SOFTWARE REQUIREMENTS SPECIFICATION

[Accuweatherconnect]

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Content

1. Introduction

1.1 Purpose

The purpose of this weather API project is to provide the weather details in addition to the user preferences that a user can easily access. People can easily get notified the weather conditions of the premises they want and they can use those details in a better manner.

1.2 Intended Audience

This weather API project is a prototype for the weather forecasting and anyone can use this application. This would be very useful for the tourists, farmers, fishermen, students, construction teams in order who wish to have the weather details.

1.3 Usage

The users of this website can easily access the weather data of the current location and you can get the data history of seven previous days and also future weather report that will be notify about the critical situations.

1.4 Scope of the product

The scope of the web application is to learn about current weather and to create a convenient and easy to use application for the users, who trying to know about the weather. The system is based on weather conditions using weather API. We will represent all kind of weather features and notify the bad conditions in your current area. Above all, we hope to provide a comfortable user experience.

2. Description

2.1 Product perspective

This Weather API project helps you to see the real-time data in the web application. We can get data by **"Weather API"** service that provides free API.

When we building this website, we use "**HTML, CSS, JS**" as the frontend development.

For user accounts we are using **"my-SQL**" database.

2.2 Product Features

The major features of the weather application are the display of the weather conditions like temperature, humidity, wind speed, rainfall and the weather description.

User accounts are in this application and users can get the best service by paying a monthly fee or an annual fee based on the service the user needs. It helps to get the notifications of the weather conditions.

2.3 Characteristics

Users of this website should be able to get the information about the current weather, previous weather data of the last seven days and the predicted weather data up to three days.

The system will support user privileges to the users. Users will have access to user functions. The users allow to do the following functions:

- Make an account (paid or free)
    - Notify the special weather conditions of their current location.
    - Get alerts
- View history
- Weather data

2.4 Operating Environment

The operating environment for the weather system is as listed below.

- User database
- Client server system
- Database: my-SQL
- Technologies: HTML, CSS, JS.
- Styling: Bootstrap
- Weather API service

2.5 Dependencies

The Weather API will be a dependency for this project. So, the weather API will pull all the requests submitted by the user for an actuatable result.

3. Functional Requirements.

3.1 Current weather display:

Show the current weather conditions, including temperature, humidity, wind speed, and weather description.

3.2 Forecast display:

Provide a forecast for upcoming days, including predicted temperatures, weather conditions, and chance of precipitation.

3.3 Location-based weather:

Allow users to view weather information for their current location or search for weather in specific cities, regions, or countries.

3.4 Historical weather data:

Provide access to past weather data for a specified period, allowing users to view weather trends and historical records.

3.5 Interactive maps:

Include interactive maps to visualize weather patterns, satellite imagery, or radar information.

3.6 Alerts and notifications:

Display severe weather alerts or notifications for users based on their location or subscribed areas.

3.7 Multiple units and formats:

Support different units of measurement for temperature, wind speed, and rainfall, and provide options to switch between metric and imperial systems.

3.8 Responsive design:

Ensure the web application is responsive and optimized for various devices, including desktops, tablets, and mobile phones

4. Non-functional requirements.

4.1 Sign in

The sign-in process should be responsive and have a low latency to ensure a seamless user experience and the user authentication would be secured and also the system sign-in would be available 24/7 with minimal downtime for maintenance and upgrades

4.2 New Accounts

The account creation process should be efficient and the creation of a new account include measures to prevent fraudulent or automated sign-ups. To prevent vulnerabilities, the system validates all the data that the user input and also there will be a verification to confirm the legitimacy of the new accounts. Also, there will be a secure mechanism for the users to recover their accounts if they forget their credentials.

4.3 Availability and Reliability

The system would aim for high availability, with minimum downtime for maintenance or unexpected failures. Distribute user traffic evenly across multiple servers to prevent overloads and ensure reliability.

4.4 Usability

We are ensuring that the user interface for the account management is intuitive and user-friendly, Acculturated operations should be responsive and not lead to user frustration due to slow loading times and we ensure to provide clear and helpful error messages to guide the user in case of issues during the account related process.

NAME	WEB DEVELOPMENT PROJECT																
Project Gantt Chart	Sep-23																
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Project Assigning																	
Requirement Analysis																	
Project Doc Preparing																	
Milestone 01																	
Research for inspiration																	
Wireframe Design																	
Design Assets & Prototype																	
Milestone 02																	
Coding HTML Structure																	
Adding Styles & Responsive																	
Coding JS Functions																	
Handling Errors & Fine-tune																	
Milestone 03																	
API Integration & Completing																	
Mil. 04 & Submission																	