WEATHER APP

Document Version Control

Date Issued	Version	Description	Author

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Abstract

The weather web application is designed to provide users with up-to-date and accurate weather information for a given city around the world. The application utilizes OpenWeathermap API's to collect data which is then processed and formatted for easy viewing on the user interface. The user interface is designed to be simply and user-friendly, displaying current weather condition with temperature and date. The application is designed to be responsive, adapting to different screen sizes and devices to provide optimal user experience. The application is deployed on a web server, making it easily accessible to users through a web browser.

1. Introduction

1.1. Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model of coding. The document is also intended to help detect contradictions prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

- Present all of the design aspects and define them in detail
- Describe the user interface being implemented
- Describe the hardware and software interfaces
- Describe the performance requirements
- Include design features and the architecture of the project.
- List and describe the non-functional attributes like
    - Security
    - Reliability
    - Maintainability
    - Portability
    - Reusability
    - Application compatibility
    - Resource utilization
    - Serviceability

1.2. Scope

The HLD documentation presents the structure of the system, such as data will be collected form the API, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system

1.3. Definitions

Term	Description
API	Application Programming Interface

2. General Description

2.1. Product Perspective

The Weather application is a web application system which is based on OpenweatherMap API application that gives the user the ability to check the current weather of a particular city.

2.2. Problem Statement

Create a simple weather App that allows users to get current weather information based on the city user enter. Any external weather API is allow to be used.

2.3. Proposed Solution

The solution proposed here is a Weather app web-application can be built in order to meet the above the problem statement using an external API that is Openweathermap api along with the reactjs javascript framework to create the user interface where the weather data can be displayed.

2.4. Further Improvements

The Weather app can be improve with more features like maintaining user account provided with authentication, storing history of city name enter by a particular user and improving the user interface with more data and animation.

2.5. Technical Requirements

This document addresses some of the requirements for proper functioning of the weather App

- The app must be able to handle a certain number of request per second or must be able to process data within a certain time frame.
- The app must be able to protect sensitive data or must comply with certain security standards.
- The app must be accessible to any number or users with a browser without a significant decrease in performance

- The app must be able to integrate with other systems or platform, or must support certain operating systems or hardware.

2.6. Data Requirements

Data requirement completely depend on Weather API that is OpenweatherMaps API of weather base on a particular city. This API return the require data for the Weather App

2.7. Tools used

JavaScript programming language and Reactjs which javascript frameworks and some package like axios, react-toastify and tailwindcss which is CSS frameworks along with OpenweatherMap API are used to build the whole system.

- Vscode is used as IDE
- For getting the Weather data OpenweatherMap API is used.
- Front end development is done using Reactjs, TailwindCss , React toastify
- Axios is used to make http/https request
- GitHub is used as version control system

3. Design Details

3.1. Process Flow

3.2. Error handling

3.3. Performance

3.4. Reusability

3.5. Application Compatibility

3.6. Resource Utilization

3.7. Deployment