A
Project Report
On
"Chat-Application"

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CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

CERTIFICATE

This is to certify that the report entitled "**Chat-App**" is a bonafied work carried out by **Ajmera Bhavya (19DCS003), Ashray Desai (19DCS026), Priyanshu Maurya (19DCS060)** under the guidance and supervision of **Assistant Prof.Chandrasekhar Pawar and Prof.Priyal Vaghela** for the subject CE255 (For CSE))-**Software Group Project-II** (CE/CSE/IT) of 4th Semester of Bachelor of Technology in **DEPSTAR** at Faculty of Technology & Engineering – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate himself, has duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred to the examiner.

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DECLARATION BY THE CANDIDATE

I hereby declare that the project report entitled "Chat-App" submitted by us to Devang Patel institute of Advance Technology and research, Changa in partial fulfilment of the requirement for the award of the degree of B.Tech in Computer Engineering, from Devang Patel institute of Advance Technology and reserch, is a record of bonafide CE255 Software Project Major (project work) carried out by me under the guidance of Prof. Chandrasekhar Pawar and Prof Priyal Vaghela. I further declare that the work carried out and documented in this project report has not been submitted anywhere else either in part or in full and it is the original work, for the award of any other degree or diploma in this institute or any other institute or university.

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<u>ABSTRACT</u>

In today's scenario, social media which can be referred to as immersive multimedia or computer simulated life, replicates a Social environment that simulates physical presence in places in the real world or imagined worlds and lets the user interact in that world virtually. Social Media creates virtual experiences, which can include watching, Liking and Commenting of Life of People we Know virtually. We can text People, like peoples post based on their Posting History and also Comment on it. Based on Internet technology, it provides a more interesting and convenient way for people to Connect to others.

By this project, we propose a Web Chat Application Made through Technologies . Here user Can make an account and chat with existing users and Make friends with them and Chat with them. Users can also choose their Profile Pic and Name and Create a Password for Secure Access.

<u>ACKNOWLEDGEMENT</u>

We, the developer of a web-app "Chat-App", with immense pleasure and commitment would like to present the project assignment. The development of this project has given me wide opportunity to think, implement and interact with various aspects of management skills as well as the new emerging technologies. Every work that one completes successfully stands on the constant encouragement, good will and support of the people around.

We hereby avail this opportunity to express my gratitude to number of people who extended their valuable time, full support and cooperation in developing the project.

I express deep sense of gratitude towards our Head of the Department, Dr. Amit Ganatra and project guides Prof. Chanrasekhar Pawar and Prof. Priyal Vaghela for the support during the whole session of study and development. It is because of them, that I was prompted to do hard work, adopting new technologies.

Thanks,
Bhavya Ajmera
Ashray Desai
Priyanshu Maurya

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CHAPTER 1: INTRODUCTION

1.1 PROJECT OVERVIEW

The purpose of the project is to design and implement a Web based Chat-App which intended to connect people with each other in real world environment .User will need to Create Account on the sign up page or login on login page if account is already created to chat with others. The main goal of this project is to connect other peoples.

In this Chat-App users after logging in can chat with Other Users who are online/offline and another user can also reply to the user. We can See the status of people if they are online or not. We can also select our username and insert their images for our profile.

1.2 OBJECTIVE

The purpose of the project is to design a Web Based Chat Application in HTML, Java Script, CSS, PHP, the main goal of this project is to connect other peoples. User will need to Create Account on the sign-up page or login on login page if account is already created to chat with others.

The user Will Be able to Chat with Other users and We are trying to make out User Interface as simple as possible so that any non-native user can use our application with ease.

1.3 SCOPE

- Never-before-explored setting: Our user can Make new Friends on the application and increase his/her circle using our app.

- Problems that can occur:

1. Our application works on localhost so no many other people outside can't use it.

2. Possibility of error in message if it is More than 28 words.
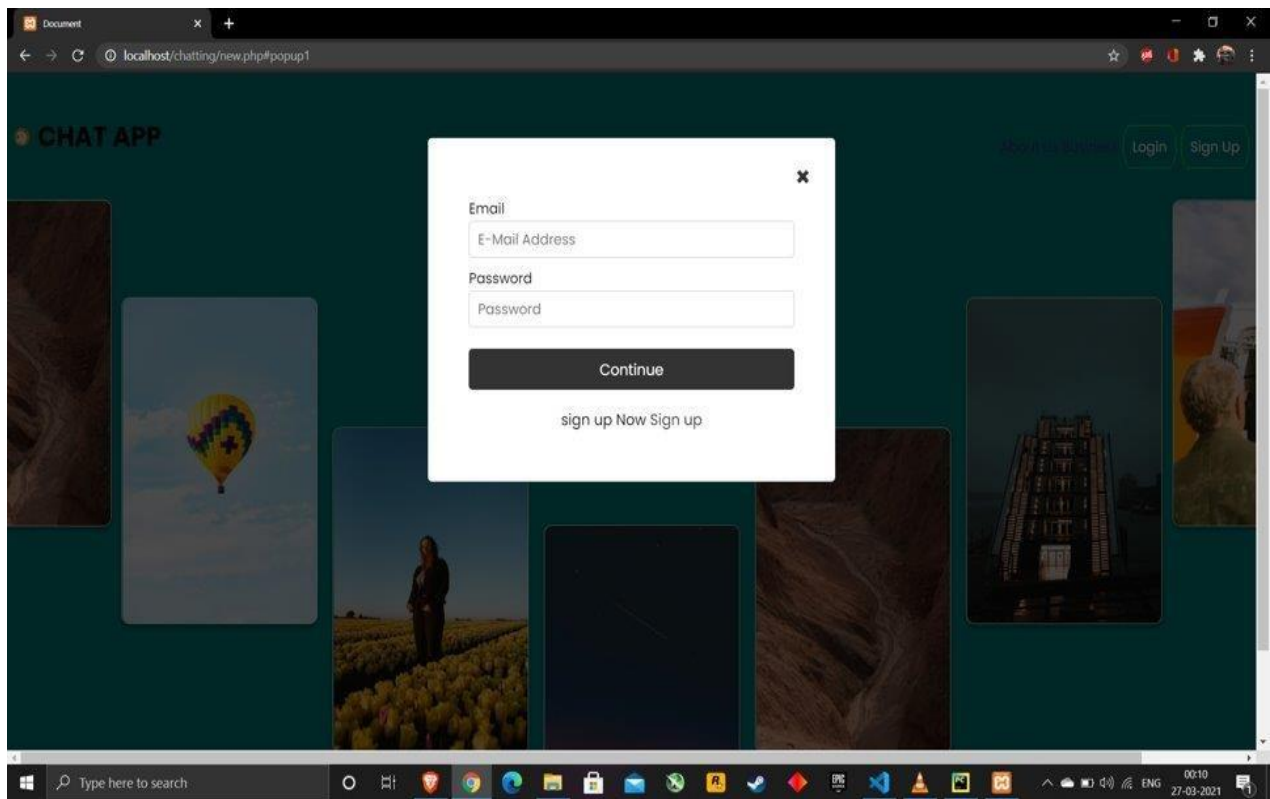

1.4 TOOLS & TECHNOLOGY USED

- HTML5,CSS3

- PHP programming language

- Java Script

- Apache Tomcat Server

- PhpmyAdmin And MySql for Database

- Any Browser for Accessing the Application.

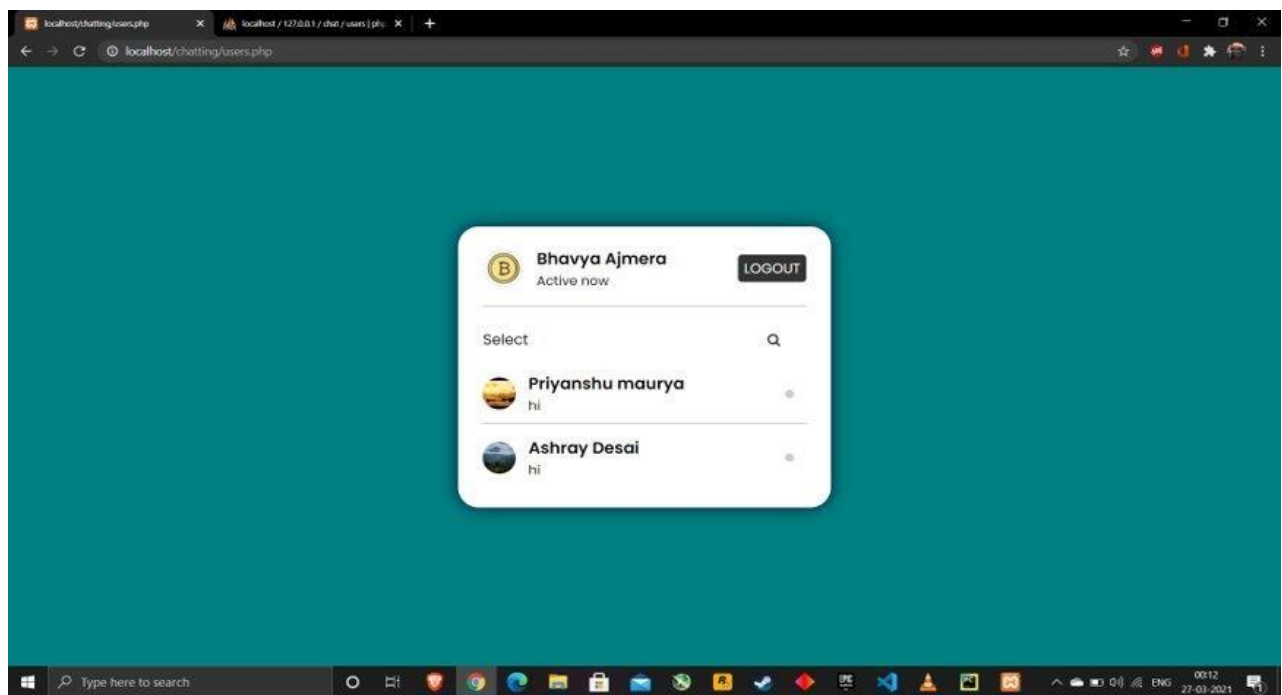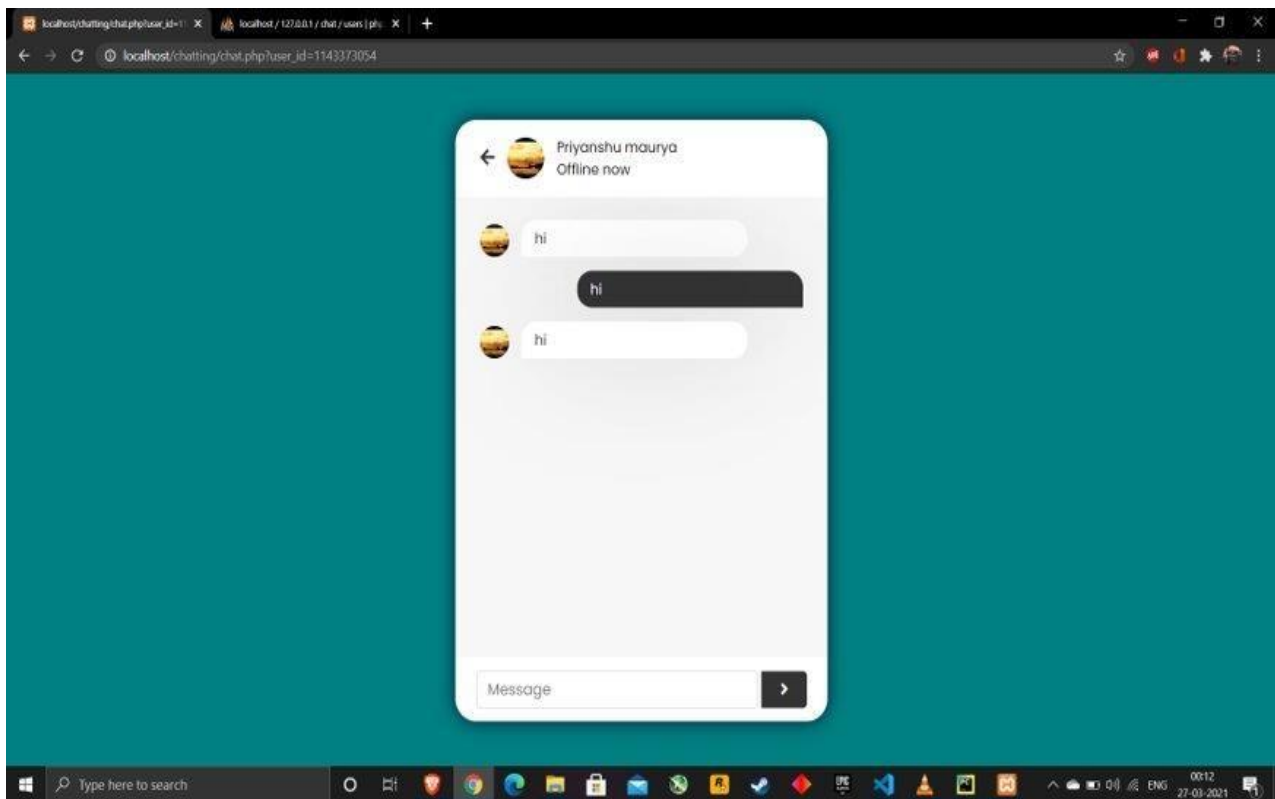# CHAPTER 2 SCREENSHOTS OF PROJECT OUTPUT

2.1 Home Page
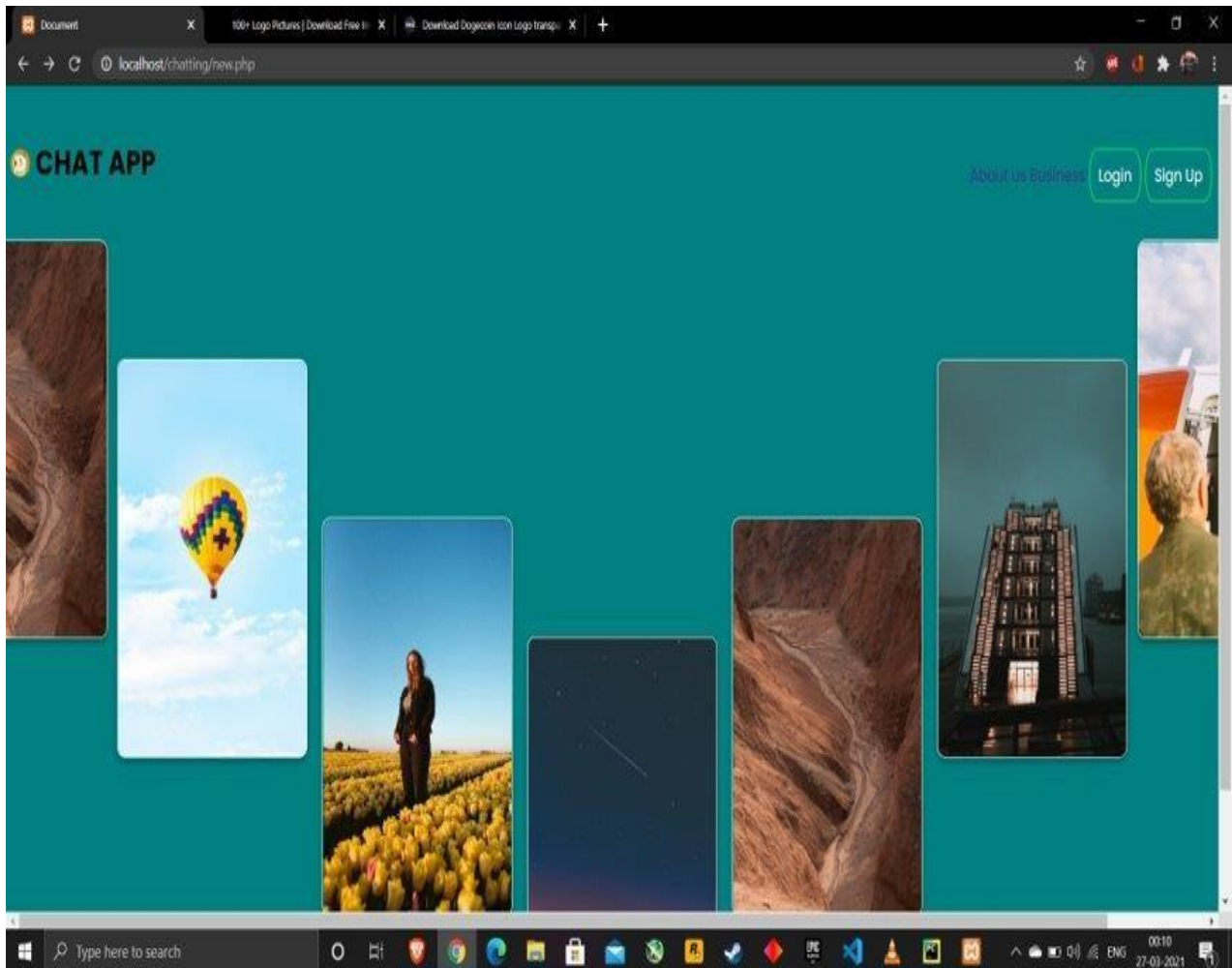
2.2 Login Page

2.3 Signup Page
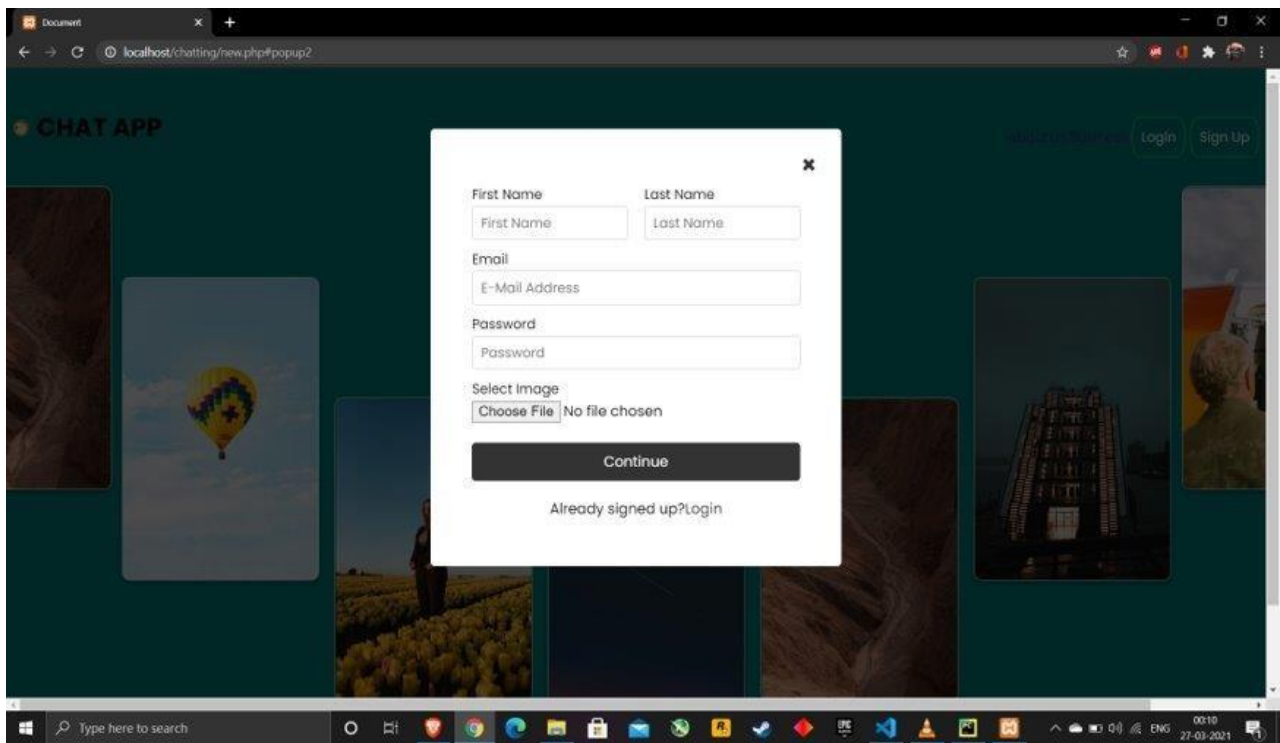
2.4 User List

2.5 Chat Area

CHAPTER 3 SCREENSHOTS OF DATABASES

3.1 User Database

3.2 Massages Database

Server: 127.0.0.1 » Database: chat » Table: messages

Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations | Tracking | Triggers

Showing rows 0 - 24 (32 total, Query took 0.0012 seconds.)

SELECT * FROM `messages`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
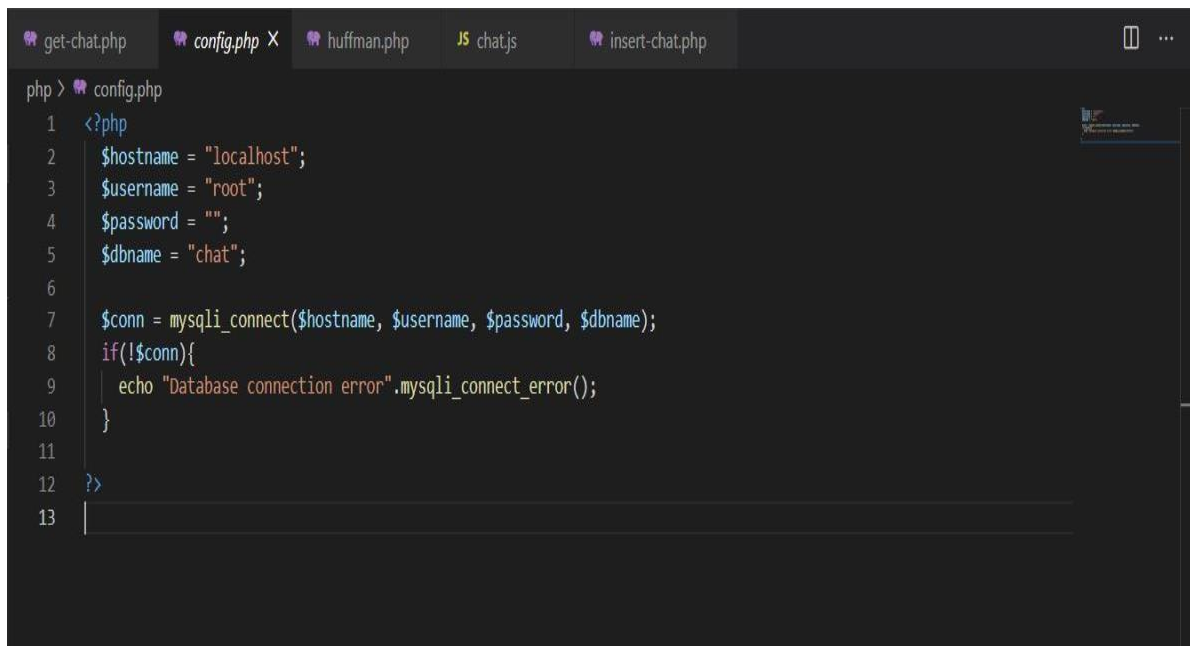
Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

				▼ msg_id	incoming_msg_id	outgoing_msg_id	msg
☐	Edit	Copy	Delete	1	218673098	370684310	hey
☐	Edit	Copy	Delete	2	218673098	370684310	hey
☐	Edit	Copy	Delete	3	218673098	370684310	gg
☐	Edit	Copy	Delete	4	867481409	370684310	hi
☐	Edit	Copy	Delete	5	243271242	370684310	hey
☐	Edit	Copy	Delete	6	370684310	1477857213	Hi
☐	Edit	Copy	Delete	7	1477857213	370684310	hi
☐	Edit	Copy	Delete	8	370684310	1477857213	hi bhavya

3.3 Database connectivity

1. Here we Have connected our DataBase MySQl to the php file in config.php file.

2. The database is connected using `mysqli_connect()` function in php.

3. So now We are connected to the database and we can insert or delete value in our database we just have to call or import the file the File config.php and Insert or Update the database.

```php
<?php
    $hostname = "localhost";
    $username = "root";
    $password = "";
    $dbname = "chat";

    $conn = mysqli_connect($hostname, $username, $password, $dbname);
    if(!$conn){
        echo "Database connection error".mysqli_connect_error();
    }

?>
```

CHAPTER 4 JavaScript

4.1 Refreshing user page

1. Here We Have used JavaScript to send data and Receive data.

2. We Have setInterval as 500 that means the page Refreshes at every 500miliseconds for New data and updates the Webpage every 500 seconds.

3. So Every time when we send a message It gets Updated in the database and every 500milisecond this page try to fetch the data and we get our message in the chat.

4. We have also set the same function for user availability if user is online or not.

```javascript
setInterval(() =>{
    let xhr = new XMLHttpRequest();
    xhr.open("POST", "php/get-chat.php", true);
    xhr.onload = ()=>{
        if(xhr.readyState === XMLHttpRequest.DONE){
            if(xhr.status === 200){
                let data = xhr.response;
                chatBox.innerHTML = data;
                // scrollToBottom()
                if(!chatBox.classList.contains("active")){
                    scrollToBottom();
                }
            }
        }
    }
    // xhr.setRequestHeader("Content-type", "application/x-www-form-urlencoded");
    // xhr.send("incoming_id="+incoming_id);
    let formData = new FormData(form);
    xhr.send(formData);
}, 500);
```

4.2 Scrolling massages

1. Here in our Messaging Section when we Have enabled a

2. So when we Get a new Message the app will auto scroll down to See new message if we don't have our mouse over in chat Area.

3. If we have our mouse over In chat area JavaScript will add a class Named Active so it will not automatically Scroll to The bottom otherwise the class active wil be removed if we pull out mouse of chat area and message will auto scroll down.

```javascript
chatBox.onmouseenter = ()=>{
    chatBox.classList.add("active");
}


chatBox.onmouseleave = ()=>{
    chatBox.classList.remove("active");
}
```

```javascript
function scrollToBottom(){
    chatBox.scrollTop = chatBox.scrollHeight;
}
scrollToBottom()
```

4.3 Online Offline

1. Here we have implemented a functionality to show that the user is Online or offline using php and JavaScript.

```
if(isset($logout_id)){
    $status = "offline now";
    $sql = mysqli_query($conn, "UPDATE users SET status = '{$status}' WHERE unique_id={$_GET['logout_id']}")
    if($sql){
        session_unset();
        session_destroy();
        header("location: ../new.php");
    }
}
```

2. As the user logins in the application the status is set to online and the button turns to green and we see that user is online.

Ashray Desai
hi

3. When user logs out sql is set the status to offline and the button is turned to light grey.

Ashray Desai
hi

4. We have done this using PHP and JavaScript and basically we check the sql if the status is active so we turn button to green and the status is offline then we turn button to light grey.
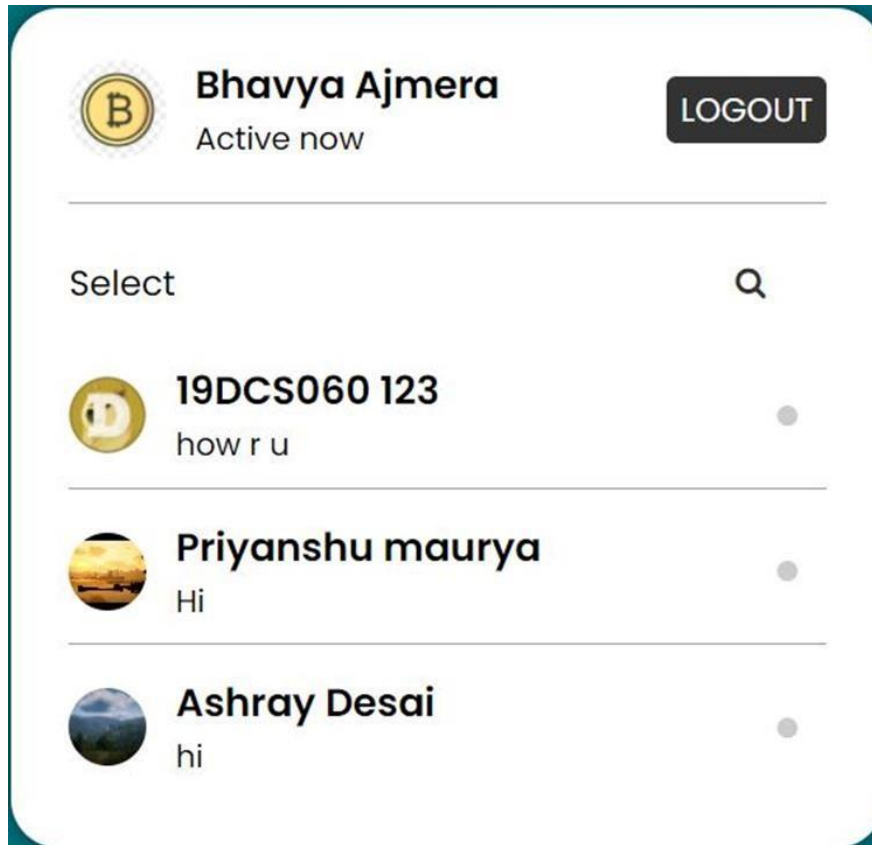
4.4 Search for friends

1. In this application we have added functionality to search for the user using Php and JavaScript.

2. When we click the search icon it turns into a search bar and we can now Search for the user we want to chat with.

3. It will return us the user name if we get it right or it will return us that it was not able to find any User of that name if we search for Unknown Name.
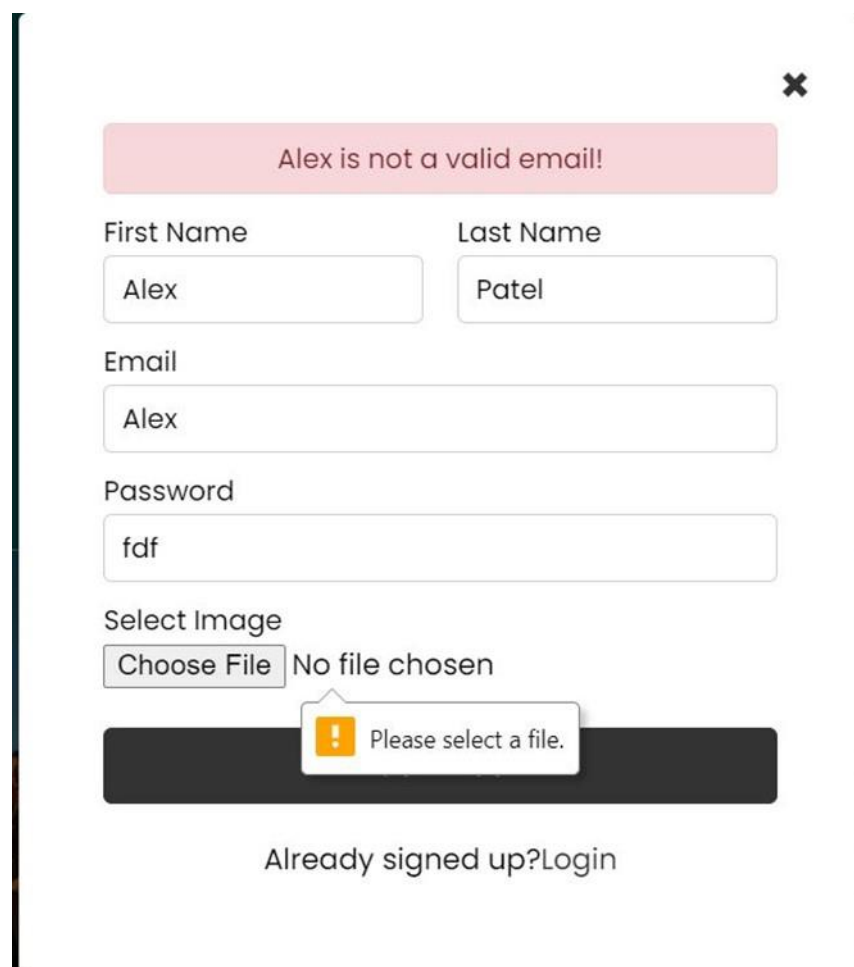
```php
<?php
    session_start();
    include_once "config.php";


    $outgoing_id = $_SESSION['unique_id'];
    $searchTerm = mysqli_real_escape_string($conn, $_POST['searchTerm']);


    $sql = "SELECT * FROM users WHERE NOT unique_id = {$outgoing_id} AND (fname LIKE '%{$searchTerm}%' OR lname LIKE
    $output = "";
    $query = mysqli_query($conn, $sql);
    if(mysqli_num_rows($query) > 0){
        include_once "data.php";
    }else{
        $output .= 'No user found related to your search term';
    }
    echo $output;
?>
```

4.5 Email verification

1. Here in this project we have added the functionality to validate the email.

2. When we enter a wrong email during Signup which is not a valid email formet it will Show us an error that 'This email is not in valid formet' and we will have to change it in the valid formet.

3. If the email is in correct valid format then it will take us to the User page after succesfull signup.

4.6 Database Encryption

- In today's world we have a lot of problem with hackers so we have added encryption algorithm for the message database.

Caesar Cipher encryption

- To pass an encrypted message from one person to another, it is first necessary that both parties have the 'key' for the cipher, so that the sender may encrypt it and the receiver may decrypt it.
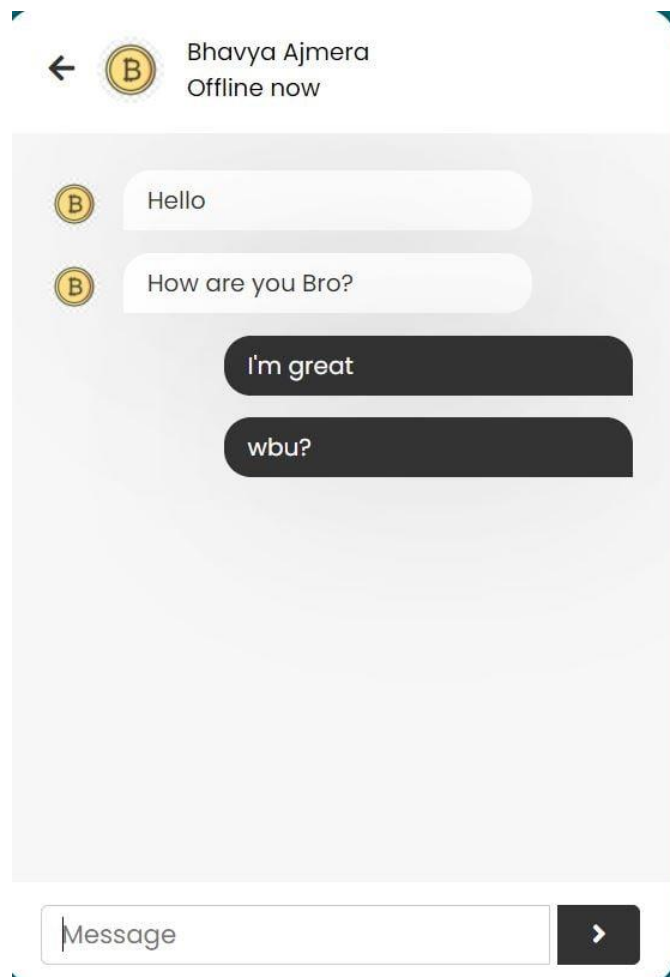
Original massage

- For the caesar cipher, the key is the number of characters to shift the cipher alphabet.

▼ msg_id	incoming_msg_id	outgoing_msg_id	msg
35	1143373054	1477857213	Khoor
36	370684310	1477857213	Khoor
37	370684310	1477857213	Krz duh brx Eur?
38	1477857213	370684310	L'p juhdw
39	1477857213	370684310	zex?

Encryption of massage in database

- We have write another function decrypt similar to encrypt, that'll apply the given shift in the opposite direction to decrypt the original text.
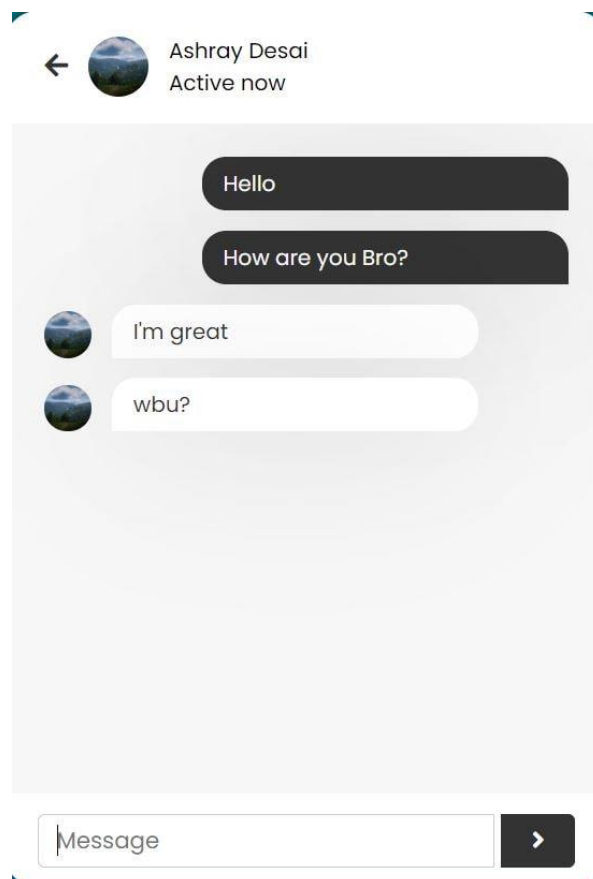
Decryption of massage

CHAPTER 5 FUTURE ENHHANCEMENTS

1. Our Application Can Be hosted on Server so more user can access the application.

2. Use of Google API to directly login/signup through Gmail Account.

3. Focus more on Security of the application.

4. Making Website Responsive For different size of Devices.

CHAPTER 6 CONCLUSION

o In this Project A Web Chat Application has been made using different web technologies.According to us the developers of this project .The project is completed with primary functionalities as specified in the project definition.

o We have worked on this project for last few weeks and we learned different things from aligning an item to centre to inserting a value in the database.we encountered many problems along the way and solved most of them and we plan to add more functionalities in this project in near future

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