INTRODUCTION

Programming Handheld Systems—iOS

CMSC 436
Spring 2020

COURSE NUTS & BOLTS

- https://sedna.cs.umd.edu/ios
- Office hours:
  - IRB 5234 Open Area (open area across from IRB 5234)
  - Times TBD
- Grading:
  - 2 reading homeworks: 10% (5% each)
  - 4 individual projects: 30% (6%, 7%, 8%, 9%)
  - 1 large group project: 20%
  - 2 mid-terms (2/27, 4/16): 20% (10% each)
  - take-home timed final exam: 20%
- It’s all curved:
  - Average is B-/C+ boundary (approximately)
    - stdev up and down for each full letter (approximately)
    - grade divisions locked in
TODAY

• What is this class all about?
  • Why am I here?

• Prerequisites
  • You must be a strong **object-oriented programmer**
  • You must have access to a mac

• iOS Overview
  • What’s in iOS?

• A new language: swift

WHAT WILL I LEARN?

• How to build cool apps
  • Easy to build even very complex applications
  • Result lives in your pocket or backpack.
  • Very easy to distribute your application through the AppStore
  • Vibrant development community

• Real-life object-oriented programming
  • The heart of **Cocoa Touch** is 100% object-oriented
  • Application of MVC design model
  • Many computer science concepts applied in a commercial development platform:
    • Databases, graphics, multimedia, multithreading, animation, networking, and much more
  • Numerous students may go on to sell products on the AppStore
WHAT’S IN IOS?

Core OS:
- OSX Kernel
- Mach 3.0
- BSD
- Sockets
- Security
- Power Management
- Keychain Access
- Certificates
- File System
- Bonjour

WHAT’S IN SWIFT?

- Write code for phones, devices, desktops, servers…
- Modern
  - Closure support
  - String support
  - Optionals and chaining
  - Values types
  - Protocol-oriented programming
  - Memory management
  - Xcode development
  - Extensions, Protocols & Generics