Assignment 6

40 points

Due: November 30, 2022 11:59pm

This assignment will implement location-based weather. To do this you will need to implement the following:

1. Request the runtime permission for COARSE_LOCATION.
2. Implement a location listener using the FusedLocationProvider to get the current location information of the device.
3. Make a request to OpenWeatherMapAPI to get the Weather Data based on the latitude and longitude.
4. Pass the latitude longitude pair from the current conditions screen to the forecast screen so that the forecast data is also for the device's current location.

Step 0 – Setup

Add the following to your module level build.gradle:

implementation 'com.google.android.gms:play-services-location:21.0.1'

Step 1 – Requirements

1. Add a button to your current conditions screen with the text "Get Weather for My Location". When the user taps on this button, request the COARSE_LOCATION permission or get the weather for the users's current location.
2. Add a `name` field to your CurrentConditions object. This represents the city name represented in the data. Use this field to update the city name on the Current Conditions screen.
3. Add a new API call for Current Conditions which takes in a latitude and longitude instead of a zip code. See the format for the URL at https://openweathermap.org/current. It should be of the form: https://api.openweathermap.org/data/2.5/weather?lat={lat}&lon={lon}&appid={API key}
4. Use the latitude and longitude returned by the Fused Location Provider to get the current conditions and update the view with that data.
5. When the user taps on Forecast, Pass the latitude and longitude to the Forecast Screen.
6. Add a new API call for Forecast which takes a latitude and longitude instead of a zip code. See the format for the URL at https://openweathermap.org/forecast16. It should be of the form: api.openweathermap.org/data/2.5/forecast/daily?lat={lat}&lon={lon}&cnt={cnt}&appid={API key}, where cnt is the count (I.e. the number of days to return) and should be 16.
7. Use the response to this API call to display the forecast data.

Step 2 – Submission

1. Merge your PR for Assignment 5 to main.
2. Locally, checkout the main branch and then run git pull
3. Create a new branch for Assignment 6: git checkout –b assignment6
4. Do the work for Assignment 6
5. Commit your code: git add . & git commit –m "Git commit message"
6. Push your code: git push origin assignment6

7. Make a PR for assignment6 into main
8. Verify that all the code you expect to see on Github is there.

Hints

1. Get started early. I will not grant exceptions or extensions for this assignment as we are nearing the end of the semester.
2. Make sure that you are using a version of the emulator which has access to the Play Store (It will have the play store icon in the row when creating it).
3. Implement the permission request first, then once that is working implement getting the location.
4. Ask questions early if you have them.

Assessment

30 points – All requirements met

5 points – Good coding style

5 points – Proper use of Git and Github PR