WEATHER FORECAST APP

Minor Project Synopsis

Submitted By

AGAM SINGH SAHNI

University Roll no. 1905299

D3ITA1

ARSHMEET KAUR KHURANA

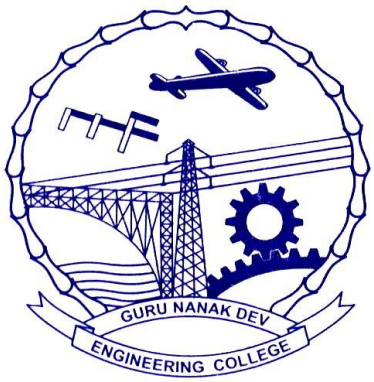
University Roll no. 1905310

D3ITA1

KANISHKA SHARMA

University Roll no. 1905349

D3ITA2



GURU NANAK DEV ENGINEERING COLLEGE

LUDHIANA-141006, INDIA

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1 Introduction

Weather forecasting is the application of science and technology to predict the conditions of the atmosphere for a given location and time. Human beings have attempted to predict the weather informally for millennia and formally since the 19th century. The weather is the expected conditions of the atmosphere at a certain area during a short period of time, not exceeding one week, every day, you can know the weather news through the weather forecast. The weather forecast includes the weather factors which are: The temperature, The winds, The atmospheric pressure, the clouds and the rain. The temperature can be measured by the mercuric thermometer and the digital thermometer. There is a maximum temperature which is the temperature expected during the daytime and there is a minimum temperature which is the temperature expected at night.

There are a variety of end uses to weather forecasts. Weather warnings are important forecasts because they are used to protect life and property. Forecasts based on temperature and precipitation are important to agriculture, and therefore to traders within commodity markets. Temperature forecasts are used by utility companies to estimate demand over coming days. On an everyday basis, people use weather forecasts to determine what to wear on a given day. This application will show the temperature of a location.

2 Objectives

1. To fetch weather information, we will need an API.

2. To interact and share data using various components and microservices.

3. To fetch weather data. This API provides a fast and elegant way to fetch weather data.

4. To extract the required data that is the temperature and city of the location.

3 Feasibilty Study

1) Feasibility of the project –

Feasibility analysis begins once the goals are defined. It starts by generating broad possible solutions, which are possible to give an indication of what the new system should look lime. This is where creativity and imagination are used. Analysts must think up new ways of doing things-generate new ideas. There is no need to go into the detailed system operation yet. Feasibility of a new system means ensuring that the new system, which we are going to implement, is efficient and affordable.

Need of the project –

1. To plan journeys ahead.
2. To plan meeting / commute timings.
3. To know when rain comes or stop.
4. To receive alerts / warnings during cyclones, sandstorms, typhoons etc.
5. A person travelling in bus/train /flight may need to check the weather in his destination.
6. Some travellers may need to know more details about the weather such as visibility, chances of rainfall, humidity etc

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3) Significance of the project -

The main motive of precise weather prediction is to be able to give relevant data to the people and organizations that can be used to decrease weather-related expenses and losses and increase societal benefits. Forecasting helps the organization to work efficiently and effectively without wasting resources and making optimum use. It is very important for us to know and understand climate change so that we can encounter it if things go wrong. Studying weather makes us be prepared for the future. Also, it anticipates the sudden rise due to warmer temperatures in the sea level.

4 Methodology /Planning of work

1. Create a New Project

Create a new project in Android Studio, select Kotlin as the programming language.

2. Before going to the coding section first you have to do some pre-task

We will add image to drawable folder in android studio.

3. Get the API key

To get the API key, simply sign-in on WeatherBit. After doing so you will receive an API key and you are good to go.

4. Permission Check

For this app to work we need to ask for three permissions from the system –
1. Coarse location
2. Fine Location
3. Internet

5. Building the Layout

We will add a Button and TextView in the one and only screen of the application. When the user will click the Button the temperature and city of that location will be shown in the TextView.

6. Getting Device's Coordinates

In this step, we will get the last location of the device using Google Play Services.

7. Parse JSON after getting it

To get JSON we need to use Volley Library to make an HTTP client request

8. Working with the file

5 Facilities Required

Hardware Required

1. Standard computer with at least i3 processor Standard computer with 4GB of RAM
2. Active Internet Connectivity with good bandwidth
3. Location access
4. Android mobile

Software Required

1. Android Studio
2. Kotlin
3. XML
4. JSON

6 References

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