



ONLINE OPD MANAGEMENT & HOSPITAL MANAGEMENT SYSTEM

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ABSTRACT

Information and Communication Technology (ICT) has made a significant impact on healthcare industry across all over. Its adoption and use which results in e-healthcare which transforms the way of healthcare services. This project APP for Online OPD Management & Hospital Management System is solution for one of the major problems that is booking online appointment of doctor easily at home. The main focus of our project is to study the flow of operations takes place in hospitals, appointment fixing, taking emergency cases, check nearby hospitals. For this we are developing a Web-app along with an automatic billing system & pharmacy. Real time data of all the parameters are extracted and displayed on dashboard of web-app. Technologies such as Django framework and visual studio are use in developing this web-app. Python and Sql are parsing and fetching the data respectively. Overall we are specially on reducing manual work & get appointment easily at home in pandemic situations.



INTRODUCTION

This paper put light on the web-app for online OPD management system and hospital management system(HMS)which analyses and manages the appointments and availability of doctors.

Here, We will specifically talk about online OPD using app What a wonder it would be if an HMS becomes smarter and can concern, contribute about healthcare.

To achieve this, we came up with the solution to develop a user-friendly interface in the form of Web-app for android mobiles developed by us for getting easy appointments and facilities according to patient requirements.

LITERATURE SURVEY

There are many techniques and methods carried out till now for online appointments for some specific chains of specific private hospitals. This research results demonstration and usefulness of queing model on providing guidance on identification identifying patient panelist for medical practices for improving advance access.In year 2012 the published paper regarding literature review on patient scheduling techniques on computer science and engineering.This paper research describes the challenge of patient scheduling.In this they provide and option of patient scheduling with multiagent system distribution computing and coordination.According to our survey we get to know the different problems and actual flow of modules for our project.

METHODOLOGY

We decided to make software in which all hospitals, doctors, their data registered in web-app will be filled in web-app. This data will further be displayed at admin dashboard of respective hospitals. The doctors will also be verified by respected hospitals and admin. Only then his profile and related data will be displayed in system. Without proper verification doctors cannot complete their registrations. After successful registration the appointment approved by receptionist will be displayed at doctor dashboard and all the patients registered on app and requested for the doctor choose by then will be displayed on receptionist dashboard. The work of receptionist is to fix an appropriate time slot for patients according to doctor schedule. In this app there are also provided medical pharmacy information in which required medicine available. The final bill payment will be done at receptionist counter they can use cash in hand or online methods

for final payment. The medical history of a patient can be view at patient dashboard as well as doctor dashboard. The medical history may contain the recent reports of test specific medicines which are previously used.

The process has been divided into two major categories:

1. Software for system.
2. Identity Verification for doctors and hospitals.

This is a zero level DFD of Hospital Management System, where we have elaborated the high level process of Hospital. It's a basic overview of the whole Hospital Management System or process being analyzed or modelled . It's designed to be an at a glance view of Medicine,Test and Doctor Fees showing the system as single high level process with its relationship to external entities of Hospital, Hospital Employee and Patient. It should be easily understood by a wide audience, including Hospital , Patient and Medicine in zero level DFD of Hospita Management System, we have described the high level flow of the Hospital system.



Data Flow Diagram of Hospital Management System

A. SOFTWARE REQUIREMENT

- Software requirement consist of database, web application program and server.
- server : D-jango framework which is open source that encourages rapid development and clean, pragmatic design. and to facilitate the creation of forms
- Visual studio for coding and for developing android application.
- application program : Python , Rest API for creating website route .



B. HARDWARE REQUIREMENT

- The basic requirement is a personal computer on the server side, which will store the database, RAM , Keyboard.
- User authentication is one of the major factors. Every doctor and hospital should be verified before registration by admin.

RESULTS AND DISCUSSION

The project of app for Online OPD Management & Hospital Management System was successfully tested on local machine. After installing the web-app on your mobile or tablet the first step is to register successfully on the login page.

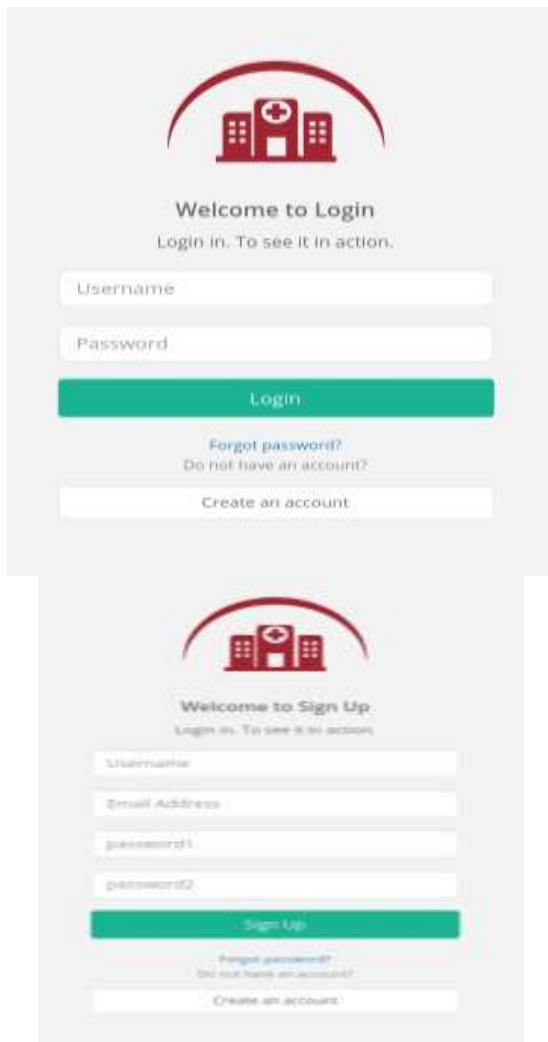


Fig a . Login and Sign up form.

Once the patient signs up then he/she needs to fill the basic information for registration. After registration on the app the patient can view nearby hospitals or any hospital of his/her liking according to their requirements. After choosing a specific hospital the next step is to request for an appointment. This request is now further processed on the receptionist's desktop.

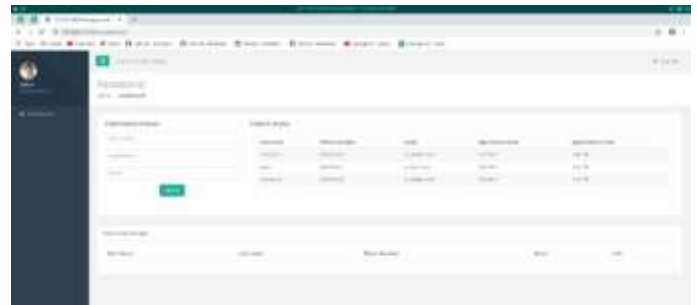


Fig b. Receptionist Dashboard

The task for the receptionist is to arrange appointments for patients according to the doctor's schedule or as per the patient's request. Also, if there are any important cases occurring at hospitals and in which the doctor has to immediately operate the patient, the receptionist needs to notify the patients having appointments immediately that there is a change in schedule due to some specific reasons and rearrange their appointments.



Fig c. Doctor Dashboard

After the receptionist confirms the appointment, the patient will visit the doctor. The doctor will diagnose the patient and prescribe medicine according to their physical condition. If the patient has previously visited any hospital or has gone under some tests or has gone under some treatment, his history can be seen at the doctor's dashboard. The doctor's dashboard contains a list of patients visited on a daily basis.



basis. The list shows the time, date on which the appointments are scheduled.



Fig d. Pharmacist Dashboard

There are many multi-specialist hospitals available all over globe. In which all types of facilities are provided including medicinal facilities. Thus, this pharmacy module is for the Pharmacies available in those hospitals. Here, after prescription written by the doctor they get by pharmacist dashboard. They can see the availability of the medicines on dashboard after searching for it. The medicines are listed based on their name, manufactured date, stock availability, its power.(ex. Paracetamol 500 mg),etc



Fig e. Admin Console

The last and most important module is the admin console. The task for admin is to monitor all the functions of various departments. Also, the admin is required for the verification of the doctors, hospitals for validating their certificates. The profiles of hospitals or doctor only can be seen after they are verified by the admin. Admin also necessary for supervising the appointment events, pharmaceutical medicinal requirements, billing events in each department, workings of doctors , receptionist, pharmacist, etc.

CONCLUSION

The app for online OPD management and hospital management system was successfully designed and tested for real time data. It can be easily used by the patients for requesting appointments and they can also mention for their time preference. It will help to solve problems like queuing for hours or having excessive crowd in hospitals The validation for hospitals and doctors are done for giving safe and secure healthcare treatments from best doctors. This project is software - based project and can run on any platforms like PC, tabs, laptops, mobiles which is connected to internet. Our project is helpful for patients and hospitals to solve their problems or least minimalize them so that the healthcare will be improve. Also, the rating system at last is to ensure the satisfaction of patients in hospitals which will help to resolve the problems within healthcare systems.

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