**OBJECT ORIENTED PROGRAMMING**

**PROJECT REPORT**

**TOPIC:** **Hospital Room Management System in COVID-19 period**

**Aim and objective of the project**

Our Aim is to make a Hospital room management system dedicated to serve patients and hospital staff to maintain the record of patients and give them a nice and easy experience along with all the information related to the availability of rooms and beds.

**Significance and importance of this project**

To understand the importance of the scenario, let us first look at some news headlines.

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We can easily infer from above screen shots that there is a lot of mismanagement happening in this COVID-19 period in hospitals and general healthcare sector.

*“Due to the coronavirus pandemic, patients suffering from critical diseases like cancer and those requiring surgeries are delaying hospital visits and thereby endangering their health and even risking their lives, according to some doctors.*

*A number of medical practitioners said they have even lost patients who could have survived or their situation salvaged had they reported to hospitals in time “*

People are not getting beds allocated to them on time despite of the availability of bed. This happens because of sanitisation confusion that arises due to poor record keeping of earlier patients in the room and their health conditions.

*“Delhi is battling a surge in Covid-19 cases and there are numerous accounts of people being sent from one hospital to another in search of that elusive bed. This, when seven out of every 10 beds reserved for Covid-19 patients in Delhi government hospitals are lying vacant.”*

Non-COVID Patients fear the mismanagement such as lack of hygiene and fear of getting infected from novel coronavirus.

*“Doctors and public health experts believe this is an outcome of the general perception that government hospitals may not have good infrastructure and hygiene and shortage of staff could lead to patients being neglected.”*

Also there are several cases from hospitals in small towns where COVID positive patients and non-COVID patients are admitted in same room without taking care of their medical complications. Again, this happened due to lack of bed management.

**Our project is a small contribution to the solution of the problems mentioned above.**

**What we have made…**

We have made a console application in C++ language solely using idea of Object-Oriented Programming.

**What does it do…**

Our console application allows us to operate in a hassle-free manner and the interface is self-explanatory.

**The user interface of our console application is menu driven.**

**1. Manage Rooms**

In this application, the user can manage rooms by adding room and searching for rooms by using their room number. While adding a room, the user can feed the information about COVID-19, Type of room, Bed size, and Daily cost of that particular room. By using the search room feature the user can check the type of room, its daily cost, COVID status and its availability status.

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**2. Check In Rooms**

Here Patients can be checked in by the user by entering the room number and booking ID. After that other information like Name, Address, Phone-number, admit date etc. are fed.

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**3. Show Available Rooms**

This is one important feature of our project. Here with one click the user can find out the available rooms which can be assigned to new patients and the type and other details about the available room.

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**4. Search Patients**

With this feature user can search about all patients and get their details like room number and COVID status of that particular patient.

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**5. Check – Out room**

Here, the user can enter the room number and number of days spent in the room to calculate the total fee and also show the receipt of the cost.

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**6. Shows All Patient’s summary**

With this feature one can see all the patients currently admitted in the hospital along with their room number, detail about their rooms and patient’s positive/negative status.

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How does our application solves the problem

Using this application, the user can easily allocate the hospital rooms to the incoming patients while at the same time segregating the patients on the basis of their COVID status. It also helps to identify the rooms unoccupied and the ones occupied by patients (and what type of patients).

Further it allows the user to calculate the cost of the patient’s stay depending upon the number of days spent in recovery period in the hospital and the over-night charges of the room.

Conclusion

The project started with an aim to help people with better management of patients in hospitals especially during the COVID-19 period. This console based application allows the user to allocate rooms to patients incoming to the hospital and also modifies the availability of rooms at the same time. Patient’s details can be checked with just 2 clicks and also rooms can be de-allocated and bill can be generated easily. Our project is written in C++ language with Object-Oriented programming paradigm. Various concepts of OOPs like Inheritance, Objects and array of Objects etc are used to reach the completion of this project.

This report has discussed the development of a Hospital management and display system. The objectives of this application were to provide to provide a management system that eases the allocation and de-allocation of rooms and beds to patients admitted to hospital and also keeps a check on the types of patients and gives a real time details about the availability of rooms currently available in the hospital and thus eases the work of user to keep a track on available rooms which is crucial in real world scenario.

References

Book - Object Oriented Programming by E. Balagurusamy

[www.geeksforgeeks.com](http://www.geeksforgeeks.com)

[www.tutorialspoint.com](http://www.tutorialspoint.com)