. They remind your loved one to take the right medication at the right time. Medication reminders are an important piece of any aging in place plan.

To provide patients with the simplest and most effective scheduling interface when they need it most, we created Med Call, a “simply designed, simply operated” reminder app that utilizes minimalistic designs and intuitive navigation to enable the elderly and recently released patients to track and remind themselves of medical needs or events, regardless of their comfort with technology.

This medicine reminder is a simple smart phone app, and one that can help manage numerous people’s medications thanks to multiple profiles. It also tracks your prescriptions and reminds you when it’s time for a refill.

This Android medicine app is a little install with a small footprint. Operation is simple: you key in the medicines individually and also save their dosage times and days.

You can enter multiple medicines and multiple dosages. You can also enter details like – quantity per dose, quantity per refill etc. and any other prescription details for the particular medicine.

Allows a user to create a personal treatment profile (or multiple profiles, for family members and carers), taking into account medicines, schedules and other types of relevant instructions. Alerts appear on screen when a medicine is due to be taken. The user inputs one of a set of standard responses (such as "I Already Took", "Take Now", "Skip", "Postpone", etc.). The user can also add images (for instance, of a prescription), and type in text. The app acts as a tracker, recording the user's compliance record over time.

Records can be sorted alphabetically or chronologically. The app builds medicine information into tables, noting medicine name, type, strength, dosage, start and end dates, and instructions. The app allows these records to be emailed to a health care professional or any other person.

The key to this whole application is its innate simplicity and ease of use for the user. By using large buttons and simple prompts, we created an interface that doesn't cause users to search for or guess at what is asked of them.

Using this application, you can create and account to store data on the cloud, and sign in to that account to access data on all your devices. If you are a caretaker, you can sign in to the same account as the patient on your device to schedule medications and more for your patient or loved one. Using the simplistic interface, users can set, edit, and delete an event on the schedule. When it's time to take a medication, a notification will appear and the device will vibrate to ensure that users will be notified. You can add the information of one or more doctors for easy access, in case of emergency or just as a helpful reminder.

II. RELATED WORK

Different Medication System has been developed based upon different concepts and usage.Usage of medicine and health care related apps is growing but their functionality. For children there is a medication reminder system named My Medi-Health [1]. It can be operated on mobile devices such as smart phones, by providing user alert for reminding users about the medication time according to the configured medication schedule. Some of the system use radio frequency identification to ensure that the patients actually take their medications [2][3][4]. Park et al proposed medication remainder synchronization system. It synchronizes data generated by personnel in the medication server [6].Prasad B has developed free application which supports up to 15 remainders. Application will produce a notification with an alarm and vibration at the scheduled time [5].They do not provide to add prescription given by the doctor. Some of the systems have a default alarm tone so the users cannot change them.

III. SYSTEM MODEL

Our application is based on Android Operating System which will remind the patients to take medicines and give alert.

The framework is designed to simplify the integration of components.

IV. RESULTS AND DISCUSSION

Home Module

The home module of the app is designed using the latest material design.

Ok HTTP Library is used to ease asynchronous http request to the API with error handling.

The home module is based on the grid layout which will contains the following features:

- Add Prescription
- Add Alarm
- View History
- Alerts
- Settings
- Logout

Events are logged for the app and can be viewed at firebase console as follow

On Click Listeners are implemented to forward the various activities on click to their respective activities

Fig.1 Overview of the app
(https://github.com/navasmdc/MaterialDesignLibrary)

Fig. 2 Login Module.
(https://play.google.com/store/apps/details?id=com.gc.demomaterialdesign)

- The Login module is built using Google Firebase Authentication API for enhanced security and cloud accessibility.
- If the login is valid, a dynamic access token is generated using the firebase API and is stored locally in the app.
- In case the authentication is already present in the app, the app will automatically logs in to the system.
- However, if the authentication token is expired the user is now prompt to re-login to the system.
- We are using email & password-based authentication. The email is verified before logging in to the system.
- We are also using analytics to view the statistics of the login system along with the error logs, activity time and users demographics to understand the working of the app.
- We have also customized the verification and confirmation template (email) for authentication api of the app.
- In the login module, crash lytic is enabled in the app to ensure that we know about the various bugs of the app and resolve it.

User will be able to view the list of medicines and set remainder. It also shows the next appointment with the doctor. This helps the patients to be more alert about medication. The service help users to understand the system properly.

V. ADVANTAGES OF THE APPLICATION

The notifications and alarm are strong supporting tools for improvement in medication. The New England Health care Institute estimates that $290 billion of health care expenditures could be avoided if medication adherence were improved.

It is also including the facility of showing expiry date of medicines and alert accordingly to the user.

User can add prescription given by doctor for reference.

VI.CONCLUSION AND FUTURE WORK

Different Medication system have been developed using different concepts. Some of these require special hardware. In our work we have been made an attempt to implement money consuming system. The users will schedule time according to medicine in-take time with dosage, name of medicine and expiry date user through alarm and notification message. User can add prescription given by the doctor for the reference. Our plan is to improve the performance of the application.

In this monitoring and management for green environment.

VII. REFERENCES

[1]. Cramer JA, Roy A, Burell A, et al. Medication compliance and persistence: terminology and definitions. Value Health. 2008;11(1):44–47. https://www.ncbi.nlm.nih.gov/pubmed/18237359

[2]. Ruddy K, Mayer E, Partridge A. Patient adherence and persistence with oral anticancer treatment. CA Cancer J Clin. 2009;59(1):56–66. https://www.ncbi.nlm.nih.gov/pubmed/19147869

[3]. Rolnick S, Pawloski P, Bruzek R, et al. PS2-32: barriers and facilitators for medication adherence. Clin Med Res. 2011;9(3–4):157.

[4]. Spilker B. Methods of assessing and improving compliance in clinical trials. In: Cramer JA, Spilker B, editors. Patient compliance in medical practice and clinical trials. New York: Raven Press; 1991. pp. 37–56.

[5]. Paterson DL, Potoski B, Capitano B. Measurement of adherence to antiretroviral medications. J Acquir Immune Defic Syndr. 2002;31(suppl 3):S103–S106. https://www.ncbi.nlm.nih.gov/pubmed/12562030

[6]. Lehane E, McCarthy G. Intentional and unintentional medication non-adherence: a comprehensive framework for clinical research and practice? A discussion paper. Int J Nurs Stud. 2007;44(8):1468–1477.

[7]. Bandura A. Social foundations of thought and action: a social cognitive theory. Upper Saddle River, NJ: Prentice Hall; 1986.

[8]. Ajzen I. The theory of planned behavior. Organ Behav Hum Decis Process. 1991;50:179–211.

[9]. Weinman J, Petrie J, editors. Perceptions of health & illness. Amsterdam: Harwood Academic; 1997.

[10]. Noh JH, Cho YJ, Nam HW, et al. Web-based comprehensive information system for self-management of diabetes mellitus. Diabetes Technol Ther. 2010;12(5):333–337 https://www.ncbi.nlm.nih.gov/pubmed/20388042

[11]. Blodget H. Actually, the US smartphone revolution has entered the late innings. Accessed December 20, 2012]; www.businessinsider.com/us-smartphone-market-2012-9.

[12]. Brustein J. Coming next: using an app as prescribed. Accessed October 19, 2012];www.nytimes.com/2012/08/20/technology/coming-next-doctors-prescribing-apps-to-patients.html?pagewanted=all&_r=0.

[13]. Department of Health & Human Services; Food and Drug Administration. Draft guidance for industry and Food and Drug Administration staff; mobile medical applications. Accessed October 19, 2012]; availability.www.regulations.gov/#!documentDetail;D=FDA-2011-D-0530-0001

Cite this article as :

Nitesh Ghodichor, Nilesh Tirale, Rina Panchbhai, Aniket Naitam, Piyush Gedam, "MED-CALL", International Journal of Scientific Research in Science, Engineering and Technology (IJSRSET), Online ISSN : 2394-4099, Print ISSN : 2395-1990, Volume 6 Issue 2, pp. 413-416, March-April 2019.

Journal URL : http://ijsrset.com/IJSRSET1962131