Assignment 1 – Report

The program submitted to the BlackBoard it is a simple Calculator, I chose to develop my application for the android platform for several reasons, the most important one it is due to lack of access to Apple products. Initially I decided to start designing the layout of the Calculator, to accomplish it I looked at other simple calculators, such as the current android calculator and several applications available through Play Store. From there, I began to work on my application's Interface. To make it accessible to as many device has possible, I decided to design it for both portrait and landscape mode. Check out the result below on figure 1.
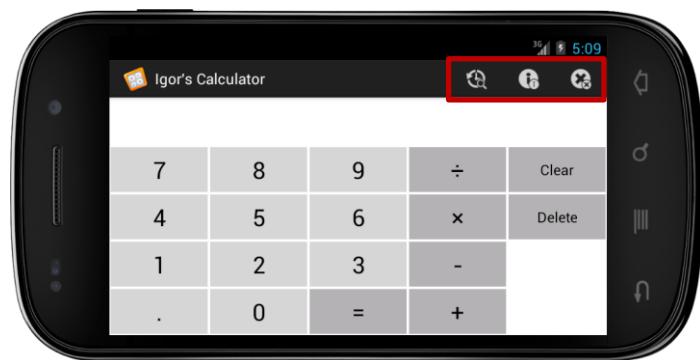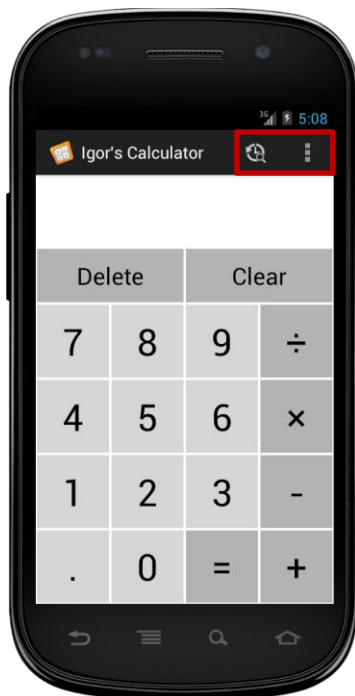

The design was build using Linear Layout (vertical and horizontal), the buttons was built to be responsive and match all the available space. The same *onClick* function was assigned to each button but Clear, Delete and Equals who has they own specific function. For users experience purposes I decided to separate the buttons into two types Control Buttons (Delete, Clear and all Operators) and Input Buttons (Numbers and Point) for those I have created two *Drawable* Style.

The Calculator can perform all the four basic math operations with or without decimal numbers. It is also allowed multiple operators in one large command input - i.e. -2 x -3 + 4 - 5 / 6 - 7.2 = 1.97 (note that is allowed to use negative number for multiplications and divisions) - to do that it was used a Regular Expression and a couple of functions to treat the user input.

Once the basic functions of the calculator were operational, I decided to implements some features to avoid user's input errors, such as:

- Do not allow multiple points with one operand. i.e. **3…..2** will be forced to **3.2**
- Do not allow multiples operators, but multiplication and division by negative numbers, between two operands. i.e. **3+-2** will be converted to **3-2**

The Calculator have also a menu with three options: History, About and Close. Each item is accessible by touch in his icon or sometimes the android menu overflow icon. Check out the result below:

When the user presses a menu item button but Close button, a popup will be displayed with the respective information as you can see below.