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Lesson Proper for Week 7

Android Technology

There have been several breakthroughs in mobile operating system technology, but the iPhone was the most significant. Apple made a mobile phone into a “super-cool gizmo.” Apple has been the mobile king so far. But Android has successfully attacked iOS, disputing its dominance. However, the newest entry, Windows Phone, is still struggling to gain traction. In a world with three operating systems, each has its own advantages and disadvantages.

This year has been a war of outstanding mobile operating systems, which has been going on for years. Today's primary competitors are Apple iOS 6 and Android 4.1 (Jello Bean). This ongoing competition attracts people interested in both operating systems' new features. While some are ardent supporters of one of these two, others are more cautious and await the outcome of this conflict. However, competition usually brings out the best in technology, while it can bring out the worst in people.

History of Mobile OS

Mobile operating systems have come a long way in 15 years. Our mini-computers now have come a long way from those dreary screens without Internet. [x] the evolution of mobile operating systems cubeLABS has a graphic on its site.

We all use smart phones and other electronics now, young or old. A smartphone's operating system is the most vital component (OS).

Here's a list of the most popular mobile OS's

“ **iOS** » Apple released iOS 1 along with the first iPhone on June 29, 2007. The iPhone OS was renamed to iOS in June 2009. iOS technology is based on C programming language and is supported by iPhone, iPad, and iPod Touch. Google Maps, YouTube, iTunes, iBooks, and others are basic iOS apps. Since then, thousands of companies have developed iPhone-specific solutions.

“ **Android OS »** Google funded the Android OS project in October 2003. Google had it in August 2005. Android is a Linux-based mobile and tablet operating system. Most Android apps are written in Java. Smartphones like the Motorola Droid, Samsung Galaxy, and Google Nexus One use it.

“ **Windows Mobile 7 »** Microsoft supports Windows Mobile 7. Windows Mobile 7 uses the Win32 API. Windows Mobile runs on some Pocket PCs, Smartphones, and communicators. Most Windows Mobile versions have conventional functionality like multitasking and file system navigation, as well as a variety of applications.

Android ICS

Ice Cream Sandwich, or ICS, is the newest Android upgrade. The dessert code names for Android's major releases start with Cupcake. ICS is Android 4.0, and it offers several interface modifications to an already mature smartphone platform.

Tablet and Mobile Interfaces Unit

ICS is intended to incorporate parts of Honeycomb, Android's tablet version, into the phone OS. Like Honeycomb, Ice Cream Sandwich has no buttons. Instead of physical buttons on the screen, there are software buttons that follow the user as they tilt the phone in different directions. No Motorola Blur interface necessary, ICS brings resizable widgets.

ICS also allows developers to program once for different screen widths. That makes it easy to create apps that look well on a variety of tablets and phones.

This version also supports more devices, including stylus pens. With haptic feedback, visually challenged persons can navigate by touch.

Changes in Appearance and Interface

Google used to be wary of graphic design, but they've changed their tune. Robota, a tiny, elegant sans-serif developed for mobile devices, is used in ICS. Most screens have a new design and feel. The hideous green of Gingerbread has been replaced by a blue top screen and a white text.

The user interface has also changed. Honeycomb's easier multitasking now lets you swap between apps. You may also reject alerts one at a time so you don't miss an unanswered email. You can also reply to an incoming call without unlocking the device. "I'm in a meeting, I forgot to turn off my ringer, and you really just embarrassed me by phoning right now." Maybe not exactly like that, but close enough.

The People app replaces Contacts and allows users to share profiles across apps and social networks.

Face Recognition

ICS has several new exciting features. Face recognition can lock your phone instead of a pin or password. That's great, however it didn't work in the demo, so I hope there's a backup plan for low light or other camera issues.

Data Usage

ICS now includes data use. Not only can you see how much data you've used, but you can also set a limit. Data management can be set up similarly to power management. This is great for people who have a data cap on their phone plan.

NFC Features

The Nexus S includes NFC, and Google has been working on Google Wallet and other NFC applications. Now you may use NFC to exchange products with other NFC users. It's like the Bump app or the old Palm beaming system, but easier to use if you have compatible devices..

Camera Tweaks

You may now edit video and photos on your phone or device in addition to using the new face unlock feature. This makes it much easy to use your phone's camera as your lone camera. You may now remove the background from video chats and apply live fun-house effects. Android users can now do what iOS users have done for a long time.

There's also built-in panorama capabilities and a new Gallery app. Also, a significant bonus for Android writers, you can capture screen pictures right from your phone and send them later. Hooray! If you're not sure why this is a huge deal, here are the steps.

Security and Connectivity

These are features that signify nothing to the normal user, yet matter when using an app that uses them. ICS improves VPN compatibility, expands Bluetooth and Wi-Fi networking choices, and allows remote camera shuttering. VPN and remote camera administration are intended to assist business users adopt Android.

Productivity

Android 4.0 supports folders and additional enterprise standards for Exchange email. "I'm checking this from my phone, but I'll get back to you with a longer response later," for example, is now better auto-complete for recipients. The calendar still uses Exchange and Google Calendar data, but now other apps can add data to it. Finally, it uses a swipe left to right to change months and days. Previous Android versions employed an up and down swiping gesture that is still perplexing.

There's also a new dictation option that identifies possible spelling problems. The Web browser also allows you to request websites' desktop versions.

Overall, amazing progress. They won't be on your phone soon. Other phones may not get ICS for a long time, if ever. Manufacturers may still feel obligated to slap a bespoke UI on top of Android, or they may innovate through attractive hardware design and optional apps. No need to wait.

iOS6

Apple's latest software update for the iPad, iPhone, and iPod touch is now available. But should you download it right away, or can you do without the new features? To find out, we used the latest OS on the iPhone 5 and iPad 2.

It's a free update. When the software is ready (sometime on September 19th), you'll be asked to update your phone, and then the sparkling new features will emerge.

Compatible with iPhone 4S, 4, 3GS, 4th generation iPod touch, iPad 2, and the newer iPad. You won't get it if you have any other Apple devices besides those listed above. Please read on, but be warned that you may be left wanting, leading you to update your phone, iPod, or iPad.

Siri

Siri's concept hasn't changed since the iPhone 4S arrived last year, but its powers have. There are new tricks in the US, like support for baseball, hockey, football, and soccer. However, in the UK, we now get UK business support and the option to query our phones for weekend football scores.

Maps

Apple decided it could do better than Google Maps and replaced it with Apple Maps. The mapping app will now appear different. Apple's new 3D mapping Flyover tool makes everything look like it's from the SimCity games.

Passbook

Since Apple devices lack NFC, the business has resorted to Passbook to help manage tickets, store cards, and vouchers.

No UK app presently supports the feature, so we can only see false "demo" passes in place.

Facebook

Last year, Twitter was introduced system-wide, and now it's Facebook's turn.

Mail

Apple's email software, Mail, gets a few improvements to keep up with the continual deluge of emails. VIPs are new to Mountain Lion. These are the folks in your life you don't want to miss an email from.

VIPs get their own Mailbox and can be set up with VIP alerts. This is useful if you don't want to miss a boss email. Although this functionality is identical to OS X's, it appears to be impossible to sync the two. We think it was a miss.

Safari: iCloud tabs, Offline Reading Lists, and full page browsing

Your browser tabs are now automatically synced across all of your iDevices when you use Mountain Lion on your Mac. Useful if you've been searching on your iPad or Safari on your computer and want to continue on the go.

Do Not Disturb

Apple knows you're busy - thanks for reading this. As work continues to encroach on personal time, Do Not Disturb may be helpful. It's a technology that allows you to quiet calls and alarms totally, or from 10pm to 7am (great if you are travelling).

App Store

Instead of a large list, each app now contains "detail cards" that you can swipe through. While the detail cards provide more information, we found the app cards to be slow to navigate.

Panorama mode

Until now, Apple hasn't included a panorama option in the iPhone, instead relying on third-party apps to fill the void. Now, on iOS 6, you can take panoramas up to 240 degrees.

Shared photo streams

After you've taken your images, you may share them with other iPhone, iPad, iPod, Apple TV, or iPhoto users using the Photo Stream function in your device's photo gallery. If your recipients don't have an Apple device, they can view your images online.

Text to reject

Your phone rings in a meeting. It's your pal asking where you're getting beer. Text to reject allows you to instantly reject the call with a text message to said mobile phone number and you can pre-load messages with boiler plate phrases to speed up replying even more.

Privacy

It's probably not the best idea to give out all of your data to random apps that want your contacts, calendar, or location. To instruct apps to "bugger off" if you don't want to share certain things with them, Apple has added a new privacy feature to iOS 6.

Windows Phone 7.5

Let's face it: Windows Phone as we know it is a first-generation operating system with great potential. Although it hasn't had all of the capabilities we've been accustomed to on Android and iOS, it's still early days for the platform. The inventive revival of a weak and faltering Windows Mobile platform that was swiftly drifting into obscurity, had to go through a similar procedure.

New Features

Unfortunately, the functions that do have an effect on your ordinary Smartphone experience do so significantly. Microsoft is finally implementing multitasking, social networking integration, numerous much-needed upgrades to email and Exchange, and new voice dictation features, among other things. In a nutshell, Mango is exactly what we want Windows Phone had been from the start — a platform capable of addressing all of our needs, regardless of how bizarre they may be.

Hardware requirements

You may have observed that nearly every Windows Phone launched in the previous year has had uncanny similarities in terms of hardware specifications, and the majority lack meaningful customization. Microsoft maintains considerable control over the hardware that runs its flagship mobile OS (unlike, say, Google), and it's usually difficult to detect significant differences between devices — with the exception of handsets having physical QWERTY keyboards. All of this remains the case with Mango, as Ballmer's Boys demand a unique set of components.

All Windows Phone 7.5 devices will include a Qualcomm Snapdragon CPU (8x55 or 7x30 for new devices; 8x50 for existing devices), DirectX graphics hardware support with hardware acceleration for Direct3D, a minimum of 384MB of RAM, a minimum of 4GB of flash memory, a WVGA (800 x 480) display resolution, a 3.5mm headphone jack, microUSB 2.0, WiFi 802.11 b / g support (n is optional), FM radio,

User Interface

One of Mango's more astounding feats is that, despite its plethora of new features and capabilities, it is practically indistinguishable from its predecessor if you aren't looking for them. This is because Microsoft has retained the characteristic Windows Phone appearance — dubbed Metro UI — complete with two columns of tiles on the Start screen and an alphabetical listing of apps with a short swipe to the left. While the size and placement of these tiles have remained constant, the content displayed within them has increased; many native tiles now contain more viewable information, and even third-party apps can convert their small portion of real estate into a constantly updated live tile.

Email and messaging

Finally, one of the platform's major weaknesses earlier — email and messaging — has become a strength, as Microsoft demonstrates its ability to compete with the big companies. Mango includes a linked email inbox that enables you to merge several email accounts into a single tile. While the concept of a global inbox has been implemented on the majority of mobile operating systems to date, Windows Phone introduced a twist: rather than cramming all of your email accounts into one box, you can pick and choose which ones to include. Prior to Mango, the system was inefficient and unpleasant; it required a different tile for each individual account, consuming additional space and wasting our time by requiring us to flick between various boxes (although if tiles are your thing, you can pin specific email folders to the Start screen so you can go directly to that folder). Needless to say, this is a significant enhancement and one of our favorite Mango features.

Social Network integration

A fundamental element of the Mango version is its ability to combine social network material with other platform capabilities. It's now easier than ever to connect with friends and family on Twitter, Facebook and LinkedIn.

Unfortunately, we weren't able to test Twitter integration in our preview build, so we were anxious to see how it worked with Mango compared to other social networks. The new version integrates Twitter into native apps including the Me Hub, People Hub, and camera app (more on that later).

Multitasking

Multitasking was also half-baked when we first tried it, despite the fact that it was announced for Mango. Because of this, we can't save our game and return to it after a phone call. We feel frustrated when trying to listen to internet radio while browsing the web or doing other things on our phones. We also prefer to switch apps without going home.

All of these issues are slowly being addressed in Mango. A simple long-press of the back button brings up your recently opened apps in a webOS-style card layout (each card is a thumbnail of that program, which begs the question of why we can't capture our own screenshots on the phone).

Marketplace

The phone's Marketplace interface hasn't changed much from the preview build; podcasts can be downloaded directly from the device, and the app can be accessed via the web. The Web Marketplace works similarly like the Android online Market: select an app or song that you like, and it will automatically install on your smartphone. You may also view your purchase history and reinstall any programs you've lost or removed on accident.

Internet Sharing

Another bittersweet feature addition. All new Mango devices now support Internet sharing, often known as mobile hotspot. We mentioned all-new smartphones, so all old phones — including our own Samsung Focus test unit — will remain without the fantastic hotspot.

Internet Explorer 9

With Mango comes Internet Explorer 9, which supports HTML5, CSS3, SV, XHTML, DOM, and other standards. It also includes a speedier JavaScript engine and hardware-accelerated graphics that generate HTML5 animation or video using the phone's GPU. It also streamlines the toolbars, improves security, and runs each tab in a distinct process, preventing a single site from crashing the entire browser.

A Comparison of The Three OS

The iPhone was the biggest change. Apple made a mobile phone into a “super-cool gizmo.” Apple has been the mobile king so far. But Android has successfully attacked iOS, disputing its dominance. However, the newest entry, Windows Phone, is still struggling to gain traction. In a world with three operating systems, each has its own advantages and disadvantages.

Apple's Edge

Apple's touch screen interface transformed mobile phone user interface and set a new benchmark for mobile phone experience.

Apple remains a market dominance in handset sales. Besides the iPhone's sales boom, an army of third-party developers keeps the App Store stocked. There are approximately 500,000 apps accessible and over 80 new apps are added daily.

Apple's Challenges

Apple's success depends on quality applications running on its OS. Apple must maintain quality without alienating developers. This hasn't always been easy. Apple has been criticized for its rigorous application submission policies. Apps for iOS take a lot of time and resources to develop, so rejection hurts. A proprietary software OS also limits developers' capacity to innovate.

The Rise of Android

Google's open source approach to its Android operating system was well received by the market and is currently the main contender to iOS. Android has performed admirably since its launch and has been accepted by the masses worldwide. While these may seem obvious, the main reasons for the success of Android include:

- § Availability on more carriers
- § Installable on different hardware
- § Phones available at lower price points
- § Backed by Google which has deep pockets and a large operational support system
- § Offers an “open” alternative to Apple's “closed-door” approach

Nightmares of Being Open

Official Android phone manufacturers are afraid of becoming a symbol of limitation and control. As a result, the consumer loses their right to install what they want, when they want. Regrettably, the controls have begun. For example, my Micromax A70 running Android 2.2.1 (Froyo) won't let me update. How vexing! These “self-imposed” restrictions have undermined Android openness.

The Birth of Windows Phone 7

Microsoft introduced Windows Phone in 2010 for smartphones from HTC, Dell, Samsung, and LG. After much skepticism, Microsoft announced in 2011 a substantial agreement with Nokia, making Windows Phone the dominant smartphone operating system for Nokia. Microsoft claimed “it is now a three horse race”, implying Android and iOS. Nokia then debuted the Lumia phone series, which hasn't done as well as planned initially, but is showing signs of growing in popularity.

Windows Phone does come with some slick features –

- § Slick, touch-friendly user interface – Large, colorful and live tiles serve as shortcuts to your most-used or favorite apps or websites.
- § The People and Office Hubs – Aggregates your friends from all social networking sites letting you check status or profile updates of your friends. The Office Hub also lets you sync your documents between your phone and your PC.
- § Zune Player and Xbox Live right on Windows Phone

Challenges for Windows Phone

Microsoft may be the “third player” in the present mobile OS arena, but it is not widely regarded. Lacks third-party support, which is important to app production. It needs more apps of all kinds. Microsoft must entice developers to port their apps to Windows Phone.

In spite of the dominance of Apple, Android, and Windows Phone, Research in Motion is still relevant. It will be interesting to see if BlackBerry 10 can help the firm recover. Keep a watch on HTML5, as more developers discover the advantages of web-based apps over native apps.

As a result of the introduction of the first beta version of Apple's mobile operating system iPhone iOS 6.0, which included various new features for iPhone, iPod Touch, and iPad users, we give a comparison between this and two major competitors in the field of mobile devices.

This is a comparison of Google's Android 4.x Ice Cream Sandwich with Apple's iPhone iOS 6.0 and Microsoft's Windows Phone 7.5 Mango.

As we can see, Apple introduces a new operating system, while the other two have had continual updates that increased their OS's functionality and capabilities. The material shows the main differences between these three operating systems that fight for the Smartphone market nowadays.

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