iOS

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I. Introduction

iOS (previously iPhone OS) is a mobile operating system developed and distributed by Apple Inc. Originally released in 2007 for the iPhone and iPod Touch, it has been extended to support other Apple devices such as the iPad and Apple TV. Unlike Microsoft's Windows CE (Windows Phone) and Google's Android, Apple does not license iOS for installation on non-Apple hardware. As of September 12, 2012, Apple's App Store contained more than 700,000 iOS applications, which have collectively been downloaded more than 30 billion times. It had a 23% share of the smartphone operating system units sold in the first quarter of 2012, behind only Google's Android. In June 2012, it accounted for 65% of mobile web data consumption (including use on both the iPod Touch and the iPad). At the half of 2012, there were 410 million devices activated. According to the special media event held by Apple on September 12, 2012, 400 million devices have been sold through June 2012.

The user interface of iOS is based on the concept of direct manipulation, using multi-touch gestures. Interface control elements consist of sliders, switches, and buttons. Interaction with the OS includes gestures such as *swipe*, *tap*, *pinch*, and *reverse pinch*, all of which have specific definitions within the context of the iOS operating system and its multi-touch interface. Internal accelerometers are used by some applications to respond to shaking the device (one common result is the undo command) or rotating it in three dimensions (one common result is switching from portrait to landscape mode).

iOS is derived from OS X, with which it shares the Darwin foundation, and is therefore a Unix operating system. iOS is Apple's mobile version of the OS Xoperating system used on Apple computers.

In iOS, there are four abstraction layers: the Core OS layer, the Core Services layer, the Media layer, and the Cocoa Touch layer. The current version of the operating system (iOS 6.0) dedicates 1-1.5 GB of the device's flash memory for the system partition, using roughly 800 MB of that partition (varying by model) for iOS itself.

II. History

The operating system was unveiled with the iPhone at the Macworld Conference & Expo, January 9, 2007, and released in June of that year. At first, Apple marketing literature did not specify a separate name for the operating system, stating simply that the "iPhone runs OS X". Initially, third-party applications were not supported. Steve Jobs' reasoning was that developers could build web applications that "would behave like native apps on the iPhone". On October 17, 2007, Apple announced that a native Software Development Kit (SDK) was under development and that they planned to put it "in developers' hands in February".http://en.wikipedia.org/wiki/IOS - cite_note-12 On March 6, 2008, Apple released the first beta, along with a new name for the operating system: "iPhone OS".

Apple had released the iPod touch, which had most of the non-phone capabilities of the iPhone. Apple also sold more than one million iPhones during the 2007 holiday season. On January 27, 2010, Apple announced the iPad, featuring a larger screen than the iPhone and iPod touch, and designed for web browsing, media consumption, and reading iBooks.

In June 2010, Apple rebranded iPhone OS as "iOS". The trademark "IOS" had been used by Cisco for over a decade for its operating system, IOS, used on its routers. To avoid any potential lawsuit, Apple licensed the "IOS" trademark from Cisco.

Version history

Apple provides major updates to the iOS operating system approximately once a year over iTunes and also, since iOS version 5.0, over the air. The latest major update is iOS 6.0. This version was publicly announced on September 12 and was released on September 19, 2012. Over 200 new features debut in iOS 6, including Apple's new Passbook service, Maps, and full Facebook integration.http://en.wikipedia.org/wiki/IOS - cite_note-16

III. FEATURES

HOME SCREEN

The home screen (rendered by and also known as "SpringBoard") displays application icons and a dock at the bottom of the screen where users can pin their most frequently used apps. The home screen appears whenever the user switches on the device or presses the "Home" button (a physical button on the device). The screen has a status bar across the top to display data, such as time, battery level, and signal strength. The rest of the screen is devoted to the current application. When a passcode is set and a user switches on the device, the Lock Screen is displayed.

Since iOS version 3.0, a Spotlight Search function has been available on the leftmost page of the home screen page allowing users to search through media (music, videos, podcasts, etc.), applications, e-mails, contacts, messages, reminders, calendar events, and similar files.

In iOS 4 or later and with a supported device, the user can set a picture as the background of the home screen. This feature is only available on third-generation devices or newer – iPhone 3GS or newer andiPod touch 3rd gen. or newer. The iPad, however, has had this feature since its release with iOS 3.2.

Folders

With iOS 4 came the introduction of a simple folder system. When applications are in "jiggle mode", any two (with the exception of Newsstand in iOS 5, which acts like a folder) can be dragged on top of each other to create a folder, and from then on, more apps can be added to the folder using the same procedure, up to 12 on iPhone and iPod touch and 20 on iPad. A title for the folder is automatically selected by the category of applications inside, but the name can also be edited by the user.

Notification Center

In the iOS 5 update, the notifications feature was completely redesigned. Notifications collate in a window which can be dragged down from the top of the screen. If a user touches a received notification, he/she will go to the application that sent the notification.

Included applications

The iOS home screen contains these default "apps". Some of these applications are hidden by default and accessed by the user through the Settings app or another method—for instance, Nike+iPod is activated through the Settings app. Many of these apps, such as Safari, the App Store, and YouTube, can also be disabled in the Restrictions section of the Settings app.

Multitasking

Before iOS 4, multitasking was limited to a selection of the applications Apple included on the device. Users could, however "jailbreak" their device in order to unofficially multitask. Starting with iOS 4, on 3rd-generation and newer iOS devices, multitasking is supported through seven background APIs.

Switching applications

In iOS 4.0 or later, double-clicking the home button activates the application switcher. A scrollable dock-like interface appears from the bottom, moving the contents of the screen up. Choosing an icon switches to an application. To the far left are icons which function as music controls, a rotation lock, and on iOS 4.2 and above, a volume controller. Holding the icons briefly makes them "jiggle" (similarly to the homescreen) and allows the user to force quit the applications by simply tapping the red minus circle that appears at the corner of the app's icon.

IV. Development

SDK

On October 17, 2007, in an open letter posted to Apple's "Hot News" weblog, Steve Jobs announced that a software development kit (SDK) would be made available to third-party developers in February 2008. The SDK was released on March 6, 2008, and allows developers to make applications for the iPhone and iPod touch, as well as test them in an "iPhone simulator". However, loading an application onto the devices is only possible after paying an iPhone Developer Program fee.

The fees to join the respective programs for iOS and OS X were stated at $99.00 per developers license. This $99.00 fee must be paid annually in order for the developer to maintain their license. As of July 20, 2010, Apple released Xcode on its Mac App Store free to download for all OS X Lion users. Users can create and

develop iOS Applications using a free copy of Xcode, however they cannot post them to the App store or make profit from their applications without first paying the $99.00 iPhone Developer or Mac Developer Program fee.[citation needed]

Since the release of Xcode 3.1, Xcode is the development environment for the iOS SDK. iPhone applications, like iOS and OS X, are written in Objective-C.

Developers are able to set any price above a set minimum for their applications to be distributed through the App Store, of which Apple will take 30% of the revenue (the other 70% goes to the developer). Alternately, they may opt to release the application for free and need not pay any costs to release or distribute the application except for the membership fee.

V. Latest Version

iOS6 is the latest version of the Apple`s mobile platform. The interface has been given a minor makeover with improved accessibility features. Google's apps have been given the boot, so there's no YouTube and no Google Maps; Apple's written its own navigation and mapping app with considerable help from TomTom; Siri's been improved and finally works properly in the UK; the phone app's been tweaked, Safari and Mail updated and FaceTime brought to 3G.It's much more social than before, with shared Photo Streams and Facebook baked into the OS like the word Blackpool in a stick of rock, and there are a host of other improvements to make your iOS device that little bit friendlier. At least, that's the case on newer Apple kit. iOS 6 works on all iPhones from the 3GS onwards, the iPad 2 and new iPad, and the fourth and fifth generation iPod touches. However, the older the kit the less of iOS 6 you actually get. Some of the big features - Siri, turn-by-turn navigation, panoramic photos and FaceTime over 3G - aren't available for the iPhone 3GS or iPhone 4. The 3GS doesn't even get the offline reading list feature, and Siri's not available for the iPad 2. Is it worth the upgrade? We've installed iOS across multiple iOS devices: an iPhone 4, an iPhone 4S, an iPad 2 and a new iPad (that latter one courtesy of Vodafone) to find out. As we discovered, even when you don't get all the new features,

there are still enough improvements to make the jump worthwhile.

Phone and FaceTime

iOS's Phone app has some welcome improvements. When a call comes in you can now swipe up to access more options than just Answer and Decline: you can reply with a pre-defined or custom iMessage or SMS, or set a reminder to call the person back. Such reminders can be time-based or location-based, so for example you can set a reminder that kicks in when you get home. The Phone app also gets a new Do Not Disturb feature, which you can schedule for specific times (although we'd have liked a quick access icon in the lock screen or notification area. Come to think of it, location-based activation would have been useful too). This enables you to silence all calls and alerts, or to ring only when specific people call, and you can also specify whether repeated attempts to call you should override the Do Not Disturb settings. FaceTime's been given a boost too: you can finally use it over 3G, provided you have the right hardware (iPhone 4S yes, iPhone 4 no) and the right calling plan: Vodafone says some of its cheaper calling plans won't include FaceTime over 3G, although Orange, T-Mobile and Everything Everywhere don't differentiate between FaceTime and Facebook. Three hasn't published its policy yet.

MAIL AND SAFARI

Many of Safari's new features will seem awfully familiar to users of other OSes, apps and browsers: there's offline reading, enabling you to save pages to read them later; there's full-screen landscape browsing; and there's tab syncing between your various iCloud devices.You can also post photos and videos to sites from within the browser. None of these things are earth-shattering, but they're still handy.Mail gets some tweaks too, including easier photo and video attachment.Apple has adopted pull-to-refresh, and as with Mountain Lion there's a new VIP mailbox for your important contacts.The VIP list syncs via iCloud, so if someone's a VIP on your iPhone they'll be a VIP on your iPad too.

Maps

We'll be honest, we feared the worst: with Apple giving Google Maps the boot in favour of its own offering, we half expected an app that was just great in America and utterly useless in the UK.We were wrong,

but that's not to say Maps is without its issues - and people are taking to the web to express their displeasure at the new app.

The app uses data from TomTom - including free live traffic information, something you have to pay extra for in TomTom's own iPhone app. The UK maps are generally very good, offering turn-by-turn navigation that Siri can read aloud if you wish.Apple has also integrated local search, with mixed results: while restaurant reviews from Yelp are handy if you live in a large conurbation, reviews aren't always available in more rural areas.But we also found a number of errors, such as occasional American spellings (eg "Exhibition Center") and the odd mapping glitch, such as the one that identified our local Italian restaurant as a Sainsbury's supermarket fifteen miles away.And it's the extreme level of detail you'll miss compared to Google's mapping. In short, it isn't that Maps is half-baked, it's just not as good as what Google does. You'd think the cities would be tested until they squeaked and the mistakes would turn up in less populous areas. Apparently not.The Maps app doesn't have Street View, but the iPhone 4S/5 and recent iPads get Flyover View's 3D models of cities.When they're available they're superb, but they're not widely available yet: for example London's there, but Glasgow isn't.Navigating on an iPad feels a bit silly but on the iPhone 4S/5 it's a very nice experience, with clear directions and fast rerouting if you miss a turn.However, the interface isn't ideal for in-car use: you shouldn't interact with any app while driving, of course, but even when parked Maps' tiny interface elements mean you'll need to take the phone out of any cradle to adjust anything.Maps is a decent app, but we think existing, dedicated sat-nav apps have more finger-friendly UIs and more features, even if they do charge for traffic data - and if you've got an iPhone 3GS or 4, those apps are your only option.Without turn-by-turn navigation all Maps can offer is a list of directions, and if you don't go the Apple way you're on your own. There's a metaphor in there somewhere.

Siri

It's still in beta, but Siri has been massively improved in iOS 6, especially for UK customers: at last Siri can do local searches, so you're not just limited to a subset of the US version's features.If you liked Siri but found its limitations infuriating in iOS 5, you'll find the iOS 6 version a big improvement.This time around Siri can give you driving directions, tell you what time films are on and whether they're any cop, find your friends, provide football scores and launch apps, and it integrates with services including Wolfram Alpha, Facebook and Twitter.

There's also Eyes Free for integration with in-car audio and voice control systems, something Apple is currently liaising with car manufacturers about.

Apple is rather keen on Siri, not just for answering questions but also for dictating text. We've found computer dictation patchy over the years, but it's genuinely impressive in iOS 6 - especially on the new iPad, where thankfully you don't need to hold the tablet next to your face for it to hear you.

REFERENCES

[1] WWW.WIKIPEDIA.ORG
[2] WWW.BGIPHONE.COM
[3] WWW.TECHRADAR.COM
[4]WWW.WIRED.COM