MEDICROSS

Team Members

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Description

Our medical application, Medicross, is an all-encompassing platform for patients to keep track of their medical information including and not limited to their health statistics as well as consultation and treatment expenses. This platform will allow for transparent interactions between patients and medical practitioners. When it comes to health, it is important to make sure that medical practitioners are able to relay important information such as appointment availability, prescribed medications as well as required treatments in a timely and accurate manner. With this in mind, our application will aid patients in being able to communicate their medical needs but also visualize their health with our applications interactive dashboard. The significance of Medicross as an application is to take a step towards digitizing healthcare and also exalt the quality of the healthcare system by improving the standards of service provided by practitioners.

About the Project

Summary

Our project involves creating an interface that will allow our users, patients, to interact with various medical and personal information related to them. Such an interface will include ways to view, schedule, reschedule, and cancel appointments; view and request a fill up on prescribed prescriptions; view and track personal medical statistics such as BMI, blood pressure, respiratory rate, pulse rate, and body temperature; and finally, view financial information such as charges that are due for various procedures and appointments that have been serviced or need to be serviced as well as insurance information. This will allow patients to be in control of their health, ensuring that they have all the resources and details that can help them improve their health.

Database Utilization

The purpose of our database will be to primarily store medical records in the form of patient’s personal and medical information. There will be multiple tables such as:

- Patient Portal Login Information: patient_id (Primary key, Foreign key), user_id, password
- Patient Personal Information: patient_id (Primary key/Foreign key), first_name, last_name, age, sex, address, phone, ins_provider, ins_holder, group_number, member_id
- Patient Medical History: patient_id (Foreign key), allergies, medical_conditions, medication, notes
- Patient Physical Vitals: patient_id (Foreign key), date, height, weight, calculate_BMI, blood_pressure, pulse_rate, respiratory_rate, body_temperature
- Patient Appointments: patient_id (Foreign key), registration_date, appointment_date (Foreign key), visit_reason, medical_practitioner, medication prescribed, message, notes
- Patient Account Billing: patient_id (Foreign key), appointment_date (Foreign key), charges_due, description

Please note that the tables and attributes that are mentioned above may be subject to change, if required to improve the way information is structured to be stored and viewed.

Usefulness

Our application will be useful as healthcare is a really confusing industry and it can help in making healthcare more transparent for citizens. For example, we can provide information on why certain vaccines or procedures are useful as well as showing the costs associated with it, and we can use our application as a medium to help people schedule appointments to get such things done. We can also portray basic vitals information (blood pressure, height, etc) to patients. This type of application already exists such as with Epic System’s MyChart, but we plan to extend upon this by offering information about certain conditions/diseases through our application by possibly having our application offer links to a medical condition site (such as mayo clinic) about the conditions we have in the database.

Realness

Since medical information and personal information of patients are confidential information as dictated by HIPAA laws, arbitrary data will be generated to simulate common interactions between patients and medical practitioners including and not limited to personal information as well as medical conditions. This will allow us to make sure that we are able to test our user interface as well the utilization of our database. We will try our best to generate a wide variety of arbitrary data to ensure that we are able to authenticate user input and display results as accurately as possible. This will allow us to verify the functionality of the user interface and make sure that our customers have the best experience possible as users such that they are easily able to navigate the application.

Functionality

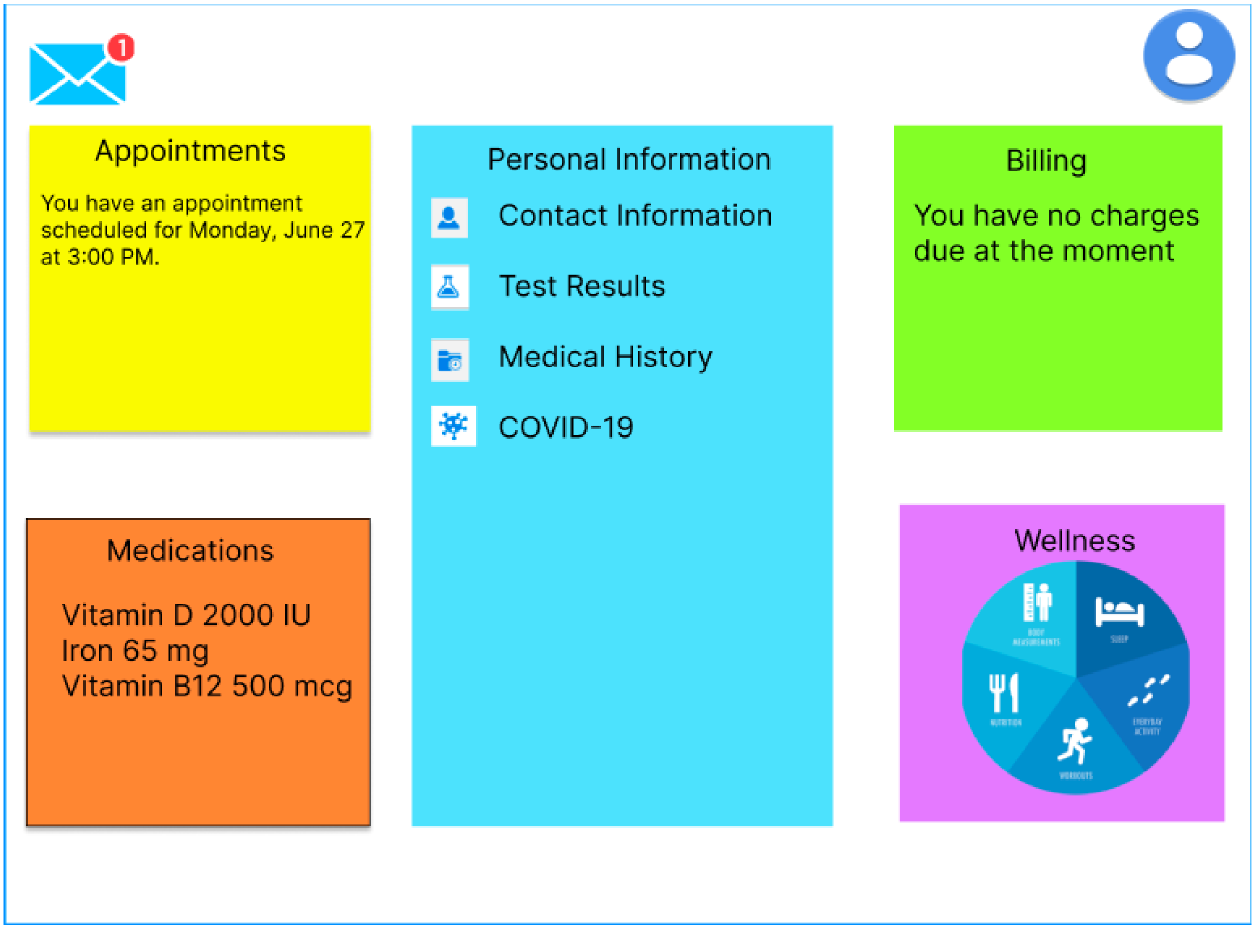
Basic Functionality

- Users can create an account and login
- Users can update personal information and their medical history which can be viewed by their assigned medical practitioner
- Users can schedule/reschedule appointments and view upcoming appointments
- Users can view the charges that are due on their account as well as the charges that would be incurred by various procedures
- Users can view medications prescribed by their doctor as well as additional messages that the doctor may have put in during/after the appointment

Additional Functionality

- Interactive dashboard including visual display of user stats such as last appointment date and health stats
- Users will be able to view their health stats over time such as fluctuations in their blood pressure, respiratory rate, pulse rate, weight, and BMI
- View information about prominent diseases/medical conditions that may be on the rise as well as preventative measures (mayo clinic)

Low Fidelity UI Mockup



Appointments

You have an appointment scheduled for Monday, June 27 at 3:00 PM.

Personal Information

Contact Information

Test Results

Medical History

COVID-19

Billing

You have no charges due at the moment

Medications

Vitamin D 2000 IU
Iron 65 mg
Vitamin B12 500 mcg

Wellness

Work Distribution

We are a team of four individuals, so we have decided to split into a front-end team and a back-end team. After figuring out everyone's interests and backgrounds, we have decided that Divya and Qiuling will handle the front-end, while Parul and Matthew will handle the back-end. However, it is not a strict assignment and we may switch around if desired. The front-end will be responsible for the application's user interface while the back-end will be responsible for storing and accessing the information from the database and sending it to the front-end. Further, work distribution will be decided weekly at team meetings. Each team member must choose at least one task to work on for the week, and there should be an equal distribution of work.