Weather App Documentation

1. Project Overview

Project Name: Weather App

Developed By: Budde

Vinuthna Date: 21-05-2025

Version: 1.0

Goal:

To create an Android application that provides basic weather forecasts with accurate and user-friendly data.

Key Features:

- Real-time weather updates

- Search & select different locations

- Simple, intuitive interface

- Backend integration (optional) for data storage

2. App Structure & Technologies

Application Structure:

- Activities/Fragments - UI layout for displaying weather data

- Navigation - Switching between different sections of the app

- Backend Integration (Optional) - Firebase Realtime Database or local storage

Technologies Used:

- Programming Languages: Java/Kotlin

- UI Design: XML for layouts

- Android Jetpack Components: (Optional) Navigation Component, ViewModel

Optional Technologies:

- Firebase Realtime Database / Firestore - For storing real-time data (not used)

- Retrofit / Volley - For API integration

- OpenWeatherMap API - For weather data

3. Installation Guide

Prerequisites:

- Android device running Android 5.0+ (Lollipop or later)

- APK file (app-release.apk)

Installation Steps:

1. Download the APK (app-release.apk) from the provided link

2. Enable "Install from Unknown Sources" in settings

3. Install the APK by tapping the file

4. Open the app and explore weather updates!

4. **Functionality & Testing**

How the App Works:

- Users can search for weather forecasts by city/location

- The app fetches data and displays temperature, humidity, and conditions

- UI designed for easy navigation and readability

Testing Checklist:

- Tested on multiple devices with different screen sizes

- Checked performance & responsiveness

- Debugged possible crashes or errors

5. **Known Issues & Future Improvements**

Current Limitations:

- API calls may occasionally fail due to network issues

- Some UI elements might need additional refinements

Future Enhancements:

- Implement Dark Mode for improved UI experience

- Add Advanced Weather Analytics

- Improve offline mode support

6. <u>Submission Checklist</u>

- APK file (app-release.apk)

- Complete Android project files (source code)

- Project documentation (this file)

Sample Output Screens

Weather Forecast

City: Karimnagar
Temperature: 28.73°C°C
Condition: overcast clouds

Enter City Name
Karimnagar

Refresh Weather

View Detailed Forecast

Weather for Karimnagar
Temperature: 28.7°C
Min Temp: 28.7°C
Max Temp: 28.7°C
Humidity: 65%
Wind Speed: 5.7 km/h
Sunrise: 05:38 AM
Sunset: 06:42 PM
Condition: overcast clouds

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