Exploring the iPhone SDK

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IPHONE APP EXPLORATION & DEVELOPMENT
Purpose - Flashcards

- Provide simple way of creating & viewing flashcards
- Clean, simple interface
- Integrate with familiar application such as Google spreadsheets or Microsoft Powerpoint
Purpose - Twitter

- Social website
- Used to update statuses
- Limited by 140 characters
- Based first on cell phone txt messages
- Create a twitter client that sends and receives "Tweets"
Programming for the iPhone

- Only one running application and one window!
- Limited Access – iPhone seriously restricts what your application can get to.
- Limited Response Time – carefully craft your iPhone applications to make sure data is not lost when the user quits
- Limited System Resources – 128 MB, about half left for you
Hardware - History

- **1st Generation** – on sale June 29, 2007
  - EDGE (Enhanced Data rates for GSM Evolution) only
  - 4 & 8GB original models, later introduced 8 & 16 GB models

- **2nd Generation** released in July 2008
  - GPS (Global Positioning System) - earth orbiting satellites to find locations
  - 3G (3rd Generation) – downloads data over UMTS
    - Universal Mobile Telecommunications Systems
iPhone SDK

- Software Development Kit
- A set of development tools that allows a software engineer to create for a certain software package or similar platform
- Apple Developer Connection & documentation
- Xcode, Interface Builder, iPhone Simulator
iPhone SDK - XCode

- IDE (Integrated Development Environment) for developing software on MAC OS X
- Supports multiple languages
- GDB (GNU Debugger) included – tools to help you solve problems
iPhone SDK – Interface Builder

- Creating the GUI (Graphical User Interface)
- Build interface by dragging objects from library
- Objects are connected to Outlets in the code
- .NIB file, more recently .XIB
iPhone SDK – iPhone Simulator

- Loads when the application is compiled
- Stores all the applications in the home screen
- Run *most* iPhone programs on you Mac
- Behaves just like the real iPhone
- Does not support hardware-dependent features such as accelerometer or camera
MVC – Model View Controller

- **Model** represents the information – our code
- **View** represents the visual elements (what the user can interact with)
- **Controller** is the application logic – how the events will be handled. It binds Model & View together
IBOutlets & IBActions

*IBOutlets*: points to an object within the nib file. Suppose you created a label in IB, and wanted to change the label from within the code.

*IBActions*: points to a method in our code. Otherwise known as action methods.
MVC

- Demo with iPhone SDK
Software -- Major Versions

- Version 1.1
  - Included the ability to pin webpages to start page
  - Added ability to buy music over the air

- Version 2.0
  - Included SDK which opened the door for app development
  - Appstore is the only way to get apps
    - All must be Apple approved
Software -- Major Versions

- Version 3.0
  - Introduces copy and paste
  - Laptop tethering
  - Multimedia Messaging
Software -- OS

- Know as iPhone OS
- Derived from original Mac OS X “Leopard”
- Leopard is certified UNIX
- iPhone is essentially a stripped down version of Leopard with restricted hardware access
Objective C -- History

- A super set of C
- Designed to be backwards compatible with C
- Inherits its object oriented design from Smalltalk
- NeXT popularized
Objective C -- Syntax

- Use of brackets to call methods
- Ability to call instance variables with dot notation
- C string and Obj-C strings
- NS at the beginning of everything
- DEMONSTRATION
Resources

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Flashcards & Twitter

- Demo