

Covid-19 Bed Allocation System

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Abstract—The Project Covid-19 Bed allocation System aims at easing the process of bed allocation for covid patients. Patients can register themselves on the website by providing the necessary details asked. Once a bed is allocated, the patient will get an email. The hospitals will be able to update the data as and when patients are discharged or allotted. Patients will be allotted the type of bed based on parameters such as CT scores and SPO2 levels mentioned.

Index Terms— Covid-19 Bed Allocation, Hospital login, Allotment status.

I. INTRODUCTION

Covid-19 Worldwide Pandemic has brought the world on its knees. This has hit hard on the economy of the country. Most people infected with the COVID-19 virus will experience mild to symptoms and might recover at home. But rest might have severe conditions which might require intense care at hospital, which leads to the main problem which is hospital bed allocation. As engineers, an attempt is made to find better solutions of problems around. The project "COVID 19 bed allotment system" is a java web based application, which allots beds for the users by analyzing their data based on various such as CT scores and SPO2 levels mentioned.

II. EXISTING SYSTEM

In the current system, if a patient is affected with Covid-19 and needs medical attention like oxygen support, the patient would have to call helpline numbers like 1912 or the corresponding helpline based on the zonal location. The patient would have to provide the details orally and the helpline coordinator would have to register the same details in their portal and bed will then be allocated based on availability. This may lead to casualties also, if the beds are not available or allotted in time for the patients.

III. METHODOLOGY

In the proposed system, a website is created for the purpose. A Covid positive patients can register by filling their details. A priority queue is maintained on first come first served basis. Based on the availability of the beds, the patients will be allotted the beds through the website. The hospitals are allowed to update the status of the availability of beds as per the discharge status. At any instance of time, the patients or users can view the status of availability of beds in different hospitals instantaneously. This helps the patients by saving time in searching for hospitals with the Covid care facilities. By this, a total transparency is maintained in the system.

IV. IMPLEMENTATION

A website is created for the purpose mentioned. It maintains two portals:

1. Patient Portal
2. Hospital Portal

The Patient Portal provides the portal for the new patients to register themselves to avail a bed in a hospital. The patient has to provide the details like Name of the patient, Age, Mobile number, Gender, Address for communication, SPO2 level, Requirement of Oxygen Cylinder, Status of Covid test conducted. By providing all these details, the patient can register in the portal. The type of bed allocated will be based on the spo2 levels and CT score entered. Once a bed is allocated the patient will get an email.

Using the Hospital login, the hospitals can monitor the status. The allocation of beds and also discharge of patients has to be updated to maintain total transparency by the hospital. The website allows the patients to check their bed allocation status by directing to the bed status page and entering the BU number or SRF number which are obtained once a patient gets tested for Covid-19.

V. RESULT

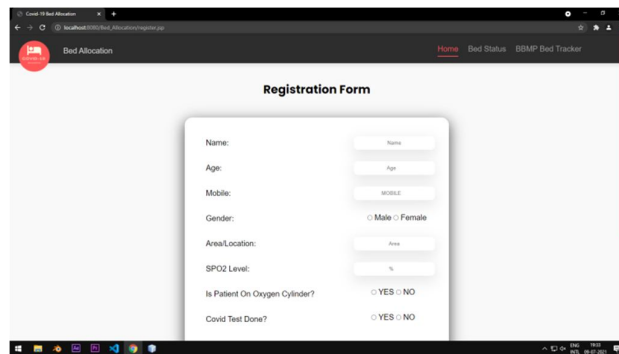
A screenshot of a web browser displaying a registration form titled "Registration Form". The form is centered on a light gray background. It contains several input fields: "Name", "Age", "Mobile", "Gender" (with radio buttons for "Male" and "Female"), "Area/Location", "SPO2 Level", "Is Patient On Oxygen Cylinder?" (with radio buttons for "YES" and "NO"), and "Covid Test Done?" (with radio buttons for "YES" and "NO"). The browser's address bar shows a local host URL. The top navigation bar includes links for "Home", "Bed Status", and "BBMP Bed Tracker".

Fig 1: Registration Form

Fig 1 show the registration form. The patient or the attendant has to login to the website and create the patient profile by providing the required details.

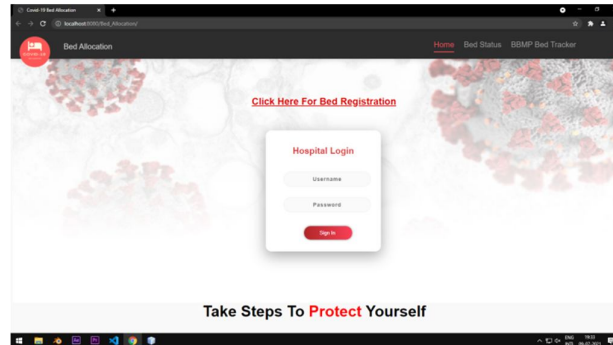
A screenshot of a web browser displaying a hospital login page. The page features a central "Hospital Login" form with "Username" and "Password" input fields and a "Login" button. Above the form is a red link that says "Click Here For Bed Registration". The background of the page is decorated with a pattern of red and white virus-like particles. At the bottom, there is a banner that reads "Take Steps To Protect Yourself". The top navigation bar is the same as in Fig 1.

Fig 2: Hospital Login

Fig 2 show the hospital login. The hospital can monitor the status of availability of beds and discharge status of the patients here.

Fig 3 shows the status of bed availability, whether the bed is allotted or not can be viewed here.

Fig 4 shows the homepage of the website. The emergency number is shown here. Also a note is shown to monitor the SPO2 level of the patient frequently.

Fig 5 shows the data sheet of the status of patients registered in Yelahanka Government hospital. The details like name, age, serial number, gender, area of residence, SPO2 level, covid result whether positive or negative, EU number Bed Type and discharge status is maintained in this sheet.

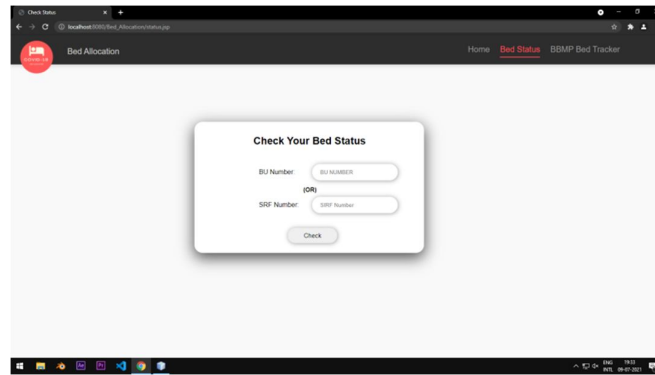


Fig 3: Bed Status

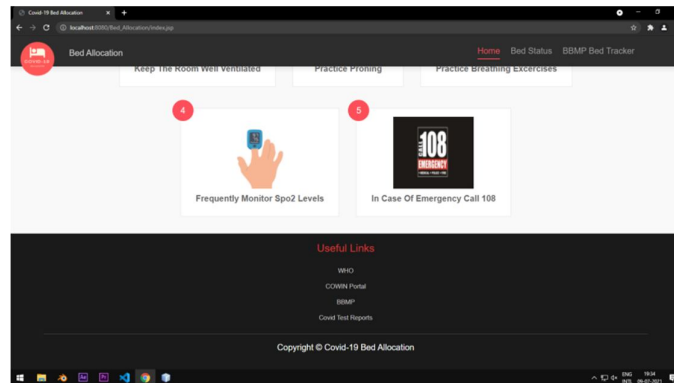


Fig 4: Homepage

YGH

Bed Allocation

Home

Bed Status

BBMP Bed Tracker

Yelahanka Government Hospital

Logout

Name	Age	Number	Gender	Area	Spo2 Level	Covid Result	CT-Score	SRF ID	BU Number	BED Type	Discharge
Prajwal	21	4568768	Male	Yelahanka	99	Negative	1	124853	867861	GEN	Discharge
Kevin	20	456786	Male	Yelahanka	98	Negative	0	111111	224242	GEN	Discharge
Hishikesh	21	48648887	Male	Yelahanka	99	Negative	0	55554	666666	GEN	Discharge
Sample	25	5434535333	Male	Yelahanka	98	Positive	10	22223	55555	GEN	Discharge
Test3	54	7424523	Female	Yelahanka	95	Negative	0	5436485	8368763	GEN	Discharge
Test5	25	53453	Female	Yelahanka	98	Negative	0	15353	315353	GEN	Discharge
Sample2	20	13485343	Male	Yelahanka	60	Positive	10	153853	45234	ICU-V	Discharge
Test6	26	543453	Female	Yelahanka	98	Negative	0	436458	86586	GEN	Discharge
Test18	20	4564536	Female	Yelahanka	60	Negative	0	44536543	45364536	ICU-V	Discharge

Fig 5: Data sheet

VI. CONCLUSION

From the time, the pandemic occurred in the global arena, it has created chaos. Lot of patients are having breathing difficulties due to low oxygen i. e. SPO2. There are reported casualties due to non-availability of oxygen cylinders at the times of need. By the web application, the aim is to provide faster and effective bed allocation for patients who are affected with Covid-19 and need medical attention like oxygen support or ventilators. An attempt is made to eliminate the ambiguous process which is prevailing currently.

ACKNOWLEDGEMENT

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