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AQI app

Description

App will show the air quality of a particular area , data will be updated everyday. It aims to make people more aware of their environment.

Intended User

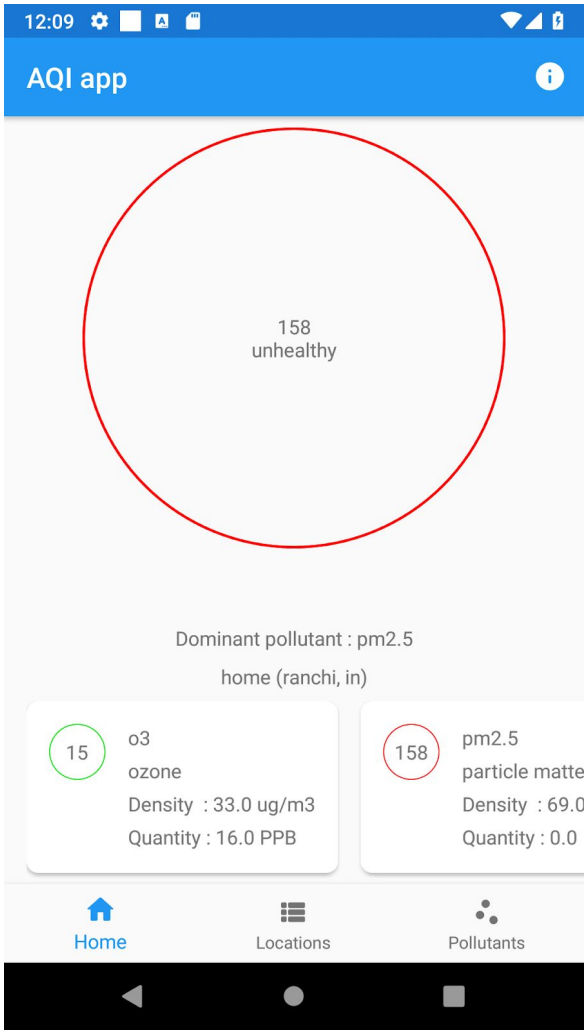
This app is for daily commuters , they can see the air quality before commuting and take necessary precautions if necessary.

Features

- Shows air quality data
- Shows dominant pollutant
- Shows individual pollutant data

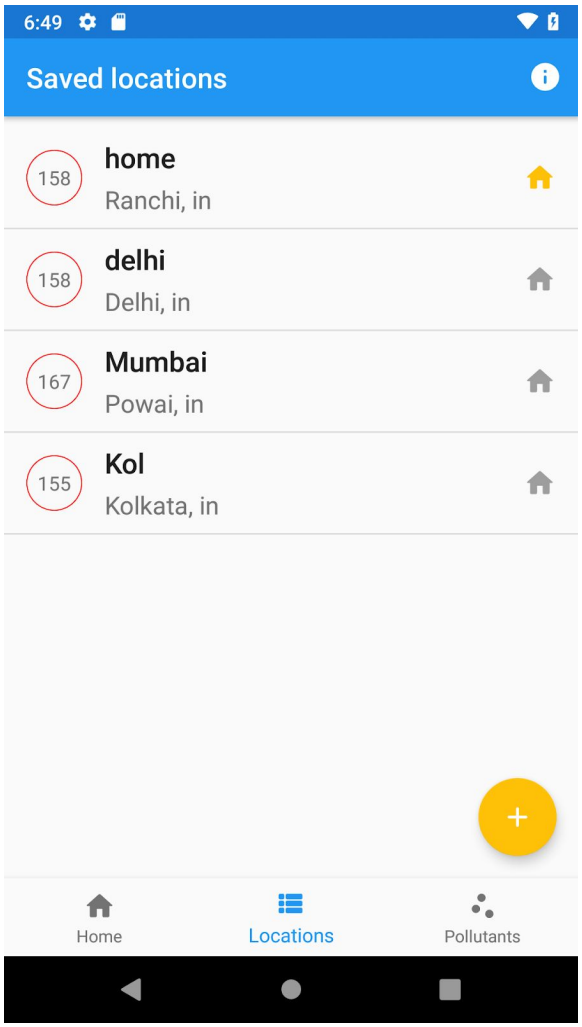
User Interface Mocks

Screen 1



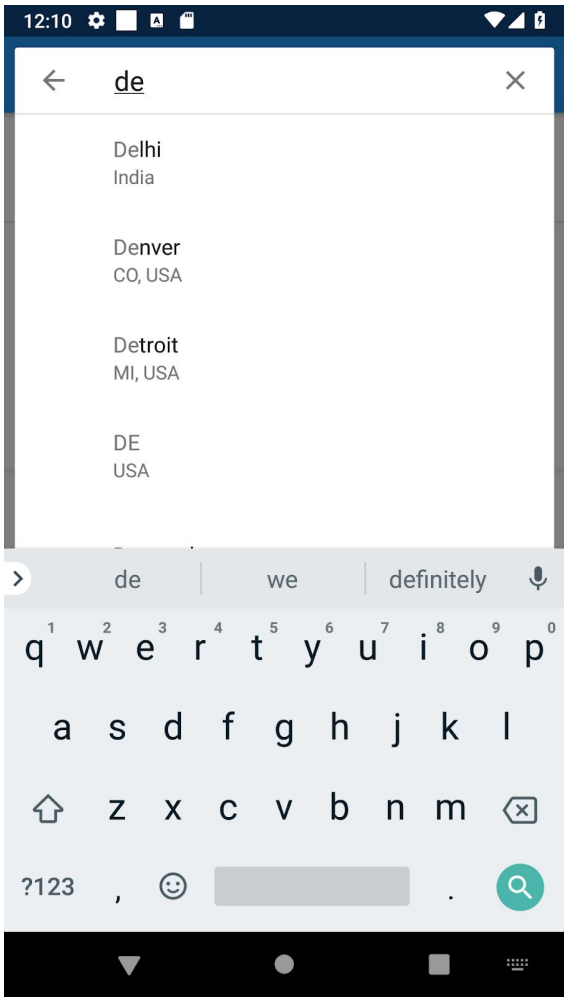
Home fragment , shows the air quality data for users home location.

Screen 2



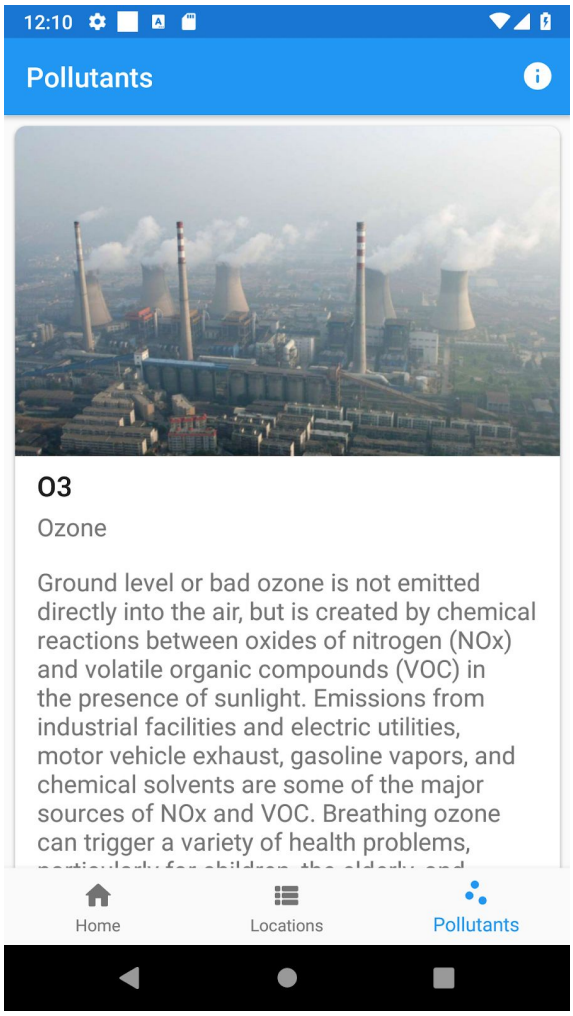
Locations fragment , user can add more locations by pressing add button , also remove places by swiping or mark a place as home. Home location will be shown on the home fragment , and also on the widget.

Screen 3



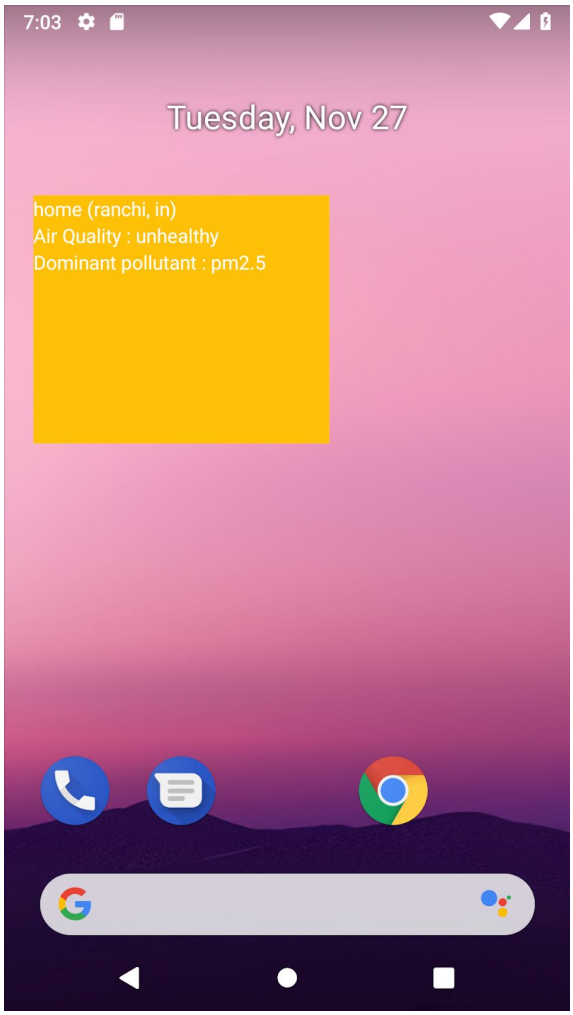
On pressing the add button google places dialog box will open to help user to pick a place.

Screen 4



Pollutants fragment , it shows info about pollutants and how they affect human health.

Screen 5



The widget will show home location data. It will show place name , a brief description of air quality and dominant pollutant.

Key Considerations

How will your app handle data persistence?

I will use room (version 2.0.0) to save data , and follow a repository pattern. Data will be called using a LiveData (version 2.0.0) , no unnecessary calls will be made , along with this a viewModel (version 2.0.0) will be used to handle screen rotations to reduce unnecessary calls. Also values like strings and dimensions will be saved in strings.xml and dimens.xml files.

Describe any edge or corner cases in the UX.

It will be a single activity and three fragment ui , user can switch between the fragments using a bottom app bar.
App UI will have RTL support and have accessibility options like content description for every image.

Describe any libraries you'll be using and share your reasoning for including them.

I will be using retrofit library to handle network operations.

Describe how you will implement Google Play Services or other external services.

I will use location services (version 16.0.0), to give location based air pollutants and air quality data. I will also use admob to display ads.

Next Steps: Required Tasks

Task 1: Project Setup

Android studio version 3.2.1
Gradle version 3.2.1
Write entire app in Java.
Target SDK version 28 , minSDK version 22.
Use androidX app compat library version : 1.0.2

Sub tasks :

- Configure retrofit to get data from the internet.
  Retrofit version : 2.4.0
- Display the data in raw format

Task 2: Implement UI for Each Activity and Fragment

List the subtasks. For example:

- Build UI for MainActivity
- Build UI for the three fragments

- First ,homefragment will show the air quality data of one particular location (user will have option to choose this home location)
- Second fragment will have a list of location data , the user can also add new places from this fragment , all the places will be shown in a recycler view , all places will also have a button to mark a particular place as home location , which will then be displayed in the first fragment
- Third fragment will have some basic information on air pollutants , and what this data is about.

Task 3: Your Next Task

Implement repository pattern. To save location data

- Add a functionality to add more places , using google places library , when user will click on the add button on the second fragment , then a google maps search window will open , user can select a location. After this the location data will be requested , then this data will be saved.
- Add a firebase job scheduler to refresh the air quality data of all the saved locations every day at 2 PM.

Task 4: Your Next Task

Create a widget.

- Create a widget to show home location data.

Task 5: Your Next Task

Describe the next task. List the subtasks. For example:

- Improve the UI design
- Make app material
- Add ad in appropriate place

Task 6: Your Next Task

Create an icon for app.

- Create icon for app.
- Prepare to upload on play store