

AH, THE DAYDREAMS of the gentle iPhone app designer. His reveries roam a sun-dappled land where we users give his app our full and adoring attention. Our fingers swipe, tap, pinch, twist, and flick across the screen with the grace of ballerinas. We instantly understand every icon, tap effortlessly through every screen, take note of every button, and have easy command of all iPhone conventions and gestures. We understand the app because we study it and luxuriate in it just as much as the app designer does.

This, alas, is hooey. The cold reality is that most people don't give much thought to app designs at all, nor should they. The best app designs become almost invisible, and the controls seem to fade to the background to put the user's task or entertainment front and center. Creating this kind of understated but effective design is harder than it looks, but the habits of a mobile audience make it essential.

People often spend only moments at a time with an app, tap quickly through screens without exploring details, then move on to another app. They use iPhone apps on the treadmill, in the car, or in the supermarket. They glance only briefly at the screen so that they can plant their eyes on more urgent surroundings—the road ahead, the date across the table, tonight's reality TV show. They don't know all the standard touchscreen gestures, and they're not particularly interested in learning new ones. The meaning of your



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carefully crafted icons are lost on them, and, chances are, they find many of your app's features only by accident, if ever.

Don't despair. It's not that people don't care about your app. They may even swoon over it. In the long history of gizmos and gadgets, few devices have inspired as much affection as the iPhone. Along with its big brother, the iPad, the iPhone is in many ways the most personal of personal computers. Our collections of apps are a form of self-expression, where Home-screen icons are as telling as the contents of a handbag or the style of clothes we wear. We ♥ iPhone. And by extension, we ♥ apps. If all goes well, we'll ♥ your app, too.

But just as in matters of the ♥, so go matters of the iPhone. Attention strays, frustration gathers, misunderstandings mount. Even when users love an app, few will give it their full attention or try to understand every nuance. As an app designer, you're embroiled in this dysfunctional romance. You have to forgive and anticipate users' foibles while also crafting an experience that draws them in to explore further. Throughout this book, you'll discover strategies to do just that.

Most of this book explores the nitty-gritty details of specific interface elements and design decisions. Before diving into all that "*how*," this chapter explores the *why*. In order to organize your screens, choose your features, or even choose your color scheme, you first have to know what you're up against. This chapter introduces you to iPhone users with a quick survey of the habits and know-how that people bring to the mobile environment. The next chapter will help you build on this broad profile to identify the needs of your particular audience and fine-tune your feature set. From there, you'll dive into all the considerations of crafting the interface for those features.

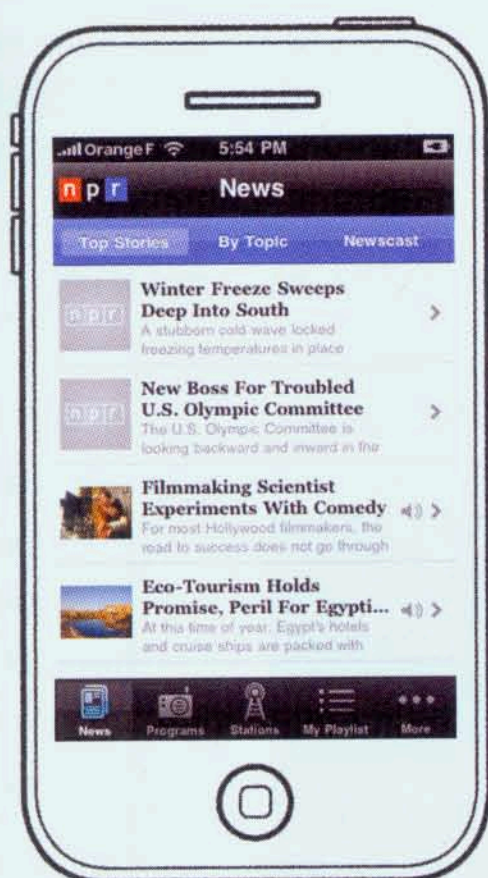
On the Go: One Hand, One Eye, One Big Blur

Go figure, but people use mobile apps when they're *mobile*. We use apps in all kinds of contexts and in a startling range of environments. This take-it-anywhere convenience is what makes iPhone apps at once so great to use and so challenging to design. Your app competes for your audience's attention—a tough battle to win when you pit a 3.5-inch screen against a big bright world full of oncoming traffic, live conversations, and this thing called human contact. Even when your app does

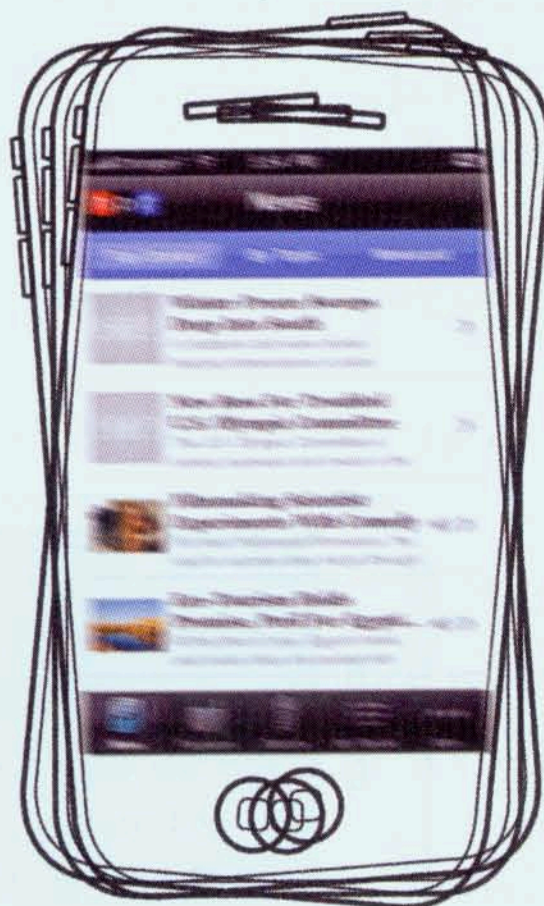
have someone's full attention, it's likely to be in a distracting environment that could break the spell at any time—a crowded subway car, a lively restaurant, the family living room.

That means people are manhandling your app in one paw, with just one eye on the screen, paying only partial attention to your carefully crafted interface. They see a completely different app than the one you see as the designer.

You build...



They see...



This blurry vision of your app calls for careful attention to the organization of information on your screen, with big, juicy, can't-miss visual targets and a merciless spirit of editing—all topics you'll begin to tackle in the next chapter. But more than that, this context of when and where your audience whips out their apps also tells you something about *how* they use them.

Get It Done Quick

The distracted, quick-draw reality of how people use iPhone apps means that sessions get chopped up into quick sprints, wedged between other activities. When a friend suggests going to the roller derby on Saturday, you break from conversation to dash the rendezvous into your calendar, then quickly return to chit-chat. When the wait at the post office gives you a spare minute, you scan your email, Twitter account, and favorite website before it's your turn at the counter. Get in, get out.

The best apps fold neatly into the fabric of a busy schedule. This demands a special degree of efficiency in the interface—get me there in just a tap or two—but

So you're building an app to fly an airplane.

You might build this:



...when users really need this:



it also demands visual simplicity. In the context of scattered attention and a distracting environment, you can't *expect* people to have the time or patience to study the screen.

As with all things, there are exceptions. Some will spend hours at a time losing themselves in an immersive game. Others will spend long stretches engrossed in an ebook novel or tapping out thoughtful notes. But those very same apps—game, ebook reader, notebook—will just as likely be used for a 30-second sprint in the same person's next session. This means that even apps that encourage longer, more contemplative interactions should anticipate and design for quick hits. (You'll explore more about the specific mindsets that people bring to mobile apps starting on page 32.)

One Tool in a Crowded Toolbox

With all this sprinting, where are your users rushing off to? It's often to another app. When you're engrossed in the design of your own app, it's naturally the center of your attention, and it's easy to imagine that it will be your audience's center of attention, too: for them, it will no longer be an iPhone, it will simply be a device for running Acme SuperNotepad. As an iPhone user yourself, you know better. Every app is just one among many, a character in a big dramatic cast of which you are not the director.

Not only will people hop away to other apps, but those other apps can and will interrupt yours with push notifications. Phone calls will ring in and text messages will saunter through. Users will also expect to share content from your app with other apps and possibly vice versa. For app designers, this means you have to think about your app not in isolation but as part of a community of neighbor apps that will share space, communicate, and occasionally step on each other's toes. (Chapter 11 explores how your app can mingle with the crowd and avoid being the antisocial guy in the corner.)

This noisy throng of apps on your audience's iPhones means that you have to think crisply about your app's role at this party. The best apps have a focused job description. The more tightly you define the idea for your app, the clearer it will be to your audience when and why they should use it. Think of the iPhone as a

toolbox with lots and lots of specific tools. The “right tool for the right job” rule applies here. When you assume that people will have lots of other tools in their kit, that means your app doesn’t have to do everything. Choose an idea, focus it, figure out the minimum your app has to do to make it happen, and then polish, polish, polish. You’ll learn more about focusing your app in the next chapter.

Bored, Fickle, and Disloyal

While your app has to collaborate with other apps, it also has to compete with them. iPhone users churn through a remarkable number of apps, offering up very little loyalty in return. If your app doesn’t hold their interest, they have no qualms about moving along, which also means they won’t talk it up to friends (sayonara to word-of-mouth marketing). This easy-come-easy-go mindset makes it all the more important, if you weren’t already convinced, to craft a great user experience tuned to your audience’s wants and needs. If you don’t get it right in your first outing, most people won’t look back.

App users have a big app appetite, downloading about 10 apps per month on average, but they rarely use these apps frequently or for long. Studies show that the average user never launches an app more than 20 times before abandoning it. Less than 15 percent of downloaded apps get so much as a glance over the course of a week, and two months after purchase, only a third of downloaded apps get used at all. At the bottom of the heap, popular but unsophisticated gimmick apps (fart sounds, gag IQ tests, ringtones) get used only a handful of times before customers give ’em up.

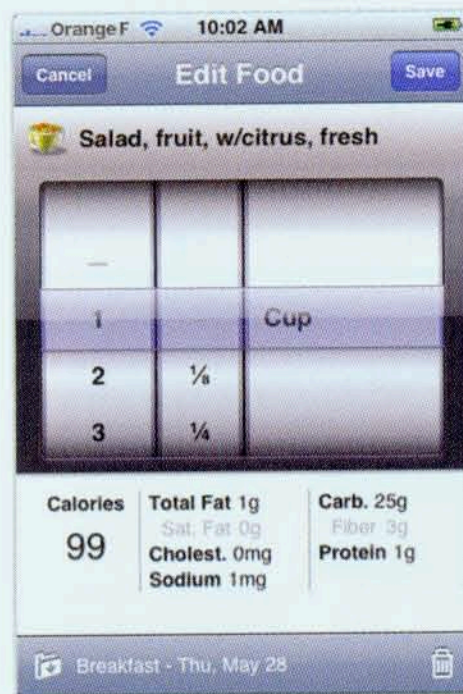
This may not matter to you if your goal is to build one-off novelty apps; in that case, you might even *expect* people to launch your app only a couple of times. Laugh delivered, mission accomplished. If you’re trying to grow a following for your app, however, this is uncomfortable news. According to one survey, nearly half of all apps are downloaded based on a friend’s recommendation. Loyal users spread the word, but few apps ever manage to create that big fan base.

Double-Tap, Pinch, Twist, What?

If you're an iPhone savant who explores every last obscure feature of your iPhone, here's a headline: Most people aren't like you. Spend a little time with an everyday iPhone user (or for a real surprise, look over the shoulder of an iPhone newcomer) to see just how little they've explored the standard iPhone controls and especially touchscreen gestures—the taps, flicks, and swipes that make the iPhone do its thing.

This disinterest in learning gestures might seem odd since the iPhone's touchscreen is one of the things that was so revolutionary about the device—the innovation that makes the iPhone so effortless. And sure, even first-time users get the obvious physical metaphors immediately: swiping screens, tapping buttons, flicking number spinners, dragging maps. No problem there; you can count on those interactions because they work just like manipulating objects in the real world. Drag it to move it, tap it to push.

Familiar physical metaphors work well to suggest touchscreen gestures, even for iPhone newcomers. User tests show that first-timers instinctively get how to swipe a picker menu to spin its dials, as in Lose It! (left). In the Air Hockey app (right), newbies immediately understand that they can nudge the mallet with their finger to play.



It's when you get to mildly fancy dance steps beyond taps and swipes that you start to lose people. Even some standard gestures of the built-in apps go unknown and unused for a big swath of people. This is especially true for *multitouch* gestures, the ones that require more than one finger. In testing sessions, many iPhone users say multitouch feels awkward, including even the standard pinch gesture for zooming in and out. When possible, most fall back to a single-finger option—double-tapping a map, for example, to zoom in—a reminder that it's best to craft

your app for one-handed maneuvers. (You'll learn more about optimizing for one-handed use on page 58.)

Gestures, of course, are especially tricky to get across to users because they aren't a labeled part of the interface, and they're not easily discovered. In the built-in Maps app, for example, even self-described experts often aren't familiar with the two-finger single tap to zoom out. In other cases, custom landscape modes go unseen because users never think to tip the Stocks app on its side, for example, to work with charts. You can't assume that people will figure out your app's gestures no matter how simple, standard, or consistent. Treat gestures as shortcuts for actions that can be accomplished by another (though often slower) route, so that there's always a backup plan. You'll explore gestures more thoroughly in Chapter 8 and device rotation in Chapter 9.

We might forgive users for not instantly grokking gestures which are, after all, invisible, but even labeled icons and buttons go unrecognized, their meaning obscure to your app's newcomers. We're not just talking custom icons either. Even when icons are consistent across all the built-in apps, for example, uptake is slow on what individual icons represent.



Even some of the standard icons of the built-in apps cause confusion for newcomers. After several weeks of use, many users still don't realize the X icon in Safari's location bar can be used to clear the web address. Meanwhile, in user tests, first-timers often expect that the + icon, which is used to bookmark pages, will instead enlarge the page text.

Clumsy Fingers

Fingers are a dazzling engineering invention, capable of a whole slew of remarkable things: A finger can test the direction of the wind, plug a hole in a dike, test the temperature, and even direct an elevator to a specific floor. Fingers, however, are lousy at precision touchscreen interactions. A touchscreen stylus or a mouse pointer can easily hit its target within a pixel or two. In comparison, the finger is all thumbs. It's a blunt instrument that clubs whole swaths of pixels at a time and, to make things worse, obscures the screen so that when you're wielding this clumsy pointer you can't even see what you're pointing at.

Add a rushed and distracted user to the mix, and things get messy. People miss buttons, they tap the wrong target, they “overswipe” by tapping a bottom icon when they mean to scroll the screen. If you put more than a few tappable items on an iPhone screen, users will accidentally tap the wrong one sooner or later. Designing for touch takes careful effort and an attention to ergonomics that's new to many software designers. You'll explore these topics further in Chapter 3.

So, What, Do I Design for Dummies?

Impatient, distracted, clumsy, fickle, incurious, and uneducated. It's not exactly the description of an ideal dinner guest. But iPhone users aren't stupid, and neither are you. Chances are, when you're tapping away at your favorite device, you fit many of these descriptions yourself. We all have better things to do than scratch our heads over an iPhone screen. Our preoccupied iPhone habits flow naturally from the very concept of mobile apps—getting stuff done on the go—



Photo: Adam Frederick

and those behaviors are only reinforced by a device that's so deceptively easy to use that we can allow ourselves to be careless.

So why bother? If most people never pay conscious attention to your design, if they neither notice it nor think about it, then does the design even matter? Why sweat the details for users who routinely stumble past them? If users (like you and me) are so careless, then the answer must be a dumbed-down interface, right?

Here's the thing: careless \neq dumb.

People don't want dumb from your app; *they want simplicity and ease*. We're all just trying to use our iPhones to work, to play, to learn, to communicate. The best apps get out of our way to let us do that; they become invisible. Great apps don't make us think—at least not about their interfaces. They embrace complicated tasks but shield us from all the complexity under the hood, making it effortless for us to glide through and accomplish our goals. Tap the Fly button to fly the plane, tap the Land button to bring it to earth.

Simple is hard, and effortless takes lots of work. But those adjectives are the hallmarks of great design. While users will, unfortunately, rarely exclaim over your app's elegance, they will *always* gripe about its inelegance. They feel the bumps, and the small screen only magnifies interface missteps. So yes, you really do have to sweat the details. Your mission in designing the user experience is to make sure that every screen and every action delivers delight, efficiency, and results. Every element of your app has to be tapworthy.