Mobile Application Development
Aileen Pierce

STARTING IOS APPLICATION DEVELOPMENT

iOS Development Differences

- Limited screen size
- Each app has one window
- Limited system resources
  - Apps need to start and quit quickly
- Might not always have Internet access
- Could be interrupted
- No physical keyboard and mouse for interaction

iOS Device Tour

- iPhone 6
  - 4.7 inches diagonally, 1334 x 750 resolution
- iPhone 6+
  - 5.5 inches diagonally, 1920 x 1080 resolution
- iPhone 5, 5C, 5s, iPod Touch 5th generation
  - 4 inches diagonally, 1136 x 640 resolution
- iPhone 4/4S, iPod Touch 4th generation
  - 3.5 inches, 480 x 320 resolution, 960 x 640 retina
- iPad Air/Retina
  - 9.7 inches, 2048 x 1536 resolution
- iPad Mini
  - 7.9 inches, 2048 x 1536 resolution

SDK Components

- Xcode
  - Integrated Development Environment (IDE) to create and manage development projects
  - Interface Builder
    - Tool to build your application user interfaces
- Frameworks
  - Software libraries that provide specific functionality
- Simulator
  - Simulates running your apps on your Mac
- Instruments
  - Gather and analyze data on your apps behavior

Developing apps

- Start with an Xcode template
- Design the user interface (UI)
- Hook up the UI and the code
- Write the code using the frameworks
- Build and run your app (iteratively)
  - Compiles your files creating a single library
- Test and debug until you're done

Getting Started with Xcode

- Integrated Development Environment (IDE)

- Projects

- iOS Application

- Templates
  - Enables you to easily create different types of apps

- Devices
  - iPhone, iPad, or universal

Single View Application

- Good for apps with a single view
- Views are the basic building blocks of all UI elements on the iPhone/iPad
- A view is a rectangular portion of the screen that draws content
  - Text
  - Images
  - Buttons
- Views are hierarchical with the window at the top
  - Views added last will appear on top

Xcode Tour

Interface Builder

- Interface Builder lets you visually build your interface
  - What your layout will look like
  - How your interface behaves and interacts
- Your storyboard defines the interface and relationships of your views
- Click on the Main.storyboard file to edit your view

Interface Builder Tour

Hello World

Simulator

- Enables you to run, test, and debug iPhone and iPad apps on your Mac
- Recreates most of the physical behavior of an actual device. Except:
  - No phone, camera, GPS, Accelerometer, iPod, bluetooth
  - Doesn't emulate memory usage