**BSSE SEMESTER PROJECT**

**Computer Science Department**

**2024**

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**Product Name: Weather App**

**Group member:**

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### Developed Using:

* Frontend Technologies: HTML, CSS, JavaScript
* Backend Technology: JavaScript (Node.js)

### Introduction

The Weather Application is designed to provide users with real-time weather information. It offers various features, including location-based weather updates, the ability to search for weather in specific locations, manage favorite locations, and set reminders for weather alerts. This project aims to deliver an intuitive and user-friendly experience for accessing weather data.

### Features

* **Access Location -** The app uses geolocation to fetch the user’s current location and display weather updates for that location.
* **Search Location -** Users can search for weather data by entering the name of any city or region.
* **Add to Favorites -** Users can mark locations as favorites to quickly access their weather details later.
* **Remove from Favorites -** Users can remove locations from their list of favorites as needed.
* **Reminder** - The app allows users to set reminders for specific weather conditions, such as rain alerts or temperature thresholds.

### System Architecture

**Frontend:** HTML, CSS, JavaScript for structuring, styling, and interactive features.

**Backend**: javascript routes and API integration.

**Database:** Used to store user data, favorite locations, and reminders.

### Implementation Details

* **Geolocation Access:** Fetches user's latitude and longitude using the Geolocation API.
* **Search Functionality:** Allows location search, integrates OpenWeather API for real-time data.
* **Favorites Management:** User data is stored persistently using CRUD operations.
* **Reminders:** Users can set weather-based reminders triggered with timers or cron jobs.

### Future Enhancements

* Add hourly and weekly weather forecasts.
* Enable user account creation for personalized settings.
* Include multi-language support for global users.
* Provide severe weather alerts and radar visualizations.

**Available on youtube:**

**https://youtu.be/WocoU7Koszo**

### Conclusion

The Weather Application demonstrates the integration of frontend and backend technologies to create a feature-rich and user-centric platform for accessing weather information. By leveraging APIs, modern design principles, and a robust backend, the app ensures reliability and usability for all users.