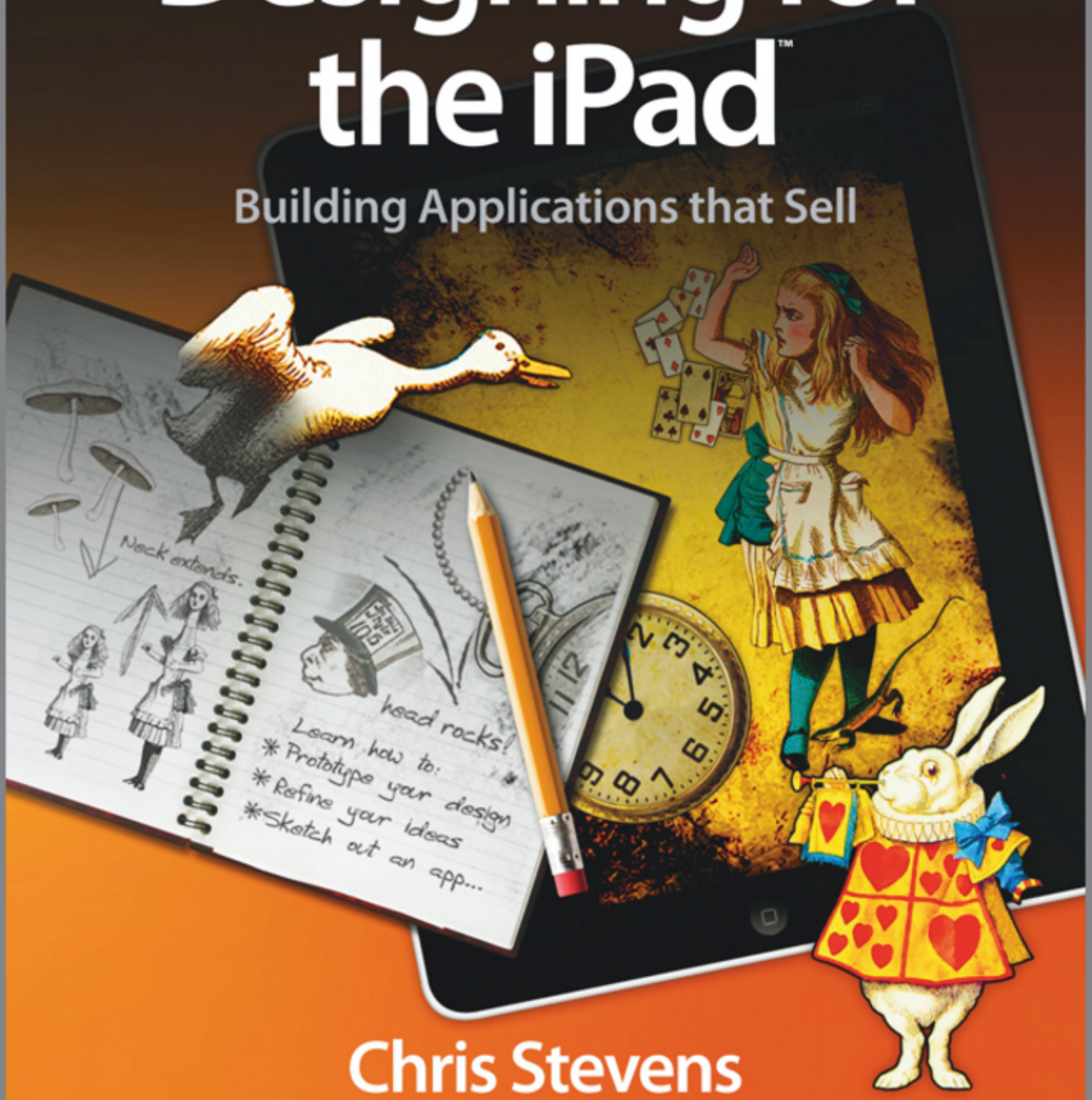
Designing for the iPad™

Building Applications that Sell



Chris Stevens

From the creator of the interactive book – Alice, one of the best-selling apps for the iPad™

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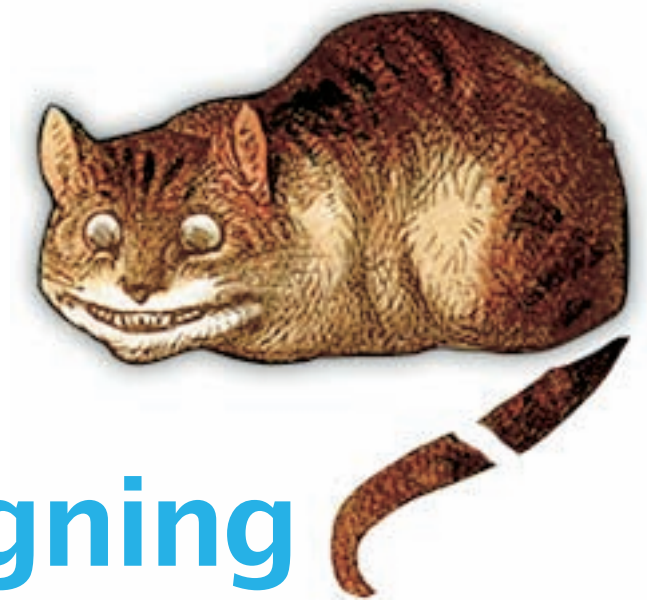

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Chris Stevens

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Dedication

To Peter, Rosemary, Dominic, Louise, and MJ

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About the Author

Chris Stevens is the designer behind *Alice for the iPad*, which hit the number one spot in the iPad App Store and has remained a bestseller ever since. *Alice* is installed on half a million iPads worldwide and counting. Gizmodo called it "The cleverest iPad book yet" and the BBC said it was "A glimpse of the future of digital reading." *Alice for the iPad* was also featured on *The Oprah Winfrey Show* where Oprah told her audience it would "change the way kids learn."

Chris was formerly a technology columnist for *The Daily Telegraph* newspaper and later wrote for *The Times*. He also presented and directed *Space Bubble*, the popular CNET gadget show. Alongside his writing, Chris is an illustrator and scriptwriter. He has worked for Warner Bros, EMAP, and Wired. Chris won a Guardian Media Award for his work as a journalist and famously discovered reflectoporn.

Today Chris runs Atomic Antelope, the publishing house that created *Alice for the iPad*. He spends his time between London, New York, and Tokyo, working directly with authors on new books.

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Contents

Preface

One week I was on my sofa watching *The Oprah Winfrey Show*, the next week I was on *The Oprah Winfrey Show*. That's how suddenly our two-man iPad developer team, Atomic Antelope, struck iPad app gold.

A year ago, if you snuck over the fence, crossed my garden, and peeked in at the window you would see a sorry sight: A lone man, crouched over his computer, deeply engrossed in Photoshop and Xcode. His mind was focused on one solitary aim: To strike it rich with an iPad app.

A month later I was co-author of the top-grossing children's book on the iPad, *Alice for the iPad*. It was named Oprah's favorite iPad book, and hailed by everyone from *The Financial Times* to *Gizmodo* as the poster child of iPad publishing. Our app appeared on television shows from London to Tokyo and stormed into top position in the App Store, in every international market. *Alice for the iPad* delivered the publishing world its messiah and gave the iPad its first killer app, as shown in the image.

Now I'd like to share my knowledge with you.

Who Should Read This Book?

Anyone who wants to know exactly how to take advantage of the iPad's exciting new features and turn their app ideas into a hit. By the time we're done, you'll be ready to take an app from pencil sketch all the way to the top ten in the iPad App Store. I'll let you into professional secrets so you can grab a lead in the app gold rush, selling fantastic, profitable iPad software. You'll learn exactly how to make your app look beautiful, work intuitively, and sell like crazy.

Why should you trust me to explain how to do this? Why not just stick to the sensible-looking iPad programming manual you were browsing through a moment ago? Well, because unlike that programming manual, I've got proof that this method works. Using the techniques in this book, I designed the top-selling children's book on the iPad. *Alice for the iPad* is installed on hundreds of thousands of iPads and made me rich beyond my wildest dreams. But I'm not going to just sit in my Jacuzzi, tossing hundred dollar bills over the balcony. Instead I'm going to put this knowledge to good use. I'm going to tell you all the tricks I used to win the app gold rush and how you can win it too.

This book is focused on practical steps, not vague suggestions. I'm not going to give you confusing rules to follow or pretend that designing successful apps is all about group brainstorming good ideas—in fact, group brainstorming is a terrible way to come up with ideas, but more on that later.

Whether you're managing a team designing iPad apps, a designer looking for tips, or a programmer who wants to understand the design methodology of a successful iPad app, there's essential knowledge for you here. Let this book be your guide through the horror of the app submission process, and learn how the iPad offers a unique window of opportunity to make best-selling applications using techniques that did not exist before the iPad came along.

The Apple App Store is exceptionally competitive and it's very easy to get lost in the swamp. To make sure that you stand out, you will need tried-and-tested methods of coming up with a sellable idea, refining concepts, prototyping designs, finding a programmer and a designer, and organizing a collaborative project. We're going to take a look at the new code frameworks programmers can use to make exceptional apps. You'll also learn about interface design choices and really get to grips with why the iPad is a substantially different beast from a laptop or iPhone. Most importantly, I'm going to equip you with insider advice on how to get an app to the top of the charts and live the ultimate geek dream.

I'll explain why asking yourself "What would be the coolest app I can make for the iPad?" is a bad place to begin designing an app. If you actually want to make money, the right question is "How will I sell this app?".

The Revival of the Hobbyist Programmer

We live in exciting times. The App Store has hugely democratized the process of writing and distributing software. Apple has led a return to the heyday of garage programmers tapping away on their Spectrums and Commodore 64s. Now a small team of just two or three people can make a best-selling title. A few years ago it was almost impossible to make any money as a lone software retailer, but there's a revolution afoot. If you have $99 to join up as a developer, and a Mac, you have passed the only bar to entry. The rest comes down to your imagination and the information in this book. Sure, there's a lot of criticism leveled at Apple's tight control of the App Store, but, on the other hand, they've made a lot of programmers very happy, and very rich.

Unlike those other books on iPad app development, I'm actually going to give you the cold, hard truth about the iPad app industry. It's dirty down here in the trenches of the App Store, and you might not like what you find, but take my hand and let's go.

TIP

This book is just the beginning. The iPad app scene is constantly evolving. Almost every day I find something new and exciting that an indie development studio has created in an effort to win the gold rush. To keep up to date with the latest app action, visit the official blog for this book at www.AppsThatSell.com or follow me on Twitter: @AppsThatSell.

Part I

Understanding the iPad

The iPad marks the dawn of appliance computing. It is the first true mass-market computer—a device anyone can use without needing special skills. It's also a rare beast among computers because it requires almost no technical support. The iPad is also a true *tabula rasa*, literally a "blank slate" that can transform itself from a keyboard into a guitar, or from a calculator into a sheet of drawing paper. The iPad uses few wires and can be held in one hand. People just seem to *get* the iPad. You only have to watch the numerous videos on YouTube of babies using the iPad to realize that the iPad leads a movement. In this part, I show you how the iPad has kick-started a revolution in software design that focuses on the mass-market user, not on the specialist.

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Chapter 1
Embracing a New Paradigm

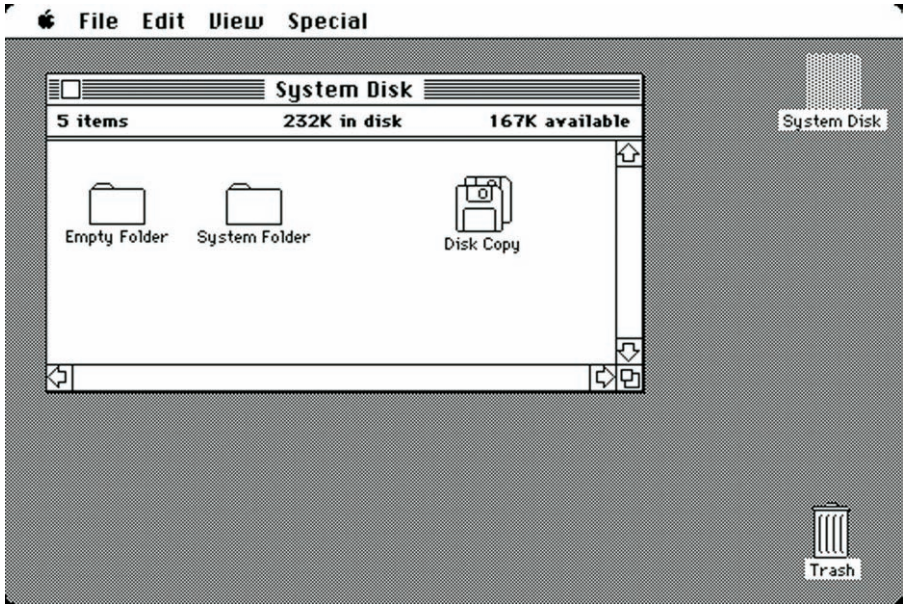
You'll notice that the majority of users struggle with the traditional desktop metaphor of windows, icons, mouse, and a pointer (WIMP), but hand them an iPad and they're like a fish to water. The iPad is unusually polite when it's asked to do something. Unlike a desktop OS, the device is quick and responsive to gestures, rarely asking the user to wait. Just like a physical book in the real world doesn't pause for a second before reacting to your touch, rarely does the iPad. Like any device, the iPad has its flaws and niggles, but it's quickly nudging the industry towards a new world dominated by touchscreen interactivity, and away from traditional desktop computing.

What's most interesting is that this movement is more than a simple change in the technology used by the mass market, it's actually a seismic shift. Touchscreen computing is so universally accessible that it actually appears to have silenced the sighing masses cries of, "I don't understand computers." Apple cleverly trained-up millions of people on the iPhone, so that when the iPad launched it was a much more understandable product for the consumer. But the real magic happens when you hand an iPad to someone who has never interacted with a computer before—a young child or an elderly grandmother—they just seem to *get* it. This is the power of touchscreens and good software design.

A Quick History of User Interface (UI) Design

Desktop computers were not designed for touch, and are hangovers from work done by Xerox PARC in the 1970s and later licensed by Apple. For all its visionary skill, Xerox did not anticipate an era of mass-market touchscreens. The ageing WIMP system uses indirect manipulation—an interface in which the mouse is moved, then causing movement in a pointer on the screen. But this age is over. Now, *indirect*-manipulation methods are being quickly replaced by *direct*-manipulation. This new age is rich in interfaces where objects on the screen are touched and moved directly by the human hand. The reign of WIMP is coming to a close.

The desktop computer's WIMP metaphor, as nostalgically shown in the image, does not extend well to a direct-manipulation interface like the iPad's, and in just a few years it will seem as archaic and peculiar to us as the command-line interface.



The reason that Microsoft spent more than a decade failing to sell anyone on its vision of tablet computing is that it made the mistake of trying to shoehorn a WIMP system into a touch computer. Microsoft attempted to recycle the UI from its Windows OS, and made

the mistake of assuming that the role of the mouse is directly analogous to the human finger. Sadly it is not. It is only recently that the UI designers at Apple developed a practical alternative to a mouse-centric system. In the next few years the industry is set to move beyond the windowed operating system.

However, just because Apple has now figured out a way around the original limitations of touchscreens, there is still plenty of scope to make tragic mistakes when designing iPad apps, especially when adapting desktop software for the new platform.

The iPad blurs the boundary between a user and the computer, marking the transition from a world where we manipulate objects using peripherals, like the mouse and keyboard, to a world where we touch, tilt, and shake our computers. Touchscreen computing is by far the most exciting emerging consumer technology, in fact it will be the fourth largest consumer electronics category by the middle of 2011. The really intriguing thing about it for you, as a developer, is that no one has it all figured out yet. We're only just beginning to explore what the iPad can do.

To give you a sense of the possibilities on offer here, imagine the Apple Macintosh before Photoshop was invented. That's where we are now with software on the iPad. The game is afoot.

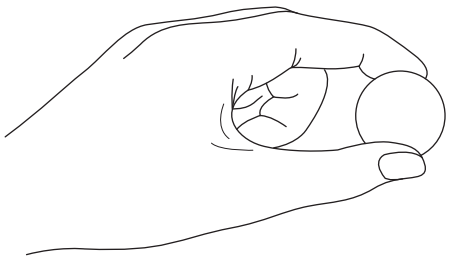
Why the iPad Is Not a Big iPhone

If the iPad is just a big iPhone, then a swimming pool is just a big bathtub. The comparison is meaningless in both cases. If there's any sense to be made of this claim, I would argue that you can do a hell of a lot more stuff in a swimming pool than you can in a bathtub, and you do those things very differently. The same is true of the iPad compared to its smaller sibling, the iPhone.

It's an easy mistake to make, and one that trips up many first-time iPad developers, but the iPad is not as closely related to the iPhone as it appears. The ergonomics of the iPad are radically different: The user's finger placement on the iPad is nothing like finger placement on the iPhone. The illusion that you are looking at a scaled-up iPhone is deceptive, and you'll probably end up with an app that will not sell if you simply scale up your iPhone apps to fit the iPad's screen. As an iPad app designer, you will not be able to use the same techniques that you've used for designing iPhone apps.

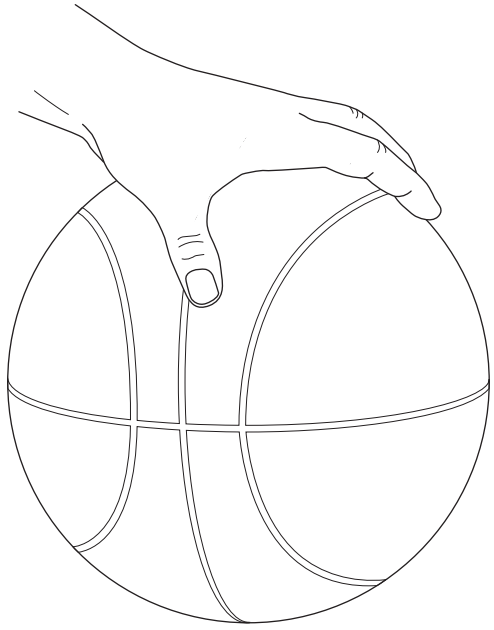
One of the core principles of design is that form and function are tied; the shape of an object determines how it can be held and used.

Consider how your grip on an object changes as the object grows larger, as illustrated here. Would you grip a tennis ball in the same way that you hold a basketball? What about a ping-pong ball? In the same way, the user's finger-grip and finger-tap patterns on the iPad are different from their finger patterns on the iPhone because the scale of the device has changed. And because the grip pattern has changed, everything has changed.



Hand holding ping-pong ball

Hand holding tennis ball



Hand holding basketball

This is very important to keep in mind, because the way a user holds the iPad will be your starting point for designing a good user interface in your iPad app. This applies whether you're making a spreadsheet app, a first-person shoot 'em up, or something else entirely.

More Space to Fill

Another interesting difference between the iPad and the iPhone is the size of the screen available for a designer to provide content. This presents an enormous challenge for iPhone interface designers working on iPad apps. The iPad's screen is just nine inches diagonally, and it's tempting to think you can just tweak your iPhone app for the iPad. But, in reality, the iPad will dwarf any iPhone app, making it look ridiculous and impractical to use. It's easy to demonstrate the effect, just download any iPhone app and scale it to fill the iPad's display. Ignore the pixilation, and consider the interface. Is it still an efficient use of the iPad's screen?

Submit It Differently

The iPad differs from the iPhone when you submit your app to Apple, although this is sometimes not obvious until it's too late.

Apple has significantly tightened up the rules on how closely an app has to stick to its interface guidelines for the iPad. On the iPhone, it was often possible to get away with submitting apps to Apple that did not automatically switch screen orientation when the iPhone was rotated. With the iPad, however, Apple's gatekeepers have sharpened their swords and may brutally reject your app if it does not switch orientation when the iPad is turned from landscape to portrait. However, some high-profile apps have crept under the radar, so you never quite know when Apple's reviewers will take objection when you ignore the company's UI guidelines.

As always, Apple's reviewers will make exceptions to the orientation rule, if you can convince them that your app won't work if it switches orientation—some games and Chipmunk Physics-based apps like *Alice for the iPad* being the notable exceptions. However, in the majority of cases, there may be no defense against designing an interface that cannot rotate and Apple may reject your app. You'll read about the issue of rotating interfaces in more detail later in this book.

Pricing Advantages

Finally, for the developer, there is a very exciting difference between the iPhone and the iPad. On the iPad, you can charge more for apps. One study conducted by *Distimo* found that the average iPad app was priced at $4.67, while the average iPhone app cost almost a dollar less at $3.87. But what's more exciting is that, in the pricier categories of the App Store, the iPad market supports even higher app prices. For example, medical apps on the iPad cost an average of $42.11, compared to just $10.74 on the iPhone. Similarly, the average financial application on the iPad costs $18.48, compared to $5.74 on the iPhone. You can begin to see how selling apps for the iPad is a different proposition than the iPhone. Because the software can now do desktop-computing tasks, you can, in some cases, charge desktop-computing prices.

A user's purchases seem more substantial and valuable because the iPad's screen is bigger. The larger screen also opens up the opportunity to develop applications that have a serious business use for which considerable money can be charged. The iPad can transform itself into anything from a portable ECG monitor for a doctor, to a handheld ordering system for a restaurant. Its versatility opens up a whole new world of premium sales to the app developer.

If you want to be involved in designing apps for an interesting and lucrative market, joining some of the most innovative independent developers in the world, you've picked a great platform in the iPad.

Working with a Large Touchscreen

When Steve Jobs called the iPad magical, it wasn't just because he'd eaten too many Twinkies. In a very real sense the iPad is magical, because it is able to assume many forms. I mentioned this idea of a *tabula rasa* or "blank slate" earlier, and herein lies the iPad's magic. When you're using a desktop computer, there's no escaping the fact that you are using a computer—you must interact with it using a mouse and keyboard. No matter what the computer screen shows you—a word processor, or a graphical representation of a Marshall Amp from 1965—you are separated from that graphical

representation by your input devices: the mouse and keyboard. But—and here's the magic—when the same representations are shown on the iPad, the iPad seems to *become* those devices. You are allowed to *touch* what you *see.*

Exploring 360 Degrees of Motion

In all the excitement and confusion about the iPad, one of its most interesting features was largely overlooked: the iPad has a portrait mode. Computer monitors across the world are wider than they are tall—a mode known as *landscape*—and in most cases, there's not much the user can do about it. But, like the iPhone before it, the iPad reacts when you rotate it, causing the screen to automatically switch orientation so that everything is the right way up. This means a user can quickly rotate the device to make the best use of the screen for whatever task they're working on.

What sounds like a pretty simple feature is actually a fundamental difference between the iPad and any computing platform you may have designed for in the past. The iPad is now in the curious position of being the world's most popular computer with a portrait mode—this means designers have the option of creating interfaces that occupy more vertical than horizontal space.

The iPad's 360-degree range of rotation also allows graphic elements to react to orientation—changing shape, position, and switching on or off, depending on the way the user holds the device. A good example of this is Apple's *Mail* app, an email manager that displays a different interface depending on which way the iPad is held, shown in the image.

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In landscape mode, the *Mail* app shows a list of incoming emails in the left pane, and the contents of the currently selected email in the right pane. But if the iPad is rotated 180 degrees, the left pane disappears and the right pane expands to fill the screen. This allows users to get a closer look at the email, causing the iPad to resemble a printed sheet of paper. More importantly, it overcomes a very practical problem: Imagine how the *Mail* app would look in portrait orientation if the left pane did not disappear. The message text would become an extremely thin column, and embedded graphic elements might shift to become illegible.

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TIP

If you want to make a popular app, it should react to changes in the way the user holds the device. Exactly how the interface changes will depend on what your app does, but if your app doesn't change in any way when the iPad is rotated, you have most likely gone wrong. Stop and reconsider. It's extremely rare for a landscape interface to work equally well in portrait, and this is also true of many interfaces on objects in real life.

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