Nearby Places And Car Parker: A Mobile App

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I. Overview and Objectives

In this mid-term examination, we were required to use all the technical aspects of the normal application we use today. The objectives of this assignment were:

1. Get the input from user (first name and last name) and save somewhere in the database
2. Get the current time from the Android system and determine the greetings for the current user using the current time
3. Use the built-in location service of the device and save each location into the database whenever the sensor updates it value(upon changing the database)
4. Handle the case when the GPS is turned off and save something else in the database instead of the normal Location object (latitude and longitude)
5. Get a list of nearby parks and restaurants using Google built-in APIs and store that data into the database with the number of views on each.
6. Again, capture the location object from the device where the car is parked and view it when required in Google Maps
7. Get the data from the relative humidity sensor and use conditionals to determine the weather facts on the basis of that data

II. Design Process and Intended Goals

First of all, after figuring out the problem definition and the solution, we designed the mobile application. The main goal of this application was to use device's location to find nearby restaurants and capture those location for future purpose. Hence, I focused on the internal built-in libraries for building this process. At the end of this process, I should have an app that greets me according to the time of day, shows nearby places and captures my car location.

II. Translating Design to Implementation

In this section, describe how you translated design to your mobile application. Also, you should mention problems you encountered and how you overcame those problems.

First of all, after figuring out the problem definition and the solution, we implemented the mobile application design. Since we wanted the application to look really simple, we though we will have two

major screens. The first screen will be the launcher screen and second screen will be the list of popular restaurants. Apart from this, we must show the places nearby using Google Places API called PlacePickerUI and the location of our car using Google Maps Intent. Next, for getting the weather information, we are using relative humidity sensor built-in in Android. Hence, we will give notifications to the user based on the data of humidity sensor.

III. Future Work and Suggested Design Improvements

1. The design of the app is horrible and more emphasis is given on the implementation part. Hence, the most important part is do it from the scratch again. More emphasis should be given on the design implementation part and after then we should focus on the constraints of the implementation. That would surely make our app rich in User Experience.
2. Also, we are generating the weather data from the sensor. It would be great if we can use rich Weather APIs like Open Weather Data or Yahoo Weather API for forecasting the weather.
3. We can use machine learning techniques like k-nearest neighbour for increasing the chance of getting popular restaurants in large numbers.
4. The data retrieved from the relative-humidity sensor is not accurate, hence it would be great if we can port this data source into other reliable source.

References and Bibliographies

1. Official Android Documentation By Google