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**Computer Games (Software Development)**

**Mobile And Ubiquitous Computing Coursework Documentation**

*I confirm that the code contained in this file (other than that provided*

*or authorised) is all my own work and has not been submitted*

*elsewhere in fulfilment of this or any other award.*

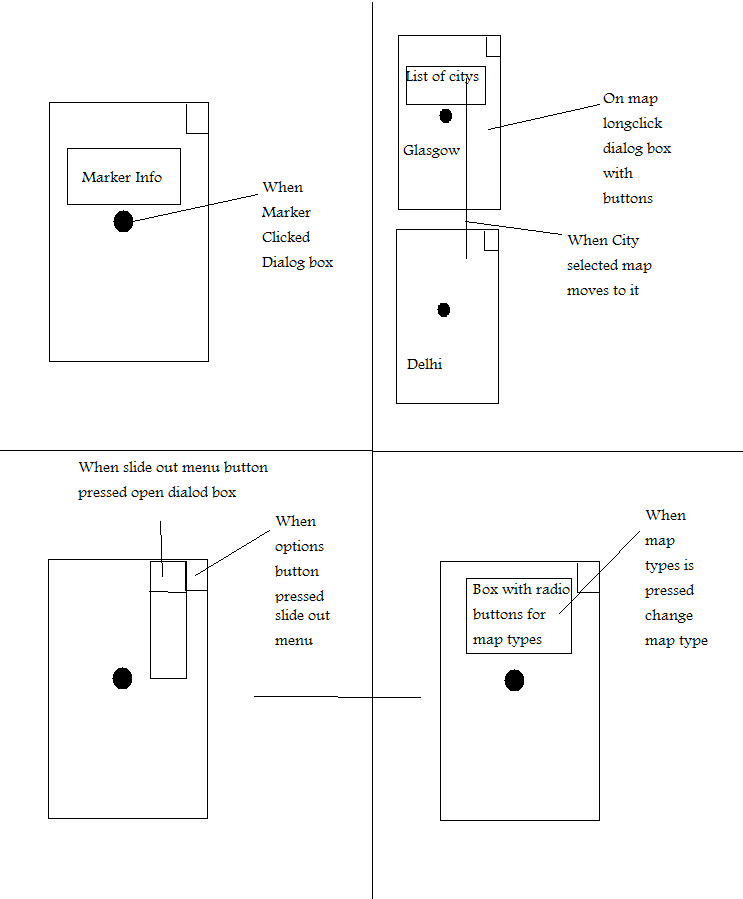
*Signature:*

**Code Explanation**

This app uses three xml and on java file to generate the app. The xml files are AndroidManifest.xml, activity\_main.xml and main.xml. The activity\_main.xml sets up the layout of the map with one text view used to display co-ordinates and a map fragment that holds the map. The main.xml contains the layout and name of the options menu that scrolls out when the options button is pressed. AndroidManifest.xml holds all the permissions that the app requires from the device, some of these are Internet access and access to its network state. It also holds the Google map API key which allows the app to access Google maps. Additionally it holds the theme data for the app such as the icon used to represent it and the label of the app.

The java class is called MainActivity.java. This class contain seven methods used to run the app. The first thing this class does is import the needed libraries and set up the variables such as Markers, LatLng and map that will be used in the app. The first method is the OnCreateMethod() this first finds and sets up the layout that will be used from the activity\_Main.xml and initializes the map. When it initializes the map it sets the initial map type to hybrid and moves the camera to Glasgow. After doing this it creates the on click listeners for markers map and map long click. It then creates all the markers and places them on the map. The second method is onCreateOptionsMenu() this sets up the options menu to inflate out when pressed, this uses the main.xml. The third method is onOptionsItemSelected() this method creates an array of map types and creates a dialog box with a list of radio buttons for switching between map views when selected. This dialog box appears when the options button is pressed with the title choose a map mode; it uses a case statement to handle the selection of the different map views. The forth method onResume() uses a toast message to show if the Google play services are available when the app is started or resumed. The fifth method onMapClick() animates and moves the camera to the pint where the user touches the map. The sixth method onMapLongClick() opens a dialog box with a list of the past ten venues of the commonwealth games and when one is pressed moves the camera to that city. It does this by setting up an array of cities and creates a list with onClick() listeners in the dialog box for each of them; it also uses a case statement to handle the input. The seventh and last method is the onMarkerClick() method that is called when the markerClick() listeners pick up that a marker has been clicked. This method starts by creating string variables that will be used as the message in dialog boxes. When a marker is clicked it checks to see what marker is clicked and displays a dialog box with the relevant information.

**Storyboard**

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