Project 2: Chat Application Development

Abstract

This project involves the creation of a simple chat application using HTML, CSS, JavaScript, jQuery, and Bootstrap. The application provides a user-friendly interface where users can send and receive messages. The chat system is implemented to simulate interaction with a bot that responds with predefined messages. This report outlines the objectives, introduction, methodology, code, and conclusion of the project.

Objective

The primary objective of this project is to develop a basic, interactive chat application using front-end technologies. The focus is on creating a responsive and visually appealing user interface that allows users to input messages and receive automated responses from a bot.

Introduction

Chat applications are essential tools in modern communication, enabling real-time text interaction between users. This project aims to provide a foundational understanding of developing such applications by leveraging common web development technologies. The application will simulate a chat with a bot to demonstrate the interaction mechanism.

Methodology

Design: The application layout was designed using Bootstrap to ensure responsiveness and an intuitive interface. The chat box and input area were organized within a card component to maintain a clean look.

Implementation:

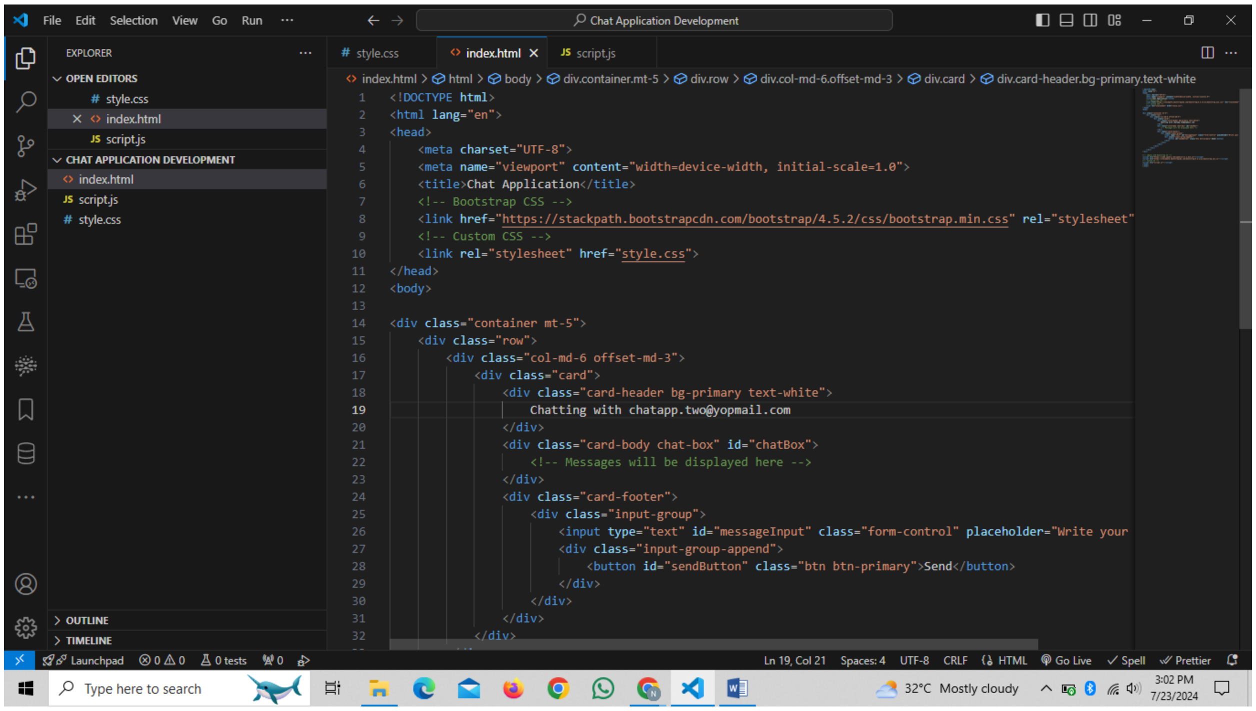
HTML: Used to structure the web page, defining the chat box, message input area, and send button.

CSS: Custom styles were added to differentiate user and bot messages and to manage the chat box's appearance.

JavaScript/jQuery: Used to handle user interactions, such as sending messages and simulating bot responses.

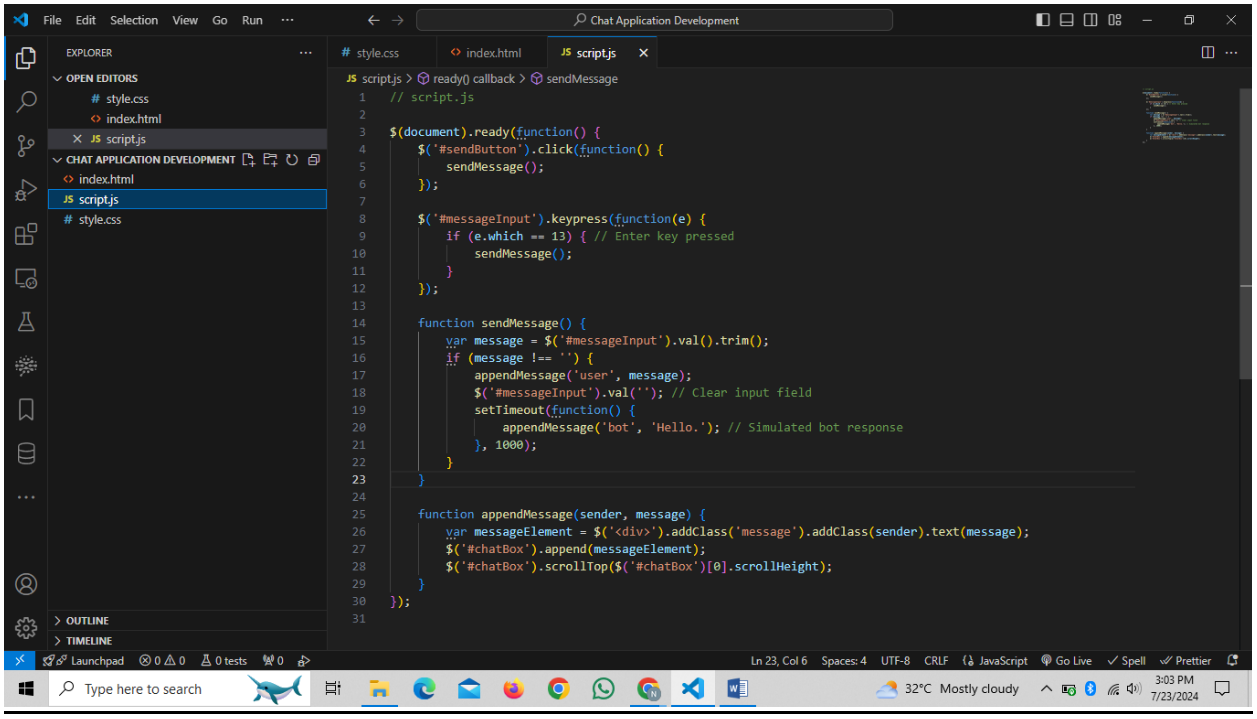
Testing: The application was tested for user interaction to ensure the send button and Enter key trigger message sending. Simulated bot responses were checked for timing and display.

Index.html



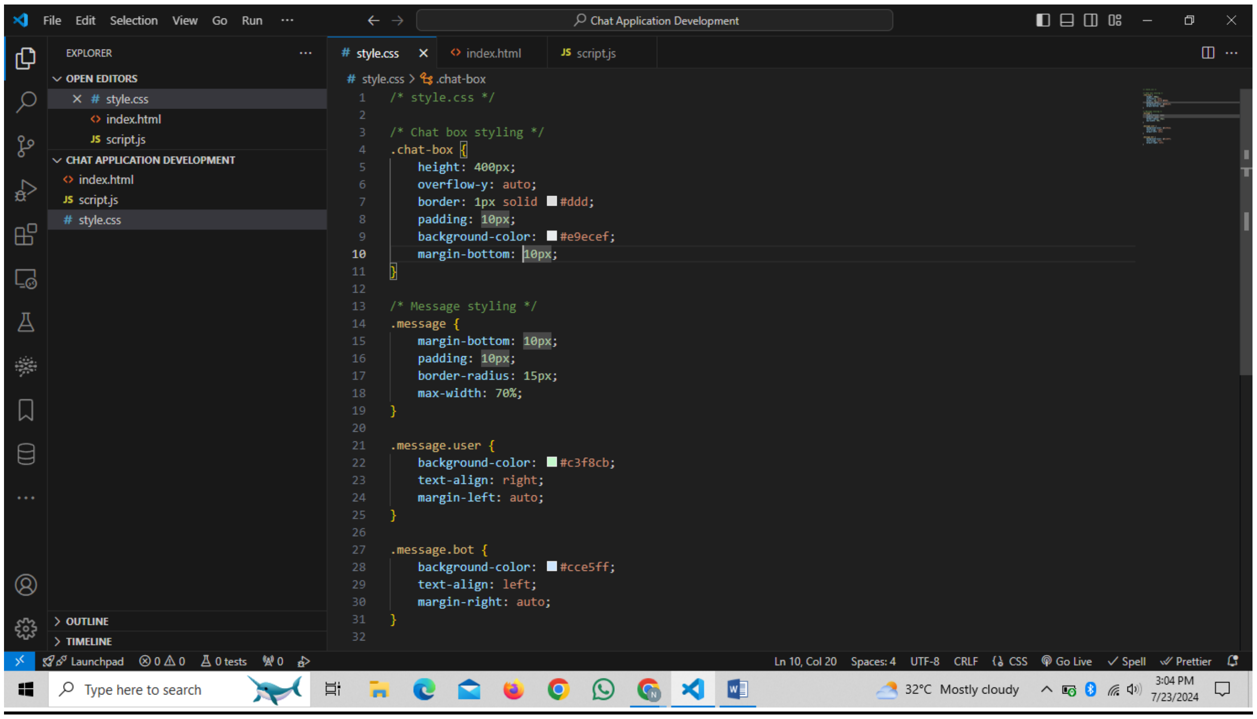
```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Chat Application</title>
    <!-- Bootstrap CSS -->
    <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet"
    <!-- Custom CSS -->
    <link rel="stylesheet" href="style.css">
</head>
<body>

<div class="container mt-5">
    <div class="row">
        <div class="col-md-6 offset-md-3">
            <div class="card">
                <div class="card-header bg-primary text-white">
                    Chatting with chatapp.two@yopmail.com
                </div>
                <div class="card-body chat-box" id="chatBox">
                    <!-- Messages will be displayed here -->
                </div>
                <div class="card-footer">
                    <div class="input-group">
                        <input type="text" id="messageInput" class="form-control" placeholder="Write your
                        <div class="input-group-append">
                            <button id="sendButton" class="btn btn-primary">Send</button>
                        </div>
                    </div>
                </div>
            </div>
```

Script.js



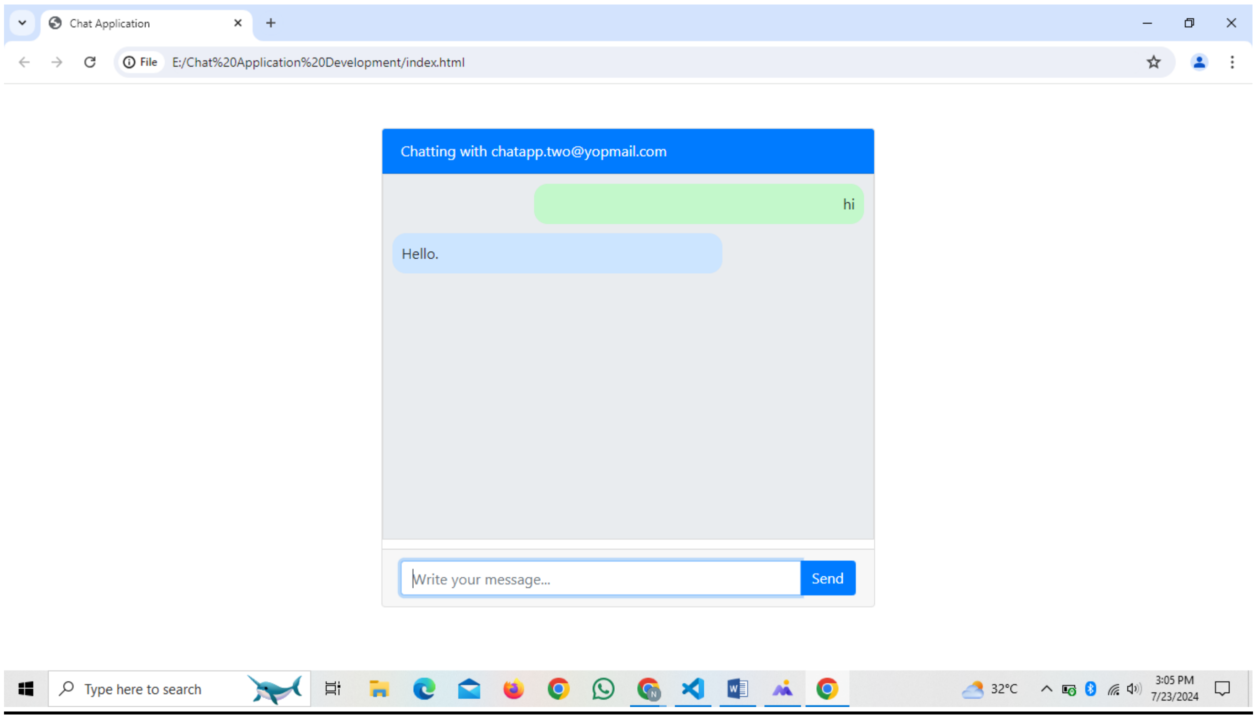
```javascript
// script.js

$(document).ready(function() {
    $('#sendButton').click(function() {
        sendMessage();
    });

    $('#messageInput').keypress(function(e) {
        if (e.which == 13) { // Enter key pressed
            sendMessage();
        }
    });

    function sendMessage() {
        var message = $('#messageInput').val().trim();
        if (message !== '') {
            appendMessage('user', message);
            $('#messageInput').val(''); // Clear input field
            setTimeout(function() {
                appendMessage('bot', 'Hello.'); // Simulated bot response
            }, 1000);
        }
    }

    function appendMessage(sender, message) {
        var messageElement = $('<div>').addClass('message').addClass(sender).text(message);
        $('#chatBox').append(messageElement);
        $('#chatBox').scrollTop($('#chatBox')[0].scrollHeight);
    }
});
```

Style.css



```css
/* style.css */

/* Chat box styling */
.chat-box {
    height: 400px;
    overflow-y: auto;
    border: 1px solid #ddd;
    padding: 10px;
    background-color: #e9ecef;
    margin-bottom: 10px;
}

/* Message styling */
.message {
    margin-bottom: 10px;
    padding: 10px;
    border-radius: 15px;
    max-width: 70%;
}

.message.user {
    background-color: #c3f8cb;
    text-align: right;
    margin-left: auto;
}

.message.bot {
    background-color: #cce5ff;
    text-align: left;
    margin-right: auto;
}
```

Output:



Chatting with chatapp.two@yopmail.com

hi

Hello.

Conclusion

This project successfully demonstrates the development of a basic chat application using HTML, CSS, JavaScript, jQuery, and Bootstrap. It provides a foundational understanding of building user interfaces and handling user interactions. The simulated bot interaction shows how automated responses can be integrated into chat applications. This project can be further developed by adding real-time messaging capabilities, user authentication, and message storage for a more robust solution.