Lab 1: Getting Started

Due Date
11:59 PM, Wednesday September 9th
Email zipfile “LastName-Lab1.zip” to cse436ta@gmail.com

Assignment – 10 points
This assignment requires little coding and is intended to get you situated with the tools we’ll be using in the class. You will use Xcode to create a project and Storyboard to construct a very simple user interface with pictures that can be manipulated by sliders or other controls.

IMPORTANT: While you can do any of these labs on a Laptop with Lion/Mountain Lion and Xcode installed, YOU WILL ALWAYS want to test it on the Whitaker Lab computers. Oftentimes errors and warnings will creep up from version differences. These warnings will cause point deductions. Take the time to test your project before you turn it in!

People in past semesters have routinely lost 20% of their points by not testing their application in the Whitaker Lab. If your lab works for the first lab, it does not mean it will compile correctly on all future labs.

• In Xcode, create a new Single View Application (Under the IOS ➔ Applications category).

• Enter the name of your project and click save. (It will help the TAs if you include your last name -- a good suggestion would be LastnameLab1).

• A window of options will show up. Take some time to familiarize yourself with the options under summary

• Open the project’s Main.storyboard file which will bring up Interface Builder View.

Your screen should look something like the following:
If the options on the right side of the screenshot do not appear, go to View → Utilities → Show File Inspector.

- Add the following user interface elements to the view (to get these options, change the File Template Library setting on the bottom right side of the screen to Objects – it is the third button):
  - A text label (called Label in Interface Builder)
  - An image view
  - A switch button or a slider

- Set the following attribute properties on the text label (to get these options, change the Identity option on the top right to the Attribute Inspector option – it is the fourth button):
  - Text value should be “Hello WashU!” (or something suitably amusing)
  - Text alignment should be centered
  - Adjust the size to make the text large
  - Any other properties that catch your eye (color, font, etc)

- Place the switch button or slider at the bottom of the screen. You do not need to play around with the options, but can if you wish to.

- Add an image (.png or .jpg) to your project. You can either drag the image in from the Finder into your project or you can use the File → Add Files to “ProjectNameHere” to select an image.
**ATTENTION:** Be sure to check the “Copy items into destination group’s folder (if needed)” checkbox. If you don’t do this, the resource won’t be inside of your project directory and when you submit your assignment the resources will not be included in the submission. A blank box will be shown.

- Once your image is in the project, return to Main.storyboard, select the image view and set the image for the image view that you dragged in previously using the Attributes Inspector.

- Configure the image view’s “Mode” to be “Aspect Fit” so that the entire image is scaled to fit inside the image view’s bounds while preserving the aspect ratio of the image. If a different mode works better for your picture, set it accordingly.

- In Xcode, build and run your project from the Product menu.

Your application will look something like this (with a slider or switch at the bottom).

You must then add some interactivity to your application, (using the slider or switch button, and your image). Some examples include: pressing the switch button can hide or show your image, changing the slider values can change the alpha (the intensity) of the image, etc. This will require some extra work on your part because
exact instructions will not be provided. The Internet has numerous resources, and YouTube has walkthrough videos. Feel free to ask the instructor or TA's for help.

**Troubleshooting**
In this assignment you may stumble upon a problem with Interface Builder when dragging the image to your image view. If you do encounter this, the interface of IB may get into a weird state and you will have to quit Xcode and relaunch it. If this happens, you can set the image on the image well using the Attributes Inspector’s Image pull down menu to select the image.

If your project doesn’t build and run correctly, verify that you have the ‘Simulator - iPhone OS’ selected in the Project > Set Active SDK menu.

For this lab, it is sufficient to test your application out on the iPhone 6 simulator. We will discuss creating universal applications for various screen sizes later in the semester.

**Grading**
The first five assignments are each worth 10 points. Some assignments may include extra credit sections. The following are possible automatic deductions you may encounter:

-1 point for each late day (even if it’s only by 5 minutes). This is judged by the time stamp on the email on the Gmail account.

-0.5 per warning (approximately). Your lab should compile without any warnings.

-2 to -5 points if an error prevents your program from compiling on the Whitaker machines. You will be asked to resubmit the lab.

You cannot lose more than 7 points from automatic deductions.

For this lab you will be graded on:

2 points – image working with correct aspect mode
2 points – text is visible, size is appropriate, and is centered
1 point – a switch or slider is present
1 point – naming conventions are held for submission
1 point – everything is done as requested. i.e. Don’t send in an iPad application. If you must send in one, make sure you have the iPhone application included as well.
3 points – the switch or slider affects the image in some interactive manner
In general, the TA Gmail address is checked only for grading assignments. For help on the assignments outside of class or office hours time, send an email to the professor or TA's (found on the class information website).