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Khulna University of Engineering and Technology

CSE 3200

System Development Project

Web App on Health Monitoring System by

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Approval

This project report based on CSE 3200 has been submitted for examination with the approval of our supervisor .

Signature
Al-Mahmud
Supervisor

Acknowledgement

We are thankful to our supervisor sir who helped and guided us to complete project successfully .We are thankfull to Jakaria Rabbi sir who guided and inspired us , also thankful to our some of the classmates and family.

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Chapter 1

Introduction

1.1   Background

In this time, people are being affected with different diseases and health problems. Though it is time of globalization, a huge number of people cann't take medical and health treatment reason of poor transportation systems. As our CSE 3200 : System Development Project, it has been decided to implement a health monitoring system which will be used broadly in future. It will make the communication easy between patient and doctor.

1.2   Problem Statement

Our problem is to implement a simple web application on health monitoring system in order to assurance doctor-patient interaction.

1.3   Main Purpose of the Project

Main motives of our projects are :

1.Assuring health monitoring for every people.
2.To make interaction between doctors patients.
3.Immediately health suggestions and medication.

Chapter 2

Theory on Web Application

2.1   Description on Web Application

A web application (or web app) is application software that runs on a web server, unlike computer-based software programs that are run locally on the operating system (OS) of the device. Web applications are accessed by the user through a web browser with an active network connection.

2.2   How a web application works?

Web applications are usually coded in browser-supported language such as JavaScript and HTML as these languages rely on the browser to render the program executable. Some of the applications are dynamic, requiring server-side processing. Others are completely static with no processing required at the server.

The web application requires a web server to manage requests from the client, an application server to perform the tasks requested, and, sometimes, a database to store the information. Application server technology ranges from ASP.NET, ASP and ColdFusion, to PHP and JSP.

2.3   Characteristics Of Web Application:

1.Cloud-hosted and highly scalable
2.Mostly Cross-platform
3.Modular and loosely coupled
4.It is easily tested with automated tests.

2.4　Difference between Website and Web Application:

1.A web application is designed for interaction with the end user A website mostly consists of static content. It is publicly accessible to all the visitors.

2.In a web application, the user not only read the page content but also manipulate the restricted data. A website provides visual text content which user can view and read, but not affect it 's functioning.

3.The site of app must be precompiled before deployment .The website doesn't need to be pre-compiled

4.Web application functions are quite higher and complex compared to a website. The website displays the collected data and information on a specific page.

Chapter 3

Project Description

The project is a webapp and it is health monitoring system. Design pattern, various software and different discussion on the project are given below.

3.1　Features

Main Features of the web application on health monitoring system are :

1.Sign In and Sign Up
2.Sign Out
3.Doctors Patients list
4.Recording of daily activities
5.Chatting
6.Important Links

A doctor or a patient can sign up and sign in easily through sign up and sign in option.

Doctors can see the list of patients and patients can see the list of doctors.

Daily activities like heart bit rate, sugar rate, temperature etc can be recorded and a graph will be generated.

Using the chatting option doctors can chat with the patients easily.

Link of Corona virus updating, WHO, KUET Medical Center and some others were added also.

3.2   Tools and Software

Software, which was used to implement the Web App -

Visual Studio Code
NodeJS
XAMPP
Browser

Languages, which were used -

React JS
HTML
CSS
PHP
SQL
JSON

Briefly,
Visual Studio Code is a streamlined code editor with support for development operations like debugging, task running, and version control and more features. It was used as IDE in the project.

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser.

XAMPP is an abbreviation for cross-platform, Apache, MySQL, PHP and Perl, and it allows you to build WordPress site offline, on a local web server

on your computer. In the project it was used for upload the project in local server.

Browser was used to show the output of the project (ie, website).

React is the most popular front-end JavaScript library in the field of web development.

HTML and CSS were used in order to design and decorate the webpages.

JavaScript Object Notation (JSON) is a standard text-based format for representing structured data based on JavaScript object syntax.

PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.

SQL is used to communicate with a database. According to ANSI (American National Standards Institute), it is the standard language for relational database management systems.

React JS, HTML, CSS were used for Front-end designing. PHP was used for Back-end designing. For database management, SQL was used.

3.3   Methodology

Main part of the the web application are Home page, Daily activities page , Chatting, Database management etc.
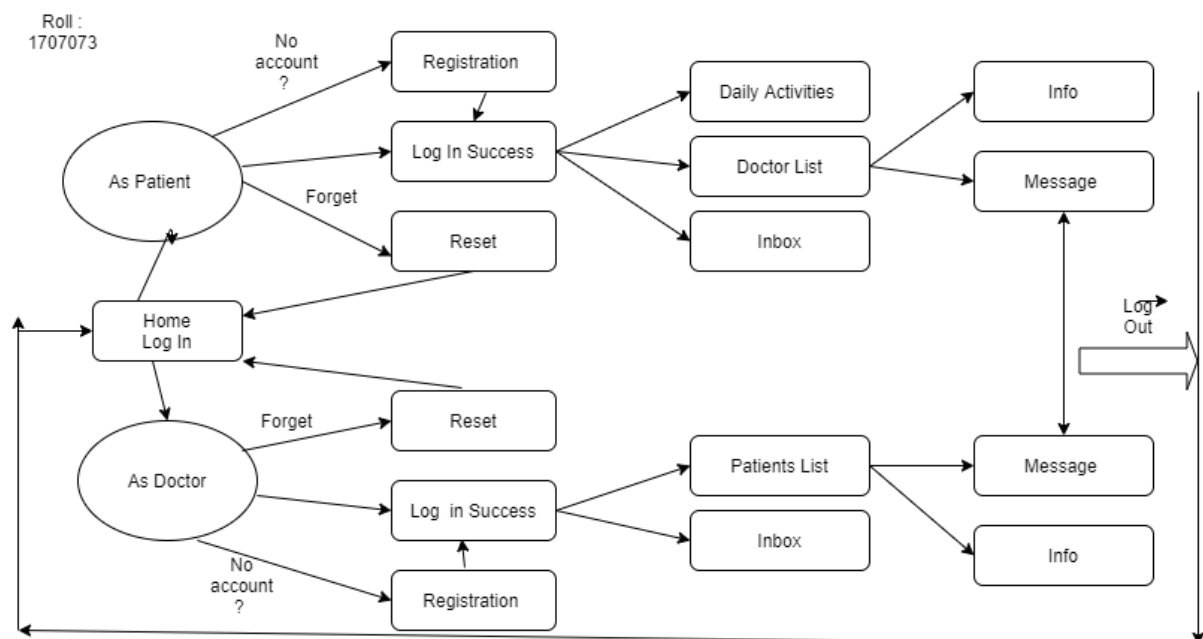

Fig 1– Simple view of the Web App

In the application, React JS was used for working with front end. PHP was used as back-end language SQL was used for the database. The local host of Windows PC was used as the server. JSON, HTML, CSS and others were used also.

Log-in and Registration: This part is completed using the language mentioned above. If any user creates an account, data will be saved in the database. Next, if he tries to log in and the entered data is matched with saved data, he will get access to the next step and account.

List: A list for both Doctors and patients is created. If any user gets logged in, he will be shown in the list. Using JSON searching option is also included.

Individual Data: All user information will be saved in the database and show the output according to the react codes.

Messaging: Chatting option was implemented also using rendering. The messaging data will be saved into the database.

Data Analysis: Data analysis is also implemented using the mentioned language.
After all various features were used to implement the Project.

3.4 Result and How to use

How to use the Web App?

a)By uploading this in a web server.
b)It can be used also using local host.

Firstly user should connect the database and it is detailed on the application folder.
1.After connecting with database, user will open the command prompt in the directory of the project folder.
2.Using npm install command , the app will be installed.
3.If npm start command is given, the website will be open in the default browser.
4.In hompage log in option, some important links are available.
5.If anybody don't have account, he can open a account using register option.
6.Doctor will be signed as doctor and patient will be signed as patient .

A sample of output has given below and screenshots also added sequentiality.

1.Log in page
2.Registration page
3.Opening account as a doctor
4.Opening account as a patient
5.For doctor, patients list and inbox are available.
6.For patients dashboard, reading, inbox and doctors list are available.
7.Chatting between doctor and patient.

Fig 2 -Login page

Fig 3- Registration page

Fig 4- Opening account as a doctor
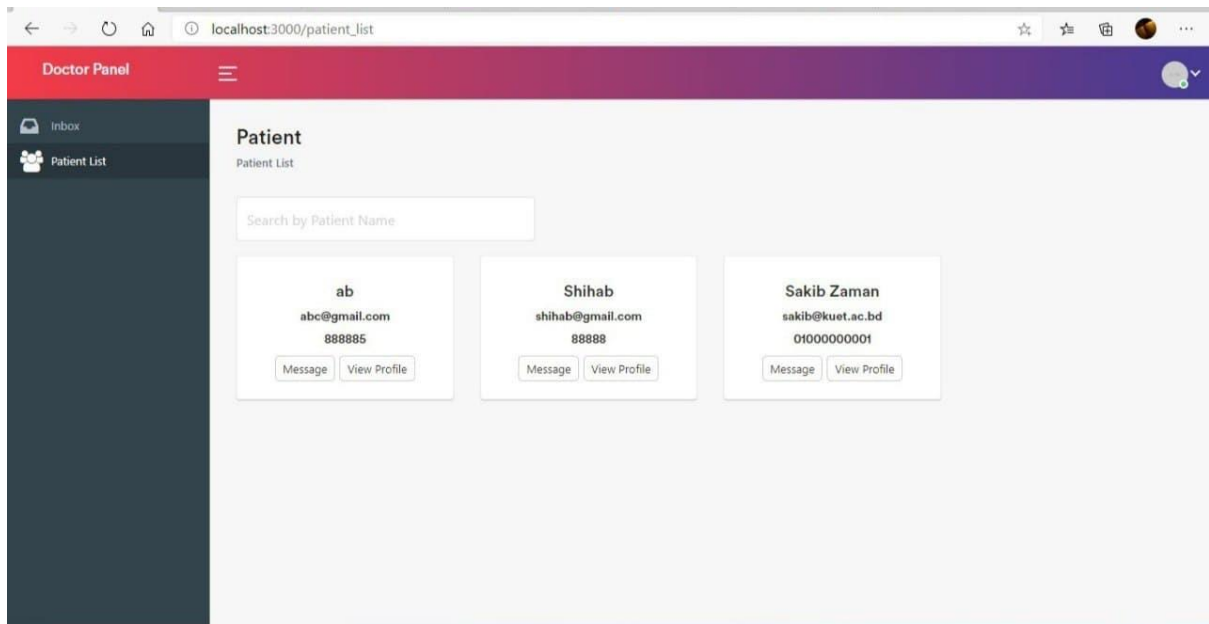

Fig 5- Opening account as a patient

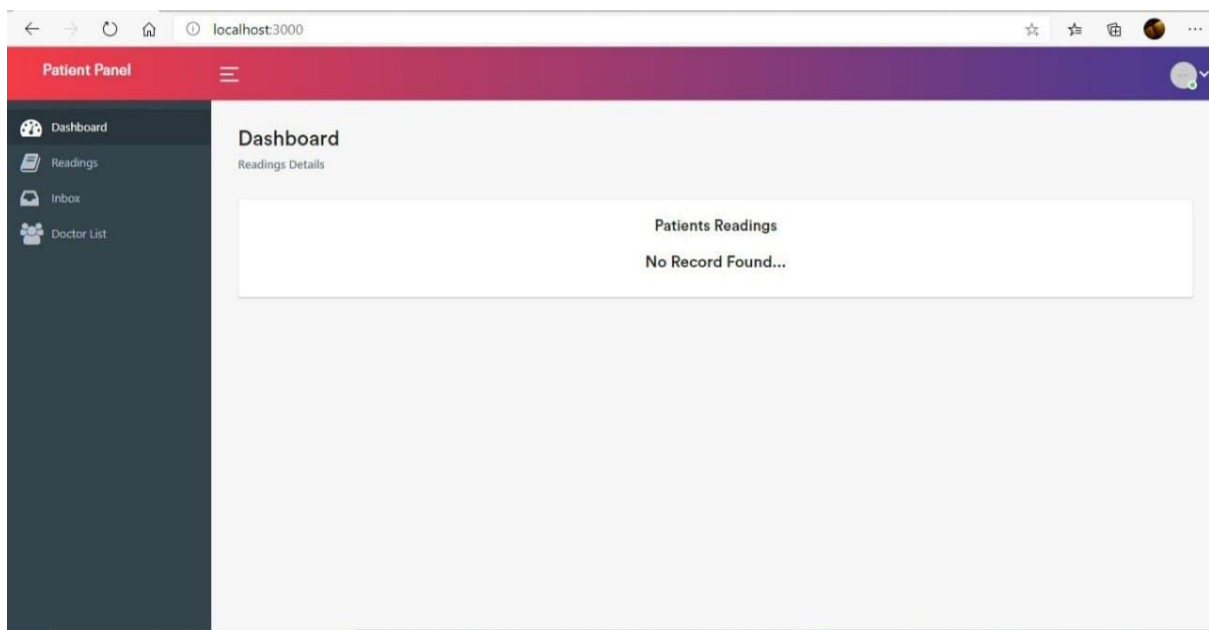Fig 6- For doctor, patient list and inbox are available.

Fig 7- For patient's dashboard, reading, inbox and doctors list are available
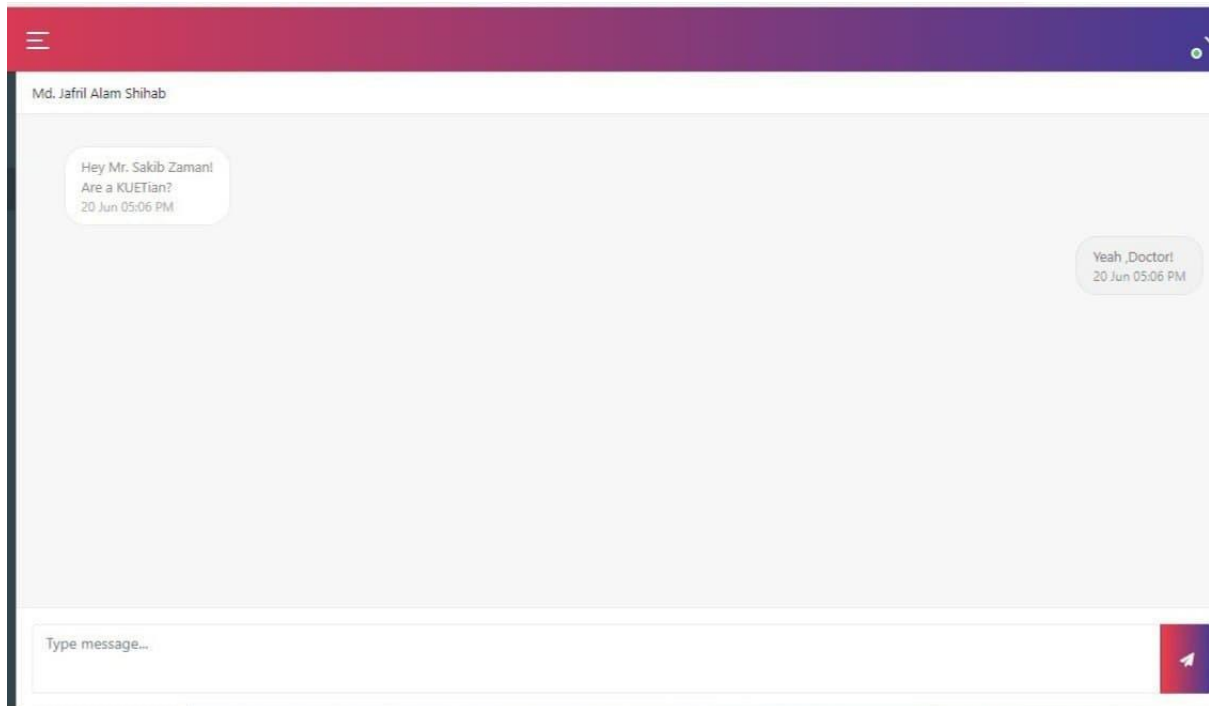
Fig 8-Chatting between doctor and patient

Chapter 4

Conclusion

In a summary , the project based on a web application which was implemented using React JS , PHP ,SQL and others.Log IN system ,Chatting system and various reading system were implemented.

After completing the project, it was understood that, some features and options need to be added in order to get more benifits.

Following features will be added in future :

1.Calling System
2.Hospital Management System
3.Online Payment System
4.Security Improvement
5.Public Domain & Server

By using a calling system patients will communicate with doctors easily and so on. A hospital management system will be added so that a huge number of doctors can join this community and provide service. Online payment systems such as Bkash, Dutch Bangla, and Paypal will be added so that capable patients can donate and provide some fees for doctors.

We hope that all of the features will bring benefits for all users.

References

To implement the project various books & websites were used. Some of the references are -

- React Native Notes for Professionals

- Introduction to REACT by Cory Gackenheimer

- https://www.w3schools.com/

- https://www.tutorialspoint.com/

- https://github.com/ • https://www.youtube.com/

- And others.