CMR COLLEGE OF ENGINEERING & TECHNOLOGY

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MAJOR PROJECT

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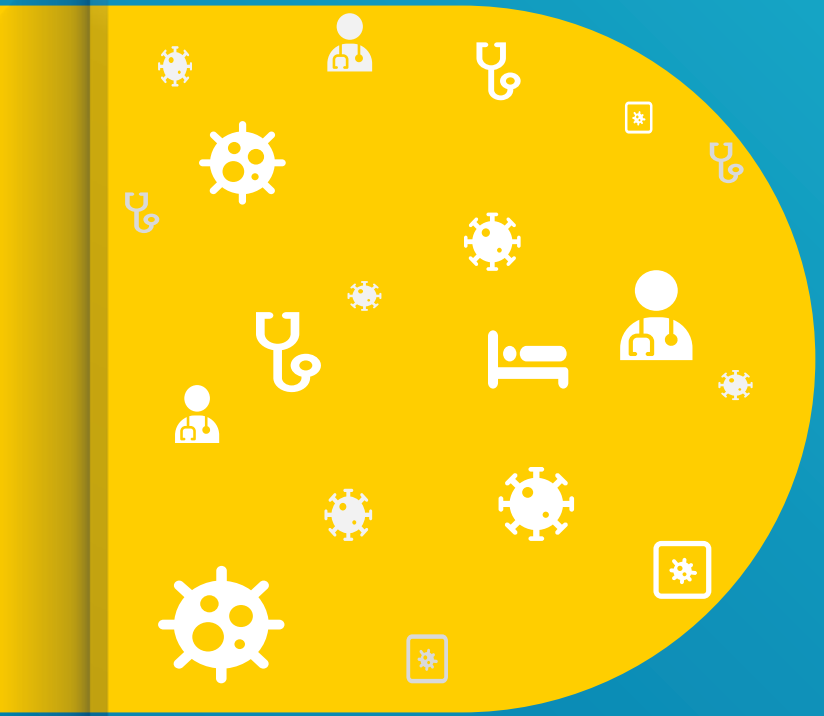
Branch- Computer Science Engineering

Topic- Covid-19 Patient Monitoring System

Under the Esteemed Guidance of
Ms. Afreen Subuhi



Covid-19 Patient Monitoring System

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1 Abstract

Abstract

Social distancing and quarantining are now standard practices which are implemented worldwide since the outbreak of the novel coronavirus disease pandemic in 2019.

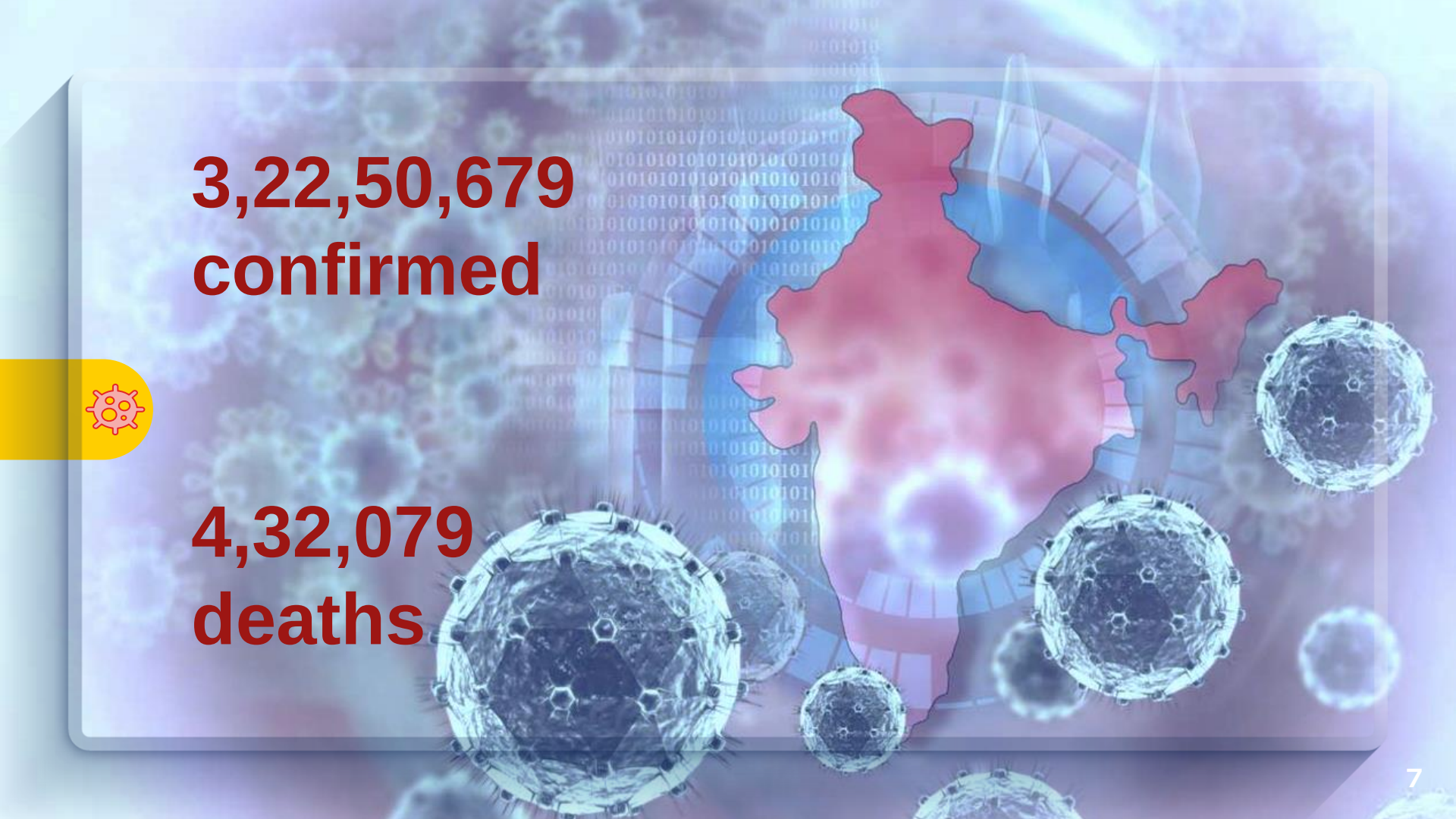
Patients are undergoing treatments from their homes since there is a scarcity in the availability of beds in hospitals.

Due to the full acceptance of the above control practices, frequent hospital contact visits are being discouraged.

There are people whose physiological vital needs still require routine monitoring for improved healthy living.

Remote smart home healthcare support system called “covid-19 patient monitoring system” is proposed for monitoring patients' health status and receiving doctors’ prescriptions while staying at home.

2 Introduction


3,22,50,679
confirmed
4,32,079
deaths

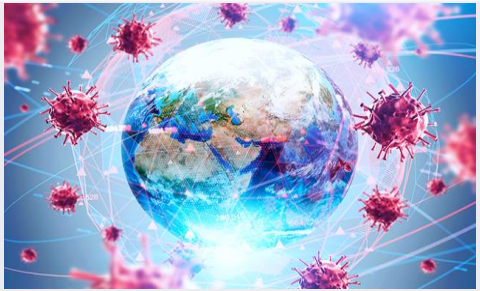
Introduction

In March 2020, WHO announced the spread of the COVID-19 virus as a pandemic, which means that its spread has reached the entire world and the number of infected patients is increasing rapidly.

Many efforts have been done to identify potential COVID-19 patients by tracing contacts which lead to patient isolation and therefore contributes to slow down the spread of the virus.

This proposed application enables user to express their symptoms and issues. Doctor then processes user's issues and symptoms to check for various health issues that could be associated with the symptoms given by the user.

Therefore the implementation of this technology can improve the efficiency of medical staff by reducing their workload significantly.



Motivation

• By using this technology we can reduce the number of emergency department visits, hospitalizations and duration of hospital stays.

• This allows doctor to know about patient and their current activities.

• Admin can manage both doctor portal and patient portal.

Objective

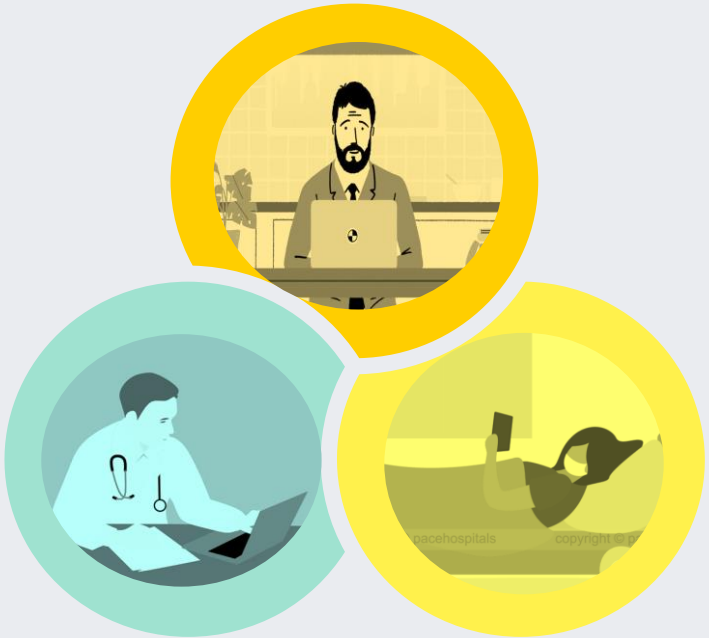
Covid19 Patient Monitoring system is a system-based software. The software will be done using Java, JSP, MySql, Maven, STS, JavaScript, HTML.
The user need not depend on third party software's to download multiple level links etc.

The software is for the automation of hospital management. It maintains three modules of user: -

1. **Administrator Module**

2. **Doctor Module**

3. **Patient Module**



Methodology

Formulating the research questions

Assessing the quality of primary studies

Searching the extant literature

Extracting information

Screening for inclusion

Analysing and synthesising data

Problem Definition

The information is difficult to retrieve and wastage of time.

Lack of immediate retrievals

Lack of immediate information storage

The information takes time and efforts to be stored at right place.

Various changes to information are difficult to make.

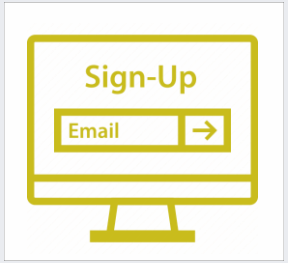
Lack of prompt updating

Preparation of accurate and prompt reports

Information is difficult to collect from various registers.

Project Report Layout

Sign up Page



Login Page

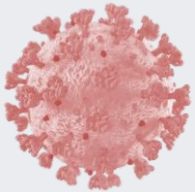
Patient Module

Doctor Module

Administrator Module

Scope

• For many COVID-19 patients, recover from the virus can be a roller coaster. Some complications may arise or reappear after a discharge and it could be difficult for a person to determine if returning to a high-risk public space is necessary.



• Remote Patient Monitoring (RPM) technologies that track and transmit a user's vital signs can provide real-time insights for providers to determine next steps. Wearable tools such as thermometers and pulse oximeters gather data automatically.

• These digitally connected, noninvasive technologies allow clinicians to monitor blood pressure, pulmonary function, temperature and other relevant physiology for changes in disease and symptom progression, the healthcare information.

3 Literature Survey

Existing System

The current manual system has a lot of **paper work.**

To maintain the records of patients and doctors manually, is a **time-consuming** task.

With the **increase** in database, it will be a massive task to maintain the database.

The **retrieval of records** of previously registered patients will be a **tedious task.**

Lack of security for the records, anyone can **disarrange** the records.

All this work is done **manually** so lot of papers are needed to be handled and **taken care of**.

Advantages

1. No extra training required

2. Easy to implement.

3. Can be stored anywhere

4. Requires minimum effort

Disadvantages

1. Needs lots of paper
2. Problem with maintenance
3. Volumes of data becomes problem
4. Once data is burned it cannot be reproduced easily
5. Data handling is problem

Proposed System

The new system is to **control the information** of patients as well as doctors.

It is a **computerized management system**. This system also keeps the records of hardware assets besides software of this organization.

These services are to be provided in an efficient, **cost effective manner**, with the goal of reducing the resources currently required for such tasks.

The proposed system will keep a track of **Doctors, Patients & Receptionist**.

The complete set of **rules & procedures** related to day activities and generating report is called “Smart health consulting System”.

This project has html, bootstrap, java script-based software that will help in storing, updating and retrieving the information through various **user-friendly menu-driven modules.**

Goals of Proposed System

i. The system should be easy to operate.

ii. The working in the organization will be well planned and organized.

iii. The level of accuracy in the proposed system will be higher.

iv. The reliability of the proposed system will be high due to proper storage of information.

v. Provide quick and efficient retrieval of information.

Advantages

1. Low maintenance cost.

2. Volume of data is not an issue.

3. Data can be converted easily to information.

4. Data cannot be corrupted easily with proper backup.

5. It can be expanded as well as data communication is possible.

Disadvantages

1. High starting cost requires.

2. Additional manpower is necessary.

3.Data communication system will have an additional cost.

4 System Analysis

Software Requirements

Front End : Java, SQL, JSP, HTML, bootstrap, Sts, Css

Operating System : WINDOWS XP

Database : Sql Server 2005

Core Platform : Java 8

Presentation Layer : HTML 5, JSP, BootStrap, JSTL, CS3, jQuery

Database : MySQL 5+

Front End Behaviour : Browser Based Application (w) Responsive Behaviour

Servlet Container : Tomcat 8.5.56 +

Compatible Browsers : Chrome, Mozilla FF, IE Edge (latest)

IDE : Eclipse STS 4

Hardware Requirements

Minimum Hardware Required:

Processor –Intel® Atom™ Processor N2600 (1M Cache, 1.6 GHz) o

RAM - 2.0GB

HDD -1 GB (For installing)

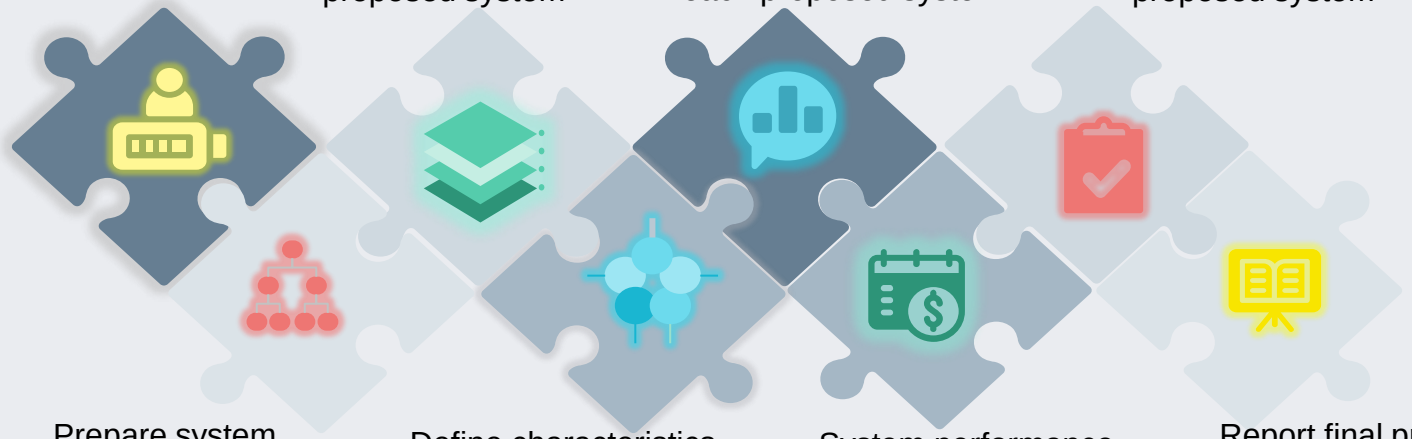
Feasibility Study

Form a project team and appoint a leader

Enumerate potential proposed system

Evaluate performance of each proposed system

Select the best-proposed system



Prepare system flowcharts

Define characteristics of proposed system

System performance and cost data

Report final project to management

Technical Study

1) Can the work for the project be done with current equipment existing software technology & available personal?

2) Can the system be upgraded if developed?

3) If new technology is needed then what can be developed?

4) This is concerned with specifying equipment and software that will successfully satisfy the user requirement.

Front-end Selection

- Flexibility
- Platform independent
- Scalability and extensibility
- Easy to debug and maintain
- Event driven programming facility
- According to the organization requirement

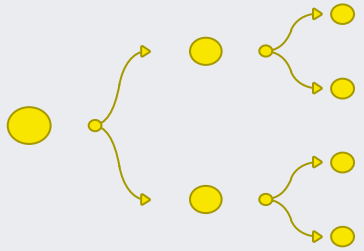
Back-end Selection

- Popularity
- Stored procedures
- Multiple user support
- Efficient data handling
- Easy to implant with the Front-end
- Efficient data retrieval and maintenance

5 Software Design

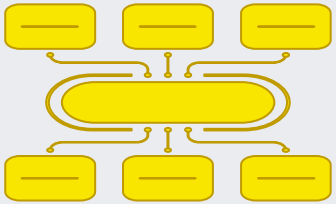
Physical Design

The physical design is a graphical representation of the system showing the system's internal and external entities and flow of data into and out of these entities.

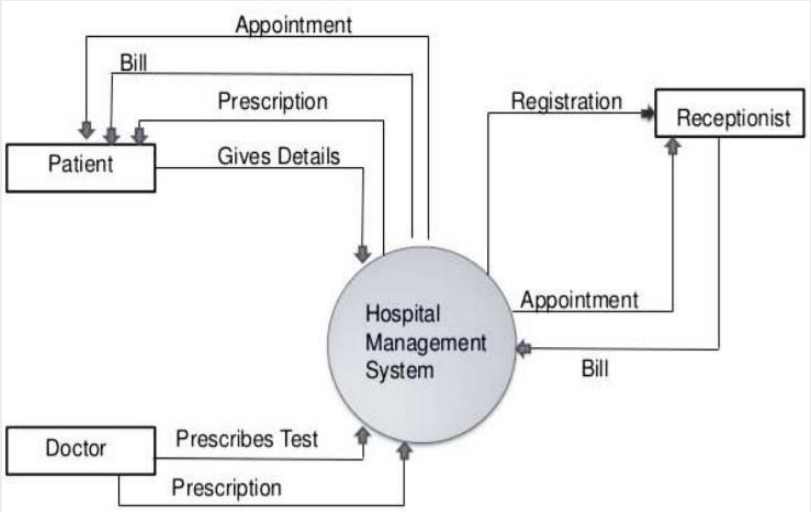


Database Design

It is the process of producing of detail data model of a database.



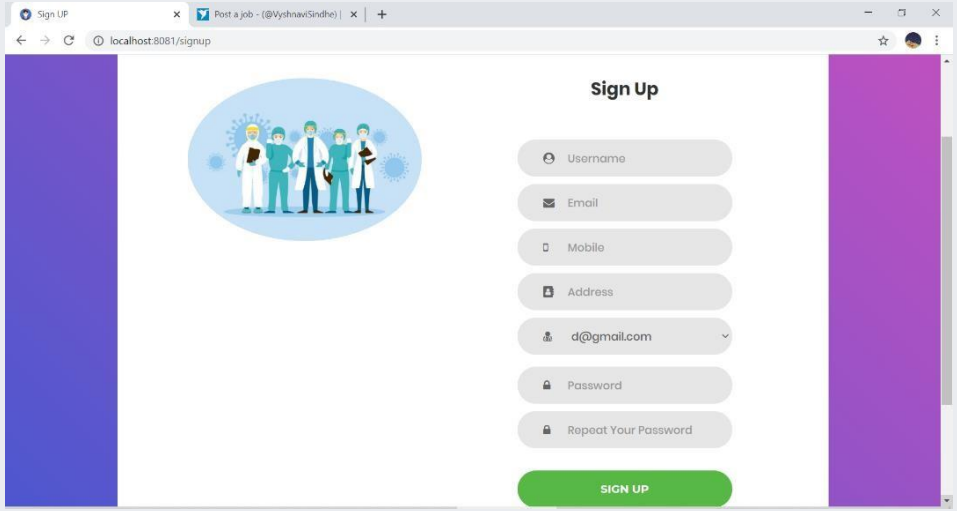
Data Flow Diagram Representation



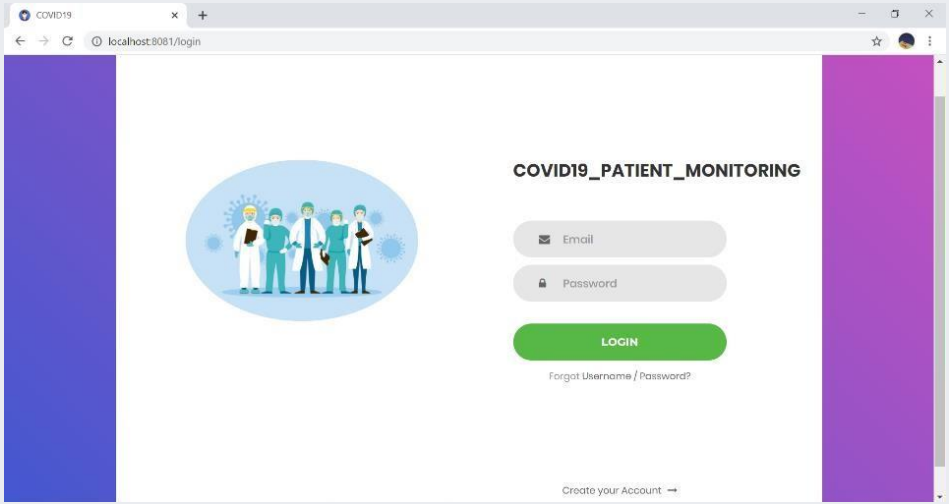
6 Data Collection

Doctor Database

username	password	enabled
a@gmail.com	{noop}1234	1
b@gmail.com	{noop}1234	1
c@gmail.com	{noop}1234	1
d@gmail.com	{noop}1234	1
e@gmail.com	{noop}1234	1
NULL	*NULL*	1


Sign UP
Post a job - (@VyshnaviSindhe) |
localhost:8081/signup
Sign Up
Username
Email
Mobile
Address
d@gmail.com
Password
Repeat Your Password
SIGN UP

Sign up page


COVID19
localhost:8081/login
COVID19_PATIENT_MONITORING
Email
Password
LOGIN
Forgot Username / Password?
Create your Account

Login page

Conclusion

Hence our project, “COVID19 PATIENT MONITORING SYSTEM” browser allows you to open the website from internet and you can get consult with doctor by registration and can get appointment and can express their symptoms and issues.

Doctor can retrieve patient’s history with a single click. and give appointments to patients. Thus, processing information will be faster. It guarantees accurate maintenance of patient details.

This would enable to improve the response time to the demands of patient care because it automates the process of collecting, collating and retrieving patient information.

References

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Thanks!