

The design book for iOS developers looking to
learn more about the design process



Learn
Design for iOS
Development

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Introduction

iOS is one the most popular mobile operating systems of our time. If you are serious about mobile design, then iOS 7 is a must. As the owner of a mobile development agency, I can tell you that over 50 percent of our requests for apps are requested for iOS. With the release of iOS 7 and new devices, iOS is a global leader in a mobile ecosystem. Anyone serious about mobile design or development cannot exclude iOS.

Who This Book Is For

This book is for those already familiar with iOS from a development standpoint but are now ready to try their hand at design. It assumes that you are familiar with some of the nuances of the operating system and are interested in designing a simple application that either you or someone else will develop. The book will take you through the process of crafting your idea into a clear and actionable statement, through the details of creating your first wireframes and ultimately to design your app. It highlights tools and tips to help you with the design process and even highlights popular mobile design patterns to ease some of the challenges of design. If you're ready to take on designing for the world's most popular mobile operating system, Learn Design for iOS is for you.

How to Use This Book

This book is structured in a way that allows you to take your concept for an iOS application from your initial idea through preparation for development. The book will guide you, step-by-step through the processes of idea validation, ideation, design, and asset preparation for development. It covers creation of screens and guidelines that designers should be aware of from Apple's Human Interface Guidelines. The book is a general high-level guide for those who are interested in learning more about the iPhone operating system and what is required when designing an application for the iPhone, iPod Touch, or iPad.

What You'll Find on the Web Site

The apress.com web site contains a sample Design Specifications document for the fictional Travel Light application referred to in the book. It provides a guide on which fonts, colors, and other information that the developer needs to know during development of the application.

So You've Got an Idea for an iPhone App, Now What?

Congratulations! You've got an idea for an app and have made the important decision to design it yourself! You've joined the ranks of the hundreds of thousands who have decided to learn just what is required to take an idea from a tiny spark in your imagination to a fully designed application ready for development.

As you may or may not already know, apps are an integral part of the mobile ecosystem. All mobile devices run apps. However, your decision to design an app for iOS is a unique one. Of all of the app stores, the Apple app store is the granddaddy of them all, featuring more apps than any other app store. But, you already know this because you've chosen to design an app for iOS.

Apps are everywhere. Since the Apple app store initially launched in July 2008 with 500 apps, the number of apps have increased steadily. As of June 2013, that number has increased to just under 900,000 with Apple CEO Tim Cook estimating that \$10 billion has been paid out to developers so far. So, if you have an idea for an app, there are great opportunities for making money and reaching a large audience with it. Those are pretty good reasons for wanting to design for iOS.

These days, ideas for apps aren't hard to find. Lots of people have them. So, how do you take your idea from just an idea to creating an actual app that is in the app store and runs on a device? It doesn't happen overnight, but with a little diligence, it's absolutely possible.

Getting an app into Apple's app store isn't the hard part. But creating an app that features an original idea, great visuals, and great execution is; it requires lots of planning, a bit of research, and some dedication.

If you are to take your idea through from just an idea to a fully designed and developed iOS app running on mobile devices, there are steps that you will need to take to get it there: very specific ones.

While the process itself might seem arduous it is a necessary one, especially if this is your first time attempting to design the app.

The simple truth is that most apps that are submitted to the app store die on the vine and fall into obscurity shortly after their release date. Without proper planning and faced with the competition from the sheer number of other apps in the app store, if your app doesn't feature a unique idea and execution, then chances are, it won't be noticed by very many people. Whether it's for business or just a personal project, your ultimate goal when thinking of creating an app is to reach as many people as possible. If you've got a great idea for an app and you believe in it, then do it. There are many people who come up with an idea and never take it anywhere so you're a part of a very small minority simply by having that idea. Celebrate it because the real work starts now.

Assumptions

This book makes a few assumptions, the main one being that you are at the very least familiar with iOS from a development standpoint but are looking for an opportunity to expand your development knowledge with some design knowledge as well. This book, however, is not about development per se. If you are curious about learning how to *build* an iPhone app, then this book isn't for you. If you are, however, looking to enhance your knowledge of design specifically as it relates to the iPhone operating system, then you are in the right place.

For the purposes of simplicity, in this chapter I've broken out the ideation process into six easy-to-follow steps. Each step will bring you closer to the ultimate goal of designing your iOS app.

1. Define your idea.
2. Share your idea with peers.
3. Compare your app to others'.
4. Analyze your findings.
5. Store comparative apps for future reference.
6. Revise your idea if needed.

Step One: Define your idea

First, write down your idea in one or two sentences. Three might be permissible but really try to nail it in two short sentences. If you need more sentences, that's fine; however, the goal is to be able to describe and explain the idea behind your app and what it does in 30 seconds or less. This is usually called your elevator pitch and it is the first step in the process. Spend some time trying to make the sentence or sentences as succinct as possible while still capturing what your app does. This is important and will serve you and your app as you move forward because you will return to these statements again and again as you design and ultimately build your application. As you move through the next few steps, you will find that your description of the app might change as you look at other apps and categories. This is a natural part of the process. Be flexible and open to change.

For example: "The Travel Light app will help frequent travelers by providing checklists to ensure that they pack only what they need for their upcoming trips."

After you've written your statement out, recite it until you have it in your memory. You should be able to say it without referring back to your notes. Ask yourself how it sounds. Are you using proper

grammar? Are your ideas about the application timely? Does it solve a problem that people are facing today? Does it address issues in a way that people need it to? Is it unique? If so, what is unique about it? If not, then you will need to keep working on your description. Don't rush this process. If you get stuck on the first step, then it is likely that your idea needs some work. Give it the time that it deserves.

Once you can clear this first hurdle and you are happy with your description of the app, set it all aside and return to it after a few days. When you read your idea and its description again, does it sound as exciting to you as it did the first time? Does the sentence make you want to explore the application further? What has changed? More importantly, does it still sound like a good idea, and does it still fill you with the passion you initially had for the project?

If not, then it might be worth it to take another stab at your description and the idea that spawned it. Depending on how strongly you feel about it, you might want to scrap that idea altogether and start on another idea for a different app. It is all up to you.

It is important to remember that many people have ideas every day. But, there's a big difference between having an idea and actually bringing it to fruition. The first step in the process is moving your idea past the initial idea stage.

But, if you feel just as strongly as you did at the beginning and are still passionate about your idea, then it's time to progress to the next step.

Step Two: Share your idea with peers

Share your idea with others! This might sound counterintuitive and even downright scary to some, but it's really not. In order to validate your idea, you simply must share it with others. What good is an idea if it sits in your head? Ask your friends and others around you that you trust and get them to speak honestly in response to your idea. Try to share your idea and description with people who aren't afraid to give you honest feedback. Ask for constructive criticism, but also be sure that you are ready to receive it.

Ask questions that will help to move the idea forward and ultimately inform its design and functionality. If you have time, create a brief questionnaire and ask people to fill it out.

Staying with our initial idea of a Travel Light app above, the following questions are examples of what you might ask:

1. Do you understand the problem the app is trying to solve?
2. If not, what's missing?
3. Is it clear to whom the app is trying to reach?
4. Would you use this app? Why or why not?
5. What would you change?

Briefly state the idea around the app, what it does, and how it will work. Then ask a few key questions that will help to provide you with information that will help to develop the idea further.

The questions should be leading with the intent of drawing responses that are as specific as possible. At this point in the ideation process, the more specific the responses, the more valuable they will be to you and will help to inform the design of your application.

Some of you might be hesitant to share your ideas with others at this stage. In this day and age of patent trolls and copyright infringements, it might be easy to think that sharing your idea is the wrong thing to do. Remember, you can't copyright an idea so it is important to get critical feedback up front and early in the process. If you are concerned about sharing your ideas with a wider audience, stick with a core group of people that you can trust. Friends, colleagues, and even family members will do as long as they are within the target demographic for your app.

The process doesn't have to be a long, drawn-out affair either. Your description of the app and what it does and a few short questions that will illicit the best feedback will suffice.

Once you've done this and you receive responses either verbally or via your questionnaire, go through all responses carefully. Are the answers clear? Do you need to ask follow-up questions for clarification? If you need to, then do so. When this is complete, sit down with your idea and the feedback you've received and review your idea description while reviewing the feedback. How can you revise your idea to address the issues outlined in the feedback?

It is important to note that not all feedback is good feedback. Some feedback, you will need to take with a grain of salt. A good rule of thumb is to consider feedback and suggestions that bring you closer to the core of what you saw your app to be. If the feedback you receive helps you to solve the problem your app is addressing, then consider it. Did you receive feedback that was unexpected or that might cause you to rethink your idea? This is perfectly fine.

If you need to rewrite your statement and description for your idea, then do so and check it against the feedback you've received again. Keep all the feedback you receive, even if you don't use it in this phase of the project. It will come in handy later as you move through the design process.

Step Three: Compare your app to others'

In this step, we will begin to really expand on the initial idea you created for your app in step 1. Now that you've validated it with a small control group of potential users, we'll need to see how your idea stands up against existing apps in the Apple app store.

Since the App store launched in 2008 with 500 apps, the number of applications available for iOS devices has grown exponentially every year. As mentioned earlier, as of June 2013, there were approximately 900,000 apps in the Apple app store. That's a lot of competition! Luckily, Apple does a pretty good job at categorizing the apps, and the app store is easy to access and browse right from your iPhone, iPad, or iPod Touch.

A good place to start is in the Featured section or tab of the App store. Here, you will see the New and Noteworthy and What's Hot sections of the store. These are apps that have been chosen by Apple's editorial staff as exhibiting best-in-class usability, design, and functionality. Because of this, they are featured by Apple and also tend to do extremely well when it comes to popularity and sales. Usually, these apps are flagged upon submission to the app store as being unique. Apple's editorial staff tries to pick apps that are innovative in some way to feature in the App store. Chances are, you may already have some of these apps but with the sheer number of apps being released

every day, you may see new apps that you've not seen before. Apps in the New and Noteworthy and What's Hot sections will be from a variety of categories. It is a good idea to view apps that aren't in your particular app's category as well as ones that are to be able to see a variety of styles and functionalities.

Take a look at apps in the Top Charts as well for an indication of which apps are currently most popular. Navigate to each app's page and pay particular attention to the description and screenshots for each app. Are there any hints as to what makes this app unique in its particular category? Note that you will find multiple apps that do the same thing in one category. For example, Games is far and away the most popular category in the Apple app store followed by Education, Entertainment, and Lifestyle. These categories are chocked full of apps with more being designed, developed, approved, and released every day. Your app will really need to stand out if it's targeting one of these categories.

As you go through the lists of popular apps, be sure to navigate to each app's page in the app store. Note the icon for the app; the app's name; its description; screenshots; and last, but not least, the number of reviews and average rating. Most apps listed in the New and Noteworthy section of the App store have impressive download numbers, reviews, and high ratings. Reviews and ratings are important statistics for any app. They are visibly shown on your app's page in the app store, so naturally, you want your app to be popular and well designed in order to receive high ratings from its users.

When reviewing an app's page you will see that screenshots are required for all apps. Take a look at the screenshots for the more popular apps. Note the ones that stand out for you. Note that based on the screenshots, you might be able to get a sense of functionality. That is not the purpose of this exercise. Use the screenshots to get a sense of the design aesthetic of each app. What is unique about the UI of the app? Note the color scheme and what works based on what you can see from the page. Do any of these things make you more or less inclined to download the app? Note why or why not.

Pay special attention to the apps that are in the same category as the app you would like to create. Are there similarities? What clues can you glean from the app's page in the app store about functionality and design?

Every app in the app store will have reviews. Every customer is able to post a public review and rating to the app's page in the app store that everyone will be able to read. Be sure to read the first 10 or so reviews of the top apps in your category as well as those of the apps that appeal to you. Try to get a sense of each reviewer's main concerns. Are they praising the app? Are they trashing it? Reviewers can sometimes be brutally honest, but hidden in some of the most brutal comments are nuggets of truth. So, if users are passionate enough to write a review, there must be some valid points somewhere. If you have downloaded the apps (of course do what your budget allows), then be sure to use the apps and read some of the best and worst reviews to get a balance sense of what the issues in the app are. Compare these to your app. Try to ascertain if your app can fill the void created by some of these applications, especially ones in your category. Make a note of these as well.

You may also want to try app review sites. These are sites that review apps and rate them outside of the app store system. The quality of what you find here might vary but you might also find apps that you

don't find in the app store. The difficulty of searching Apple's app store have been debated but is good to get a sense of what Apple deems to be a great example of app design.

Step Four: Analyze your findings

This is the part of the project where we collate all of the data we've collected from the app store and from our own.

Make two lists. One list will contain your favorite apps from your recent app store exploration. Why were you drawn to these particular apps? Describe what stood out to you about these apps. What is unique about them? Was it their names, logo designs, or screenshots? Are there any apps that are similar to your idea? Do any of the apps fall into the same category as your app? Pay special attention to those. Are there lots of similarities between your app and other popular apps? If so, how can you differentiate between yours and theirs? If you need to, revisit your sentence describing your app to think about how your app will be different and how not to reinvent the wheel.

List One:

- App #1 – Great design
- App #2 – Silly name. Has nothing to do with what it does
- App #3 – Love the color scheme

The second list will contain the apps that are specifically from the same category as your idea app. What are the top apps in that category? What are these apps doing right and what are they doing wrong in your opinion? Pay close attention to apps with high ratings and downloads. What are users saying about them and note anything that stands out as unique, positive or negative about these applications. Note anything else about your category. Are most of the apps in your category paid apps or free apps? Is there any consistency among the top rated apps with the best reviews and highest downloads? When you look at the screenshots do you see any similarities in the UI of these apps? What do they do well?

List Two:

- App #1 – Very similar to my app. Reviews complain about price point.
- App #2 – Easy to use. Very popular. Number1 app in the category.
- App #3 – Recommended by Apple. Great design and UI. Easy to use.

Take, for instance, the Utilities category. This category contains many apps with similar functionality. The To-Do apps are a perfect example of this. There are quite a few of these applications in the in the app store, and they all have a similar goal: to help users manage their time or projects by allowing them to categorize their tasks and by creating lists. Each app, however, treats the problem in a different way and while the core task of each application may be the same, each application is markedly different from the other. Each differs in terms of UI, functionality, and color palette. These things alone can make two apps that do similar tasks appear completely different. Think about this in relation to your app and what will make it stand out in a field that just might be already saturated.

An already saturated field isn't a reason to abandon your idea. After all, with almost a million apps in the app store, you'd be hard pressed to find a field that isn't already saturated. So, rather than seeing a potentially saturated category as a barrier to success, think of a saturated field as something that could push you to find a unique way to solve a very popular problem. It will force you to think outside the box and to create a truly original solution to an existing problem.

Step Five: Store comparative apps for future reference

If you can, download as many of the apps on your lists as possible. Hopefully, most of them are free and the others aren't too expensive. Usually apps in the app store range from free to \$3.99, but there are others that can be more expensive. Download what your budget allows. Apps costing more than \$3.00 or so are considered premium apps and it is up to you to decide what you can afford.

If you choose not to buy apps, try to find reviews of those apps on the Internet. If an app is featured in the App store, then it is likely that it has been featured in popular tech journals like *Mashable*, *Tech Crunch*, or *Venture Beat*. The articles will sometimes go into greater detail about the user interface and functionality of the apps than the description in the app store. A quick Google search should yield a good selection of reviews of some of the top apps. This can save you some cash if you're hesitant to download an app that you won't likely use or one that is not compatible with your budget.

Once the apps have been downloaded, place them in a folder with a title like "Research" or another title that will remind you of its purpose. If you need to, you can further categorize the apps in folders marked paid, free, etc. Keep the folders handy on your phone where you can easily access them if you need to. Throughout this process you will be referring back to these applications to help you with your ideation process.

Step Six: Revise your idea if needed

Once you've downloaded the apps and categorized them, the real fun begins. Keeping your one-sentence description of your app handy (or you should have memorized all of the various versions by now) explore the apps you've downloaded in greater depth. Initially, plan to spend at least a half an hour with each app. You will find that depending on what the app does well, you may spend less or more time with each one. Note this, too. Other questions you might consider asking yourself are:

- What do these apps do well?
- Where do they drop the ball?
- What are the unique elements of their UI?
- Are they easy to use?

More importantly, how do they relate to the app you would like to create?

Pay particular attention to apps that are in the same category as your idea app. How do they compare to the core problem that your application is trying to solve?

If, in our opinion, your app stacks up against these apps then, that is great. You could truly be onto something! If you believe enough in your app, then go for it. While based on the number of apps submitted to the app store each day the numbers alone could stack the odds against you. So, it is important to stand out in any way that you possibly can. Now that you have an idea that you truly believe in, the hard work really begins. Ask yourself the following questions:

- What problem am I trying to solve with my application?
- Who is the intended audience for my application?
- What is the ultimate goal of the application?
- Will the app be available for both the iPhone and iPad?

Once you've answered these questions and none of the answers are showstoppers, then you're ready to proceed with your app. This means that your idea is solid, you've done the basic validation and market research, and you're ready to move onto the next stage of designing your application for iOS.

Summary

All apps start with an idea. But research is critical to your design, too. Creating a statement of what the app does and validating it with others will help you to refine your idea so that it becomes more than just an idea. Checking your app idea against others in the app store is a great way to see what you're up against, get ideas, and understand what users really want. Going through the necessary define and refine process is an important step in the creation of your app and will lay the foundation for the subsequent steps. Next, we'll discuss what you will need to understand about Apple's new operating system, iOS7.

iOS: What You Need to Know

iOS stands for the iPhone Operating System and is the software upon which all of Apple's mobile devices and tablets are built. This includes the iPhone, all versions of the iPad, and even the iPod Touch. iOS allows all of the apps to run on these devices. iOS was released in 2007 with the original iPhone and has undergone minor changes up until recently with the announcement and release of iOS 7.

It is an operating system for multi-touch devices. As such, users are meant to interact directly with the screen of the device upon which the OS is running. This presents some unique opportunities and problems for designers. Therefore, it is important to know what elements are standard and have become familiar to users over the years when interacting with iOS.

Throughout iOS, there are commonly used UI elements that are standard regardless of the device and that help users to perform common actions, regardless of which app is in use. We will review some of these elements, as they will be useful when you design your application.

In June 2013 at the annual Developer's Conference in San Francisco, Apple announced iOS 7. In this chapter, we will discuss standard UI elements for iOS and how they have evolved and changed with iOS 7.

What to Expect in iOS 7

iOS 7 is important because it represents the most significant change in the operating system since its release over six years ago. If you are designing an app from scratch, you will need to understand how Apple expects you to conform to its new design language; and if you already have designed an app, it will need to be redesigned to conform to the new, improved design paradigm set forth in iOS 7.

While the overall functionality of the toolbars, tab bars, navigation bars, and other user interface elements have remained the same, the look and feel of the entire operating system has been changed completely.

As a design-centric company, Apple has always been known for its beautiful, yet simple design aesthetic with its software as well as its hardware. That design aesthetic has become a part of the

company's legacy. iOS 7 is an extension of that design aesthetic. While it does not represent a new design paradigm per se (it has borrowed generously in design and has taken hints and clues from some of the more popular apps currently on the market), it does represent a completely new direction for the operating system and will change the way that designers approach the design for their applications moving forward. It is safe to say that applications exhibiting pre-iOS 7 standards will look dated when running on the new OS.

iOS 7 Guiding Principles

Jonathan Ive, Apple's Creative Tsar as he is sometimes called, has always been known for allowing form and function to coexist in a beautiful and seamless way whether it applies to hardware or software, and iOS 7 is no different. Thus, the new interface prides itself on being unobtrusive.

Throughout the new updated Human Interface Guidelines (HIG), Apple implores designers to allow the design to facilitate the content. iOS 7 is an attempt to show by doing. Designers who follow in suit will find that their apps look and work seamlessly within the iOS 7 framework.

The key to designing for iOS 7 is to keep it simple. This has always been mentioned in the HIG, but with this new design direction, simplicity is front and center. Older app designs that worked well for the previous version of the OS will now appear heavy and complicated on iOS 7. So, you will have to consider how to adapt to this new color palette while keeping content front and center. While previous upgrades to iOS were focused on development, there are plenty here, too. Designers will be forced to make significant changes in the way that they approach app designs moving forward. All apps must now be optimized for retina screens, and icons have a new look and feel.

There are three guiding principles and themes that should guide designs for iOS 7 apps:

Deference – Refers to the ability of the user interface to understand and interact with the content of your application but not to compete with it. In fact, the HIG states that the UI should *never* compete with content. This means that the elements you choose in your UI must not overwhelm the content or make the user have to choose between the two. If there is ever any question, content wins. Every time.

Clarity – Refers to the new requirement that all new designs be legible on retina screens. Previously, if your designs were not optimized for retina screens, they would appear slightly fuzzy on the newer devices. No more. With iOS 7, Apple now requires text and icons to be clear, crisp, and lucid on all devices. That also means no more bevels and drop shadows for effect.

Depth – New attention has been placed on layers, transparency, translucency, and motion to create depth in applications. iOS 7 is brimming with beautiful transitions and realistic animations that add new responsiveness and depth to the environment.

If you are adapting an older app for iOS 7, you will need to revisit every page to remove the appearance of heavy shadows, bevels, and other features that tend to weight designs down. Remember, functionality and content must be front and center. iOS 7 will expose your app to your users in a whole new way, so think about how you would like to approach a scaled-down look of your app, yet with a heightened functionality in an elegant and stylish way. All of these elements must balance each other out to work with iOS 7.

Now, let's look at a few of the specific changes you can expect with iOS 7. There have been many updates from a development standpoint, but for the purposes of this book, we will focus mainly on those changes that will affect app design moving forward: the springboard, typography, icons, bars, table views, and table view elements.

Springboard

The springboard is where your app icons live on an iPhone or iPad. Everything sits on the springboard. Think of it like your computer's desktop. Upon launching iOS you are presented by and will continually return to the springboard. You will immediately notice the changes to the springboard in iOS 7. Favorite app icons that previously sat at the bottom of the screen on a shiny, beveled shelf, as shown in Figure 2-1, now sit against a translucent background that only partially obscures the wallpaper image as you can see in Figure 2-2. Opening an app now triggers a smoother transition than before, and new settings allow users to set a panoramic image as wallpaper. Moving the phone left or right will produce a "panning motion effect," too. iOS 7 is allowing users to interact with the UI in new ways, and this extends to apps as well. Users are now able to access some settings from the home screen, conduct a spotlight search from the springboard, and swipe down from the home menu to view the new notifications center. I'll go into more detail on how the stock apps have been upgraded for iOS 7 later in this chapter.

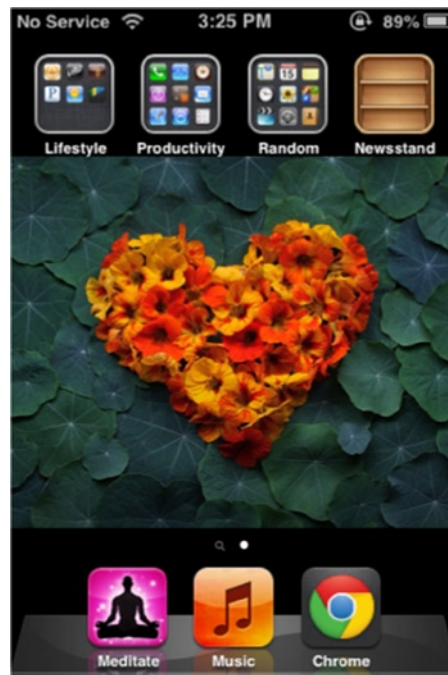


Figure 2-1. Springboard iOS 6 and icons. Favorite apps sit on a shiny shelf

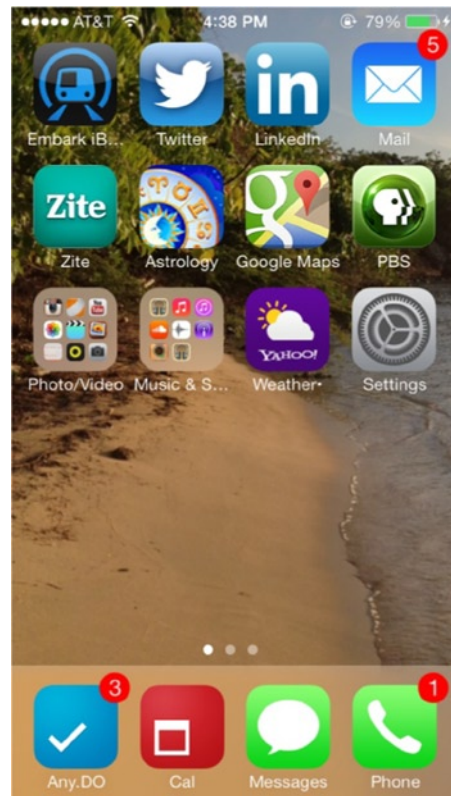


Figure 2-2. Messages and Phone icons now sit in a translucent bar at the bottom of the screen in iOS 7

Typography

The initial release of iOS 7 as well as subsequent releases featured a very skinny Helvetica Neue Ultra Light typeface throughout. It represented a totally different approach and offered a newer, lighter, and more modern look to the operating system. However, it also was difficult to view and thus read in some instances. The most recent release featured a removal from the ultra-light typeface to a heavier, more legible weight. And under the hood, there is a new rendering engine for fonts that allow developers to choose precisely how fonts are to appear throughout their apps. This will provide lots of customization options for designers in the way of typography.

Note Designers with apps that use heavy text throughout will have to be redesigned for iOS 7.

Something as simple as the text or typeface you choose for your app will become even more important in iOS 7 as it has been noted that new APIs will allow users to use Dynamic Type to adjust the size of text in each app. This puts an additional layer of responsibility on designers when thinking about how their apps will appear to users.

Icons

All of the icons for all standard apps have been redesigned. Gone are the beveled, shadow, and glossy skeumorphic look of the old icons from the previous versions of the operating system. Those of you with a keen eye will remember that as a standard, the old app icons could be used with or without the added sheen and gradient effect that was added programmatically. These effects have been removed altogether and have been replaced with icons that feature a new color palette and an also a new flat look that many of the newer more popular apps now feature. See Figure 2-3 to understand how icons for all stock apps have been reimagined for iOS 7.

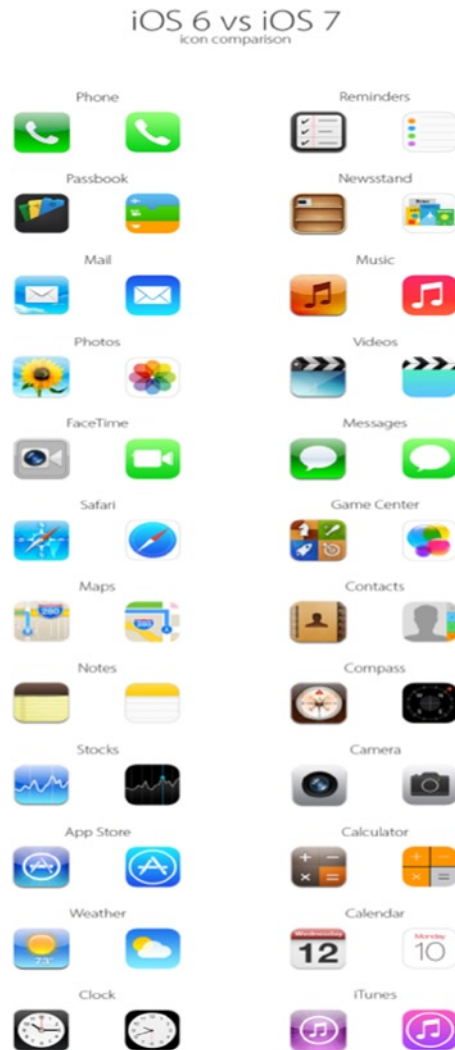


Figure 2-3. iOS 6 & iOS 7 icons side by side

Note Is it possible for your creative dept to recreate the chart above? The new iOS 7 icon for Safari is a circle on a white square. Hard to see on image above. Is it possible for the production dept to reproduce this?

It is not only the icons for the stock apps that were redesigned. A quick look at the new Control Center that is accessible with a quick swipe from any page on the springboard will reveal that the icons here have been redesigned in the flat style of iOS 7 as well. These aren't customizable and shouldn't relate to your app, but a quick study is required to fully understand the scope of the changes that iOS 7 brings to the iPhone and iPad.

But, the icons are just the beginning of how Apple has revised the look of all of their standard apps for the iPhone and iPad.

Figure 2-4 shows locked screen view on iOS 6. Note as well how the status bar appears separate from the rest of the screen and the shadowed and beveled buttons on the passcode typepad. iOS 7 does away with all of this.

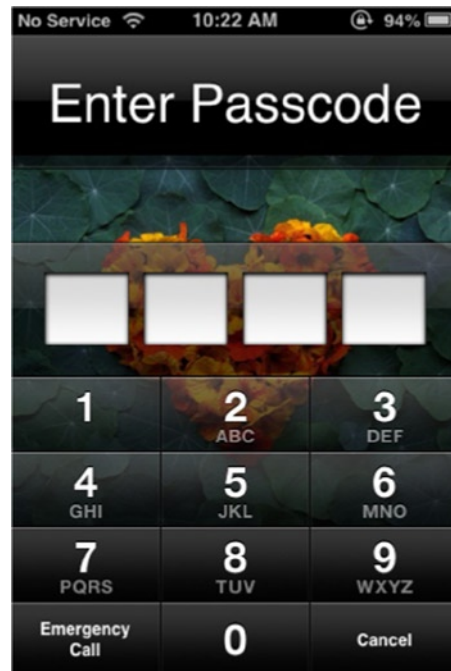


Figure 2-4. iOS 6 lock screen with passcode entry

Figure 2-5 shows the locked screen view in iOS 7. Specific items to note here are the new appearance of the buttons on the keypad. They now conform to Apple's new "flat" design and are round as opposed to the square keypad buttons used in iOS 6 and previous versions. Note the use of space and how the keypad becomes the focus of this screen. The functionality – entering your passcode is the main focus and nothing takes away from that experience. The experience

in the older version is fragmented, with the individual number of windows taking up a significant amount of space on the screen. The consistent use of the circles that we've become used to as page controllers have been elevated in iOS 7. They are now seen in the status bar as signal strength indicators and on the lockscreen as users enter passcodes for access to their devices.



Figure 2-5. iOS 7 lock screen with passcode entry

Bars

Common UI elements in iOS are bars. They are used for multiple purposes such as to show information about the device, to provide a user with additional options or controls, and to display buttons.

Bars vary in size depending on the device but mostly are a constant feature in iOS and are helpful to display critical information to the user. In iOS, they have specifically designed appearances and behaviors in all iOS apps. I've listed the most common bars for iOS below as well as how they've changed with iOS 7.

Status Bar

The status bar provides the user with information about the device such as time of day, battery charge information and networking connection details, and whether an application is accessing a user's location information (Figure 2-6). It sits at the very top of the screen regardless of whether the device is in portrait or landscape mode. When designing your app, there are guidelines for how to use the status bar depending on the look and color palette of your app, and there are a few options you can choose from. Apple does allow you to hide the status bar when a user is viewing key information or playing a game. Other restrictions apply, however, such as using the network indicator to display when an app is utilizing considerable network resources.

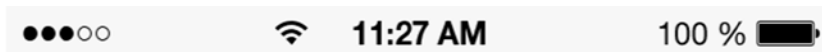


Figure 2-6. The status bar in iOS 7

Visually some customization of the status bar was allowed but was limited to color and animation. Even though the height of the status bar is fixed, the information that it contains is critical, so if you do decide to hide the status bar, you should be sure that users are not required to quit the application to view it again.

In iOS 7, the status bar has a new updated look and is translucent, transparent, and borderless. Designers will notice that there is no longer a demarcation line that separates the status bar and the navigation bar. Indeed, in iOS 7, they seem to blend into one another. When viewing older apps in iOS 7, the demarcation line still exists, but on every redesigned stock app that ships with an iOS device, it has been removed in favor of Apple's new, simpler UI. You will need to bear this in mind if your application has a colorful background and how the status bar will display on it.

Standard information provided on the status bar includes:

- Screen orientation – Tells you whether or not your device has been locked in portrait or landscape mode. If your screen hasn't been locked in a particular orientation, you will not see this icon.
- Cell network's signal or strength – Previously, this information was displayed using bars. In iOS 7, the bars have been replaced by the round indicators.
- Carrier name – Any of the carriers, including AT&T, Sprint, Verizon, or any of the others.
- Connection type – 3G, 4G, or LTE are common ones.
- WiFi Indicator – Lets you know that your device is connected to an available WiFi source and the strength of the signal. Usually one to three bars.
- Bluetooth – A device using Bluetooth is connected.
- Time – Displays time of day, usually in the center.
- Battery indicator – Shows the remaining battery life of the device.

Navigation Bar

The navigation bar allows users to navigate in iOS. It always sits just below the status bar and contains a few key elements. They include the title of the current screen as well as any navigational buttons in the hierarchy of the information on the screen at the given time. The navigation bar will change height and width when a user switches the orientation of his or her device on either the iPad or the iPhone from portrait to landscape.

The look of the navigation bar as well as the elements included on it can be customized. Elements such as the back button, title, and background can all be customized to better align visually with the look and feel of your application.

Apple is specific about **not** creating a multisegment back button or breadcrumb in the navigation bar. There are a few reasons for this. First, it will make the required back button area too large and will infringe on the size of the title of the current screen. Second, listing multiple segments in the back button will decrease the amount of space available for each one, thus making the region available for the user to tap increasingly smaller. And last, the more levels there are, the more it becomes increasingly difficult to decide which levels to display. These are important things to remember, as there is limited real estate on the iPhone and iPod touch.

Much like the status bar, the navigation bar has a new look in iOS 7 (Figure 2-7). It is also translucent and now features borderless buttons. That is to say, there are no buttons at all in the revised navigation bar. Designers should keep in mind what this means in light of the new typography engine in iOS 7 as well. If necessary, work closely with your developer to ensure that your fonts are showing clearly and as you intended in the navigation bar as this governs how users will move through and interact with your application.

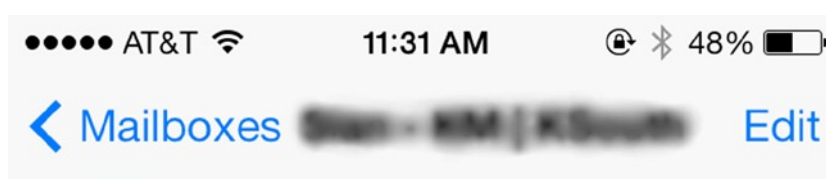


Figure 2-7. Navigation bar for Mail app in iOS 7

Toolbar

The toolbar allows users to perform specific actions depending on what a user is seeing in the current view or screen (Figure 2-8). It sits at the bottom of the screen on an iPhone but can be elsewhere on the iPad such as at the top edge of the page. For your toolbar, Apple recommends using the system-provided buttons and icons in your application. However, if your app features custom tasks, then you will need to provide custom buttons and icons for your toolbar. Remember to keep the icons on the toolbar contextual with only the actions relevant to what's taking place on the screen.



Figure 2-8. Common toolbar icons for iOS 7 from the Mail app

On the iPhone, the toolbar will change height with rotation from portrait to landscape so any custom icons will need to be designed to make this adjustment as well.

There are standard icons recommended for use in the toolbar and navigation bars as well. Standard icons for the toolbar are the Flag, Folder, Trash or Recycling, Forward or Share, and Compose.

Tab Bar

Within every application, there will be various custom views and modes that the user will need to navigation among. The tab bar facilitates these actions. It is located at the bottom of the screen and remains consistent. It should be accessible from every location in the app. The default background color for the tab bar was black, but this could be customized depending on your app's design. Now with iOS 7, the tab bar's default color is white and shares many of the same attributes as the navigation bar. There are ways to change the background of the tab bar programmatically, however. There are limits to the tab bar, too. For instance, on the iPhone, no more than five tabs may be displayed at a time in any tab bar. If there are more to show, iOS will automatically add a "More" tab and display the remaining tabs in a list. On the iPad, however, more than five tabs are allowed. The tab bar is consistent regardless of orientation on any device.

You can use the tab bar to communicate information to your user by adding badges, number, and symbols. These will call attention to the tab bar in a way that is not obtrusive to the user and allow easy access when it's convenient for them.

Table Views and Table View Elements

Table views are iOS's unique way of displaying information in a clean and efficient way. They represent one of the most commonly used components of the UI kit for iOS and traditionally appear as a single column list containing multiple rows. These rows can then be divided and separated into groups depending on personal taste and the information being provided for the user. There are two types of table views: A plain table view is one that extends the entire width of the screen. A grouped table view is inset from the background, side, and edges of the screen.

In iOS 7, all table views extend to the edges of the screen. This holds for grouped tables as well that are no longer inset from the background. See examples below in Figures 2-9 and 2-10.



Figure 2-9. Settings screen in iOS 6 shows a grouped table view

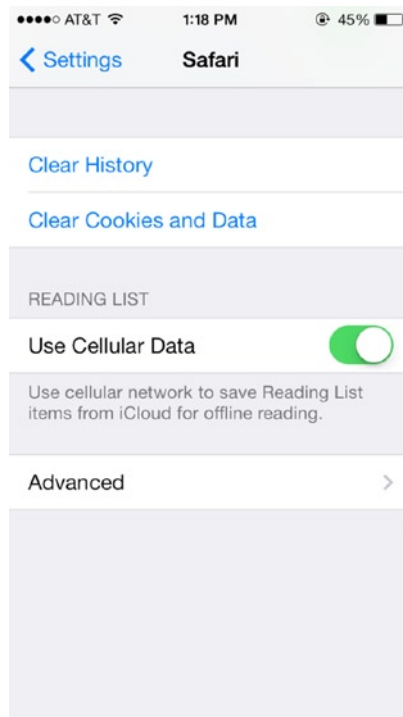


Figure 2-10. The settings screen and grouped table view's new appearance in iOS 7

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