

# Pill Reminder and Prescription Digitalization Application Using PHP and Android

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**Abstract-** There are chances like you have entered a room, and forgotten why you are there. In our busy life, we find it difficult to remember things that has to be given special care about. One of such thing is medications, can be of yourself or your elderly parents. There can be also situations, like you forgot to take prescription to the pharmacy. These situations can be dealt with our app 'panacea'.

Unlike many other applications which are single side based implementation, this app creates an unique id for the patient and the consulting doctor and will be universal for both the parties. This gives freedom for consultation of different doctors and the hassle of taking different appointments and registrations. The case file of a patient can be viewed by a doctor by logging into the app with his unique code. Once the prescription has been made, the code of the patient can be given at the medical shop where they verify the records and give the prescribed medicine. The app also paves way for setting the reminders and notifications based on the time prescribed by the doctor

**Index Terms-** Unique Code, Text Recogniser, QRcode

## I. INTRODUCTION

In this day and age, since cell phone has become a piece of us, individuals discover hard to keep remedies as printed version. With improper prescription there are chances of errors including mismatches, prescribing or dispensing errors. Moreover, in the absence of prescription, the pharmacist will have no idea about the medicine and its dosage. Simply put, taking medications without the prescription of a doctor could lead to your disease getting worse, hospitalization, even death. According to the World Health Organization (WHO), over 80% of the people above the age of 50–60 years are prescribed medicine, that is to be fed 2–3 times in a day. With the increase of many vascular diseases and diabetes, proper medication need to be ensured to stay healthy. But among these people, 40-60% forget to take medications at the right time. In Hospital or at home, the patients have to take the right doses at the exact mentioned time. Even young people who are used to taking care of elderly people at home forget due to different engagements. So, it may cause a prolonged period to recover from the disease. Sometimes old people take wrong medicine and wrong doses that may cause severe problems. Henceforth it is necessary for the patient to take proper medicines at precise quantity and right time. [1]

This paper clarifies a methodology wherein you can plan and endorse the medication in a digitized position. It incorporates a web application and two android applications. A web-based interface for recommending drugs by the specialist, an android application for viewing the prescription for the patient and in this manner producing a QR code which can later be scanned by the drug specialist application for creating the remedy at the store. In this way it takes care of the issue of taking the prescription to the pharmacy. The application additionally sets remainders, updates and notices dependent on the information given by the doctor.

The paper is organized as follows. Various related works are explained in Section 2. Proposed method is explained in section 3. Future scope is explained in Section 4 and the paper is concluded in Section 5.

## II. RELATED WORKS

A few distinctive pillboxes were accessible in the market. The least expensive one was the customary pillbox, which contained seven boxes for seven distinct days of seven days. Traditional pill containers could be reconfigured into a programmed multi-pill update and container for simplicity of activity and ease of use. With the help of straightforward microcontroller, they have endeavored to make a model of a pillbox - a robotized pill update furthermore, distributor containing a few compartments for keeping various kinds of pills, for example, tablets, cases also, suppositories having endorsed organization plan and is an advanced exchange to a standard pill container [6]. It utilizes a smaller scale controller to monitor at the point when a patient should take his/her drug [2]-[5]. It shows the ideal opportunity for the following medication in a LCD screen furthermore, when the time shows up, it produces messages over and again, alongside LED flickering demonstrating which compartment to open. At the point when the patient opens a compartment, a sensor distinguishes this and resets the light.

Another app called MEMO\_Calendring is a sharp update to help Alzheimer's malady patients sort out their way of life e.g., reminding the client to take the correct medications on right time. This intervention is proposed inside the setting of the advancing CAPTAIN MEMO memory help. Contrasted with related work, this intervention has four fundamental points of interest. (1) It thus makes some extra strong information nearly the arranged events e.g., showing the location of a put, the customer should go to. (2) It is intended to be easy and beguiling to use. (3) It supports regular language inputs. (4) It reinforces multilingualism: French, Arabic and English. They surveyed the transparency of the customer interfaces of the CAPTAIN Reminder memory help, checking the MEMO Calendring quick update, with 24 Alzheimer's ailment patients. The preliminary comes about confirmed that the introduced client interfacing is open and client friendly. [3]

There is another smartphone based application to improve the health care system of Bangladesh. In Bangladesh the medicinal services framework is chiefly furnished by the legislature with next to zero charge. In any case, this accompanies numerous complexities i.e., the tremendous number of patients makes it hard for the administration medical clinics to furnish them with quality social insurance. It is a versatile application to make social insurance progressively helpful for the majority proposed [5]. The explanation behind picking android stage is that in Bangladesh, the expense of an android telephone is sensible and even destitute individuals can bear to have one. [4]-[6]

The application will give online lodge booking framework, intelligent proposal of clinics dependent on cost and quality, information about offices of emergency clinics nearby, information about the specialist's chamber in a city, an approach to make a meeting with the specialist, assistance to the client to make a crisis call for an emergency vehicle or social insurance administration, alert framework to take drugs in a fixed time. The application will alarm the client for taking medication at an appropriate time, Body Mass Index (BMI) number cruncher.

WiseMed app recovers data on the client's medicine and calendar by filtering the QR code on the drug bundle. Enables to consequently remind clients to take their medicine on time and furnishes the client with fundamental and pivotal drug data, for example, what the medication is for, precautionary measures, and reactions. In addition, the application likewise monitors a client's drug taking history after some time, so the doctor can change the medicine plan. Moreover, it can distinguish the client's prescription, taking conduct that damages, with practically ideal relationship with a standard guideline [10].

## III. PROPOSED METHOD

'Panacea' includes three applications. A web portal for the doctor, an app for viewing the prescription details and setting reminders and the other app for the pharmacist to view the prescription. Moreover, in the web portal, the Admin or Doctor has access to the admin portal where he can login with his unique id and give the prescription. Patient's Android Application sets reminders and notifications based on the time prescribed by the doctor. Patients app generates a QR code based on the prescription made by the doctor that can be scanned by the pharmacist android application.

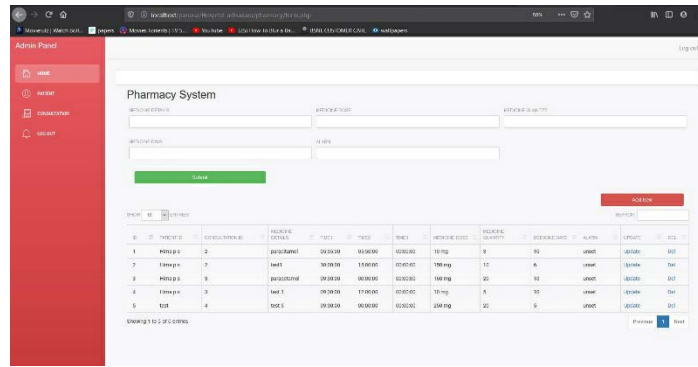


Figure 3.1: Sample screenshot of Admin Portal

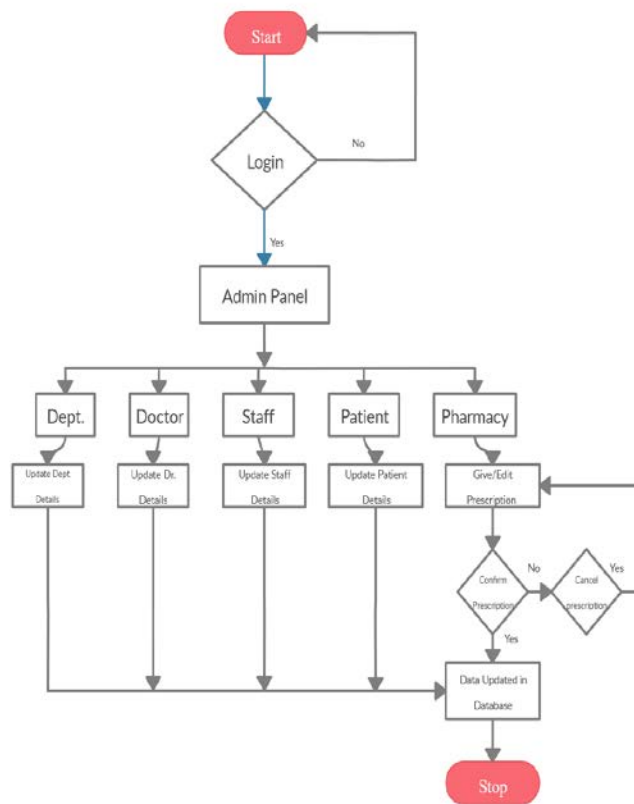


Figure 3.2: Illustrates flow of Admin Portal

Here, you can login to the admin portal, and its dashboard includes labels naming Dept., Doctor, Staff, Patient and Pharmacy. The Dept. page enables you to edit the Dept. data, i.e., Doctor’s Specialization. The Doctor’s page enables you to edit the information regarding the doctor and staff tab enables you to edit corresponding pharmacist details.

The doctor can give the prescription via the pharmacy page, where he can give the medicine info, its dosage and timings for medicine intake. These data will be simultaneously updated in the database.

These changes will be accessible by the admin also.

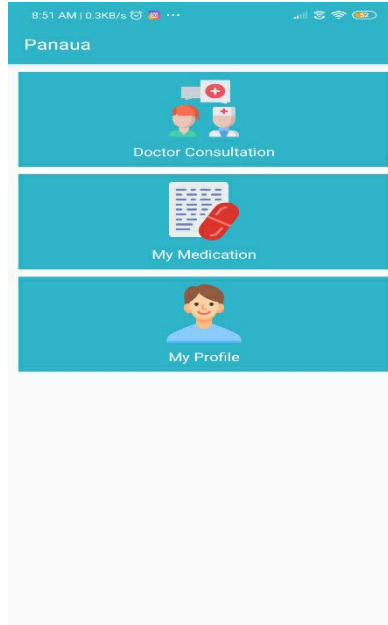


Figure 3.3: Sample screenshot of Patient's App

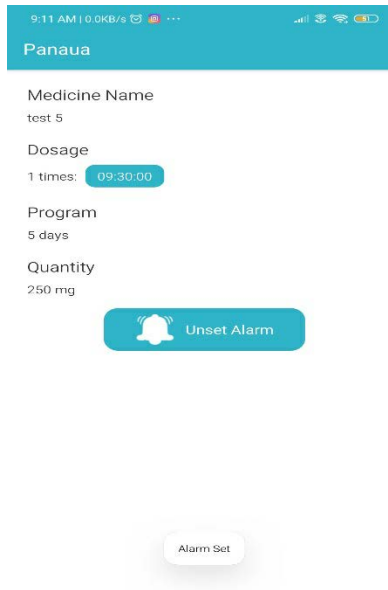


Figure 3.4: Sample screenshot of Patient's App

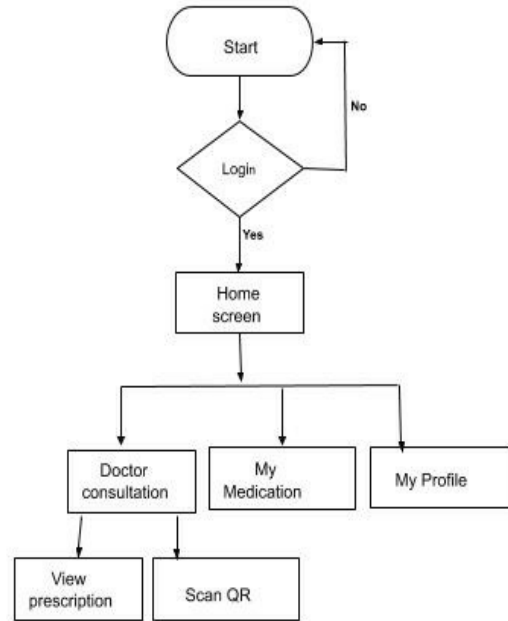


Figure 3.5: **Illustrates flow of Patient's App**

Patients App is used by the patient itself. Patient app itself has three features. One is for viewing the prescription, other for setting the reminders and for editing the user details.

So here, the user login with the user id and password and enter to the home screen page. There are three options here:

- 1.doctor consultation
2. My medication
- 3.My profile

First one is to see the prescription details of the patient as well as the QR code that is to be generated. The medicine name, its dosage, quantity and how long it is to be taken, these are the details shown in the prescription. By pressing the view QR, a QR is generated and this is used by the pharmacist for generating the prescription on their app. In My Medication side, user can set the remainder for the medicine intakes by clicking the set alarm button. On this page also all the details of the prescription are shown clearly. The user only needs to set the alarm button. Lastly, all the information of the patient can be seen on the 'My Profile' screen. Moreover, a patient has the access to edit his/her personal information.

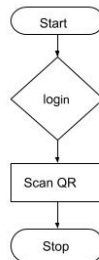


Figure 3.6: **Illustrates flow of Pharmacy App**

The pharmacy Application is a user friendly side. Here he (pharmacist) only needs to login by his user id and password and scan the QR code of patient. With the successful completion of scanning, the prescription details will be displayed.



Figure 3.7: Sample screenshot of Pharmacy App

MySQL database is used to store the details of the above mentioned data. MySQL DB Atlas provides server-less deployment. Once the user loads the application the server updates the data in a real time basis.

#### IV. RESULT

The developed application and web portal are working successfully. Unlike many other applications which are single side based implementation, this app creates an unique id for the patient and the consulting doctor and will be universal for both the parties. This gives freedom for consultation of different doctors and the hassle of taking different appointments and registrations. The app also paves way for setting the reminders and notifications based on the time prescribed by the doctor. This helps the patient in saving time and the hassle of remembering which medicine is to be taken at the time. Also the patients can generate a QRcode based on the prescription made by the doctor which can be then scanned by the medical shop. This helps to access the complete list of medicines from the prescription, reduce the misunderstanding of names of the medicines, and reduce the amount of time taken.

Pillbox	MEMO_calendering	Panacea
Web-based-application, Mobile application.	Mobile application	Web-based-application, Mobile application
Intuitive, Userfriendly, Flexible, Portable, Simple.	This is to help Alzheimer's malady patients sort out their way of life	Userfriendly, Simple, Flexible
The design is able to notify the user, monitor the users medication adherence	It is intended to be easy and beguiling to use. It support regular language inputs	The app paves way for setting the reminders and notifications based on the time prescribed by the doctor.

#### V. FUTURE SCOPE

Since the digital transformation is updating regularly, there would be many updates in application development in future. Technologies would also change simultaneously and bring up major changes in every sector. We further intend to broaden this app nationally. We plan to offer medicines at a much reliable price to the poor and offer discounts to other users. Furthermore, we plan to add a money transaction facility.

## VI. CONCLUSION

This paper discusses an application for digitalizing prescription and scheduling medicines. This helps the patient in saving time and the hassle of remembering which medicine is to be taken at the time. The app also paves way for setting the reminders and notifications based on the time prescribed by the doctor. This helps the patient in saving time and the hassle of remembering which medicine is to be taken at the time. Also the patients can generate a Code based on the prescription made by the doctor which can be then scanned by the medical shop. This helps to access the complete list of medicines from the prescription, reduce the misunderstanding of names of the medicines, and reduce the amount of time taken.

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