



International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 6, Issue 4, April 2018

What's Up Doc: A Doctor Appointment Application System Using Android

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ABSTRACT: In today's world if someone wants to book a Doctor's Appointment we need to call in clinic or personally go to that place and book the appointment. This consumes precious time of the patient. The main idea of this work is to provide ease and comfort to patients while taking appointment from doctors and it also resolves the problems that the patients has to face while making an appointment. The patient can book the appointment through his/her mobile phone. The doctor will come to know the number of patients he has to attend whole day. The system will save patient's as well as doctor's time. It will save the receptionist's paperwork. The system will prove to be useful for doctor as he can check his appointments whenever and from wherever he wants from his mobile phone.

I. INTRODUCTION

The aim of this application is to help and bolster the patients who look out for the Doctors. Instead of consulting the Physicians first, the patients can directly search the specialist doctors via their medical condition. Patients can also refer the reviews of the doctor and select accordingly. Appointment scheduling facility is also provided. Patients are required to enter the details for the doctor to check their medical history and then doctor would schedule appointment accordingly. The purpose of this application to provide an environment where patients can reach out for doctor in an easy way and can directly consult the doctor according to their medical condition. Moreover, the patients can also refer the feed backs and select the doctor accordingly.

II. RELATED WORK

Previously, everything was done manually. You have to visit the hospital book appointment wait for your turn. Also doctor's availability was know, you can either call or go in person to know about it. Every time you have to meet the doctor for any minor thing you need to go personally. For small report to just updating your prescription everything was done manually and it was waste of time.

Few years back, the hospitals started taking appointment using website but it was just limited to booking appointment and that too from the list of dates available, which benefited but was way too limited.

III. DESIGN INTERFACE

The front end design is simple and user-friendly. Once the application is started the patient will register himself and then he will be able to log in into the application. The patient can make an appointment by selecting the preferred doctor, date and time. The appointments are managed by the admin through a website. The admin also registers a doctor. Admin is able to view doctors, view patient's records and view feedback also. The back end design includes a server which acts as a centralized database. All the data of the registered doctors and patients and the data regarding the appointments are placed on the server. The data is approached and shared by using API'S between the website and the android application.



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A. ANDROID

Android is an open source operating system which is Linux based and android platform is used to develop many useful applications for the mobile devices that makes the tasks of everyday life easy and faster. The android platform also provides built in database (SQLite database) and Web services. Android platform provides connectivity between the server and the application using certain APIs, hence the task of making a doctor appointment using a mobile application connected to a website located on the server becomes easy using the advanced features and libraries available on the android platform.

B. SOFTWARE DEVELOPMENT TOOLS

The following software tools were used during the development process.

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C. SOFTWARE DEVELOPMENT TOOLS

The following software tools were used during the development process.

- Android studio 2.1.1 and SDK plug-in
- JDK 6
- Android 6.0 (Marshmallow) installed packages
- Phpmyadmin Server
- HTML
- MySQL

IV. SIMULATION RESULTS

Acceptance testing is a test conducted to determine if the requirements of a specification or contract are met. It may involve chemical tests, physical tests, or performance tests. In systems engineering it may involve black-box testing performed on a system (for example: a piece of software, lots of manufactured mechanical parts, or batches of chemical products) prior to its delivery.

To minimize the number of errors in software, a reach variety of test design methods have evolved for software. These methods provide the developer with a systematic approach to testing. More important, methods provide a mechanism that can help to ensure the completeness of test and provide the highest likelihood for uncovering errors in software.

| Test case | Case Number | Input | Expected Output | Result |
|-----------|-------------|----------------------------------|---|--------|
| 01 | log-in | Provided user name and password. | Successful login in case of correct credentials entered by user, else redirected to same page with error message. | Pass |
| 02 | New | New user should be | "Successfully created" message should | Pass |



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| | | | | |
|----|-------------------------------|---|--|------|
| | Account | able to create a new account | be displayed when successful created new account. | |
| 03 | Select Doctor from given list | Select doctor and from calendar book the appointment date | “Successfully booked” message should be displayed once appointment is booked | Pass |
| 04 | Send Notification | Notification is send to the doctor for appointment | Appointment is confirmed by the doctor. | Pass |
| 05 | Confirm appointment | User must receive the notification.. | “Confirm” message displayed on the booked appointment. | Pass |

The user will firstly downloads the application and install it in their mobile devices. Figure 1 shows the block diagram of the application. Once installed, this application will remain into the device permanently until the user deletes it or uninstalls it. After the installation when the user clicks on the app icon, the first thing that will appear on the screen is splash screen that contains the login page as shown below

Mobile Number

Password

LOGIN

No account yet? Create one

Fig 1. Login page for user and doctor

The patient will have to register in the application on first use. After registration, the patient will receive a username and password. For sign up, the user has to fill the given fields that are username, email, password and confirm



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password and then the user clicks on the signup button to register itself and then all the information provided by the user is saved in the database located on the server. The signup screen is shown below

Fig 2. Sign Up page

The patient can select any particular doctor and view his profile by clicking on the available doctors or by selecting the doctor's option from the menu screen. The list of the available doctors is displayed as shown below .

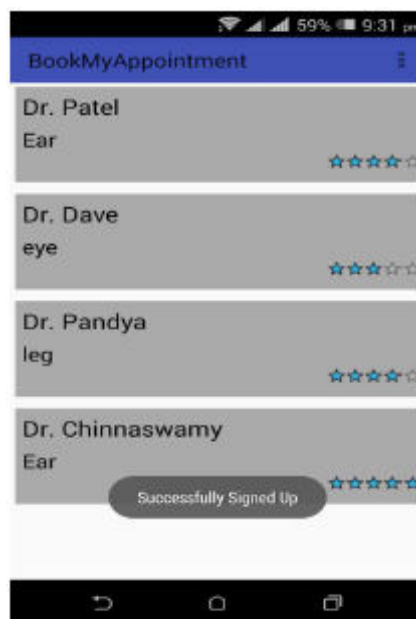


Fig 3. List of doctors available



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By clicking in the book appointment button, a calendar and different available time slots are displayed on the screen. The patient has to send a request for appointment by selecting a day or time. The central database gets updated accordingly. The user will get notification message of “successfully added” if the appointment is successfully registered in the database as shown below.

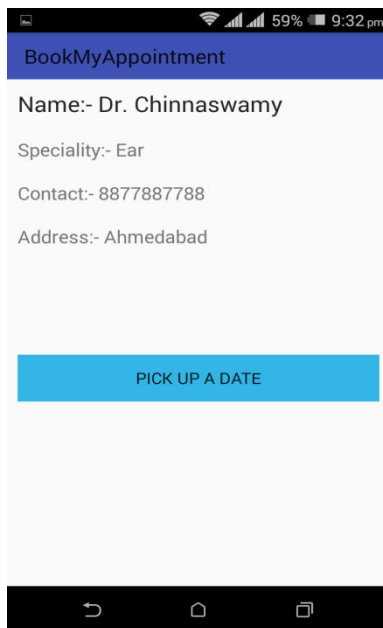


Fig 4. Selected Doctor Details

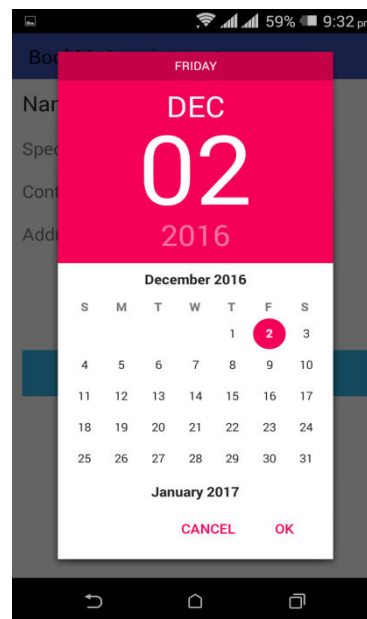


Fig 5. Date picker options

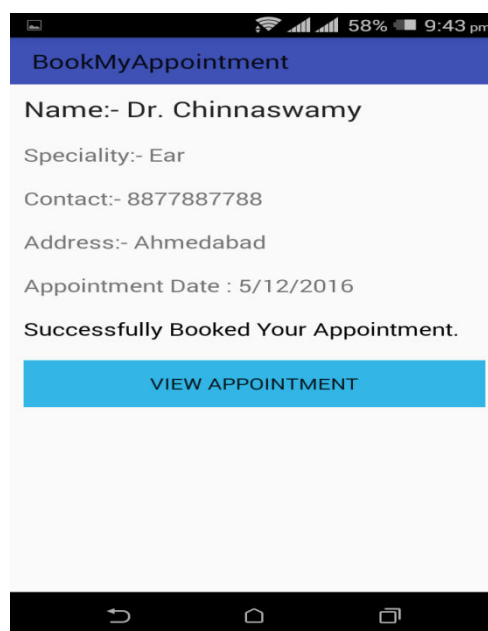


Fig 6. The appointment reserved successfully



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Doctor can login from there application and they can see list of appointments available on there screen. They can see the details of the patient's, previous records, etc. Doctor can confirm the appointment or reject it.



Fig 7. Doctor's home screen

V. CONCLUSION

The proposed online appointment system has been implemented in android studio for application development and website is developed using HTML and PHP. The tasks involved in this work are divided into modules. The data is approached and shared by using API'S between the website and the android application. The proposed system is efficient and has friendly user interface. Addition of the admin and doctor modules in the android application are included in future work. That would help the doctor to register on the application and perform all the tasks on the app. The admin would be able to use the app for managing the details of the patients and the doctors instead of using the website. A payment or some amount may be charged to the users/patients while making an appointment to avoid the unethical users. As many users only register themselves just for fun and has no concern by making an appointment. Some more future directions are the improvements in the patient's module which includes setting reminders for the appointments and saving the appointment date to the calendar.

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ISSN(Online): 2320-9801
ISSN (Print) : 2320-9798

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