Mini Project – 1 report
on

Weather App

A Dissertation submitted in partial fulfillment of the academic requirements for the award of the degree.

Bachelor of Technology
In
Computer Science & Engineering

Submitted by

S. Madhuri
(19H51A0525)
Sufyan Azar
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Tanisha Garg
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Under the esteemed guidance of
Mrs. Madhavilatha
(Assistant Professor)

Department of Computer Science and Engineering

CMR College of Engineering & Technology
(An Autonomous Institution under UGC & JNTUH, Approved by AICTE, Permanently Affiliated to JNTUH, Accredited by NBA.)

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY

KANDLAKOYA, MEDCHAL ROAD, HYDERABAD – 501401

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Mini Project-1 report entitled **"Weather App"** being submitted by S.Madhuri(19H51A0525), Sufyan Azar(19H51A0526), Tanisha Garg(19H51A0527) in partial fulfillment for the award of **Bachelor of Technology in Computer Science and Engineering** is a record of bonafide work carried out his/her under my guidance and supervision.

The results embody in this project report have not been submitted to any other University or Institute for the award of any Degree.

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Dept. of CSE

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Professor and HOD
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ABSTRACT

Weather app is a simple project developed in android studio using java, xml. This project is an interesting project for weather forecasting. It is an application which gives you the details of the present weather such as temperature conditions, wind speed, humidity, etc., It also provides a brief forecast for the weather ahead. The user can check the condition of the present-day climate probability and predict whether the day is a cloudy or sunny day. The user can write down the name of any city across the world in the app and see the weather conditions over there.

CHAPTER 1
INTRODUCTION

Weather forecasting is the application to predict the conditions of the atmosphere for a given location and time. Human beings have attempted to predict the weather formally since the 19th century. Weather forecasts are made by collecting data about the current state of the atmosphere at a given place.

There are a variety of 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 trade within markets. On an everyday basis, people use weather forecasts to determine what to wear on a certain day. Since outdoor activities are dependent on weather, forecasts can be used to plan the activities.

In this project, we are implementing the “Weather App” in android using java. We are preferring to use android studio for the development of this app. We can use any version of android studio.

1.1 PURPOSE

- To plan meetings
- To plan journeys ahead
- To know when it rains
- To receive alarm during cyclones, typhoons, etc
- To decide what to wear

1.2 AIM

The purpose of developing weather app is to find the data in order to get information regarding worldwide weather.

1.3 SCOPE

The scope of this project is the system on which this application is installed, it will work in finding the weather of that place as well worldwide places.

CHAPTER 2
BACKGROUND WORK

CHAPTER 2: BACKGROUND WORK

2.1 Introduction

This section discusses findings and observations done by some research works on existing weather applications.

2.2 Existing solutions

- 1WEATHER:

A simple yet beautiful weather app for iOS and Android. It helps to track weather forecasts and current conditions in real-time. Users can keep a tab on the weather of several locations. It gives detail reports, including temperature, precipitation forecast.

GAPS:

It is a popular weather app which has feature like daily and hourly forecast. But it can track only 12 cities.

LINK:

https://play.google.com/store/apps/details?id=com.handmark.expressweather&hl=en_IN&gl=US

Fig 1: 1Weather App

- DARK SKY:

  Dark Sky also has inbuilt widgets support for weather on your home screen. Surprisingly, the Dark Sky supports Wear OS with weather information including current conditions, and forecasts for the next 24 hours.

  GAPS:

  - The app availability is limited to the US, UK, and Puerto Rico.

  LINK:

  https://darksky.net/app

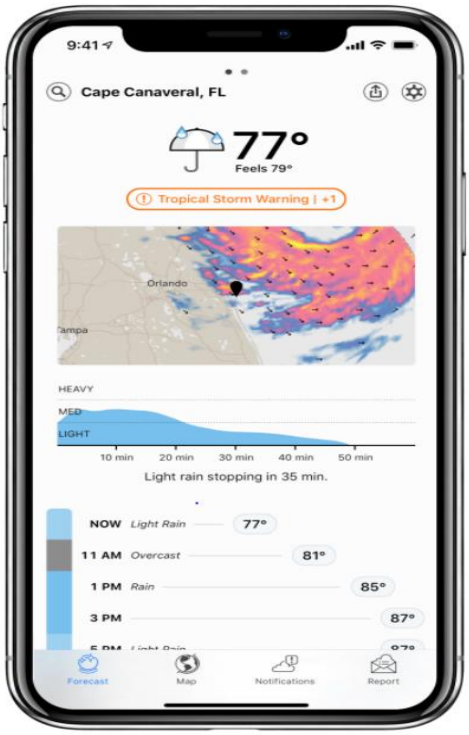

Fig 2. Dark App

- YAHOO WEATHER:

  Yahoo Weather is a good-looking and solid weather app that lets you scroll sideways for different locations. You scroll down for the week's weather, a weather map, wind and pressure, precipitation, and schedules for the Sun and Moon.

  GAPS:

  - There is no search bar to track the other location.
  - Other location's weather will get by scrolling sideways.

  LINK:

  https://play.google.com/store/apps/details?id=com.yahoo.mobile.client.android.weather&hl=en_IN&gl=US

Fig 3: Yahoo app

- ACCUWEATHER:

  It features extended forecasts, hourly forecast. It predicts rain on a minute- by-minute basis.

  GAPS**:**

  This app underwent re-design in mid-2020 and introduced a bunch of new bugs that haven't been fixed yet.

  LINK:

  https://play.google.com/store/apps/details?id=com.accuweather.android&hl=en_IN&gl=US

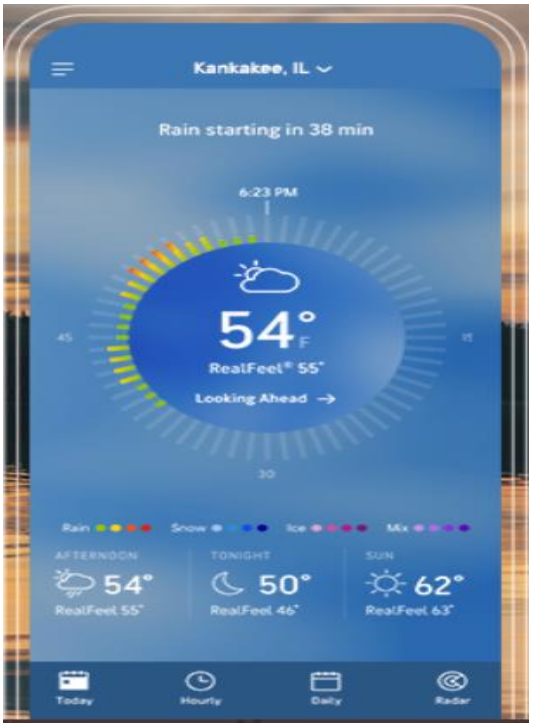

Fig 4: AccuWeather app

CHAPTER 3
PROPOSED SYSTEM

3.1 Introduction

This section presents the research methodology used in the study, the research design, and the data collection process.

3.2 System Design

We can check the weather of any place through our proposed system. We are using android studio in which location service is accessed from location manager. This will extract the current location and displays the weather. Weather details is obtained from the function 'getWeatherinfo' that takes an API url of weatherapi.com.

Whenever weather condition of any location is required, the city name is given as input from the search bar. This is taken from ‘getLongitude and getLatitude’ functions. When city name is requested the function 'getCityName' is invoked that takes the Geocoder location and acquires the temperature, time, Icon of that condition and Windspeed. Below this current weather that hourly weather forecast is displayed. It is in the sequence of hour to hour that shows time, temperature, and weather condition with icon of that forecast. We can scroll horizontally to check what weather is forecasting at what time.

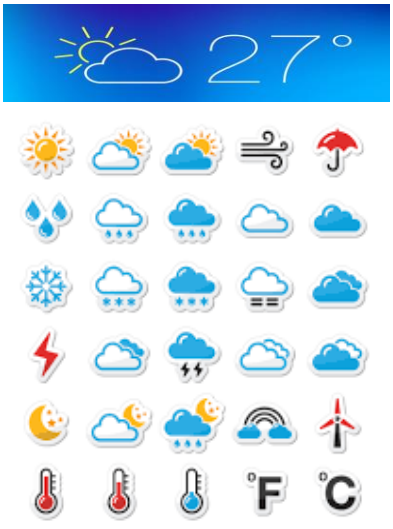

Fig 5: Weather Icons

3.3 Requirement Analysis

3.3.1 Hardware Requirements

- Standard computer with atleast i3 processor
- Standard computer with 4GB of RAM
- Standard computer with 100GB of free space
- Active Internet Connectivity with good bandwidth

3.3.2 Software Requirements

- Android Studio

3.3.2.1 ANDROID STUDIO:

Android studio is the official Integrated Development Environment (IDE) for Google's android operating system, designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools as the primary IDE for native Android application development. It has a rich layout editor that allows users to drag-and-drop UI components, option to preview layouts on multiple screen configurations. It has Android Virtual Device (Emulator) to run and debug apps. Supports Java, C++, Kotlin, etc., programming languages.

Fig 6: Android Studio

CHAPTER 4
DESIGNING

4.1 Preliminary design

Tools, which assist in preliminary design process, are UML Diagrams and ER diagrams.

4.1.1 UML Diagrams

- Activity Diagram:

Activity diagram is one of the important diagram in UML to describe the dynamic aspects of the system. Activity diagram is basically a flow chart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another.

The purpose of the activity diagram is to show the message flow from one activity to another whereas other diagrams are to show the message flow from one object to another.

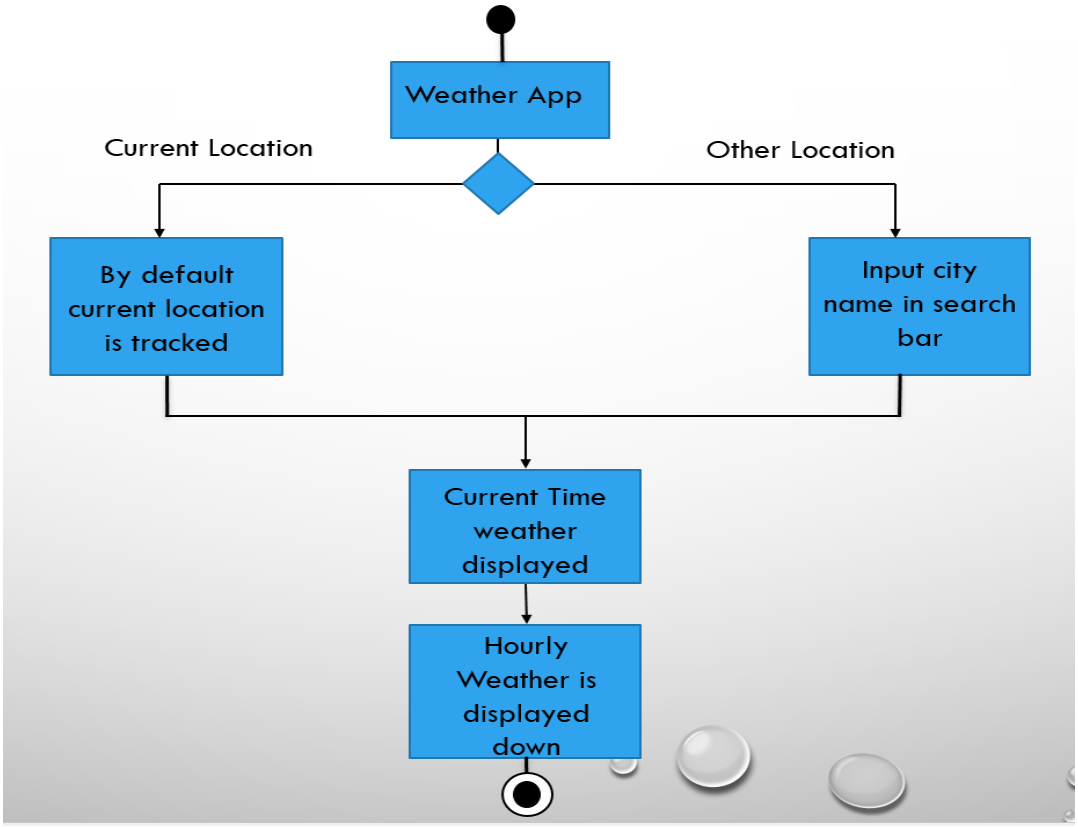

Fig 7. Activity diagram for the system

CHAPTER 5
RESULTS AND DISCUSSION

5.1 Implementation

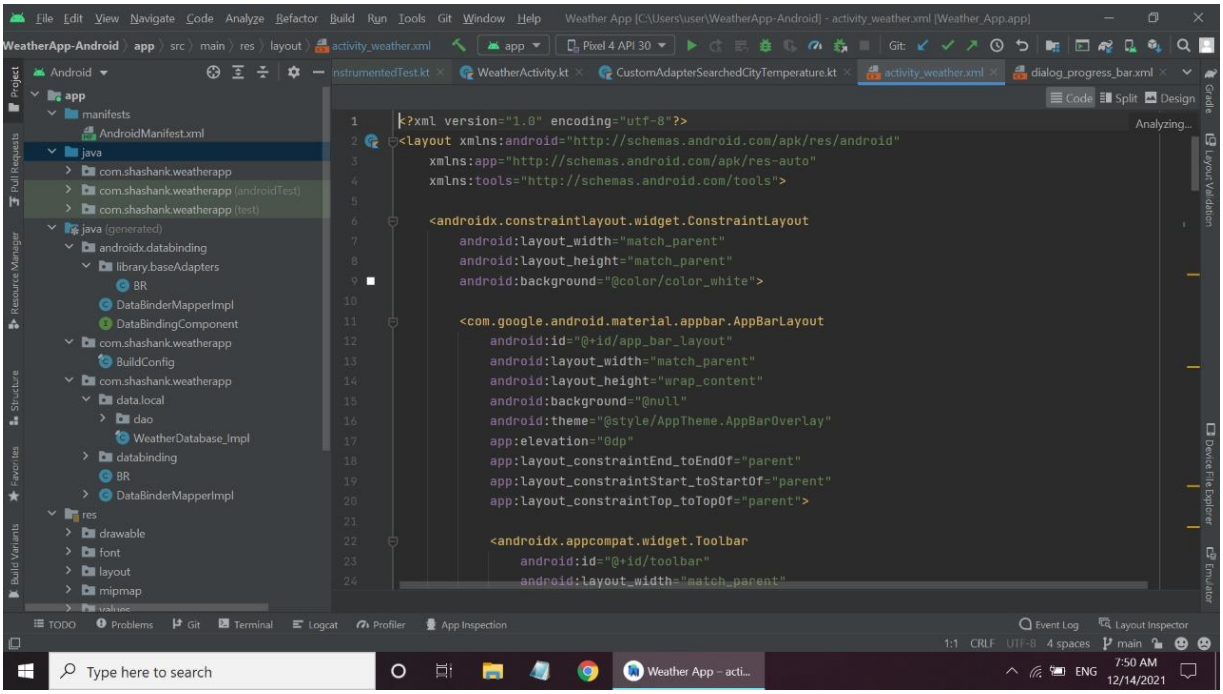

Fig 8: Activity_Weather_xml

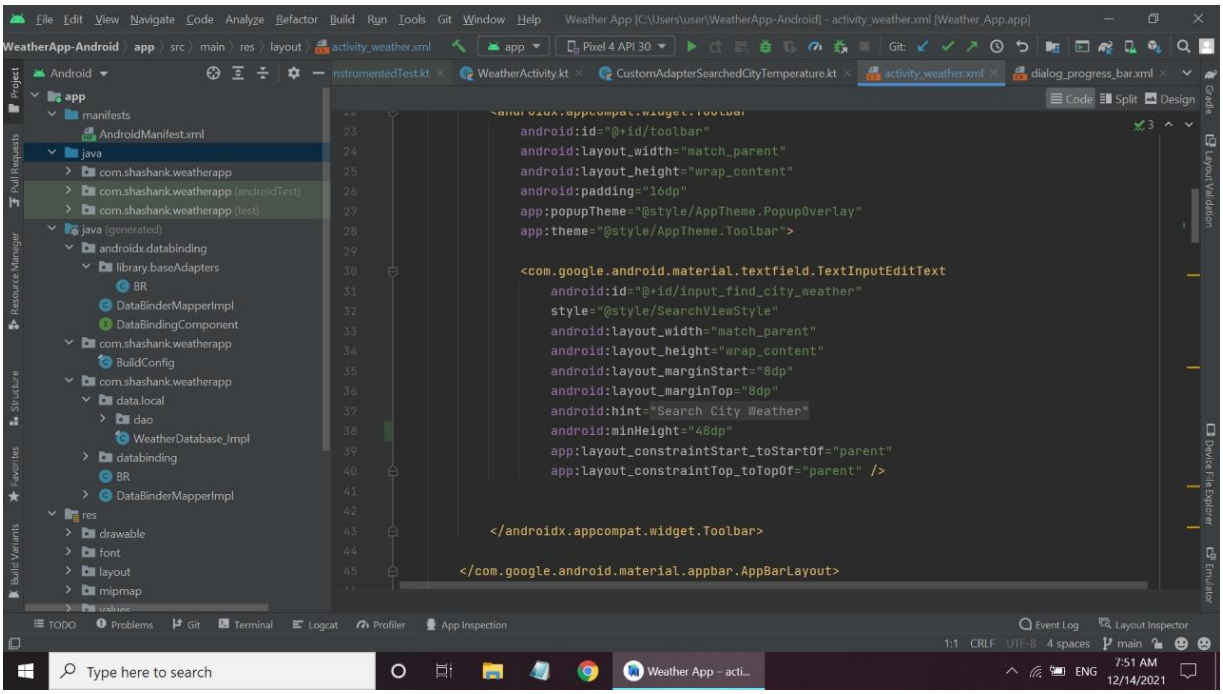

Fig 9: activity_weather_xml

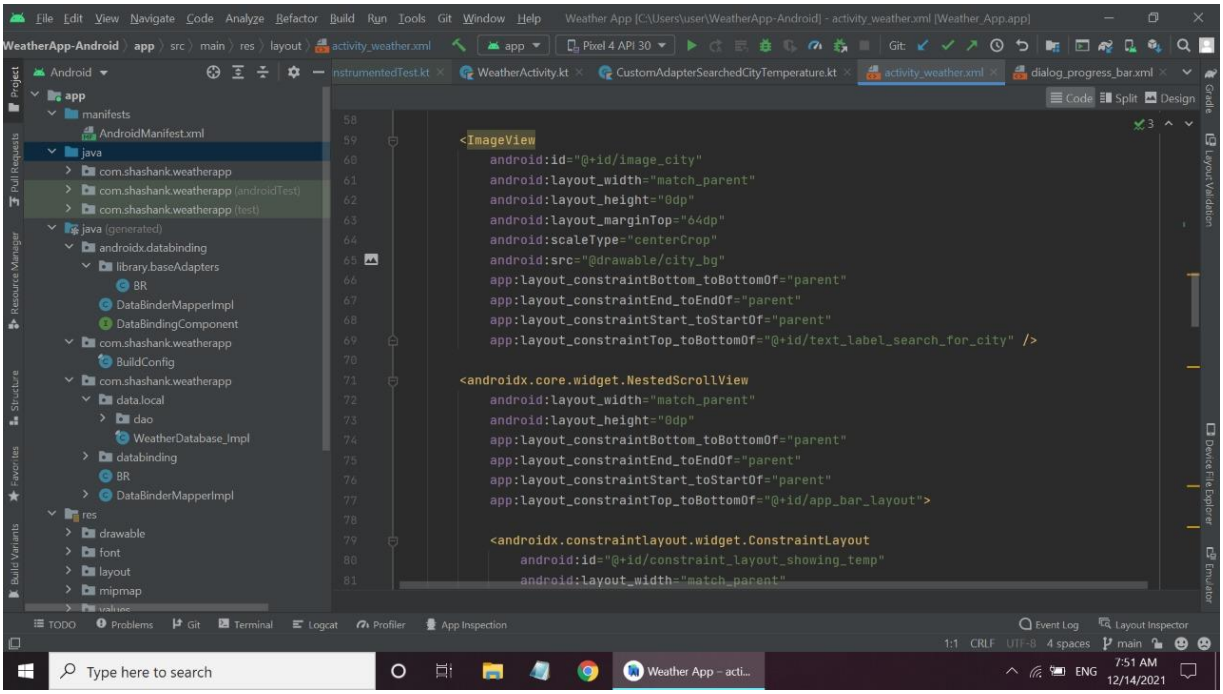

Fig 10: activity_weather_xml

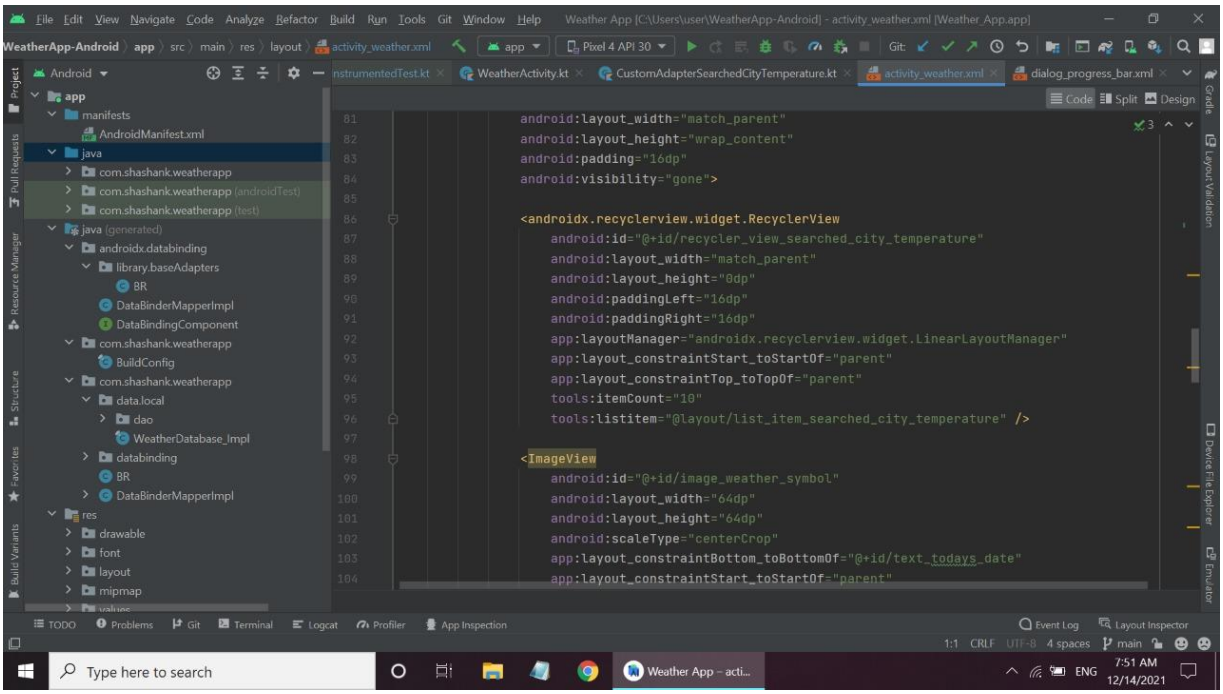

Fig 11: activity_weather_xml

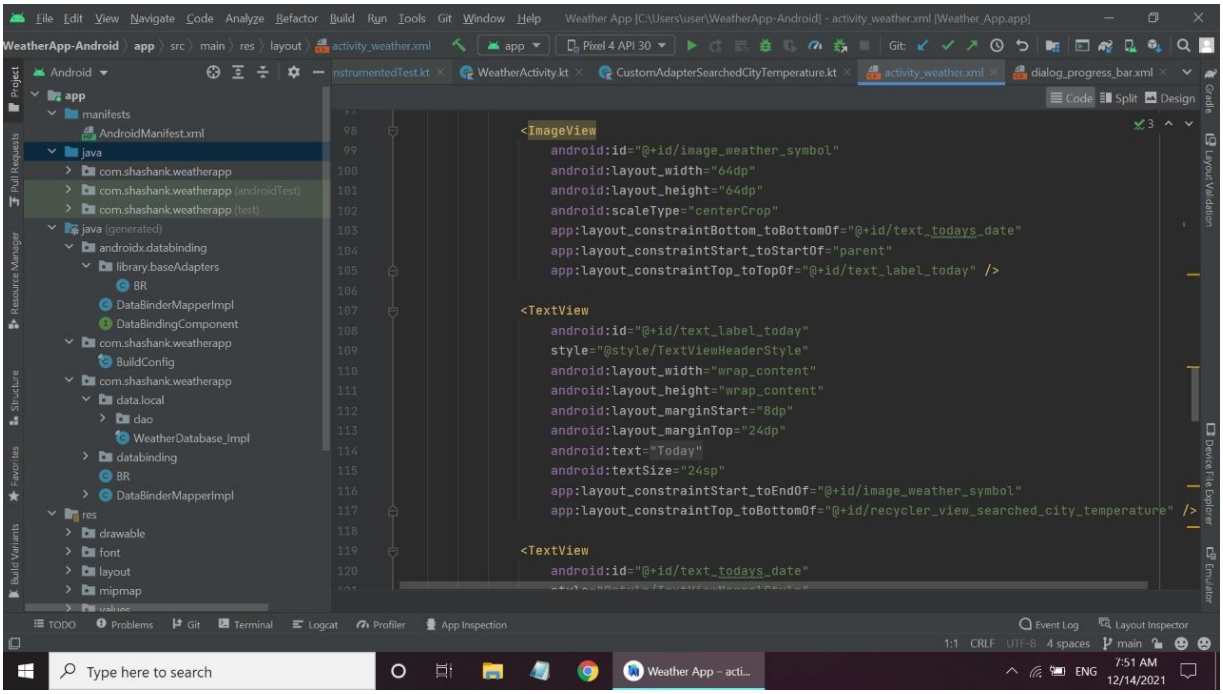

Fig 12: activity_weather_xml

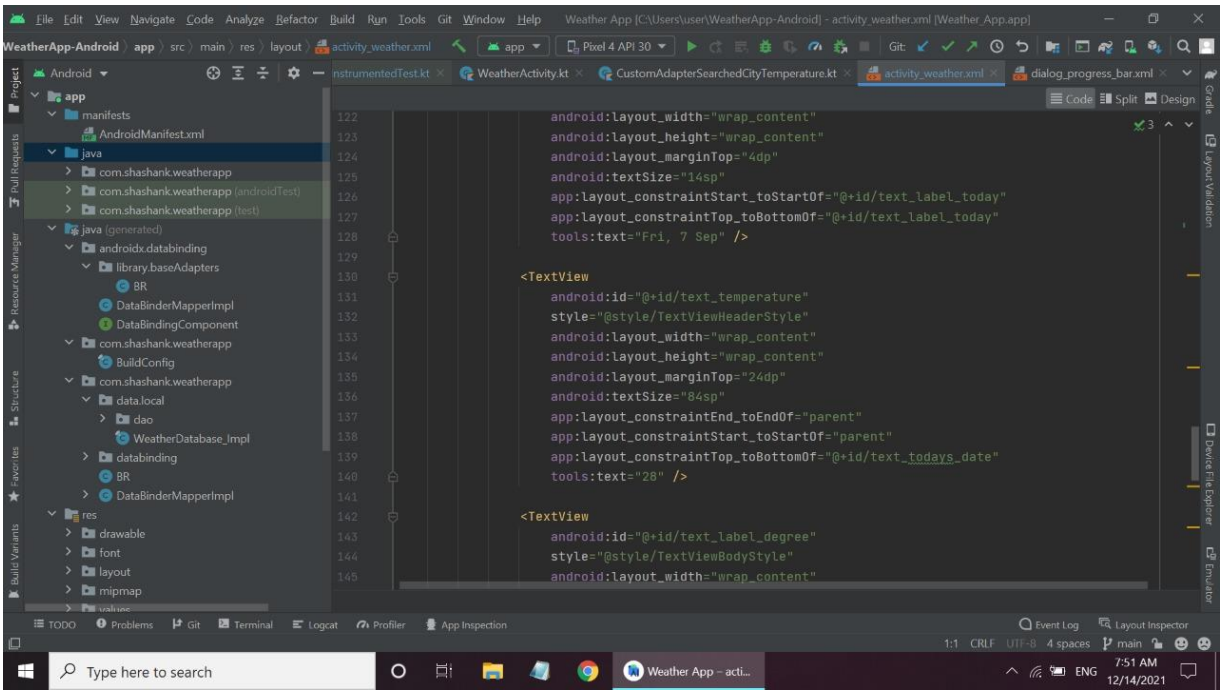

Fig 13: activity_weather_xml

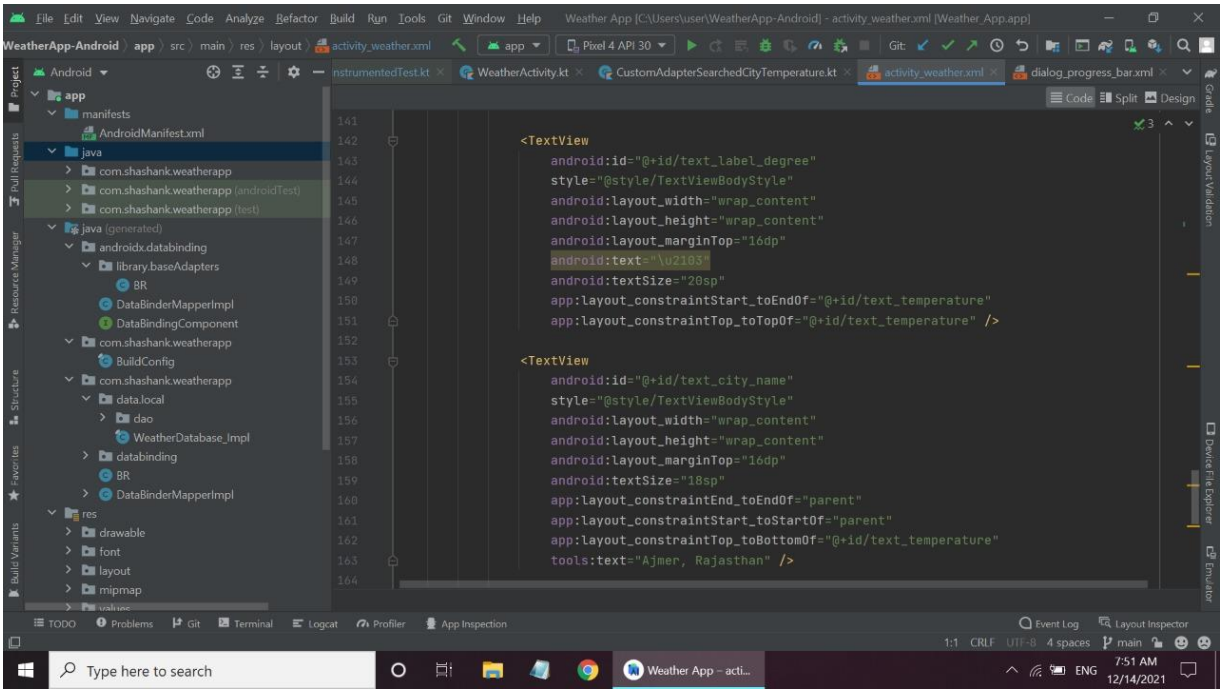

Fig 14: activity_weather_xml

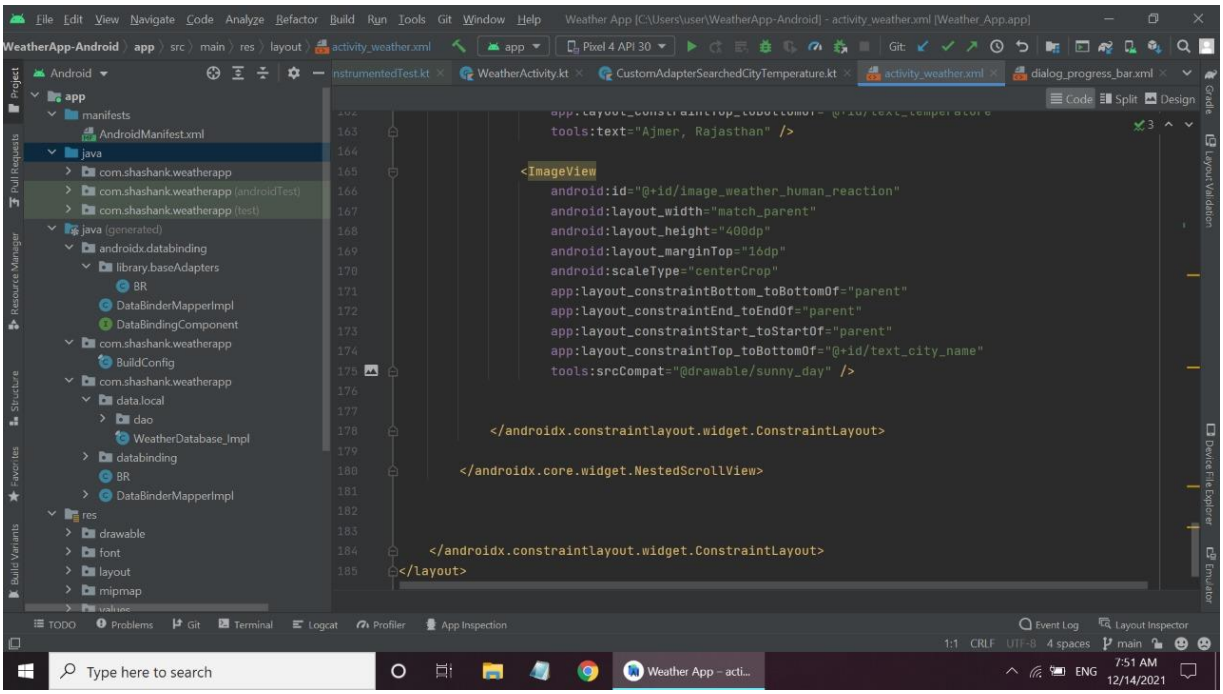

Fig 15: activity_weather_xml

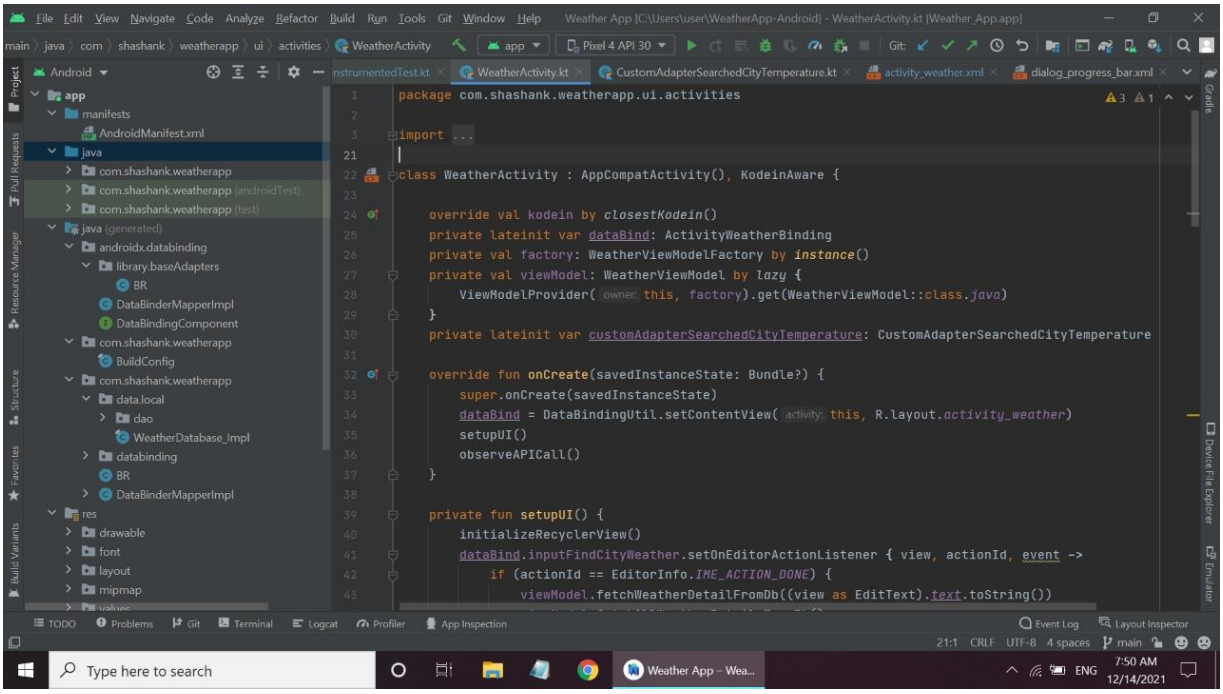

Fig 16: activity_weather_xml

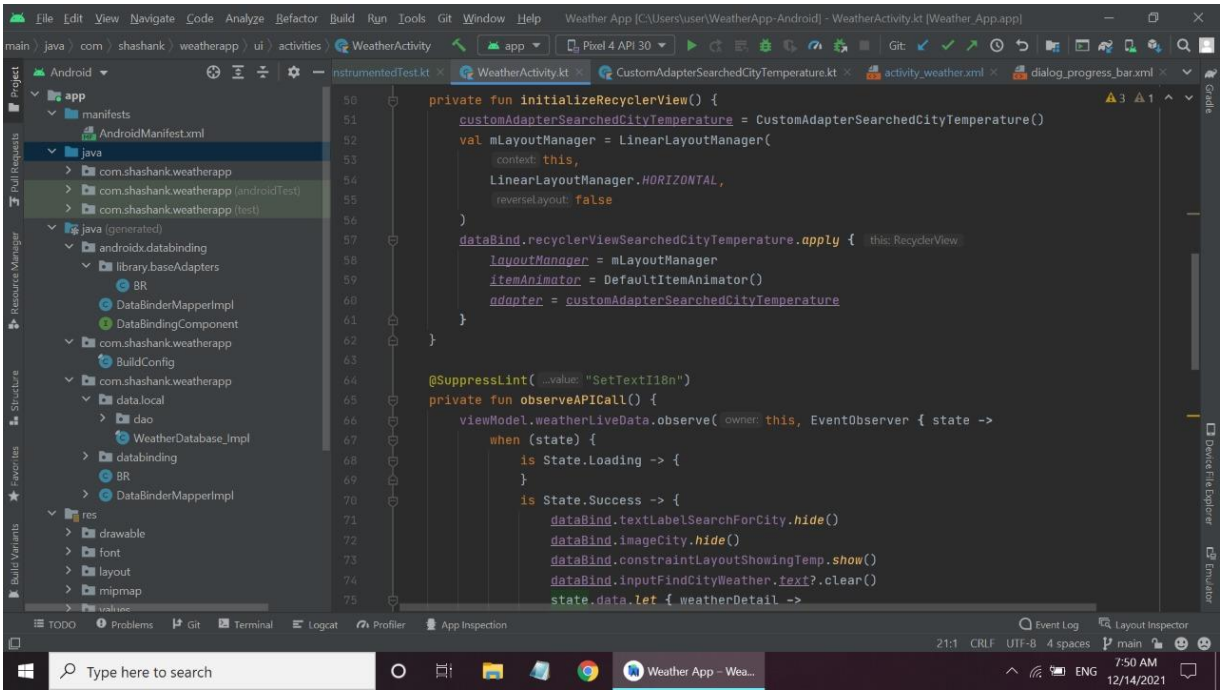

Fig 17: activity_weather_xml

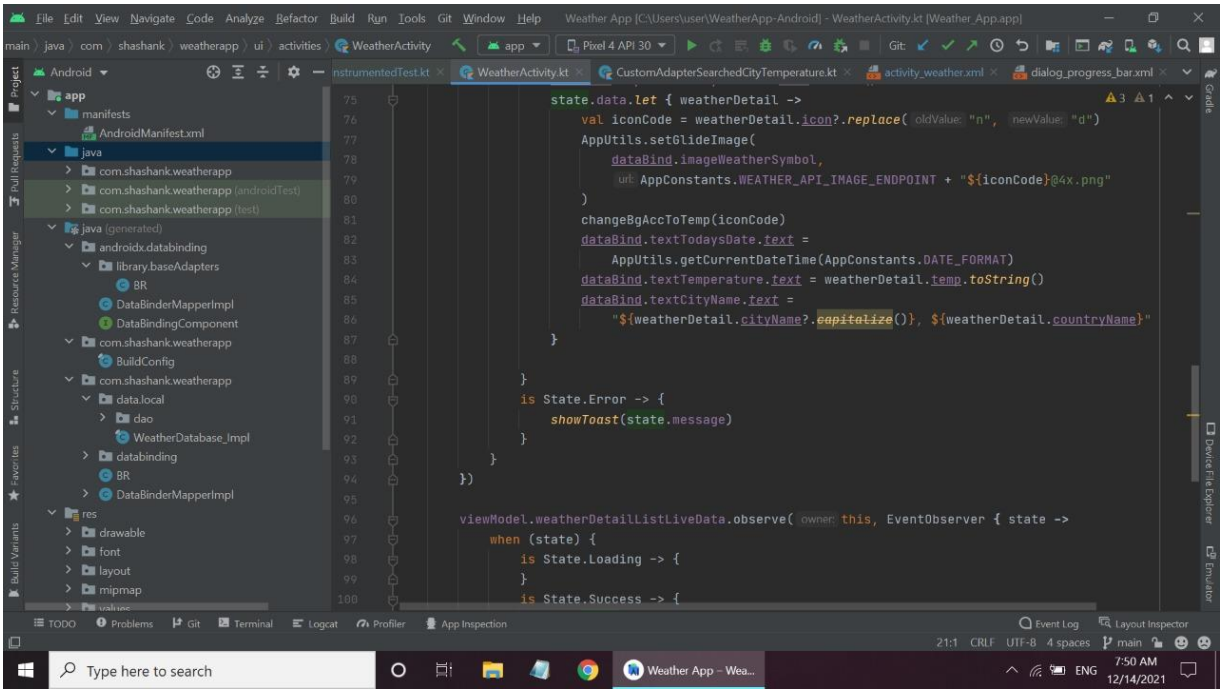

Fig 18: activity_weather_xml

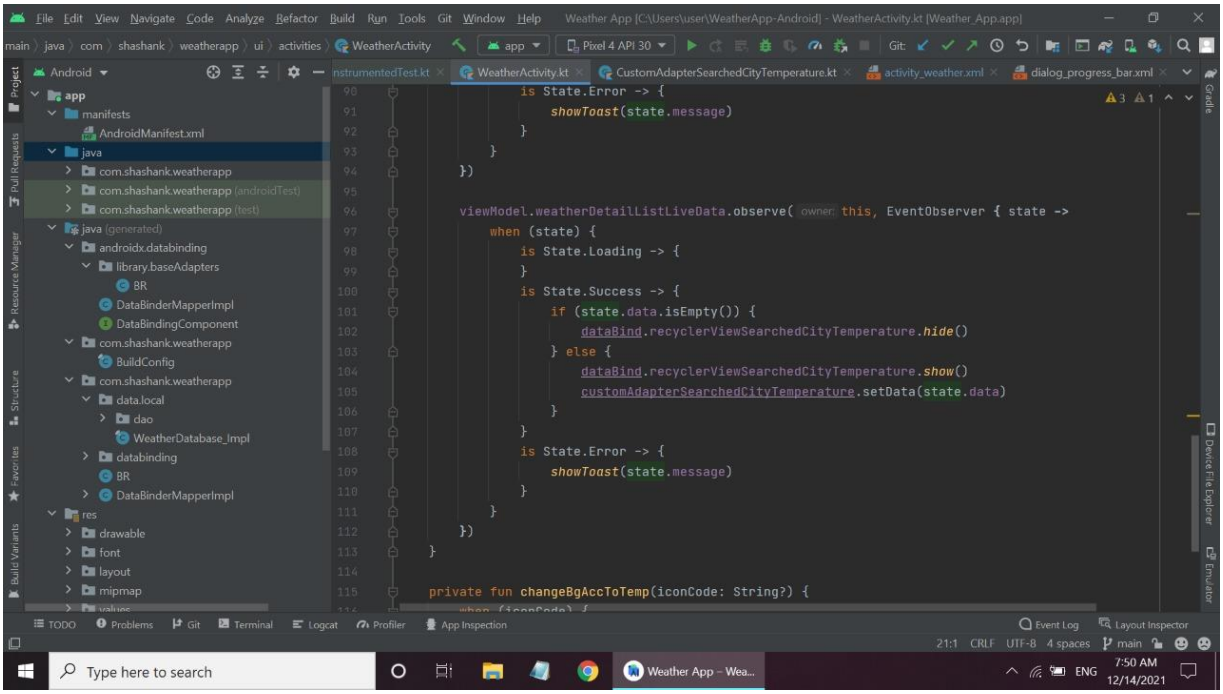

Fig 19: activity_weather_xml

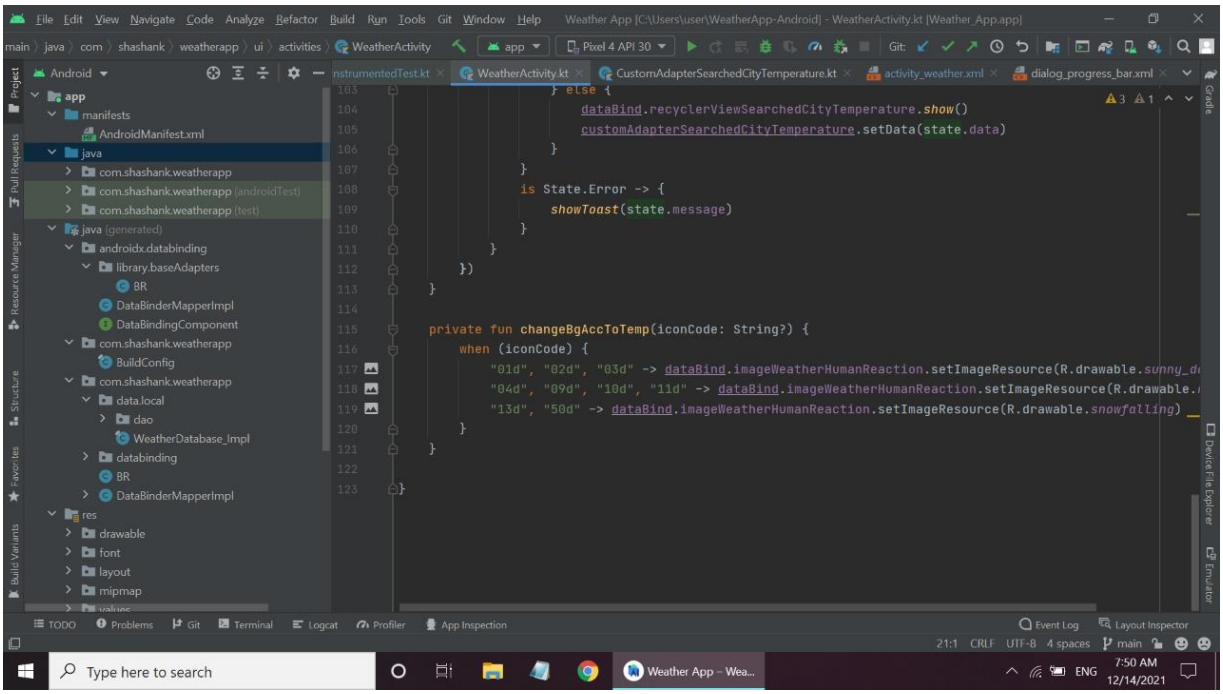

Fig 20: activity_weather_xml

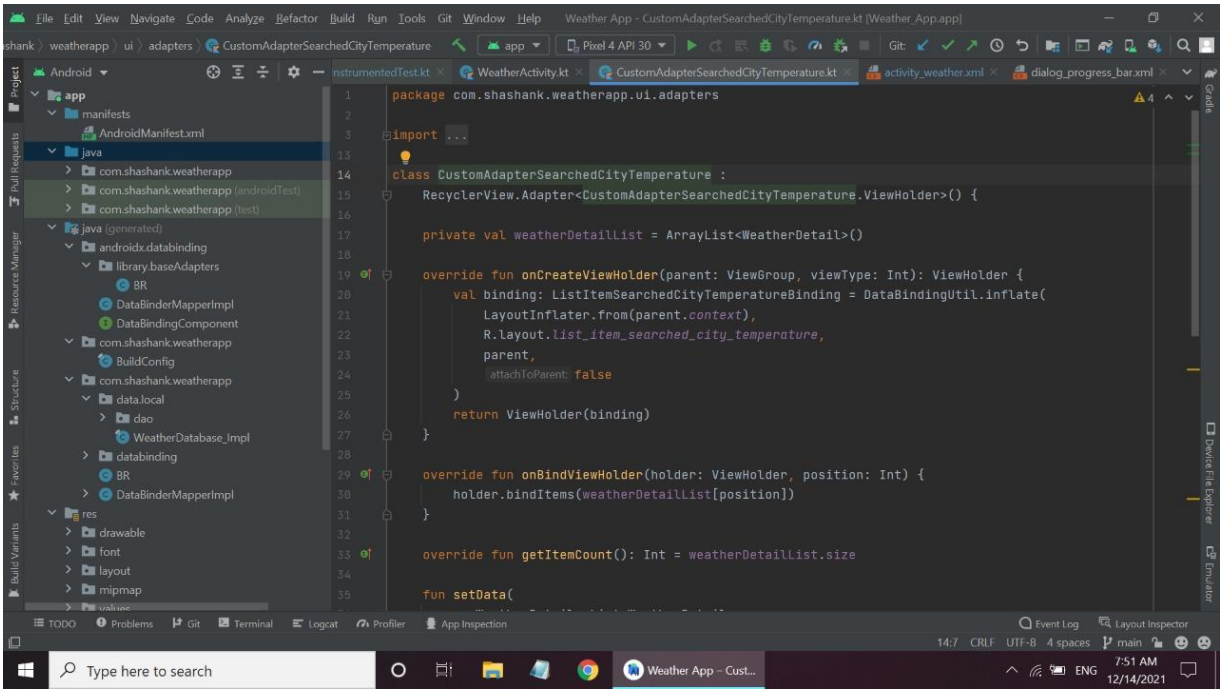

Fig 21: activity_weather_xml

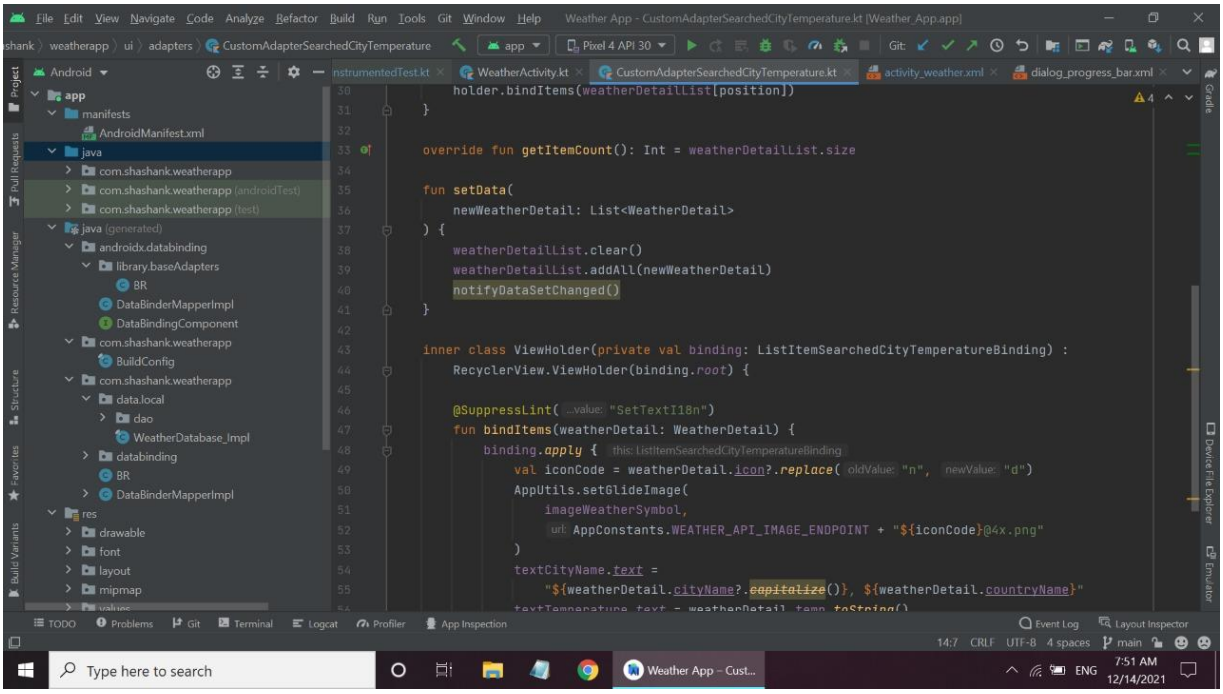

Fig 22: activity_weather_xml

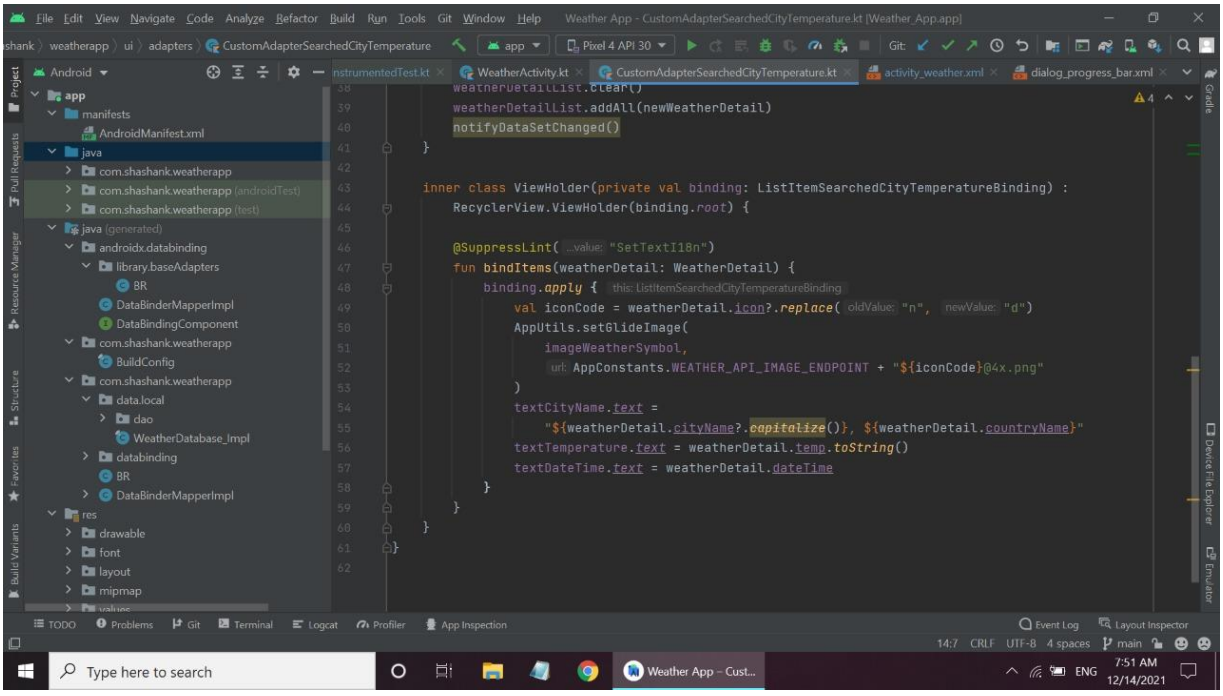

Fig 23: activity_weather_xml

5.2 RESULT

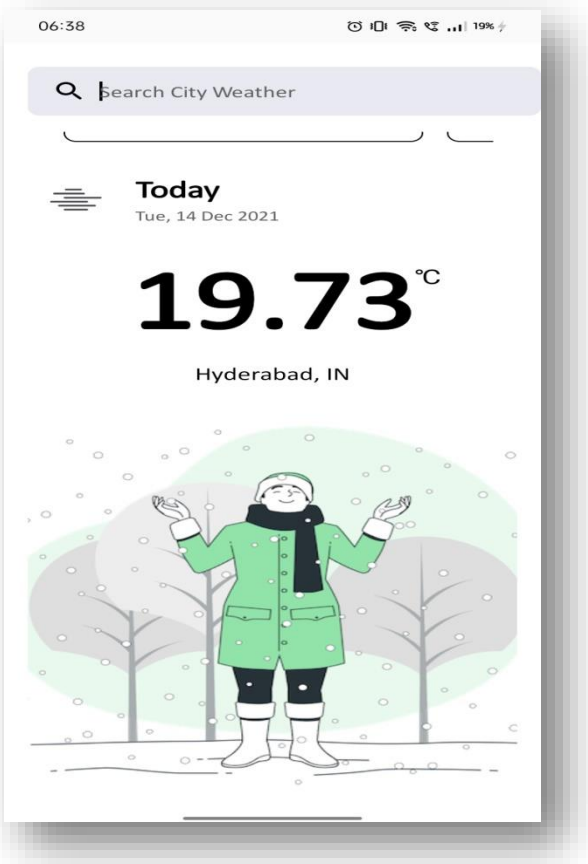

Fig 17. Weather Display

CHAPTER 6
CONCLUSION AND FUTURE WORK

6.1 Conclusion

This application helps people to know the weather at any time and for any location, so that they can plan their works accordingly.

6.2 Future works

- This application can be upgraded next, in a way that it gives alarm before any disaster.

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