Assignment 1

UI, The Web, Persistent storage

IMT3662 - Mobile Development Theory

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Introduction

The aim of this report is to describe the steps followed to build an application in Android Studio. Firstly, I will introduce my application, how it was developed, its functions and how it really works. In addition it will be discussed the use of stored data when restarting from shutdown. Furthermore, we will see the difference between native apps and web apps, referring to my application. Finally, as we all know each and every application that is developed today and thrown on different app stores is downloaded, installed and used by a lot of people. Most of them are really good programmers and developers, so they always think about making better apps derived from the existing ones. Consequently, every day we can find more and more improved apps on the store. So, in the last section I will talk about how my app could become better and more extended.

Description of the Application

My application's name is "My Map". It is a simple app that has a user interface that as required consists of two activities and three different user interfaces, a button, a text view and a map view. The app stores the current state and the information on the local database, which in my case is SQLite. When the app is loaded for the second time, it also remembers the previous state that the user made. It also provides a built-in sensor, which in my app it is the location sensor.

When we create the project, we choose the Google Maps Activity. The application in its first activity has the Google Maps map shown in a fragment and then we can see a button, named "Move to History" and a text view field named "Information", showing the longitude, latitude and altitude parameters. When the user presses the button inside Google Maps, then it can locate the user's position showing these parameters in the text view field. The app remembers the last state that the user made and for that it creates a SQLite database to store the parameters of every time when the user typed the location button in the Google Maps map.

For the app to realize all these tasks, it needs permissions, such as the "ACCESS_FINE_LOCATION", "ACCESS_COARSE_LOCATION" and "INTERNET".

Discussion of the use of stored data when restarting from shutdown

When the app is first loaded, it shows a marker in Sydney and when the user presses the location button in the map, the marker should theoretically move to the user's current location. Even though I tried many times, the code when executed won't move the marker even though I give the current coordinates of the user. Meanwhile, in the map when the program locates the user, there is the blue dot that shows the user's current location and when loaded for the second time after the app shuts down, the blue dot will be in the previous location that the user had.

After this, the coordinates (longitude, latitude, altitude) are saved in the second activity, which is the SQLite Database. It is supposed that when the user presses the “Move to history” button, the app redirects him to the database, where all the previous locations’ parameters are stored.

Difference between native apps and web apps, referring to my application

The difference between a native app and a web app is that the first one is installed directly into the smart phone and it can most of the time work with no internet connectivity, even though this depends on the nature of the application. Meanwhile, a web app can work via web browser on the smartphone, but it requires either a cell signal or wi-fi to work properly.

The native apps have a big advantage comparing to web apps, related to the fact that they work independently of the web, even though most of them are pulling information from the web. These apps can work way much faster by using the power of the processor and can access specific hardware like GPS. In some smartphones, these apps can control the devices and act as a controller themselves.

The web apps’ functions are restricted, because of the internet connection and web browser requirements. Secondly, even their speed to be loaded is affected by the quality of internet signals. Its issue is for example the lack of usage of internal hardware , such as GPS and other connectivity; unless it is connected to a wi-fi broadband or an internet connection like 3G or 4G.

My app it’s a native app, because it can use its facilities without the need of having always an internet connection “stick” to it.

Other difference is that a native app is always installed through an application store and they are developed specifically for one platform. On the other hand, web apps are like web pages and users navigate to a special URL and then they have the option of “installing” them on the home screens by creating bookmarks to those pages. They are web pages, but they mostly feel like native apps and the concept of “installing” them makes people confused about the difference.

My app is a native app, because it can only be installed from a specific app store and can work only on Android platforms.

Another difference stands on the fact that native apps are usually written in Java and objective C programming languages. Web apps are written in HTML5 and JAVASCRIPT.

My app is a native app because it is based on Java programming language.

Explanation of how my app could be extended

As all the apps that can get improved, mine also can get a lot improved and even extended. My app is using Google Maps and is loading just the current location of the user.

It can search for a specific place in the map, it can search for directions from one place to another, it can provide information about places that you search for, it can provide information about the weather conditions in a lot of places and it can view a lot of different kinds of maps to the user, it can even let him zoom in and out in different scales by using touch gestures or zoom controller buttons.

It can be extended by using the accelerometer, by measuring the orientation and tiling motion of the applications. The app can also be extended by offering app settings activity to the user and by letting him choose the options that he prefers inside a window.

There are plenty of other ways to extend apps, but these are some of the simplest and most interesting that can be used.