

THE IPHONE ECOSYSTEM

Apple's Food Chain

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An App For Everything

- ▣ Want to talk, text, read and drive all at once?
 - There's an app for that!

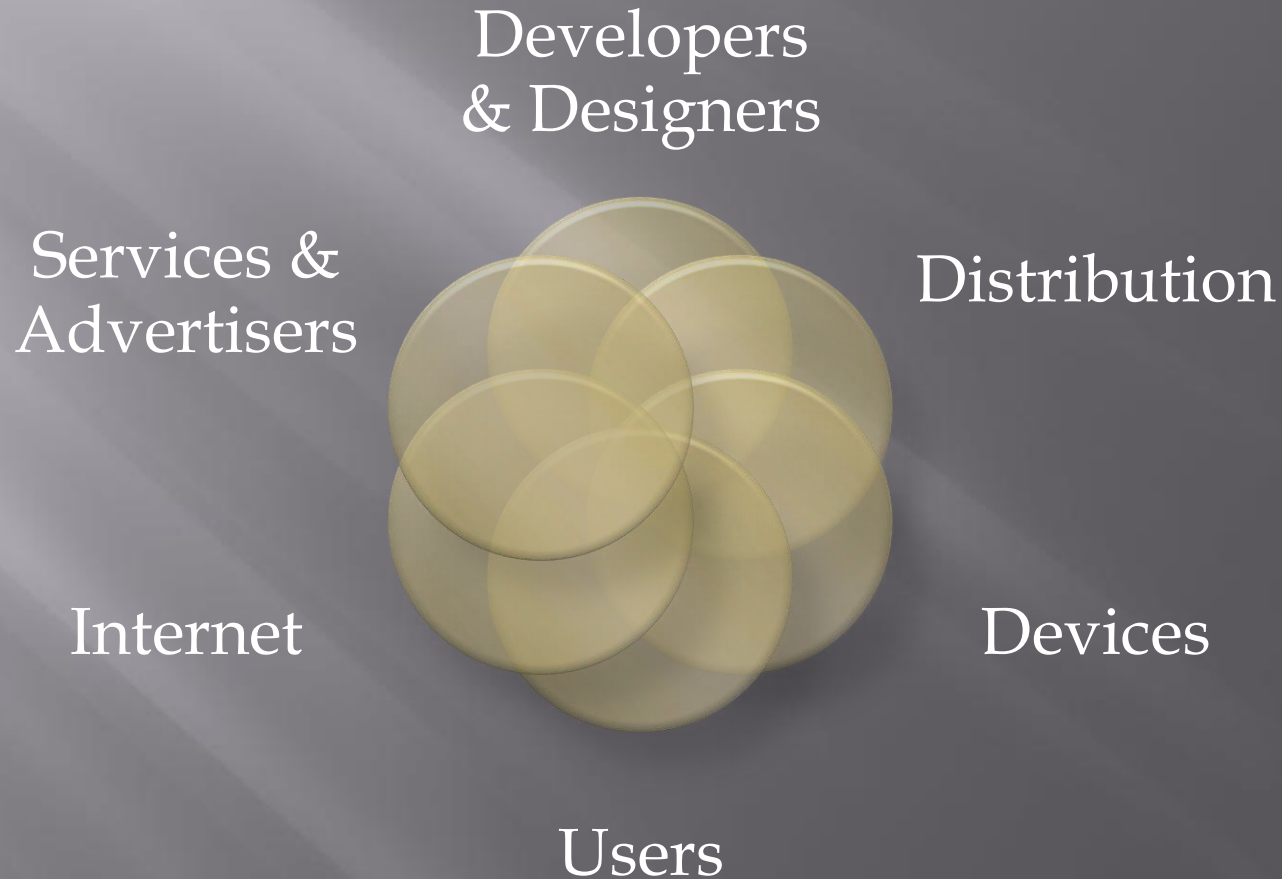
- ▣ ...it's called iWreck!



Some Numbers

- ▣ Over 21 million iPhones sold to date
- ▣ Over 16 million iPod Touches sold to date
- ▣ Apple made over \$1.1 billion in profit this past quarter, with iPod and iPhone sales providing the majority of revenue
- ▣ AT&T has garnered over \$2 billion dollars from iPhone related revenue alone
- ▣ They are sharing this market
- ▣ Over 1 billion iPhone Apps downloaded to date
 - 40 thousand apps and 10 thousand games
- ▣ For those counting, that's an average of 20 thousand downloads per App

Ecosystem Components



Devices

1st Generation (discontinued)

- iPhone (4GB, 8GB, 16GB)
- iPod Touch (4GB, 8GB, 16GB)

2nd Generation

- iPhone 3G (8GB, 16GB)
- iPod Touch 2G (8GB, 16GB)

3rd Generation

- iPhone 3GS (16GB, 32GB)
- iPod Touch 3G (Coming Soon?)

Device Details

- ▣ Graphics
 - Full 3D graphics with OpenGL
 - 320x480 daylight viewable screen
- ▣ Connectivity
 - Cellular, WiFi, Bluetooth
 - USB, Bluetooth P2P, iTunes, Internet
- ▣ Sensors
 - Accelerometer (tilt)
 - Magnetometer (compass)
 - Multi-Touch Screen
 - Global Positioning System (GPS)

Hardware Evolution

1st Generation (discontinued)

- 2G Cellular, WiFi, Bluetooth*, GPS
- Tilt, Vibrate, 2MP Camera, Multi-Touch
- 412Mhz Processor, ? RAM, PowerVR Lite Graphics



2nd Generation (iPhone 3G, iPod Touch 2G)

- **3G Cellular**, WiFi, **Bluetooth**, GPS
- Tilt, Vibrate, 2MP Camera, Multi-Touch
- 412Mhz Processor, **128MB RAM**, PowerVR Lite Graphics



3rd Generation (iPhone 3GS)

- 3G Cellular, WiFi, Bluetooth, GPS
- **Compass**, Tilt, Vibrate, **3MP Camera (Video)**, Multi-Touch
- **600Mhz Processor**, **256MB RAM**, PowerVR **SGX Graphics**

The Internet

- ▣ Integral Component
 - Safari Web Browser
 - iTunes App Store
- ▣ Two Flavors
 - AT&T Mobility (2G, 3G)
 - WiFi Hotspots
- ▣ Original App Platform
 - Jobs wanted every app to be web-based
 - Technology was not up to task
 - ▣ Slow networking (2G - 115Kbps)
 - ▣ Poor feature integration (camera, tilt, location)

The Internet (Now)

- ▣ Drastic improvements
 - HSDPA (up to 70x faster than EDGE/GPRS)
 - WebKit, also known as Safari
 - ▣ Full fledged, desktop class browser
 - ▣ JavaScript performance increases
 - ▣ WebKit UI widgets (buttons, sliders, etc)
 - Automatic Hotspot Login
- ▣ Limitations
 - Web services and applications provide the brunt of processing power and data.
 - Networking is the primary battery drainer

The Internet (Soon)

- ▣ The Future (coming soon)
 - HTML 5.0
 - ▣ Numerous features, enough for an entire presentation!
 - ▣ Hardware integration through custom extensions
 - ▣ High performance graphics, including 3D
 - Sidesteps iTunes App Store
 - ▣ No more approval process!
 - ▣ No more content ratings...
 - ▣ Will there be parental controls?
 - Blurring the development and design line

Distribution

- ▣ Two components
 - iPhone Development Center
 - iTunes App Store
- ▣ Apple's Walled Garden
 - Protected by hardware, software, and certificates
 - Another Digital Rights Management (DRM) war, but on proprietary hardware, network, and software
 - ▣ Apple will win, the jail breakers are just helping them close up security holes
 - ▣ Reminiscent of Blackberry's ecosystem, which is highly secure as well (although the NSA doesn't think so, just ask Obama)

iPhone Development Center

- ▣ Free development toolset
 - Excellent tool chain, but limited integration possibilities and few third party add-ons
 - Poor multiple developer support
- ▣ Deployment, testing tools are paid
 - \$99 to \$299 per year membership fees
 - ▣ Token fee covers all developers in company
 - ▣ Covers certificates and (limited) support
 - ▣ Ad-hoc, enterprise, and commercial distribution
 - Very strict contracts and requirements
 - ▣ Non-disclosure and non-circumvent agreements
 - ▣ Identity validation process is tedious (about a week)
- ▣ <http://developer.apple.com/iphone/>

iTunes App Store

- ▣ More than just a store
 - Push notifications (SMS replacement)
 - Micro payments (In-App Purchases)
 - Sales, promotions, and user analytics
 - Quality control for consistent experience
 - Free distribution, advertising
- ▣ Embedded on all iPhones and iPod Touches
 - The only way to get applications onto your device, (unless you're a developer)
 - Easy to use, level playing field for all participants

iTunes App Store

- ▣ The Apple Tax
 - 30% of sales revenue (over a billion sold!)
 - 3 to 30 (or more) day approval (or denial!) delays
 - ▣ Broken part of the model, not good enough!
- ▣ Free or Fixed Pricing Tiers
 - \$0.99 - \$49.99 (x \$1), \$54.99 - \$99.99 (x \$5), \$99.99 - \$249.99 (x \$10), \$299.99 - \$499.99 (x \$50), \$599.99 - \$999.99 (x \$100)
- ▣ Administered through iTunes Connect
 - Sales, trending, and financial reports
 - Promotional codes and in-app purchases
 - Application submission
 - ▣ Can also use the Application Loader

Services & Advertisers

- ▣ Limited Hardware
 - Relies on web-scale services and applications for communication, storage, and functionality
 - Long-term monetization issues
 - ▣ How do you support an infrastructure on \$0.99 to \$9.99 per sale?
- ▣ Several models
 - Paid Apps
 - In-App Advertising
 - Freemium Apps
 - Advertising Apps



Paid Apps

- ▣ Standalone
 - Stay on the device to avoid extra costs
 - Limits functionality, but can be appropriate (iConvert)
- ▣ Fixed Infrastructure
 - Limits costs, varies profitability
 - Eventually costs will overrun revenue
- ▣ Third Party Infrastructure
 - Use public, free services such as those provided by Facebook and Google
- ▣ Time Limited
 - Ask users to re-purchase every quarter, year, etc.
 - Not well tested nor popular

In-App Advertising

- ▣ Most popular method to subsidize free Apps
- ▣ Several excellent players
 - AdMob
 - ▣ Very established in mobile market, not just iPhone
 - ▣ Pays on a CPC basis, from \$0.01 to \$0.10
 - ▣ Drop-dead simple setup and integration
 - Medialets
 - ▣ Premium service by invitation only
 - ▣ Pays on a CPM basis, from \$1.00 to \$10.00
 - ▣ Has in-App analytics as well (required for ads)
 - PinchMedia
 - ▣ Exclusively iPhone advertising
 - ▣ Very powerful analytics platform (required for ads)

Freemium

- ▣ Hottest, most profitable model around
 - Give away your app, users pay to unlock features
 - Zynga rumored to do about \$100M a year with Freemium Apps on the Facebook platform
- ▣ In-App Purchases
 - Enables this model to the iPhone and iPod Touch
 - Still pay the 30% Apple Tax
- ▣ Not well understood
 - New models are rarely well understood
 - Analytics and demographics are key to success

Advertising Apps

- ▣ Also known as Branded Apps
- ▣ Very popular model
 - Zippo, Oakley, GAP
 - Kia, Audi
 - Coca-Cola, Kraft, Hooters
- ▣ Poor uptake
 - Only 20% of users return after first use
 - Drops to less than 5% after one month
 - (source: Pinch Media)
- ▣ Still profitable, still inexpensive
 - Compares (very) favorably with print, online, and television advertising
 - Brand interaction is priceless advertising

Users

- ▣ A middle class appliance
 - Look, feel, and appeal as important as functionality
 - Apple has a long history of excellence in this regard
- ▣ iPhone user demographics
 - Affluent and educated (\$600 phone)
 - 50% under 30 years old
 - 80% in 25-35 demographic
 - 75% previous Apple customers
 - 48% female, 52% male
- ▣ iPod user demographics
 - 75% under 20 years old
- ▣ Source: Rubicon Consulting, Wikipedia



Developers & Designers

- ▣ Key components
 - Apple has historically put very little effort into supporting developers and designers, but has stepped up efforts for the iPhone platform
- ▣ Almost like game development teams
 - Designers are crucial to the success of iPhone applications
 - ▣ Look and feel is a primary concern that almost trumps functionality
 - Developers simply utilize various technologies available to give designers what they want and need to build excellent interfaces
 - ▣ Primarily concerned with maximizing limited performance

Designers

- ▣ Development starts with designers and ideas
- ▣ Web-based user interface design skills make excellent iPhone designers
 - Developers should stay out of design considerations, except for performance limitations
- ▣ Limited screen real estate and touch-only interfaces require a new breed of interfaces
 - Cocoa Touch has excellent design primitives
 - Guidelines from Apple can be confusing and contradictory, even their examples
 - There is no tried and true methodology

Developers

- ▣ Developers bring designs to life
 - Their skill is critical to implement complex interfaces smoothly and efficiently on limited hardware
- ▣ Toolsets
 - C++ and Objective-C are primary languages
 - ▣ Libraries and frameworks are Objective-C, which is the preferred language for iPhone development
 - UIKit (Cocoa Touch) and OpenGL ES libraries provide primary graphics and UI support
 - iPhone SDK Frameworks provide advanced functionality for position, tilt, etc.

Shameless Plug

- ❑ Wirehead Labs, Inc. is a Pensacola based startup providing mobile application design and development services
- ❑ We specialize in both mobile applications as well as the infrastructures that support them
- ❑ Please visit us at:
 - <http://www.wireheadlabs.com/>
- ❑ Or, contact us:
 - charles@wireheadlabs.com
 - matt@wireheadlabs.com
- ❑ Coming soon: iLostMyMarbles



Workshop

- ▣ Hands-On Workshop
 - TechSoft has graciously offered to host a hands-on iPhone Development Workshop next week, to be instructed by Charles Armour
 - Will be building an ITGulfCoast App, easily convertible for other events
 - Please let Charles know if you're interested and what date and time works best for you (we're still flexible on scheduling)



Conclusion

- ▣ Thank You!
 - ITGulfCoast
 - TechSoft
 - Everyone in attendance!
- ▣ Presentation available online
 - Please visit the Wirehead Labs website at:
 - <http://www.wireheadlabs.com/>
 - (not on CWA Consulting)