



Jeevan Setu : Your Life Matters

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ABSTRACT

To combat the recent COVID-19 pandemic that has taken over the world, one can make use of the proposed Jeevan Setu: Your Life Matters web application. This proposed system will give real time count of the various hospital requirements to make it easier for citizens of Bengaluru to navigate. Jeevan Setu will contain two categories, both non-COVID and COVID. Accordingly, the update will be divided. It will show the real time general ward bed count, ICU bed count, doctor count of various specialization, nurse count for both the categories. It would help users to get information about their nearest hospital and allow hospitals to update the record. Help desk will also be provided in Jeevan Setu which will contain various emergency contact numbers, ambulance numbers & online links to buy masks, gloves and PPE kits. It would also display the number of active COVID-19 cases, recovered cases and death cases in Bengaluru. The users won't be able to access the hospital database or modify it, they can only view the information being displayed. Hospitals would need to register with Jeevan Setu and unique id would be given to each to ensure no ambiguity. Each hospital can access their respective database and modify it accordingly. The data would be encrypted before storing in the database to improve security, in its future enhancement. Jeevan Setu can also be used after the end of the ongoing pandemic. This is proposed to be an end-to-end web application.

Keywords: COVID-19, web application, healthcare management system, hospital database, encryption, security, unambiguous system, Bengaluru.

I. INTRODUCTION

Hospitals are designed to take and function on an average patient load.[1] In 1984, Peter Reichertz gave a lecture on the behaviour of hospital information system in the past, present and future. From then to now, there has been a marvelous development in medicine as well as in informatics.[2] The COVID-19 pandemic has made it more challenging and difficult to decide which hospital to visit for one's treatment, irrespective of COVID-19 emergency or for general health emergencies. "Jeevan Setu: Your Life Matters" is a proposed web application where solutions are provided for every query regarding hospitals and their facilities.

Healthcare professionals and administrators have been confronted with several pressing challenges since the onset of the outbreak such as lack of beds, doctors being occupied with COVID-19 and general care patients, shortage of other healthcare professionals, overworked staffs, unavailability of protective gears and many more. The number of COVID-19 cases in India across all the states have widely spread as of 6th April, 2020.[3] The proposed Jeevan Setu web application displays the real time count of the various hospital facilities to make it easier for Bengaluru citizens to navigate and decide. It would provide the data segregated into two categories – COVID and non- COVID. It will show the real time general ward bed count, ICU bed count,

doctor count of various specialization, nurse count for both the categories. It would enable the public to access the information of their nearest hospitals free of cost and allows the hospital to update their records.

Jeevan Setu also proposes to display the number of active COVID-19 cases, recovered cases and death cases in Bengaluru. The users will be barred accessing the hospital database or modify it. Jeevan Setu can also be used after the end of ongoing pandemic. A sample is being developed intended at assimilating supplementary data by storing clinical data so that there is easy communication of data from numerous services.[4]

II. PROPOSED METHODOLOGY

Hospital- end

1. hospital_information()

Registered hospitals with Jeevan Setu are given the permission to control and manage their data that would be viewed by the public. Information concerning bed availability, bed occupancy, beds that will be free in the near future, doctor's availability (quantitative), and price for each bed (private hospitals); for both COVID- 19 and non-COVID wards will be displayed which can be modified. All these records can be maintained and updated by one individual staff or an entire department.

2. department_information()

The data of non-COVID section is segregated department wise. Doctors' name and their specialty are listed and their active hours are dynamically restored 24/7.

User-end:

1. general_information()

At the user end, all the registered hospitals' bed availability, bed occupancy, beds that will get free in the near future, doctors' availability (quantitative), and price for each bed (private

hospitals); for both COVID- 19 and non-COVID ward are displayed.

2. other_information()

Doctors' names and their specialty are listed department wise and their active hours are shown 24/7. The data of the hospitals would be displayed in the order of hospitals nearest to the user first, using Google maps making it easier for the user to navigate to the nearest hospital and avoid the extra time wasted in current scenario. In which patients have to travel from one hospital to another in search of beds and doctors.

Help_Desk():

There will be a help desk method in Jeevan Setu that will contain all the emergency contact details, contact numbers of ambulances and also provide links to buy protective gears such as masks, gloves etc. from.

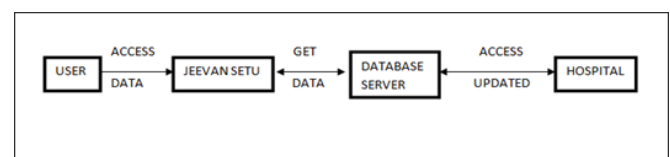


Figure1 Proposed Methodology of Jeevan Setu.

III. IMPLEMENTATION

“Jeevan Setu: Your Life Matters” is a proposed web application. This web application has broadly 2 ends- hospital end and user end.

Hospital end:

There will be a “home” page where a hospital image button will be provided. Clicking it will lead to a new login page. Any user won't be able to login through it as their unique email id and password will have to be registered & saved in the database of Jeevan Setu. Unregistered hospitals would face the same issue. The registered hospitals can login with their credentials and can maintain

or modify information regarding bed availability, bed occupancy, beds that will be free in the near future, doctor's availability (quantitative), and price for each bed (private hospitals); for both COVID-19 and non-COVID wards. All of this information will be displayed on the user-end dynamically. The data of non-COVID section is segregated department wise. Doctors' name and their specialty are listed and their active hours are dynamically restored 24/7.

It would be mandatory for hospitals to register with Jeevan Setu and a unique id would be given to each to ensure security. Each hospital can access their respective database and modify it accordingly, thus disallowing any tempering of data. The data edited in the hospital side is stored in the database. The password given to registered hospitals are encrypted to prevent data ambiguity. For future implementation, hospitals can be given the opportunity to use fingerprints during login for higher security.

User end:

The "home" page would have the user login option through which people can login & view the various

information provided in Jeevan Setu. At the user end, all the registered hospitals' bed availability, bed occupancy, beds that will get free in the near future, doctors' availability (quantitative), and price for each bed (private hospitals); for both COVID-19 and non- COVID ward are displayed. Doctors' name and their specialty are listed department wise and their active hours are shown 24/7. The data of the hospitals nearest to the user would be displayed first, making it easier for the user to navigate.

Help Desk:

A "help desk" icon will be provided in the "home" page where certain general information will be provided. It will contain all the emergency contacts and the links to buy the protective equipment.

Also, a display of the number of COVID-19 active cases, recovered cases and death cases is given.

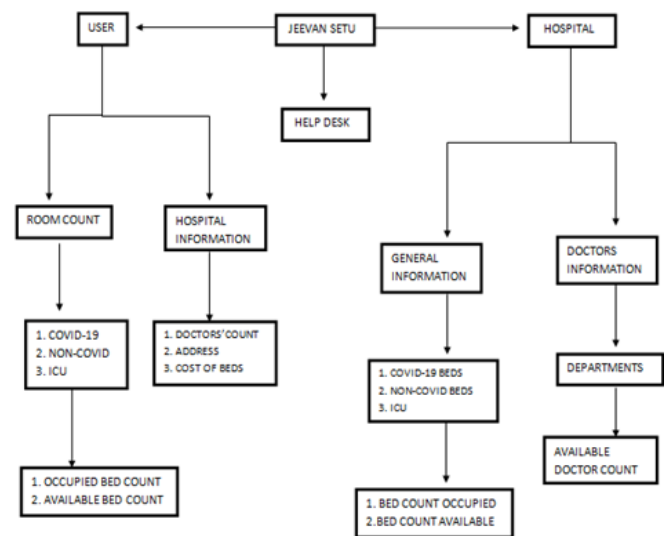


Figure. 2 : The implementation model of Jeevan Setu.

IV. CONCLUSION

The proposed system of Jeevan Setu will be a great help for the public in this tough and trying times of a pandemic. It has the possibility to boost both clinical care and administrative processes, as well as fabricating more cost-effective care and care programs across clinical disciplines and health care divisions.[5] This web application will save a lot of time that is very crucial in the moments of decision making when it's the matter of health. It will give the people an easier way to navigate hospitals around them. This web application will also be a help to the hospitals as they won't need to answer queries of the public's overwhelming demand. All the data is accumulated in one place, saving time. Jeevan Setu will also ensure security and unambiguity of data. The data provided will save time and efforts and might also save lives. This web application can also be used after the end of the current pandemic, thus making it useful in every situation. Automated medication record management system based on hospital information system can be used for future enhancement.[6]

V. REFERENCES

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