Mobile Applications for Sensing and Control (EEP 523)

Homework Assignment 3

Objective: The goal of this assignment is to continue exploring React Native and to practice accessing native features and APIs in React Native as well as integrating with external APIs.

Instructions:

1. Create a new React Native app that allows users to search for and display information about a location using the OpenWeatherMap API.
2. The app should have the following features:
    - A text input where users can enter a location.
    - A button to initiate the search for the location's weather information.
    - The ability to display the following information about the location:
        - Current temperature.
        - Weather conditions (e.g., cloudy, sunny, rainy).
        - The minimum and maximum temperature for that time.

      (OpenWeatherMap Api doesn't allow using min/max temp of the day using its free plan, you can just show the min/max of that time instead.)
    - You can use the OpenWeatherMap API to retrieve the weather information for the location.
    - You can use the Axios library to make the API request.
3. By default, the app should show the weather conditions mentioned above for the current location of the device, for e.g., in our case it should be Seattle. You need to use GeoLocation in React Native to get the current location of the device.

How the UI should look like:

1. When you open the app, the app should show the weather information of device current location.
2. You need to have 5 Text Components on the Screen. They should be City Name, Current Temp, Weather Condition, Min Temp, and Max Temp.
3. You also need to have a Text Input Component, where you can type the city name and a button component which you need to press to get the weather information of that city.
4. If the user enters a wrong name which is not a city, then you should show an error message. There can be many ways to do this for e.g.: you can put N/A in front of every text field, or you can give a toast message etc.

Submission:

Submit your completed project through Canvas by Friday 5th May 2023 for 5% bonus. The regular deadline is Saturday 6th May 2023. Your submission should include:

1. A .zip file containing the source code for your app.

2. A readme file inside your zip file explaining how your app works, how many hours it took you to complete it, what were the most challenging parts, and please cite all the websites and any other resources you used.
3. A video showcasing the working of your App, you may include your voice, it is not compulsory. Your video should show all the requirements of the assignment.

Grading:
This assignment will be graded based on the following criteria:

- Proper functioning of the app (70%)
- Quality and clarity of the code, and a descriptive readme file (30%)

References:

1. React Native Weather API
2. GeoLocation in React Native
3. Sample App
4. Toast Message in React Native