Weather App

INTRODUCTION

Welcome to the documentation for the Weather App developed by Pavankumar Hegde. This document provides an overview of the application, its features, technical implementation details, and instructions for building, running, and testing the application.

The Weather App is a simple Android application designed to provide users with weather forecast information based on their location. The application retrieves weather data from the WeatherAPI and displays relevant information such as temperature, humidity, wind speed, and weather conditions. Users can search for weather forecasts by entering a city name or zip code.

Problem Statement:

The objective of this test task is to assess your proficiency in Android app development. You will be required to create a simple Android application that demonstrates your skills in UI/UX design, data management, and integration with RESTful APIs. Instructions: * Application Description:

- Develop a simple weather forecast application for Android devices.
- The application should retrieve weather data from a public API (e.g., OpenWeatherMap API) and display it to the user.
- The user should be able to search for weather forecasts based on location (city or zip code).
- Display relevant weather information such as temperature, humidity, wind speed, and weather condition (e.g., sunny, cloudy, rainy). * Provide a clean and intuitive user interface with appropriate visual elements (e.g., icons, images) to enhance the user experience.
- Technical Requirements:
    - ➢ Use Java or Kotlin programming language for development.
    - ➢ Implement network requests to fetch weather data from the API using Retrofit or similar library.
    - ➢ Parse JSON responses to extract relevant weather information.

- Utilize RecyclerView or ListView to display weather forecast items in a scrollable list.
- Handle error cases gracefully (e.g., network errors, invalid user input).
- Implement basic caching mechanism to improve app performance and reduce network calls.
- Ensure proper error handling and display informative error messages to the user when necessary.
- Additional Features (Optional):
    - Implement support for displaying weather forecasts for multiple days (e.g., daily or hourly forecasts).
    - Include user preferences/settings to allow users to customize the application (e.g., temperature units, update frequency).
    - Add functionality to automatically detect the user's current location and fetch weather data accordingly.

- Deliverables:
    - Develop the Android application according to the specified requirements.
    - Provide clear documentation on how to build, run, and test the application.
    - Submit the codebase along with any necessary configuration files and resources.
- Evaluation Criteria:
    - Completion of specified features and requirements.
    - User interface design and user experience quality.
    - Code quality, readability, and adherence to best practices.
    - Proper error handling and edge case management. * Integration with RESTful API and data management.
    - Additional features implemented (if any) and their effectiveness.
      Submission:
    - Submit your codebase and documentation in a compressed file format (e.g., ZIP) and apk for the same.
    - Include any additional notes or explanations regarding your implementation choices and considerations.

Technical Details:

Programming Language: The Weather App is developed using the java native programming language.

Libraries And API:

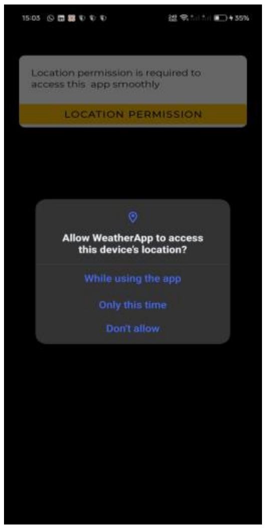
- OkHTTP library is used to implement network requests for fetching weather data from the WeatherAPI.
- JSON parsing is performed to extract relevant weather information from the API responses.
- Recycler View is utilized to display weather forecast items in a scrollable list.
- Basic caching mechanism is implemented to improve app performance and reduce network calls.

Additional Features:

- The application supports displaying weather forecasts for multiple days.
- User preferences/settings are included to allow users to customize the application, such as choosing temperature units and update frequency.
- Functionality to automatically detect the user's current location and fetch weather data accordingly is implemented.
- Widget feature is implemented.
- Astro data such as sun rise, sunset, moonrise, moonset.
- Providing weather condition.

User Interface Design:

The Weather App features a clean and intuitive user interface with appropriate visual elements to enhance the user experience. The UI design prioritizes readability and ease of use, with clear display of weather information and intuitive navigation.



Location permission is required to access this app smoothly

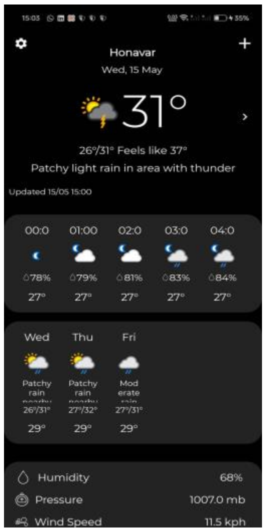
LOCATION PERMISSION

Allow WeatherApp to access this device's location?

While using the app

Only this time

Don't allow



Honavar

Wed, 15 May

31°

26°/31° Feels like 37°

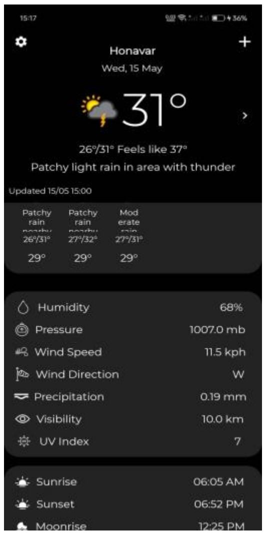
Patchy light rain in area with thunder

Updated 15/05 15:00

00:0	01:00	02:0	03:0	04:0
78%	79%	81%	83%	84%
27°	27°	27°	27°	27°

Wed	Thu	Fri
Patchy rain	Patchy rain	Mod erate
26°/31°	27°/32°	27°/31°
29°	29°	29°

Humidity	68%
Pressure	1007.0 mb
Wind Speed	11.5 kph



Honavar

Wed, 15 May

31°

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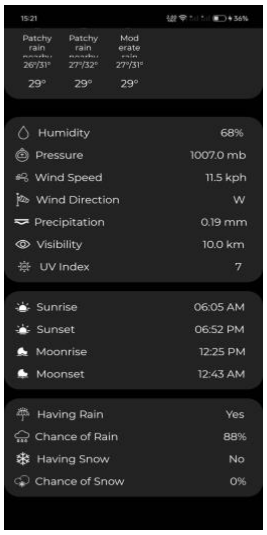
Patchy light rain in area with thunder

Updated 15/05 15:00

Patchy rain	Patchy rain	Mod erate
26°/31°	27°/32°	27°/31°
29°	29°	29°

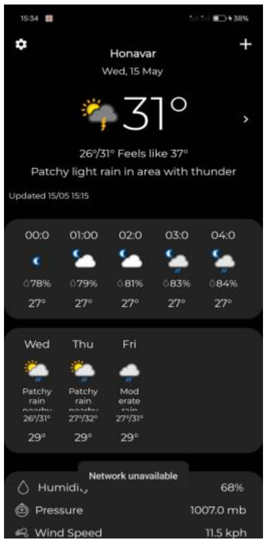
Humidity	68%
Pressure	1007.0 mb
Wind Speed	11.5 kph
Wind Direction	W
Precipitation	0.19 mm
Visibility	10.0 km
UV Index	7
Sunrise	06:05 AM
Sunset	06:52 PM
Moonrise	12:25 PM



Patchy rain	Patchy rain	Mod erate
26°/31°	27°/32°	27°/31°
29°	29°	29°

Humidity	68%
Pressure	1007.0 mb
Wind Speed	11.5 kph
Wind Direction	W
Precipitation	0.19 mm
Visibility	10.0 km
UV Index	7
Sunrise	06:05 AM
Sunset	06:52 PM
Moonrise	12:25 PM
Moonset	12:43 AM
Having Rain	Yes
Chance of Rain	88%
Having Snow	No
Chance of Snow	0%

* Permission * 3day weather data. * Current weather * Weather Data



Honavar

Wed, 15 May

31°

26°/31° Feels like 37°

Patchy light rain in area with thunder

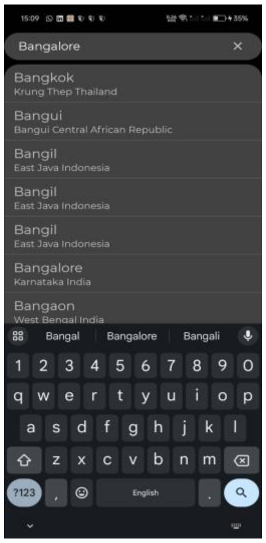
Updated 15/05 15:15

00:0	01:00	02:0	03:0	04:0
78%	79%	81%	83%	84%
27°	27°	27°	27°	27°

Wed	Thu	Fri
Patchy rain	Patchy rain	Mod erate
26°/31°	27°/32°	27°/31°
29°	29°	29°

Network unavailable

Humidity	68%
Pressure	1007.0 mb
Wind Speed	11.5 kph



Bangalore

Bangkok
Krung Thep Thailand

Bangui
Bangui Central African Republic

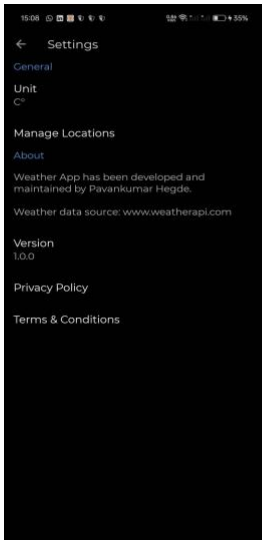
Bangil
East Java Indonesia

Bangil
East Java Indonesia

Bangil
East Java Indonesia

Bangalore
Karnataka India

Bangaon
West Bengal India



Settings

General

Unit
C°

Manage Locations

About

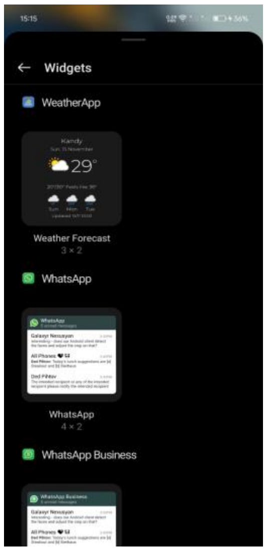
Weather App has been developed and maintained by Pavankumar Hegde.

Weather data source: www.weatherapi.com

Version
1.0.0

Privacy Policy

Terms & Conditions



Widgets

WeatherApp

Kandy

29°

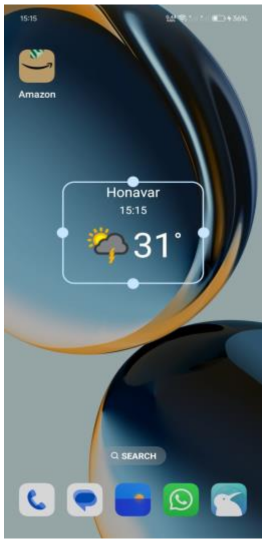
Weather Forecast
3 × 2

WhatsApp

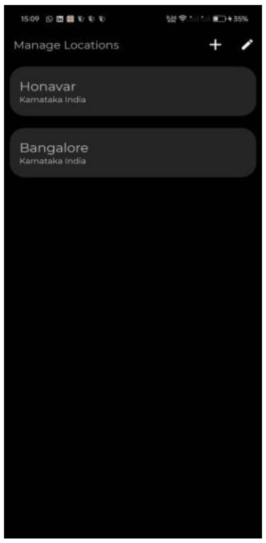
WhatsApp
4 × 2

WhatsApp Business

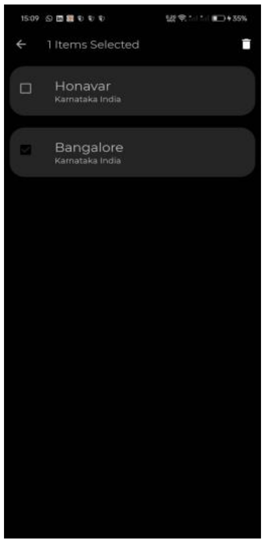
* Network Check * Adding location * Settings * Widget



* Widget in home



* Manage Locations



* Remove Locations

Build Instructions

To build and run the Weather App, follow these steps:

Clone the repository from [GitHub Repository Link].

Open the project in Android Studio.

Build the project by selecting Build > Make Project from the menu.

Run the application on an Android device or emulator by selecting Run > Run 'app'.

Testing Instructions

To test the Weather App, follow these steps:

Install the application on an Android device or emulator.

Open the application.

Install app by clicking on this link.

Enter a city name or zip code to search for weather forecasts.

Verify that the weather information is displayed accurately.

Test additional features such as widget and location detection.

To check widgets:
Go to home page of your android phone->Long press on empty space->Choose Widgets->Look for Weather App widget->Choose location->Place it in your home screen.