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Description of the application

This application consists of three activities and 4 UI widgets and they work in the following way, when the app starts, we can use 3 buttons in the main activity, the “Check the map” button get the user to the map activity, here the user can use the mapView widget and there is button “Back” that goes to the main activity again. In the main activity there is another button “Weather” that takes the user to the “Temperature” activity here there is only an Image widget and another back button (It was supposed to use a weather API but I could not managed to do it). Finally, the last button we can encounter in the main activity is the “Request Location” button, this will make use of the GPS and the Internet, it uses the GPS by requesting the latitude and longitude of the position that the device provide and then it uses Internet to give you the street name and the city by checking the latitude and longitude provided before. The application also makes use of the SQLite database that I will explain in the next point.

Discussion of the use of stored data when restarting from the shutdown

As mentioned before, this application makes use of SQLite for making it work, first of all I need to create a new java class named “Handler_sqlite”, in this class after declaring the database in the onCreate method I am going to do a new query by creating the table coord that is going to have three parameters, the ID, the latitude and the longitude, the app is just going to make use of the two last. After setting the table the “read” method is needed to read the information from the database and the insertReg is used to save it.

In this application this database is used for saving information and use it for other functionalities, here it just saves the coordinates in two different variables, lat and lng, because they will be needed for finding the address.

In this application the stored data in the database is only used for moving information inside the app, but for checking if the database was worked correctly I tested it by saving the coordinates in another plaintext.

This database will also help to recover from shutdown, the latitude and longitude could be saved in another plaintext so the user can find its last position before the shutdown.

Discussion of the difference between native Apps and web Apps, with reference to the application developed

Both, native apps and web apps are accessed by smartphones but there are some differences between each one.

Web apps are based on an HTML website but optimized for the smaller touch-screen of a tablet or a phone. They can access to the same features that a webpage can access such as location.

Native apps need to be downloaded and installed in the device, they can be downloaded in the App Store for Apple devices, Play Store for Android devices or Microsoft Store for devices running Windows Phone among others. They can use all the features of the device such as Bluetooth, camera, location… The application developed is a native app of android.

Some of the advantages of web apps over native apps are the following.

- They can run in different mobile devices even if they do not have the same operative systems or version of the OS, the application developed in this assignment only runs in the latest version of android.
- Easier to update, they do not require the user to download and install the last version so when the app is updated the developer just need to publish it.
- A web app can also be developed as a native app and get installed in a device in the same way.
- Web apps can be shared by copying its URL, so it is easier to reach more users, also it is more simple for the user to find it by searching the URL in any browser.

Native apps also have some advantages over web apps.

- Native apps can be used offline because it is not required to access to the browser, this is useful for some apps but in this case, the application developed needs internet connection to give the address and to navigate through the map.
- As mentioned before, native apps can use more features of the device than the web app, in this case, this app is using only GPS, but it has the possibility to use the sensors camera etc.
- If the app is a game, it is more convenient using a native app because it will run better than in a browser.

Explanation of how the app could be extended

This app was a "first touch" in Android programming, so there are many things that can be improved and the application could have more features than it actually has, I will explain some of this extensions that can be included:

- The "maps" activity is incomplete, it only displays the map of the world but it does not tell the user its position on it. For doing this I tried to take the position of the device and show it in the map, but as the database is storing the coordinates, it could also be possible to use them and show those coordinates in the map, this could probably avoid programming more than it is required.
- The "maps" activity could also show the user the coordinates or the address of the place he/she pins on the map by displaying them on a plaintext, and also show the distance between the device location and the place selected.
- The "Temperature" activity is also incomplete, I had some problems with the APIs of the Yahoo weather API and some others, but this activity could give a weather forecast showing the temperature, humidity, pressure …
- This application also needs a new interface and the activities should be better organized. So that you could have a main activity with a simple interface and two different set of activities, one for the weather and another one for the GPS.

References

https://www.youtube.com/watch?v=QNb_3QKSmMk

https://www.youtube.com/watch?v=66F69bqAups

https://www.youtube.com/watch?v=VxPaRjS4Fj8

https://www.youtube.com/watch?v=EBP905a3R7M