

Project Proposal

Medicine Alert and Reminder System [MARS]

Team 16

MEMBERS

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MOTIVATION

People have become so busy with daily activities that they are forgetting to take care of their health. Phizer.com website states that 4 out of 10 adults who consume more than 1 prescribed medicine, either miss schedule or forget to take medicine completely. We believe that a system which continuously monitors or reminds the user of medicine consumption along with the dosage and directions could significantly improve effect of the medicines and in-turn help user avoid indirect losses incurred due to the mistake of skipping / forgetting medicines. To help user adhere to medicine schedule we propose **Medicine Alert and Reminder System [MARS]** which provides complete system for medicine management.

SIGNIFICANCE & UNIQUENESS

As per FDA.gov website, Centers for Disease Control and Prevention (CDC) estimates that non-adherence to taking medicines on time and at prescribed schedule could result in chronic disease treatment failure and in worst case it could lead to death of a person. MARS would really be helpful to avoid such circumstances which have lot of importance in user's life.

Just a reminder to take medicine at proper time is not enough because what if we do not find the medicine box or what if the medicines not refilled on time? There are applications which remind people their medicine consumption times, **MARS** has multiple functions like Medicine box alert, Medicine reminder, Medicine refill reminder, Alert near & dear, Medicine schedule manager. All of these functionalities make MARS a unique system for medicine management.

OBJECTIVES

We have following objectives for MARS system to be able to function as all-inclusive system to manage medicine schedules.

- Develop an android application which will be able to alert and record medicine consumption date, time and accordingly manage inventory.
- Develop an application that can be installed on smart watch to monitor heart rate and send messages to authorized users based on settings or range of heart rate numbers.
- Modify application to sense connection with Bluetooth transmitter to notify user of being away from the medicine box.

SYSTEM FEATURES

Following are the features of the system to be developed:

- **Medicine box alert:** Make any medicine box smart by adding simple Bluetooth transmitter to remind you to keep medicines within 100 meters from you. Never forget to take medicine box with you on vacation or short trips.
- **Medicine reminder:** Add your medicines with the recommended time and App will remind you to take medicines on time. Never miss a single dose of medicines as prescribed.
- **Medicine refill reminder:** Reminds you to place refill order with your pharmacy before you run out of your daily prescribed medicines.
- **Alert near & dear:** This functionality will inform authorized close people to get alerts when patients heart rate goes out of expected range either low or high based on age and activity for a longer duration.
- **Medicine schedule manager:** If a medicine must have a minimum gap of hours then app will remind of the next dosage of medicine after recommended gap between two dosages.

RELATED WORK

- Nearly all the applications for reminders for medications allows the user to remind of the medicines at proper time. Such apps are Medisafe Medication Reminder, Med Reminder.
- Applications such as PillPack allows the user not to go to pharmacy if the medicines are about to finish. It helps the user with ordering medicines at the doorstep by setting up the start date of the medications which mostly pharmacy apps do by prompting text messages or a call from the pharmacy to place refill order.

BACK UP PROJECT

Generally, a person's health depends on the type of food they intake, so healthy food is the best way to keep mind and body healthy. The app which we will develop contains a functionality where user can setup his meal plan and app would count calories, protein, carb, fat and more details based on API response of nutrition data searched at <https://ndb.nal.usda.gov/> database. Once meal is selected then app would count calories burned by user and deficit would be used to alert user that he/she has consumed calories more than burned. Algorithm would be devised to help user to create grocery shopping list based on meal plan and suggestions would be provided if user has selected un-balanced meal plan such as meat-only or high carb diet.

BIBLIOGRAPHY

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