Weather History App

The Weather History App is designed for users who want to download and store historical weather data for a foreign country. It provides functionality to retrieve weather information using a free weather API, input specific dates and years, and display maximum and minimum temperatures for those dates. Additionally, the app allows users to store weather data locally using **ROOM database**, ensuring access even without an internet connection.

ScreenShot

Features

Download Historical Weather Data

- Utilizes a free weather API to retrieve historical weather data in JSON format.
- Parses the JSON response to extract relevant weather information.

Input Date and Year

- Users can input a specific date and year to view the maximum and minimum temperature for that date.

Local Database Storage (Using ROOM)

- The app uses **ROOM database** for local storage.
- Upon initialization, it creates the necessary database schema and tables.
- Weather data can be inserted into the database and retrieved as needed.

Handling Future Dates

- In cases where the input date is in the future, the app calculates the average of the last 10 available years' temperatures.

Getting Started

To start using the Weather History App, follow these steps:

1. **Prerequisites:**
    - Ensure you have Android Studio installed on your computer.
    - An internet connection is required to download dependencies and access the weather API.
2. **Installation:**
    - Clone this repository to your local machine using the command:

      ```
      [git clone https://github.com/yourusername/weather-history-app.git](https://github.com/DIvineJMd/Historical_weather_app.git)
      ```

    - Open the project in Android Studio.
    - Build the project to download necessary dependencies.
    - Run the app on an Android emulator or physical device.

Usage

1. **Input Date and Year:**
    - Upon launching the app, you'll see an option to input a date and year.
    - Enter the desired date and year, then click the "Search" button.
2. **View Temperature Data:**
    - The app will retrieve and display the maximum and minimum temperature for the specified date.
3. **Local Storage (Optional):**
    - Click the "Save" button to store the weather data locally using **ROOM database**.

Implementation Details

Weather API Integration

- Utilizes a free weather API to download historical weather data in JSON format.
- Parses the JSON response to extract relevant weather information.

ROOM Database Integration

- Uses ROOM for local storage.
- Creates necessary database schema and tables during app initialization.
- Inserts weather data into the database and retrieves it when needed.

UI Design

- Designed a user-friendly interface using Compose UI toolkit.
- Validates user input and displays appropriate error messages.
- Provides smooth navigation and intuitive controls.