

Project Title: Weather Forecast Application Development in JavaScript(200 marks)

Objective:

The objective of this assignment is to develop a weather forecast application using JavaScript, HTML, and CSS. The application should retrieve weather data from an API, display it in a user-friendly interface, and provide essential features such as location-based forecasts, current weather conditions, and extended forecasts.

Tasks:

1. Set Up Project Structure: (5 marks)

- Create the basic project structure with HTML, CSS, and JavaScript files. You need to use Tailwind CSS in this project.
- Set up a version control system (e.g., Git) for tracking changes throughout development.

2. Integration with Weather API: (10 marks)

- Research and select a suitable weather API provider (e.g., OpenWeatherMap, WeatherAPI, etc.).

3. User Interface (UI) Design: (25 marks)

- Design a simple and intuitive user interface using HTML and Tailwind CSS. **(10 marks)**
- Ensure responsiveness for various screen sizes (desktop, iPad Mini, iPhone SE). **(15 marks - 5 marks on each screen)**

4. Location-Based Forecast: (100 marks)

- Allow users to search for weather forecasts by city name. **(15 marks)**
- Allow users to search weather forecasts for current location. **(15 marks)**
- Add user interaction features such as buttons and input fields for selecting locations and viewing different weather data. **(10 marks)**
- Implement dropdown menu for recently searched cities (you can add recently searched cities in dropdown using local or session storage). Initially there should not be any dropdown since there is no searched city. Clicking on any city in dropdown menu should update the weather data. **(20 marks)**

- Implement event listeners to handle user interactions and update the UI accordingly. **(10 marks)**
- Validate user inputs to prevent errors (e.g., invalid location, empty search queries). **(10 marks)**
- Fetch and display location specific weather forecasts, (e.g., temperature, humidity, wind speed) for a user's location. **(15 marks)**
- Use appropriate icons or graphics to represent weather conditions (e.g., sunny, cloudy, rainy). **(5 marks)**

5. Extended Forecast Display: (30 marks)

- Implement functionality to display extended weather forecasts for multiple days (e.g., 5-day forecast). **(15 marks)**
- Organize forecast data into a visually appealing and easy-to-read format. (date, icon , temp, wind and humidity) **(15 marks)**

6. Error Handling and Validation: (20 marks)

- Handle API errors gracefully and display appropriate error messages to users.

7. Documentation: (5 marks)

- Document the codebase, including comments and README.md file detailing setup instructions and usage.

Deliverables:

- Completed weather forecast application with all specified features implemented.
- GitHub repository containing the project code with version control history. **(5 marks)**

Sample UI:

Weather Dashboard

Enter a City Name

E.g., New York, London, Tokyo


Search

or

Use Current Location

London (2024-04-23)


Temperature: 7.06°C
Wind: 2.85 M/S
Humidity: 88%



Light Rain


5-Day Forecast

(2024-04-24)




Temp: 5.67°C
Wind: 2.77 M/S
Humidity: 76%

(2024-04-25)




Temp: 5.23°C
Wind: 1.46 M/S
Humidity: 71%

(2024-04-26)




Temp: 7.66°C
Wind: 1.87 M/S
Humidity: 91%

(2024-04-27)




Temp: 9.09°C
Wind: 3.77 M/S
Humidity: 95%

(2024-04-28)



Temp: 8.46°C
Wind: 4.23 M/S
Humidity: 94%

 **INTERNSHALA** TRAININGS