

Multilingual Support for Medicine Management Android Application

Geetanjali Churi, Pratham Shewale, Kanhaiya Pawar, Payal Gajbe, S. A. Awate

Department of Computer Engineering

A. C. Patil College of Engineering, Kharghar, Navi Mumbai, Maharashtra, India

Abstract: *The demand for multilingual support in mobile applications has increased significantly in recent years. The ability to use an application in a preferred language enhances the user experience and increases the accessibility of the application to a wider audience. In this paper, we propose a multilingual support feature for an Android application that provides medicine reminders to users. The feature includes a language selection option that allows users to choose their preferred language, and the application will display content in that language. Our approach ensures that the application is accessible and usable to a wider audience, regardless of their language proficiency.*

Keywords: Multilingual support, Android application, medicine reminders, language selection, language translation

I. INTRODUCTION

Health assistant offers personalized experiences to patients. It helps them to monitor their medical records, medication alarm, multilingual, and do more. The virtual assistant would be available 24/7, which means it can be adopted to increase patient engagement and improve their self-management skills to prevent chronic situations from getting worse. As people are prone to diseases of different types and it is our duty to make ourselves stay fit and healthy. If the patient stays at home then he or she might get someone to look after him/her but when one is not at home, is out of the city or state away from home then it is hard for the family members to call them and remind them their dosage timings every time. The digital age has arrived into the healthcare space in superb style. Healthcare app development has swiftly evolved into an integral part of the industry.

II. LITERATURE SURVEY

Overcoming Barriers to Medication Adherence for Chronic Diseases by Todd Ruppard, PhD, RN in February 2017. [4]

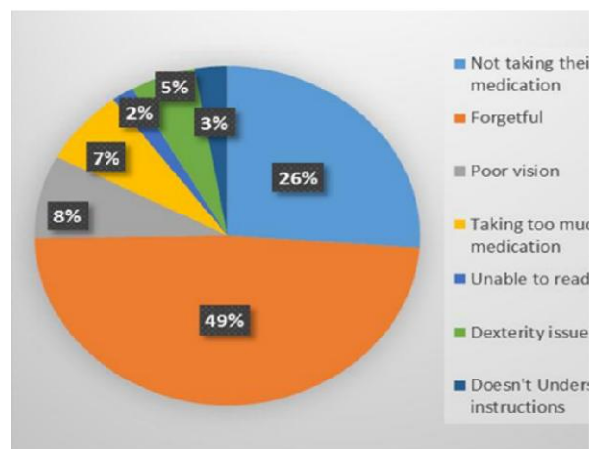


Fig. 1. Pie chart on reasons for not taking medicines

As stated by the WHO Poor adherence can lead to serious health risk. For instance, a recent study found out that the risk of hospitalized patients, having diabetes congestive heart failure, mellitus, hypertension, or

hypercholesterolemia who actually were non adherent to prescribed remedy was more in comparison with the general population. Non-adherence rate can vary widely, even in the rigid controlled and monitored environment of a clinical test. The reasons for “medication non-adherence” are varied. Affordability, a lack of understanding of the importance of the medications, and unpleasant side effects are some examples patients cite for not taking their medication as directed. Beyond increased mortality, the result costs the United States billions of dollars per year. Hospital admission rates increase for non-adherent patients with chronic illness by up to 69 percent. To mention, patients with long term conditions are questionable to follow prescription than those with acute state.

E-Health Demystified: An E-Government Showcase Computer by Kovac M in Oct. 2014. [1]

Patients who have a several different kind of prescriptions are dubious to follow medications because they may have difficulty managing schedule that involves taking several different medications schedule throughout the day. This creates confusion and patients can take wrong medicine at wrong time which can be harmful. It may also create a problem of overdose as schedule is not followed correctly.

Voice Based Medicine Remainder Alert Application for Elder People by M. Mehala, J. Viji Gripsy in march 2020. [2]

It reduces the burden of allotting health care professionals in homes to monitor elder persons. Smartphone application gives services and assists the elderly person to complete their daily life activities as others. This application Patients need not remember their medicine dosage timings as they can set their dosage timings. Voice based Remainder notification alert can be set for multiple medicines and timings including date, time and medicine description, this application will remind their user about the medicine in-take schedule.

MyMedihealth – Designing A Next Generation System For Child-centered Medication Management”by Slagle, J.M., Gordon, J.S., Harris, C.E., Davison, C.L., Culpepper, D.K., Scott P. And Johnson, K.B., (2011). [3]

My MediHealth is a medication reminder system for children. Personal health records (PHR) and emerging user-adopted communication tools promise to change the landscape of medication management; however, no research has been done to demonstrate how these tools might be constructed to support children with special healthcare needs. 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 configured medication schedule.

III. PROPOSED SYSTEM

More often than not because of number of work for the general population just as in regards to age and some mal-ady which prompts overlook the fundamental things among every day schedule. It will provide the information about the medicine timings. The personal phone notifications and re- minders are a strong supporting tool in improving medication adherence strategies. Medication non-adherence is a common, complex, and costly problem that contributes to poor treatment outcomes and consumes health care resources and so Virtual Health Assistant will provide the following features:

- Keeps track of user’s medical records.
- Users can record their schedule of prescribed medicines and take them on time with the help of alerts generated by the system.
- Mmultiple language support.

In this paper, we propose a multilingual support feature for an Android application that provides medicine reminders to users. The feature includes a language selection option that allows users to choose their preferred language, and the application will display content in that language. We have also implemented a language translation feature that allows users to translate medicine information and instructions into their preferred language. The language selection option is available in the application settings and can be accessed by the user at any time.

IV. ARCHITECTURE

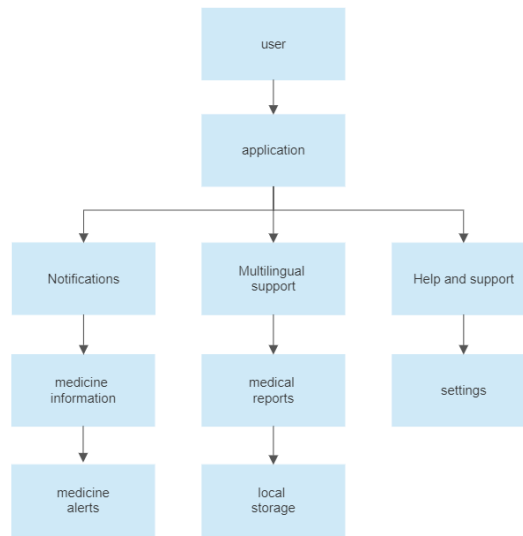


Fig. 2. Pie chart on reasons for not taking medicines.

In this Level 0 DFD, we have decomposed the main system into three major components: "Medication Information Management System", "Reminder Management System", and "Help and Support System".

The "Medication Information Management System" manages the data related to medication information such as adding, editing, and deleting medication information. It also includes functions related to multilingual support.

The "Reminder Management System" manages the notification schedule for the medication reminders. It communicates with the "Local Storage Functions" to store and retrieve the medication information data.

The "Help and Support System" includes features related to user support such as documentation, customer service, feedback, and troubleshooting. It also communicates with the "Notification System" to send notifications related to support and updates.

The "Local Storage Functions" manage the storage and retrieval of medication information data on the local device.

The "Notification System" is responsible for sending notifications to the user for medication reminders and updates related to the app.

Overall, this Level 0 DFD provides a high-level overview of the system components and their interactions.

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