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Medicine Reminder System Using Java

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Abstract*— Health is an essential part of our lives. It influences our lives to the highest degree. Being healthy and active is always an advantage for us. But in today's fast-moving world, we often forget to take the prescribed medicine to us on time due to which we have to face a lot of issues in the future if not soon. A report suggests that over 75 percent of people do not take their medicines at proper time. This simple mistake can sometimes be fatal and can cost their lives. We aim to build an application that reminds people to take the medication according to their prescription. In this, the user has to enter the medication and the time at which it has to be taken. Based on the given input the application analyzes and gives timely reminders to the user.

***Keywords*— androidapplication, androidstudio, healthcare, java, medication, reminders, XML**

I. INTRODUCTION

Doctors often prescribe medications that must be taken at specific times throughout the day. Taking medications on time as prescribed is important to ensure that our body has an effective amount of the medication at all times. If this is not the case, the disease may develop a resistance to the medication or it may simply take longer to get better. It is estimated that not taking medicine on time accounts for up to 50 percent of disease treatment failure which is a major issue for many people around the world and can cause severe problems for the patients. The consequences of not taking medications on time can vary depending on the type of medication and the condition being treated. For example, missing a dose of antibiotics can allow bacteria to multiply, making the infection worse and possibly leading to antibiotic resistance. On the other hand, missing a dose of medication for a chronic condition like diabetes or hypertension can cause complications and worsen the overall health. But in our busy lives, we often tend to forget the intake of medicine and thereby causing several issues. Adherence to medication schedules is especially important for elderly patients who are often on multiple medications and may have memory problems or difficulty managing their medications. A medication reminder application can provide them with much-needed support and reduce the risk of medication-related problems. Our project aims to build such application that helps in acting as a timely reminder for the medicine intake through an alarm. Having enough medicine in your body at all times is crucial in the recovery process, and this application helps in this process by reminding us of the intake of our medications at the correct time every day.

II. LITERATURE SURVEY

[1] et al. have suggested a system where the primary goal is to create a smart medicine box that will remind hospital patients or elderly patients to take the right dosage of their medications at the right time, as per the doctor's instructions. In this system, the attendant has two options for setting the time to take medication: one is directly and the other is by loading a text file on an SD card. The gadget can guarantee medication safety, proper medication dosage, and the avoidance of elderly drug abuse.[2] et al. have suggested that in today's society, people often neglect important daily details due to their busy schedules. Dementia, which causes forgetfulness in everyday activities, affects the elderly and those with chronic illnesses who must take their medications on time without skipping any. Taking into account the situation research has been conducted.[3] et al. have described a paradigm in which they presented a working model of an automated pill reminder and dispensing station that can reduce irregularities in taking the correct dosage of medication prescribed by a physician at the correct time, and move from approaches that depend predominantly on human memory to automation with negligible monitoring,

relieving individuals of the error-prone task of administering the wrong medication at the wrong time in the wrong quantity.[4] et al. have suggested a Health Alert and Medicine Remainder system using Internet of Things. This system suggests a design for an automated pharmacy and medication notification system. Medicine cases come in a variety of shapes and sizes. The suggested prescription box would make it easier for those taking medication, particularly elderly individuals, to remember to take their pills on time. Through the sensors kept at home, it also continuously monitors people's health conditions like blood pressure and ECG and alerts them to take required action.[5] et al. have proposed a Smart Medicine Reminder Device for The Elderly where the primary goal was to design an IoT-Based Smart Medicine Reminder Device. In this system in order to create a superior system, the current one also examines the advantages and disadvantages of earlier devices. [6] et al. have proposed a Smart Home Medication Reminder System that offers a practical approach for using a smart home to assist individuals who experience medication-related side effects. The proposed flow begins when a patient obtains a fresh prescription for medication from their doctor. A QR code created by an eHealth system is given along with a prescription and contains information about the medication prescribed, its duration, the next appointment, and other details. The expert system that manages all of the notifications produced by prescription uses this collection of data.

III. PROPOSED SYSTEM

A. *Software Requirements*

Android Studio: Android Studio is the official Integrated Development Environment (IDE) for Android app development. It provides a comprehensive set of tools and features to develop, debug, and test Android applications.

Java: Java is one of the most popular programming languages for app development, particularly for developing Android applications. It provides a powerful set of tools and libraries for building robust, scalable, and high-performance mobile apps.

XML: XML is a markup language used to store and transport data in a structured format, making it ideal for defining layouts and data sources in Android app development

SQLite: SQLite is a lightweight and efficient relational database management system that is commonly used in Android app development to store and manage data locally on a mobile device.

B. *Hardware Requirements*

Windows 10 and above Operating System
Android Mobile compatible with Android Studio.

C. *UML DIAGRAM*

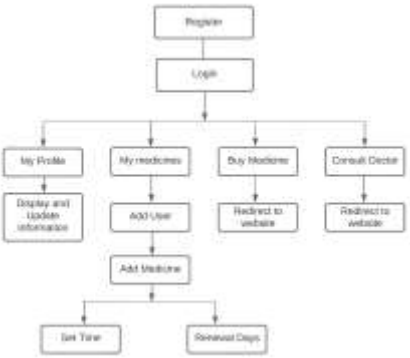

Fig. 1. UML diagram

To login to the application, new users first need to register by providing details such as their name, mobile number, unique user ID, password, date of birth, blood group, profile picture, and any prior medications. After successful registration, users can log in with their registered user name and password. The home page includes four modules: My Profile, My Medicines, Buy Medicines, and Consult Doctor. The My Profile module displays the user's registration information and allows for editing and updating of certain details. The My Medicines module allows for the creation of multiple users, each of whom can create their own medicine reminders. Users can add any number of medicines to be reminded of as per the entered time, and there is also an option to renew the medicine which gives a notification after the renewal days are completed. The user then has the option to continue taking the medicine or stop it. The Buy Medicines and Consult Doctor modules redirect users to appropriate websites

D. *ARCHITECTURE*

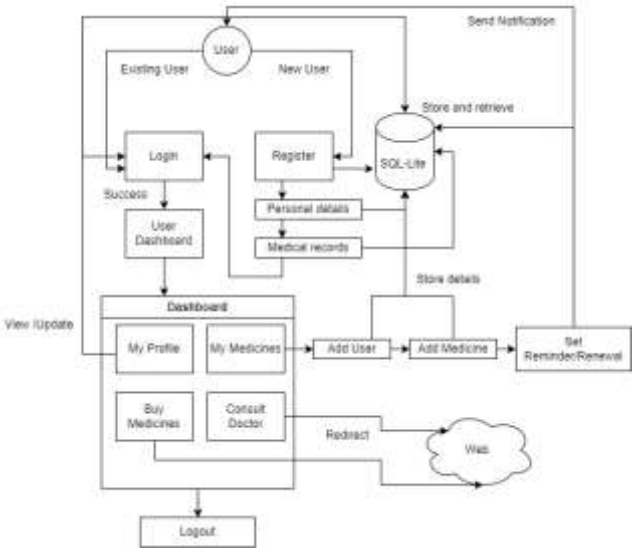

Fig. 2. Proposed System Architecture

IV. RESULTS

Fig. 3. Personal Details

Fig. 4. Medical Details

Fig. 5. Login Page

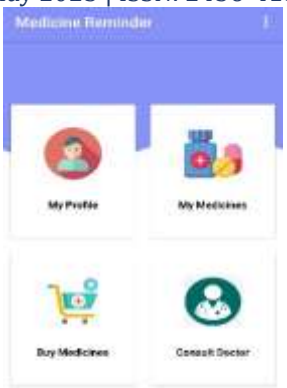

Fig. 6. User Dashboard

Fig. 7. My Profile

Fig. 8. Add New User

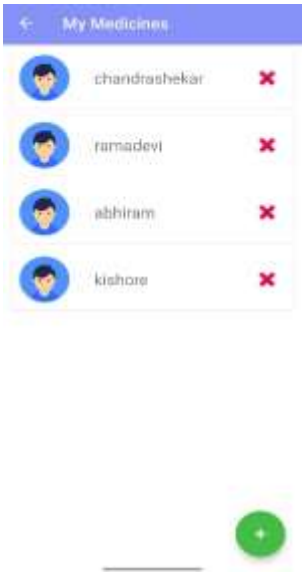

Fig. 9. Add Multiple Users

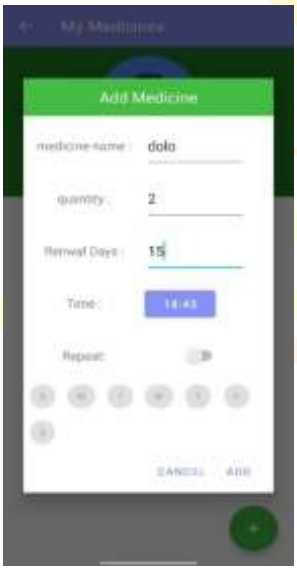

Fig. 10. Add Medicine

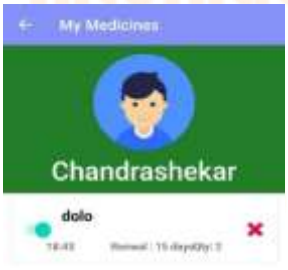

Fig. 11. Set Reminder

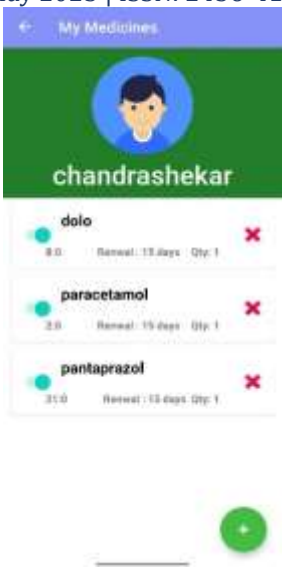

Fig. 12. Set Multiple Reminders

Fig. 13. Alarm Notification

V. CONCLUSION

We have created an Android application to assist users in remembering to take their medications on schedule. The app sends alerts and notifications to remind them to take their medication at the appropriate time. The application is designed to help individuals manage their health effectively, especially those with busy lifestyles.

VI. FUTURE SCOPE

A further improvement might be made by adding buying medicines and doctor consultation as a part of the app rather than redirecting. Also, we can make use of MySQL database instead of SQL-Lite in order to integrate the working of application through many devices. The future scope of a medicine reminder system is quite promising as it has the potential to improve patient adherence to medication, enhance medication management, and reduce the risk of medication errors.

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