Islamic University of Technology

Visual Programming Lab

CSE 4402

Weather App

Author:
Ishmam Tashdeed
CSE, IUT

Contents

1 Tasks

You have to implement a weather application using JavaFX and SceneBuilder. Instructions for the developers:

- Register for a free account on https://www.weatherapi.com and obtain your API key. Authentication for all API requests requires passing the key as a query parameter (e.g., `key=YOUR_API_KEY`).

- Read the documentation of the API from https://www.weatherapi.com/docs to figure out the request parameters.

- Conduct a comparative analysis of existing weather applications (e.g., mobile apps, desktop tools, web platforms) before developing the app. Focus on their user interface design, feature set (such as current conditions, multi-day forecasts, search capabilities), and presentation of air quality or historical data. Draw insights concerning layout design, visual hierarchy, responsiveness, and user interaction patterns.

The features present in your application should be:

- Current weather (temperature, "feels like", humidity, cloud coverage, precipitation/snow, time, AQI)

- 3 days weather forecast

- Weather of last 7 days

- Ability of look up the weather of any city

- HTTP requests to call the specified WeatherAPI endpoints

- Parsing JSON responses

- Offer feedback for loading states and error conditions

Use JavaFX and SceneBuilder for creating this application. Bonus points will be added for good UI design with dark/light mode switching.