

## **Programming 3 – Creating a GUI iPhone/iPod Touch/iPad program in Xcode** **(Calculator Example)**

1. Open Xcode, select *File -> New Project ...*
2. Select *iPhone OS / Application on the left* and *View-based Application* on the right. Select either *iPhone* or *iPad* as the *Product*, then click *Choose ...* at the bottom right.
3. Create the Controller –
  - Edit `CalculatorViewController.h` and add two `IBOutlet UITextField` objects: *number1Field*, *number2Field*, and one `IBOutlet UILabel` textfield: *resultField*.
  - Add a – (IBAction) `calculate` method to both `CalculatorViewController.h` and `CalculatorViewController.m`
4. Set up the Graphical User Interface:
  - Double click `CalculatorViewController.xib` to open Interface Builder
  - Add the two text fields and three labels (+, =, and result) to the top of the view and anchor them so they still look nice when the window gets rotated
  - For the text fields, select *Number Pad* as the keyboard type
  - Connect the text fields and result label to the controller outlets
  - Add a *Round Rect Button* and connect the *Touch Down* event to the *File's Owner's* `calculate` method
  - Save and quit InterfaceBuilder
5. Compile the program: -
  - Select *iPhone Simulator 3.1.3* (for an iPhone/iPod Touch application) or *iPhone Simulator 3.2* (for an iPad application) under *Overview*
  - Click *Build*
6. Run the program: -
  - If no errors have occurred, click *Build and Run*
7. **That's it!** If you want to run the the program on your device: -
  - Follow the instructions in the *iPhone Developer Portal* to set up and install your code signing keys, certificates, and provisioning profiles.
  - Edit `Calculator-Info.plist` and change the Bundle identifier to `au.edu.griffith.ict.2501ICT.${PRODUCT_NAME:rfc1034identifier}`
  - Connect your device and make sure it shows up with a green dot in the Organizer
  - Select *iPhone Device 3.1.3* (or 3.2 if you have an iPad)
  - Click *Build and Run*