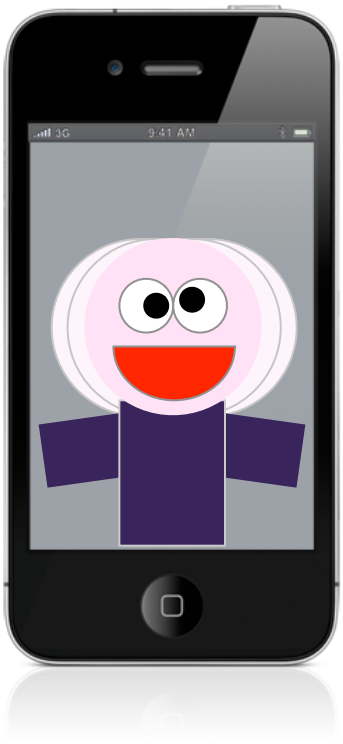

Homework Assignment #2

Make a Bobblehead for iOS!

Summary

In this assignment you will make a “Bobblehead” for iOS. When the user moves and shakes the device, the head of your Bobblehead will move around, in response to the accelerations. How fun is that?!

Demonstrate Your Understanding Of:

1. How to display an image using UIView.
2. How to move a view within its superview.
3. How the ordering of a view’s subviews affect drawing.
4. How to monitor accelerations using UIAccelerometer or CoreMotion.
5. How to translate between model and view coordinate systems.
6. How to keep your model and view objects independent of each other.

Functional Requirements

1. The app must display separate “head” and “body” images (the head should draw “on top” of the body when the two views overlap.
2. The head must move around as the user moves and shakes the device (in response to accelerations).
3. The head must move farther from the center for greater accelerations.
4. The head must not move so far that it moves all the way off the screen.
5. The app must declare that it REQUIRES the accelerometer (and gyro, if you choose to use CoreMotion and CMDeviceMotion).

General Requirements

1. The app must not crash.
2. You must not use any private API.
3. You must follow Apple’s Coding Guidelines for Cocoa (See: http://developer.apple.com/library/mac/#documentation/Cocoa/Conceptual/CodingGuidelines/CodingGuidelines.html).
4. The app must not leak memory or other resources (such as sockets, file handles, ports, etc).
5. The app must compile with ZERO compiler warnings and ZERO warnings from the static analyzer.

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BONUS Opportunities

1. +2 bonus points for using a photo of your own head (or the head of someone you know) for your Bobblehead. Pets count.
2. +10 bonus points for implementing view controller rotation and supporting both portrait and landscape orientations.
3. +15 bonus points for implementing simulated “spring physics” so that your Bobblehead continues to bounce around for a little while even after the device has stopped moving.

Submitting Homework & Due Date

You must submit your project source code, including the Xcode project file, all nibs, and all other resources, in a single ZIP archive BY WEDNESDAY, JAN 26 at 11:00 PM Pacific Time. Homework should be submitted to the CollectIt Dropbox linked from the course homepage: https://catalyst.uw.edu/workspace/luke1/18578/