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WEATHER APPLICATION DOCUMENTATION

COMP.CS.140 Programming 3: Interfaces and Techniques

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1. Introduction

1.1 Purpose

Weather forecast can benefit people in different ways, especially in planning activities. The Weather Forecast Application is designed to provide users with accurate and up-to-date weather information for different locations. The program fetches weather data from OpenWeatherMap and visualizes it through a user-friendly graphical interface.

1.2 Scope

This documentation outlines the functionality, features, and usage of the Weather Forecast Application. It serves as a guide for both users and developers.

1.3 Audience

This documentation is intended for end-users who want to understand how to use the Weather Forecast Application. Additionally, developers may refer to this documentation for insights into the program's design and functionality.

2. User Interface

2.1 Main window view

When opening the app, the default view is shown. The name and description appear. There are two radio buttons Weather and Forecast for choosing functionality, and a Quit button to exit the app. Users can input Location in the TextField component, choose the functionality (Weather or Forecast) and click Search button to see the result view.
Components:
- View: JavaFX UI with input fields and buttons
- Controller: handling user input, fetching the data from API and updating UI
- Model: representing data from API

2.2 Weather view

Current weather view is displayed depending on given location, including current temperature, maximum temperature, minimum temperature, feel-like temperature, humidity, weather description, wind speed, rain intensity, weather icon and description. User can go back to main view by pressing Back button.
Components:
- View: JavaFX UI
- Controller:
- Model:

2.3 Forecast view

Forecast view shows hourly forecasts and forecasts of 5 consecutive days depending on given location. Day, highest and lowest temperature, weather image can be found in daily forecast. For hourly forecast, users can see temperature, wind speed, humidity, rain intensity corresponding to different hours in a day. User can go to the main view by pressing Back button.
Components:
- View:
- Controller:
- Model:

3. API Usage

4. Acknowledgements

The Weather Forecast Application acknowledges the use of OpenWeatherMap for providing free weather data.

5. Open issue and further development

The fundamental functionalities of the app are done and they work. However, current user interface is rather basic, which can be improved to be more aesthetic, more appealing to users. Further development can focus on displaying statistical data such as graphs for weather and forecast in a long term.