



INDIAN INSTITUTE OF INFORMATION TECHNOLOGY AND MANAGEMENT,
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OBJECT ORIENTED PROGRAMMING PROJECT

Hospital Management System

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ABSTRACT

A Hospital Management System based on TUI (Terminal User Interface) . It is designed for any hospital to replace their existing manual paper based system. It's main purpose is to computerize the Front Office Management of hospitals to develop software which is user friendly, simple , fast and cost-effective..

The software's capabilities include registration of patients, storing their details into the system, maintaining the doctor database and providing information regarding bed availability in the hospital. The software can generate a unique id for every patient and doctor which provides for easy retrieval of the details of every patient and doctor. It includes a facility to check the current status of each database. Users can search for the availability of a doctor under a particular medical department. The Hospital Management System can be entered using a username and password. The data is well protected for personal use and makes the data processing very fast.

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1 Introduction

The main purpose of our system is to make hospital tasks easy and is to develop software that replaces the manual hospital system into an automated hospital management system. The Hospital Management System is powerful, flexible, and easy to use and is designed and developed to deliver real conceivable benefits to hospitals. Hospital Management System enables you to develop your organization and improve its effectiveness and quality of work.

1.1 Scope of this project

The proposed software product is the Hospital Management system (HMS). The system will be used in any hospital, clinic, dispensary or pathology labs to get the information from the patients and then storing that data for future usages. The current system in use is a paper based system. It is too slow and cannot provide updated lists of patients within a reasonable time frame.

The intention of the system is to reduce overtime pay and increase the number of patients that can be treated accurately.

The document only covers the requirement specification for the hospital management system. This document does not provide any references to the other components of the hospital management system.

1.2 Advantages of this project

This project is made in c++ so it has some advantages.

- Data is hidden and can't be accessible by external function Secure than all other languages
- Object oriented language i.e. depends on objects rather than procedure(to make work easy and save time).
- The process is digital so the chance of error reduces to a great extent.

1.3 Objective of this project

- To bring organization together and to help the people associated with managing the hospital. To make their task easier with better accuracy and fast information retrieval.
- Enhances organization effectiveness. To make the day to day work easier.
- This project will contain all the activities associated with the hospital such as add the record,modify the record,and delete their record.

1.4 *Header Files* used in this project

1. iostream
2. fstream
3. iomanip
4. string
5. stdlib.h
6. stdio.h

1.5 *Classes and member functions* used

1. DOCTORS DATABASE

Class Password: As the name suggests it this class is used to store and verify passwords

This class has 3 member functions

1. **getPassword():** which sets the passwords for one doctor
2. **verify Password():** which runs through the database and checks if the password is correct for the doctor or not.
3. **Password Protect():** This displays the access status depending on the boolean returned verify password.

Class Doctor: this class holds and displays the profile of the doctor.
It contains the data members (Say)

1. **D_fname D_lname** This stores the first and the last name
These contain doctor id of hospital, doctor age,experience.
2. **Qual d_city :** These contain the qualifications and the city of their practice of medicals

Member functions:

1. **getSpec()::**this function gives a menu to choose the speciality of the medical field in which the doctor has expertise .
2. **addDoc()::**this function inputs details of all the important details of the doctor and stores the information in a database or doctor.txt file,which if not present earlier will be created by the compiler.
3. **editDoc()::** this function is used to edit or alter the changes in previously stored information of the doctor.And display the updated data on the screen.
4. **displayDoc()::** this doc shows the profile of the doctor based upon his entered Unique ID.

5. **deleteDoc():**It deletes the existing profile of the doctor in the database and displays a message if the operation was successful .
6. **dispDatabase():**It displays the data of all the information of the doctor present in the database.
7. **numberOfDocs():**it displays the total number of doctors currently registered at the hospital.

2. PATIENTS DATABASE

1. **String getDept() :** a string used to store the name of different medical specializations
2. **Void getDoctor() :** a function used to search the doctors available for that particular specialization from the whole list of doctors and it then displays all the information of that particular doctor
3. **Void addPat() :** a function used to take in all the necessary details of a new patient upon admitting such as his name,age, phone no. , occupation, disease , admit date, bill amount and the kind of specialization required
4. **Void editPat() :** a function usedTo edit a particular Detail of a particular patient by searching that patient by entering its patient ID. it then also so gives Confirmation of the updated details
5. **Void displayPat () :** function used to display all the details of a particular patient by Searching that patient upon entering the patient ID
6. **Void deletePat () :** a function used to delete the complete patient profile
7. **Void displayPatDatabase () :** a function used to display the entire patient database that is it displays all the patients serial serial wise with all of their details
8. **Void numberOfPats () :** to a function used to display the total number of patients admitted in the hospital

3. BED DATABASE

1. **Void getStatus ():** A function used to display the total number of beds, beds occupied and number of remaining beds in the hospital

2. **Int main()** : The function which displays the welcome screen comprising of main menu and exit
3. **Void chooseMenu()** : The function which displays us the main menu it gives us the option to enter either into doctors database, patients database or the bed database
4. **Void getDoctorDatabase()** : The function which displays the welcome screen to the doctors database . It gives us options such as add ,edit, display and delete the doctor's information. it can also display the entire doctor database and total number of doctors working in the hospital
5. **Void getPatientDatabase()** : the function which displays the welcome screen to the patient's database. It gives us options to add, edit , display and delete patient information. It also gives us choices to display the entire patient database or to display the total number of patients admitted in the hospital .
6. **Void getBedDatabase ()** : The function which displays the welcome screen to bed database. It gives us the option to check the bed availability status in the hospital.

2 Project Code

For Project Code visit following link : [Project Code on GitHub](#).

3 Conclusion

The project Hospital Management System (HMS) is for computerizing the working in a hospital. It is a great improvement over the manual system. The computerization of the system has sped up the process. The hospital managing system was thoroughly checked and tested with dummy data and thus is found to be very reliable. The software takes care of all the requirements of an average hospital and is capable of providing easy and effective storage of information related to patients that come up to the hospital. It generates test reports and also provides the facility for searching the details of the patient. The system also provides the facility of backup as per the requirement.

3.1 Limitations

- The size of the database increases day-by-day, increasing the load on the database backup and data maintenance activity.
- Training for simple computer operations is necessary for the users working on the system.

3.2 Future improvements

- In the proposed system we can enhance this system by including more facilities like a pharmacy system for the stock details of medicines in the pharmacy.
- We can also add the features of the billing system to store the data of all the payments done.

4 References

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2. <https://www.geeksforgeeks.org/set-position-with-seekg-in-cpp-language-file-handling/>.
3. <https://www.javatpoint.com/latex>.