

Group No 07

Smart MediCare

Course Name : Junior Project Design

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Section : 07

Submitted By :

Umma Sadia Nasrin Sathi (1812187642)

Nushrat Kamrul Zahan (1812387642)

Jannatul Ferdous Eusha (1821801042)

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Abstract

Smart MediCare system is a computerized web application system designed and programmed to deal with everyday operations taking place. The program can show the hospital list, staff list, doctor list, vacant beds, records and billings. It also maintains information such as ward id, cabin id, CCU id, ICU id, staff in charge and all types of special wards and cabins. The purpose of the project is to show vacant seats in the hospital with hospital lists and location and other important tasks are to ensure efficient health care service by booking for hospital beds. This system develops a user-friendly, simple, fast, time consuming and effective system. The project outlines all the processes followed to come up with an application that is from analysis to testing the system. The project also implements OCR to extract and verify user information.

Introduction

Recently, the increasing number of hospitals has been an obvious trend in many countries. This is mainly because the need to provide medical services to increasing patients due to various forms of disease. One has to run from one place to another for booking, because they don't know where there

are available seats. And during this time many of them lose their lives. Such a scenario needs careful attention from the hospital management system to provide appropriate service to patients. This application will change the way hospitals function. This will bring technology to handle all the movements of the hospital, and the result will be positive and useful for both Hospitals and patients. We have hundreds of apps to book appointments and to consult doctors online, but we have very few apps for Bed Management in hospitals. Thus, Smart MediCare is encouraging the hospitals by helping them in developing a Hospital Bed Management System for smooth flow of Patient inflow and Outflow. Smart Medicare is a process in which, it has a real-time status of all the available beds, to plan for the efficient use of beds.

Existing Solutions Review/ Related Literature

The healthcare industry has seen a whopping growth in the past few years. With more people getting admitted for various treatments, it has become imperative for hospitals to have a centralized hospital management system in place to take care of patient registrations, treatments, billings, medication, and rooms. Among all this, bed allocation for patients becomes quite tasking when the hospital is a multi-specialty center.

There are several software available in the market for hospital bed management which helps manage the bed allocation and serve patients in a better way.

Such as :

Acgil : This bed management software helps in getting the record of hospital bed status. With various information regarding the bed occupancies, this software aids the healthcare centers in optimizing bed management. With a detailed report on the occupancy of beds in each ward, it helps the management in reducing the bed turnover time.



Advance Data System Corporation : With real-time data containing the status of each bed in the healthcare center, this software helps the medical staff in tracking and allotting beds. Information regarding the beds can be stored in the

form of its size, type, and location of the bed. One can also store the details of patients.



Description

The Smart MediCare application programming interface is used to develop the vacancy of the hospitals in Bangladesh. It will take the information of the hospital name, vacancy of the seats. And patients will log in as a user to see the vacancy in need for their emergency and book the seats via an internet server sitting at home. In this study, we will develop online reservation system of hospitals in Bangladesh by the vacancy data provided by the hospitals. This system can be remotely accessed by users from anywhere, anytime, using internet applications from mobile devices for booking the seats.

Project Features that we want to implement

- Available seats
- Available ICU
- Seat booking
- ICU requirement filtering
- Doctor's Appointment
- Admin panel
- User panel

Technical Details

In this study, we will develop an online reservation system of hospitals in Bangladesh by the vacancy data provided by the hospitals. This system can be remotely accessed by users from anywhere, anytime, using internet applications from mobile devices for booking seats. The development made use of SQL server database and visual studio code 2020. Mobile devices include laptops, computers, and mobile phones. A web application is a computer program that utilizes web browsers and web technology to perform tasks over the internet.

The web application uses a combination of server-side scripts to handle the storage and retrieval of the information, and

client-side scripts demonstrate those data to the user. Visual Studio Code is an Integrated Development Environment (IDE) that can be used to develop graphical user interface applications along with Windows Forms Applications and web applications for all platforms supported by Microsoft Windows, Windows mobile, Windows. NET, is used here to build the React-Framework, Next.js web application.

User Type

The application is for the booking system for the hospital beds and consulting with doctors during an emergency. It maintains two levels of user : -

- Administration Level
- User Level

Supported Operating Systems

- Windows
- MAC
- Linux

Use Languages

- HTML: page layout

- CSS: design
- JS: frontend & backend functionality
- MySQL: database schema
- Prisma: backend (database accessing tool)

Use Frameworks

- Next.js v11 — React-Framework: backend
- Bootstrap v4.6: frontend – design & outlook
- SASS: CSS compiler
- Typescript: frontend & backend for type-safe code

Roles & Responsibilities

- Front-end : Jannatul Ferdous Eusha
- Back-end : Umma Sadia Nasrin Sathi and
Nushrat Kamrul Zahan
- Database : Nushrat Kamrul Zahan

Project Breakdown with time efforts estimation

	Task Name	Duration	Start	Finish
1	Planning	11	2/11/2021	12/11/2021
2	Design	15	13/11/2021	27/11/2021
3	Codding	37	27/11/2021	02/01/2022
4	Delivery	4	03/01/2022	06/01/2022

Conclusion

The project Smart MediCare is for computerizing the working in a hospital. The application takes care of all the requirements for booking the beds of a hospital and is capable to provide easy and effective storage of information related to the list of hospitals. It generates a booking system, doctor's appointments, hospital information including staff, beds, etc.

References

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