Chapter 1

The Wide, Wide World of iPhone App Development

In This Chapter

▶ Taking a tour of the Apple App Store

▶ Accessing the App Store on your iPhone

▶ Seeing how iPhone app developers have positioned themselves in the market

▶ Sensing how to enter the marketplace with a new application

▶ Finding your fit or an unmet need

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▶ Understanding the connection between iPhone hardware and applications

▶ Seeing how the progression of iPhone releases has affected the app world

▶ Deciding whether to focus on current or future functionality

In July 2008, Apple Computer launched two momentous events. The first was an updated version of its hit iPhone product, the iPhone 3G. That same day, Apple launched something far more important to the success of its product: a central repository where iPhone users could purchase or download applications that could run on their iPhone. In simpler terms, Apple opened the App Store, where third-party developers from around the world could now have access to this new and growing market of iPhone owners who were eager to spend cash and get more capabilities from their gee-whiz phone.

In less than a year, Apple's U.S. App Store alone has seen more than 40,000 applications approved and available on the store, and Apple celebrated its billionth application download in less than a year.

In this chapter, we present the App Store to you and talk about the different ways you can see or categorize the applications already present. We'll talk about the link between the iPhone's hardware and the applications that use it, and show how the development of the iPhone itself has affected the application development world. Sit back and enjoy!

Touring the Apple App Store

Let's dive into the selling environment that makes the world of iPhone applications go 'round. (If you're already familiar with the App Store, you can skip ahead to Chapter 2.)

If you don't already have it, download iTunes here: `www.apple.com/itunes/download/`.

You can uncheck the check boxes on the left that will put you on Apple's mailing lists and skip entering your e-mail address if you like, or keep them and fill in your address if you'd like to get news from Apple. Then just click the large Download Now button. The application will download to your Desktop or Downloads folder. Then you can double-click to install it.

Go ahead and open up iTunes. To get to the App Store, you'll first need to enter the iTunes Store by clicking the first link under the store heading on the left menu pane. Then click App Store in the menu pane that appears to the right of where you just clicked, and you should see something like Figure 1-1.

Figure 1-1: The general layout of the App Store.

Perusing the storefront

Just below the App Store menu item you've just clicked, you'll see the Categories menu. The center of the screen is dominated by featured applications grouped into sets. And the right column of the screen shows Quick Links, Top Paid Apps, and Top Free Apps.

Two other powerful ways to explore the App Store are Searching and Browsing, which are available in the Search pane at the top right of the interface, and in the Quick Links Section.

Each of these forms of navigating the iTunes store is useful as we plan our application, surveying the marketplace, sizing up the competition, and seeking to promote our finished app.

Categories

The Categories menu on the left gives us a quick way to browse the store by subject matter. If you know, for example, that you will create a news gathering application, hanging out in the News category will immerse you in the existing ecosystem of apps in your category. If you have an app that doesn't fit in one category in mind, you might need to refine how your idea relates to the given categories or explore multiple categories.

The digital end cap

The large center area of the App Store can be described as a digital end cap, similar to the areas in a traditional music store at the ends of each aisle and surrounding the cash registers that feature products the retailer is trying to promote.

Each grouping of apps in this section has a See All button at the top right. Use it to see a grid layout of all featured apps in that category.

The Quick Links section contains the Browse and Power Search options, in addition to links to manage your iTunes account.

Browse

Clicking Browse takes you to a plain-looking interface that is not unlike the Finder interface on an Apple Computer. Browse functionality allows you to

- Further divide your category exploration into subcategories
- Sort applications by Name, Release Date, Artist (Creator), Category, and Price

This can be powerful if you want to look at all apps in your category that are in the same target price range as your app, for example, or if you want to see all apps from a given development company.

To sort by the various headings, such as Price, simply click that heading. You should see something like Figure 1-2. You can click again to reverse the sort order.

Search and power search

The quickest and simplest way to search the store is by clicking in the search text field at the top right of the application, entering your search term, and hitting the Return key. This will yield a search of the entire iTunes Store for

your term. The search is visually broken into sections, so it is fairly easy to see the result. If you are looking for an app with the word *hello* in the title, for example, you can easily get to the app simply by following this method, as seen in Figure 1-3.

For a more advanced, targeted search, click Power Search in the Quick Links menu. Then you'll be presented with a strip of search options. Because we're starting in Applications, the search starts out confined to that area. You can fill in the remaining text fields and drop-downs to get a more specific search.

This gives you a much more useful display of your search results, and allows you to easily filter by developer once the results are in.
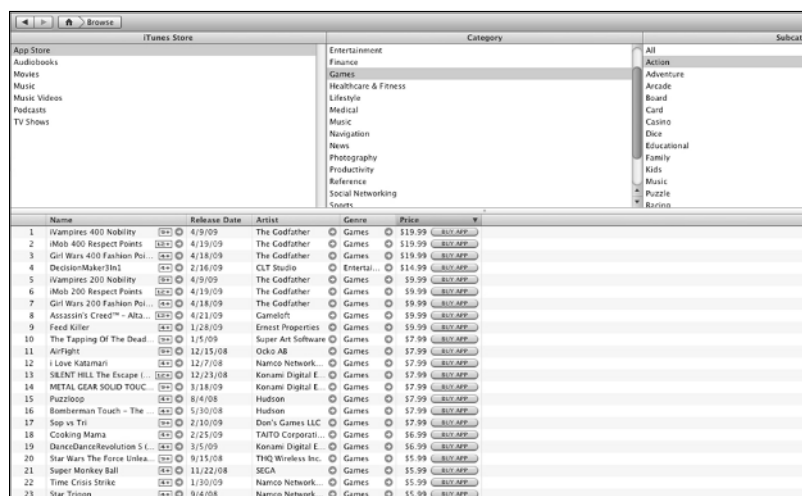
Figure 1-2: Sort the list of apps by different criteria.
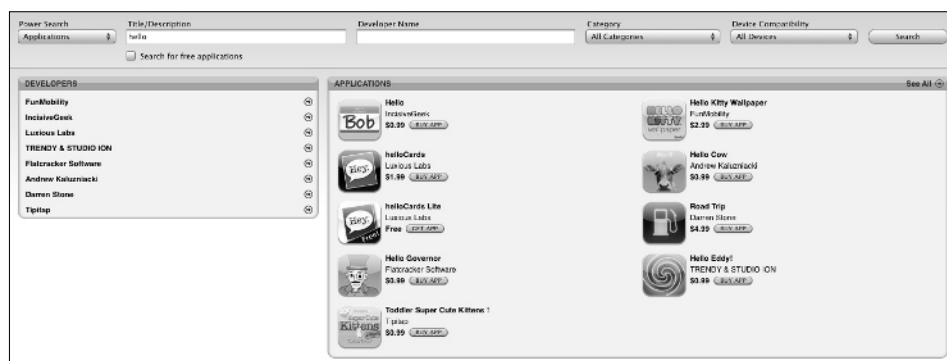
Figure 1-3: Search the App Store by keyword.

This advanced search method is handy for Competitive Analysis. We show you the details in Chapter 6.

Top applications

The final stops on our tour of the App Store storefront are the two Top Apps categories. These two panes on the bottom right give you a quick way to see what's hot at any given time in the paid and free genres.

Checking back often and downloading/purchasing as many apps as you can afford is a great way to stay on top of winning design and development ideas and keep your finger on the pulse.

The App Store on the iPhone

Each iPhone and iPod Touch has a mobile version of the App Store on the device, which works over Wi-Fi and cellular connections. Your app can be an impulse buy anytime, anywhere.

Browsing the App Store on the phone is slightly different from browsing on iTunes:

- ✔ Featured Apps are grouped into the What's New and What's Hot sections.
- ✔ Search is limited to a simple search within the App Store.
- ✔ There is no special Browse functionality to drill down into subcategories and list sorting.

If you have a device, playing with the App Store for a few minutes will have you navigating like a pro once you've learned your way around the App Store in iTunes on your computer. You can see different versions of the iPhone screen when browsing in Figure 1-4.

Figure 1-4: Search the App Store from your iPhone.

A word about updates

Most application developers release free updates to their app which contain bug fixes, extended functionality, or new design elements.

You *can* update your apps directly on your phone with the Updates tab in the App Store. We do not recommend this. Depending on your connection to the internet, it can take a long time and tie up your bandwidth in an annoying way.

TIP

For your enjoyment and sanity, particularly if you have a lot of apps, we recommend updating in iTunes. Click the Applications link in the Library category in the leftmost menu in iTunes. At the bottom right you'll see a link that says Updates Available. Click that link; then click Download All Free Updates in the upper right of the screen. You'll be asked to enter your password; then the updates will begin to download. The Downloads menu item in the Store category to the left will have a circled number, like the number 10 in Figure 1-5. Clicking Downloads will allow you to see the progress of the downloads. Once all of the downloads have completed, sync your device. You're set!

Figure 1-5:
See what downloads are ready for you!

Apple's Free Marketing

The ad buy that will get you the most bang for your buck for promoting your iPhone app is *nothing!* The commercial culture that Apple has ingeniously built around iPhone applications is one in which potential buyers primarily look directly to the App Store to browse, search for, and make their minds

up about what apps to buy. As the store gets more crowded with the rising popularity and mainstream appeal of the iPhone, iPhone entrepreneurs are increasingly looking to traditional forms of advertising to get their app seen. So far, however, it is placement in the store itself that has fueled the boom many have experienced since the release of the App Store.

That most certainly doesn't mean, "Don't worry about promoting your app." What it does mean is that you should focus primarily on your application's quality over your marketing plan. The quality will get your app noticed initially, get people recommending it to friends, generate buzz, and put it on Apple's radar for one of its coveted "Featured App" slots on the App Store storefront, like the ones featured in Figure 1-6.

Figure 1-6:
Apple
features
several
iPhone Apps
in its store.

Like most of Apple's business practices, how apps get picked for the featured slots is largely a mystery that is not disclosed to the public. Even top iPhone entrepreneurs who have been featured multiple times claim that their selection was the luck of the draw. However, there's a pattern: the best and most interesting apps end up on the Featured App lists. Some of the biggest selling points of the iPhone are third-party apps like the one you are about to create. It is in Apple's interest to put the best of those apps forward, so prospective buyers and existing users continue to get the best experience of the iPhone.

Who do you call to get your app featured in the App Store? The best planners, designers, and developers you can get your hands on!

TIP

If you watch Apple's online and TV ads and commercials associated with the iPhone, you'll notice a lot of those little application icons flying around. This is also a tremendous source of publicity for those apps fortunate enough to get put in the ad. Again, there is no trick but being one of the best to make this happen.

Another promotional caper you can shoot for is winning the Apple Design Award at Apple's annual (World Wide Developers Conference) WWDC convention. Winning the competition will put you at the top of Apple's mind for its marketing campaigns and score you tons of free press. You'll have a runaway hit on your hands at that point!

Check out the requirements, evaluation standards, and application details at `http://developer.apple.com/wwdc/ada/index.html`, as seen in Figure 1-7. Good luck!

Figure 1-7: Apple's Conference offers Design Awards.

The Frictionless Selling Experience

A primary driver of virtually every new selling innovation has been an increase in the ease of bringing a product to market. Henry Ford profited from the assembly line. The music industry started becoming wealthy with the advent of audio recording and distribution, and until recently, profited immensely with every advance in the medium from vinyl, to tape, to CD. Lately, we have experienced the dawn of the digital age. For many, including the music, film, and news industries, this has been a major bummer. Sales

have plummeted as consumers increasingly look to the Internet to meet their media needs. Because these industries profit on the relative *scarcity* of what they produce, the more easily available it is, the more they have to lose.

As an iPhone entrepreneur, you stand to profit from this same phenomenon. The more *abundantly* your software is available, the more you will make. This is true, within the context of the App Store, because Apple has handled the scarcity side of the profit equation for you by making a relatively tamper-proof commerce environment. It is not for someone to steal, lend, or find a cheap alternative to an iPhone app. That being the case, the easier it is for people to get your app, the more you make. Also, the easier the process of buying and installing your app, the fewer buyers will drop off before completing the sale.

Apple had exactly these principles in mind when it created the App Store and its commerce model. Apple has made buying your app easy for consumers the same way it has made its operating systems and software products the most seamless to use in the industry. Once users set up their billing information with the App Store initially, buying an app is as simple as clicking and confirming, like in Figure 1-8.

Figure 1-8: Find your app; then click and buy!

Global Distribution

At the time of this writing, the iPhone is available in 88 countries worldwide. That's great for people in those countries, but it's also great for you! You can sell to them all without changing a thing!

Most of the apps in the App Store today are only in English. There is a tremendous opportunity for you, however, if you internationalize your app. You could allow the users to specify their language, or release multiple versions in different languages. How could that be better than having all the languages in one app? People speaking a given language are naturally drawn to apps presented in their own language. If you release the app in their language and write the app description text in their language so they can see that in the App Store, then if they have a need for an app of your app's kind, your app is much more likely to be the one they will choose.

TIP

You can check out the exact countries where the iPhone is available here: `www.apple.com/iphone/countries/`.

How iPhone App Developers Positioned Themselves

When we look across the spectrum of iPhone applications on the market, there are a number of ways to slice the market up in order to get a handle on it. We call these *market differentiators.* We'll take a look at price points, market purpose, quality level, mass vs. niche market, and whether the app is a port of existing functionality to iPhone vs. novel functionality.

Price points

One way to segment the market is by price point. We'll look deeper at this in Chapter 3 from the perspective of how to price your app. For now, we'll take a look at how some existing apps are priced, and how that distinguishes them in the market.

Free apps

There are a number of reasons an app might be priced free. The developer may have just been cutting their teeth on the app. They may be using a free app as a trial version of a paid app they hope to hook customers on before requiring a purchase. The app may exist only to support some other product such as a medical device, social network, publication, or banking product. The app might be trying to generate a large user base for later conversion to paid subscriptions or the like. The app might be functioning as an advertisement for a specific brand. The app might be free to customers, but companies might pay to be featured in the app. Or the app may be a platform for rotating advertisements.

Let's take a look at some popular apps in each of these categories.

> ✔ **Developer cutting teeth:** Though they aren't making any money from their apps, certain app developers now have one major advantage over many other developers: they have launched an app in the App Store. Now when these developers seek to be hired to develop applications for another company or raise money for new apps, they have a foot in the door, can point to their reviews, and easily direct prospects to their work. These applications become important to the developer's portfolio and future, and consumers get the benefits of their work for free. Two examples of apps in this category include:

- **Space Deadbeef:** *Space Deadbeef* is a graphically rich fly and shoot game by a group called I.D.P. It's evident from the application description that the designers and developers only created the app for credit. The game has terrific graphics and satisfying game play, but only has a few levels and no companion paid app. It appears to be a portfolio piece for some game developers to get into working with the iPhone.

- **FastShop:** Emmanual Berthier's FastShop occupies the crowded space of list management for the iPhone. A simple and direct implementation of a shopping list application, FastShop is free and frill-less (see Figure 1-9). But if you need a shopping list, it might be just what the doctor ordered.

✔ **Trial Version:** One of the most popular ways that iPhone app developers have promoted their paid applications is to create a trial, or "Lite," version of the same application for free, so consumers can download and try out the application. If they find the app useful, then they can pay and download the full version. So is releasing a free trial app worth it? That's going to depend on your marketing strategy, target audience, niche, and more, all of which we'll be discussing further on in this book. Two great examples of trial apps include:

- **Balloonimals Lite:** One of our favorite games for the iPhone. It was made for 5-year-olds, but watch what happens when you pass it around at a party! The premise of the game is creating balloon animals that you can blow up, play with, and then pop. The Lite version comes with only one animal; then presents a link to the paid version in the App Store.

- **MLB.com at Bat Lite:** MLB.com at Bat is a popular baseball fans' resource for looking up team standings, player stats, and videos of top plays. The Lite version lacks game day pitch-by-pitch, box scores, and live game day audio that are present in the paid version.

Figure 1-9:
FastShop is a simple, free list management iPhone app.

Shopping List

Apple
Chocolate
Cream
Milk
Sugar
Vanilla
Butter
Eggs
Salt
Water
Whisky
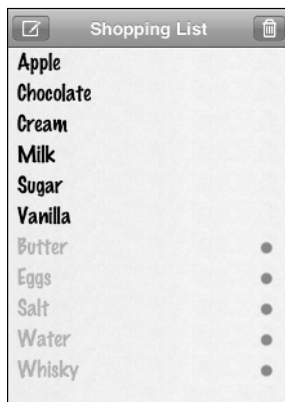
✔ **Supporting another product:** With the advent of iPhone 3.0 and hardware support, this category will be exploding. If you have a desktop application or hardware device that could be integrated with the iPhone, it may be in your interest to develop an app for it and give it away for free or cheaply. iPhone compatibility and market presence has *cache* (coolness) value, and gives you a great new marketing platform and something to toot your horn about. The iPhone is about lifestyle integration, which is something every consumer brand should strive for. A free app to support existing products can be a great way to do that. Two examples of iPhone applications in this category include:

- **Daylite Touch:** Market Circle's Daylite Productivity Suite for Mac is a full-featured time and team management application which sells for around $200 per user. Daylite Touch is its free companion application for the iPhone that allows one to tie into the desktop data of the full application over the Internet (see Figure 1-10). This is a common example of a company with a retail product extending the product's value with a free iPhone app, and simultaneously generating interest in its desktop products via the App Store.

- **Remote:** Apple's Remote app has a simple but powerful premise: allow you full control over iTunes from your phone. It has a slightly different market purpose than Daylite Touch. It simply bridges the gap between iTunes and the iPhone, offering an obvious and useful value proposition that probably would have been filled by a third-party developer had Apple not beat them to it. What's this doing for Apple? It simply enhances its already abundant cool factor and over-delivery on lifestyle functionality to support its iPhone platform.

Figure 1-10: Daylite Touch provides desktop calendar data on your iPhone.
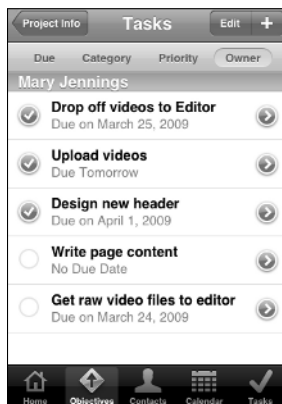
✔ **Generating a user base for later conversion:** Think "free" can't make money? Just ask Facebook, which had been valued as high as $15 billion, or YouTube, which was purchased by Google for $1.65 billion. The reason why companies pay all these dollars for a free service can be summed up in one word: Eyeballs. Once you have the attention of a large audience, the advertising and marketing possibilities for your company skyrocket. Another popular model in this space is similar to the Trial Version model, but involves giving early users a service for free with the hope of later converting some of them to pay for the same service after some initial period expires or get them to buy upgrades to the free base service. Two specific apps that fit this category include:

- **Soonr:** Soonr is a "cloud sharing" application that polls user-defined folders on your computer for new or modified files and posts them to a secure account on a Soonr server on the Internet, or "cloud." You can then access them on a Web browser or your iPhone for review, sharing, and printing. Initially it was totally free. Now the original version is free, but you can pay a monthly fee for more storage.

- **Loopt:** Another vowel-deficient app title, Loopt is a social networking application that overlays your location and that of your friends over a Google-style map (see Figure 1-11). You and your friends can send updates with photos and text tags up for others to see. If you allow your location to be seen, friends can see your GPS position and track your activity. Of course, it has the proper privacy controls. Loopt has been free since its inception, leading us to believe that its real product is Loopt's base, which it'll use for marketing.

✔ **Promoting a Specific Brand:** This medium of app is part of the arsenal of a brand immersion campaign It's a form of marketing that seeks to involve consumers in a brand in passive forms, such as games, gimmicks, and productivity applications that have value on their own, but also create a positive association or strong recognition with a certain brand in the mind of the consumer. The idea is that if you play with it, you'll remember it. Two specific applications that fit this category include

- **Rhinoball:** Rhinoball is a game based on the Disney film *Bolt.* In the game, you play one of the supporting characters who has to roll toward the goal while sticking as close to possible to a given path.

- **Magic Coke Bottle**: This is The Coca-Cola Company's take on the old magic 8-ball. Its hope is that users will play with the app in groups, promoting the Coke brand. The user experience is fun and smooth, making good use of the iPhone's unique interface shake and slide functions.

✔ **Paid Feature:** Let's say you want to serve information to consumers who aren't necessarily willing to pay for it — but the providers of the information stand to benefit from being seen. This is the revenue model of the Yellow Pages and classified newspapers of the world. If you can provide an information base that entices consumers while essentially serving as advertisement for your data providers, think about reversing the equation and serve the customers television has always served, the advertisers and product placers.

One example of an application in this category is YPmobile, a Yellow Pages mobile application. Perhaps the longest-standing form of provider-paid information, the Yellow Pages make its money by charging companies to be listed. This app takes it a few steps farther by featuring live events in your area, offering a planning notebook, displaying ratings and reviews, and more.

✔ **Advertising Platform:** Embedding ads in iPhone apps is a popular combination with free applications. You can find your own advertisers and program their ads into your app, or use a service such as AdMob (`www.admob.com`), which handles this for you. AdMob claims to have served over 76 billion impressions. Two applications that fit in this category include:

• **Bloomberg:** Bloomberg is a popular market tracking application by the New York financial news organization of the same name. Its classy interface and no-nonsense information delivery have made it a favorite of investors. It features non-invasive placement of rotating advertisements on the lower right of the screen.

• **Where:** Where is like a Swiss Army knife for geolocation applications. Using the familiar map interface, Where allows you to toggle between several geolocation services, such as Yelp, a Starbucks finder, Zipcar, and Yellow Pages, and other points of

interest on the map around you. It features ads superimposed over the top of the map interface, which move to the bottom of the screen in certain views.

Cheap apps

On the iPhone, cheap means $.99. It's that simple. There are not nearly as many reasons for creating a paid app as there are for a free app, but the one main reason makes up in importance for them all: make some money. $.99 is the ultimate impulse buy price on the iPhone. I recently had a teenage theater clerk try to educate me on how to jailbreak the iPhone and steal applications. When I said I wouldn't be doing that because I am a developer and encouraged him not to do so as well, he chimed, "I'll buy *your* app — if it's $.99!" That pretty much says it all.

Here are two examples of popular cheap iPhone applications:

✔ **Koi Pond:** Koi Pond by Blimp Pilots is a beautiful time-killing lifestyle game that allows you to observe and play with a koi pond. Wiping your finger across the screen gently disturbs the water and scatters the fish. A properties screen allows you to customize your pond. As one of Apple's top paid iPhone apps, $.99 has added up pretty quickly for these developers.

✔ **Ocarina:** The iPhone startup Smule has captured hearts and pocketbooks with its gorgeous Ocarina. A digital representation of the simple indigenous wind instrument, Ocarina lets you use the microphone like a wind hole and place your fingers on the screen to finger various note patterns (see Figure 1-12). As you play, others around the globe can tune in to hear you in real time. If you are tired of playing, you can switch modes and just listen to others play. It's a "small world" experience.

Figure 1-12:
Play your
iPhone like
an Ocarina!

Midline

Any app priced from $1.99–$9.99 has an average price point. Often companies choose to price apps higher in this range if they gain strong popularity or are more involved. This is also the price range in which you will see companies offering apps at reduced prices for a period of time to boost interest and sales. Two examples apps include:

✔ **Hero of Sparta for $5.99:** Gameloft's 3D third-person action adventure game pits you against hordes of monsters.

✔ **Weightbot for $1.99:** One of the best-designed iPhone apps, Weightbot allows you to simply enter your weight for the day and track it over time with a line graph. Setting a goal weight gives you a second line on the graph as a target. The beauty of this app is in the beauty and amusement of its design qualities.

Premium

Premium apps range from $10.99 up to hundreds of dollars, but most fall in the $10 to $50 range. Certain full-featured specialty apps go up into the hundreds. Apps in this range are counting on being valuable enough to the consumer that they are no longer an impulse buy, but more of an investment. Two examples of premium apps include:

✔ **Omnifocus for $19.99:** Omnifocus for the Mac is a full-featured, innovative task management app that can be networked between machines across the Internet. Omnifocus for iPhone is the full-featured cousin that synchronizes with the desktop application, allowing on-the-go networked time management. Its four star rating indicates that its higher price isn't a deterrent for many.

✔ **Netter's Anatomy Flash Cards, for $39.99:** A beautifully drawn application for learning anatomy, this application will appeal to med students, doctors, and biology enthusiasts. Its higher price reflects the depth of specialized data it presents so thoroughly and beautifully.

Excessive

While there are a lot of applications that offer a reasonable price point, there are a few apps that are just plain expensive in price.

TECHNICAL STUFF

At one time this category was typified by the infamous "I am Rich" application, which sold for $999 and simply displayed a glowing red gem. While a select few saw this as a useful tool, Apple has taken it down due to customer disputes.

Now, this category is mostly dominated by industry-specific specialty apps, such as:

✔ **MyAccountsToGo for $499.99:** This is a tool for Microsoft Great Plains or SAP client relations management software. We sure hope those sales reps close some big contracts to afford this on their phone! But then again, it is probably the only app of its kind for these systems.

✔ **iRa Pro for $899.99:** This mobile video surveillance app turns your phone into one of those video walls that security guards fall asleep in front of in movies. If you have a complex surveillance situation going on, we're sure this would be pretty handy. Take a walk while you monitor that parking garage for intruders!

Market purpose

Another way to slice the marketplace is by the purpose the app was created for. Here, we mean whether the app fills an existing need, attempts to improve on an existing application, creates a new demand for something, supports other elements of a business, or simply was created for one's own enjoyment or particular use and to share with the world. Some of these categories intersect with the previous sections in the Free Apps category.

Here are some of the different areas that define market purpose:

✔ **Filling an existing but unfulfilled need:** This is gold in any market, and that's particularly true for software, because once a piece of software is available it is available to everyone all at the same time. It's not like neighborhood restaurants that don't have to compete with the same type of restaurant in another city. Once a need is met well in the software world, it's hard to compete against it. If you can get in to fill a need before anyone else, and do it well, you can really dominate that area.

One example of filling an existing need is shown with the Instapaper application (see Figure 1-13). Ever come across an article online you want to read, but not right now? It's just an article and might not be worth bookmarking. Besides, are you really going to go back to that bookmark? That's what Instapaper is for. This simple app is combined with a bookmark that you put on your bookmark bar in your browser. When you come across such an article, hit the bookmark once; it is saved. Then the article pops up in a list in your free or pro version of the iPhone app.

Figure 1-13:
Keep track
of news
articles
with the
Instapaper
app!
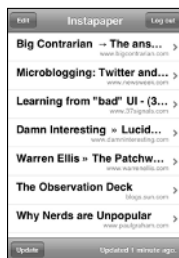
✔ **Making an existing app better:** If there is an app, how does it do it well? Does it neglect functionality? Is it high quality or kind of junky? Perhaps there is a niche market that can be served by a more specialized version. All of these questions, and more, are valid when looking at getting into a field already occupied by one or more apps. The App Store is a meritocracy, so coming in with a better app can be rewarding.

✔ **Creating a new demand:** Great ideas have to start somewhere. Some of them might as well start with you. If you strike a chord with your idea, you might start a demand that people didn't even know they had. For example, there's an iPhone app called Eternity that helps you with time tracking. A lot of freelancers track how much time they spend on projects. But who tracks how much time they spend at *everything*? That's the purpose of Eternity: helping you see how you are spending your days. You can track anything from work time to playtime, family time, whatever. Then run reports and look at logs of how you whiled away the hours. While some people may see this as unnecessary, others who are addicted to time management become hooked.

✔ **Supporting other elements of a business:** The iPhone can act as a mobile extension of an existing business operation. Many companies are getting into iPhone development simply to have a presence in that space. Or they see the iPhone as a new tool with which they can extend their offerings. For example, SalesForce, a leading online client relations management platform, created an iPhone app that simply brings the functionality of the online version to the iPhone as a convenient application with which to access the same features.

✔ **Doing it for their own enjoyment/reasons:** If you've invested in this book, you are probably not releasing an app just for the heck of it, but many developers do. The open source software movement has led to many programmers getting used to creating things for their own use and then releasing them to the rest of us essentially just to contribute to society. They get the fun/usage of their app, and then they get the recognition and gratitude when others use it, too. For example, encryption is a coder's tool for turning readable text into unreadable forms (such as a hash) for secure transmission. Armin Teoper's HashToHash does just this on the iPhone simply and elegantly, but he seemed to write this application simply because he determined he could, and not for financial or advertising gain.

Quality level

Another way to parse the market in the App Store is by quality. There are a lot of quality apps out there, but also a surprising number that leave something to be desired. To a certain extent, quality is a matter of taste, so don't be offended if yours differs from ours.

✔ **Amateur Design:** Take a look around the App Store and take an assessment of relative graphics quality, thoughtfulness of approach to the app's subject matter, attention to detail, and so on. A close read will reveal a lot of amateur design efforts out there. Be aware, though, that an amateur design can be one of the best-selling applications out there.

For example, Ethan Nicholas created an iPhone game called iShoot. Ethan did not invest in developing the best graphics. Yet his app struck a chord with gamers, and he made almost a million dollars in its first year on the App Store. While the app is not as graphically compelling as many others, iShoot's game play has excited and addicted fans, proving that your app doesn't have to be perfect to be a hit. (It can help, though, if you focus on design.)

✔ **Professional Design:** A vast majority of apps on the App Store look good with a professional design, but are not terrifically well executed. Even apps by major companies such as Facebook find themselves panned by reviewers. The line between professional and premium may be in the eye of the beholder, but it's still a worthy distinction to make as you survey the market.

For example, let's look at 24 — Special Ops. This iPhonification of the popular television series has fun, retro style, and game play, but doesn't shine in terms of attention to detail. The text dialogue is often fragmented and grammatically incorrect. The posterized-looking graphics, though interesting, don't fit the style of the show. Overall, however, it is a fun game that makes decent use of the *24* characters and plot style.

Another example is iFitness. This popular fitness app shines in that it features a pretty comprehensive list of exercises with photos of each, some stock exercise routines, a logbook, and the ability to put together your own routines. It's a good app, but its interface lacks character, there are few written instructions, and it doesn't have any particular branding or point of view to distinguish it in the marketplace. These missing attributes leave the door wide open to competition in this market space.

✔ **Premium/Exceptional Design:** We all know a great thing when we see it. It seems to transcend the competition, go further than it needed to in terms of quality and thoughtfulness, and it is presented in a near-flawless fashion. The best example of this is the iPhone itself. Premium applications live up to this standard and perhaps even push it a little further.

One example of a premium design is the Touchgrind application. An innovative skateboarding game from Illusion Labs, Touchgrind makes terrific use of the iPhone's form-factor and multitouch interface. In the game you get a top-down view of your board as if you were riding it looking down. Finger movements move the board and trigger different jumps and tricks. The graphics are stellar, game play is fun and challenging, and the concept is innovative and novel.

Another example is the FourTrack application (see Figure 1-14). Remember those old four-track tape recorders from back in the day? Even the Beatles recorded their first records with just four tracks. FourTrack from Sonoma Wireworks brings four-track action to the iPhone in a beautiful interface perfect for the songwriter, band, or doodler to get more than just one track down on new songs, song sketches, etc. Then you can easily transfer your masterpiece via Wi-Fi to your computer for use in Sonoma's companion application. The app makes elegant use of the touch interface, the iPhone's audio capabilities, and desktop interoperability to help you create a masterpiece.

Figure 1-14: Make beautiful music with the FourTrack app.

Market size

Certain apps are made for the masses; and some are made for specific interest groups, professions, and other niche markets. Just because an app targets a niche market doesn't mean it has limited potential. In today's specialty-oriented culture, targeting a niche is one of the best ways to be noticed and perceived as relevant.

One example of an iPhone App for the masses is the WebMD application. The popular Web reference for everything medical is cleverly ported to the iPhone. Use the 3D symptom checker, or just do a good old search to find out just what ailment you *might* have. Then go to your doctor before you get too scared about that red bump.

One example of an iPhone App for a niche market is the Normal Lab Values application. At the time of this writing, Normal Lab Values (the fourth most popular paid medical app) has a simple interface that displays normal lab values for medical tests that doctors can use to interpret test results, like in Figure 1-15.

Figure 1-15: See Normal Lab Values on your iPhone.
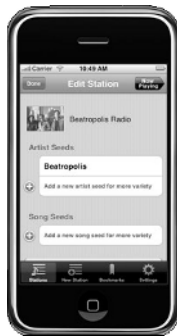
Emulating existing products

Many apps on the iPhone were great products or apps elsewhere first. As more and more consumers pick up an iPhone, moving an existing application to the iPhone platform is a great way to keep and/or extend your application's user base, plus it becomes a great marketing and branding tool to say that you also "exist" on the iPhone, as you may simply keep your existing customers from trying a competitor's program.

For example, Pandora Radio is an application that allows you to pick a favorite band or musical preferences and then hear a custom radio station composed of music that has similar characteristics to the music you chose. If you like something, you can click to buy it on iTunes, or rate the song to affect future music selections on your custom channel. This program has been popular on the Internet for years. Pandora decided to create an iPhone application of its service that works seamlessly with its Internet Web version. If you created an account on Pandora Radio and then download its iPhone app to your iPhone, you can log on with the same account and enjoy the same stations on your iPhone as well as your computer. You can also create new stations from your iPhone just as easily as using their Web application. Now Pandora can turn your iPhone into a radio.

Extending your product or brand to the iPhone is not just for entrepreneurs and up-and-coming products. The iPhone version of Google offers voice-powered search and one-touch access to Google's Web apps. Other big companies such as eBay are joining the iPhone application mix, too, to offer their products and services to the iPhone user community.

Entering the Marketplace with a New Application

The first thing to consider when looking at creating a new app is whether you can add new functionality or content into the marketplace or improve upon existing functionality/content out there. The last thing App Store consumers need is yet another tip calculator — unless you know you can create one that will blow the competition out of the water!

TIP

The only area of exception to this rule seems to be games. Games are the most popular category of iPhone apps by far. As of this writing, 16 of the top 20 paid apps of all time are games, and the others are entertainment apps. What's special about games? They are entertaining; they are an impulse buy; and, most importantly to you, they eventually lose their allure. Unlike a productivity app that a consumer will cling to increasingly as they integrate it into their lifestyle, a person can beat a game, become bored with it, or simply want something new. This leaves the door open to you to create new and interesting games.

Take a look around the App Store and spot apps that fall into the categories we've listed in the previous section, in addition to getting a deeper feel for the app categories that are built into the store. Getting an intuitive feel for the environment you will be entering into is invaluable as you move forward with your process. At a certain point, you will have a moment when you see an opening that you are the perfect person to fill. Stop and write that idea down!

REMEMBER

You don't have to set out to beat the largest, well-funded companies creating apps. The App Store is still driven on ideas. To compete, your execution must be great, but, unless your app absolutely demands it, you're not going to need to invest in a team of 3D wizards to pull it off well. When you know you've hit on something that will work and people will love (or at least find useful), just jump in there and start the process we've outlined in the rest of this book.

You don't need to come up with an idea that will please everybody. In fact, the more targeted you can make the profile of the person you are seeking to serve with your app, the easier it will be to assess and hit that target's needs.

Finding your fit or unmet need

There are essentially three approaches for entering the idea phase of developing your app:

- ✔ Identifying needs in the marketplace
- ✔ Looking around your environment for needs that can be met by an app
- ✔ Taking an inventory of what you can offer

You can work exclusively with one approach, or you can work them all back and forth until you have a winner. We recommend working all three angles, because this will yield you the best combination between something that is needed in the marketplace, something that connects with the world around you, and something that connects with who you are, your background, and what you can offer.

We've started, somewhat counterintuitively, with assessing the market before we assess the environment and your own interests. Before you look around in your life for applicability of the iPhone, we want you to have a firm grasp of the context of the iPhone and its app universe. This will both limit and expand your ideas, as your understanding of the device will shape the lens through which you view your world. You don't want to waste your time getting hyped about coming up with something nobody has ever thought of only to find out that, oh yes, they have. Conversely, having developed a depth of knowledge of the iPhone, you might well see an angle on a real-life situation or problem you might otherwise overlook.

Alternately, on your first pass, we don't want you to just go in like a laser beam, only looking at apps you know are going to be in your related fields of knowledge. There are a few reasons for this. As we mentioned previously, you might discover interesting features or weaknesses in an app from a category you didn't expect. Additionally, you might find a market need that isn't already in your repertoire, but that makes perfect business sense for you to pursue. In the act of idea generation, we are starting with the general and moving toward the specific, like using a large fishing net to gather all the inspiration and knowledge we can, rather than going out there with a fishing pole hoping to snag a sturgeon.

Identifying needs in the marketplace

As you go through the App Store to identify needs, here are some points to consider:

- ✔ **Scour the App Store for opportunities.** We suggest taking a half an hour a day for a week to explore the App Store. Give yourself a system. The easiest place to start is by checking out the top apps (free and paid) in each category starting at the top of the list, like in Figure 1-16. Doing three categories a day will take exactly seven days. Some categories may be irrelevant to anything you might want to do. You can feel free to skip those, but taking the time to go through them might give you inspiration where you didn't expect to find it. You might see an interface style in the medical category that would be perfect for a coloring book application, for example. The more you know your environment, the more intuitive you will be in that space. (We discuss doing an extensive review of the App Store in Chapter 6.)

✔ **Learn through buying.** In addition to reading app descriptions and look-ing at screenshots, you'll need to buy and play with some apps. Give yourself a budget; something easy to bite off for you, but large enough to give you plenty of options. Make a list of apps you'd like to buy. Then at the end of your session, go back and buy as many of them as will fit into your budget. Obviously, grab as many free apps as you want. And don't hesitate to buy a few apps you think might be flops. You'll need to know some specifics about what you don't like as well as what you do.

Figure 1-16: Review the top paid (and free) apps for ideas and info.
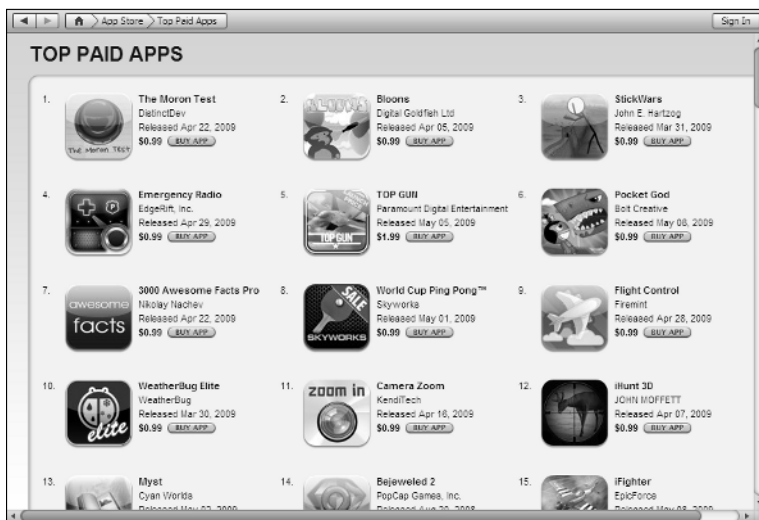
✔ **Write down your impressions and comparisons.** You can take as many notes as you like, but mostly you're just trying to get a lay of the land at this point. As you hone in on an area you might want to enter into, you can do more specific assessments of existing apps in that space.

TIP

Keep in mind the market differentiators we covered in the last part of this chapter. How are apps priced relatively to each other? What pur-pose is an app filling in the marketplace (filling an existing need, improv-ing on existing apps)? Is this a high-quality app, junky, or in between? Is this app for everybody, or just a specific group? And, as far as you can tell, is this an iPhonization of something already out there, or does this app represent totally new functionality?

✔ **Pretend you're the customer.** As you explore, try to put yourself in the shoes of someone who might use that application. This will be hard for areas that are totally foreign to you, but those are areas you are probably not going to want to develop for anyway, so don't sweat it. For areas you can identify with, role-play a bit and think about how you might use that application in your life. What would you be looking for in an application?

What problem would you want to solve by having such an application? Look at the apps in a given category in this context and holes will start to emerge:

- "There's no app that does X!"

- "This app doesn't do X very well."

- "This app could be presented way better."

- "I would want this app to also do Z."

- "The interface on this app is non-intuitive."

- "This app is going after the wrong demographic."

✔ **Keep exploring.** When you feel you've fully explored the top apps, dig a bit deeper and look at apps that didn't make that list. Why do you suppose they are not rising to the top? How many apps in a category are essentially filling the same purpose? No need to be exhaustive or scientific here. That would turn you into an academic instead of an entrepreneur. Just get a depth of experience in the market space so that you know what you are getting into. We'll get more specific and scientific when you identify your application idea.

Assessing the environment

As you move through your work and personal life, try as often as possible to look through iPhone-tinted glasses and see an opportunity. You can use the people and events in your daily life to help you start your path toward developing a killer iPhone app. Here are some specific things you can start to do right now:

✔ **Find the pain points.** Every time you think, "Dang that's annoying!" think about how you could alleviate that annoyance with a clever application. Every "I wish I could" thought is a seed of inspiration. Keep an *iPhone Inspiration* list in your notes application on your phone and add to it with impunity. Just note anything down that occurs to you as you move through life. Many people have found purpose (and profit) by solving other people's pain points.

✔ **Tap your personal network.** Ask the people around you what problems or wishes they'd like to solve in their life. However, don't ask them about it in the context of an iPhone application. Just ask them for the raw request they have to fix those problems, like "I wish I could organize my shoes" or "I want a way to keep track of my kid's friends." You can think about how that request could relate to an application later. Take notes. We're just gathering data from the world around us. Some of it will be thrown away or ignored later, but we don't know which parts yet. Keep it all for now.

✔ **Daydream.** We're not condoning job slacking, but if you're doing it anyway, you might as well make it work for you! This works equally well on the couch instead of watching TV. If you're into gaming, imagine yourself in an alternate universe in which you play the main character. What does it look like? What are your goals? What is your character like? Open your eyes and make notes; then close them again to further explore your imagination. Allow details to emerge in your mind. Repeat. If you are more of a productivity-oriented person, imagine an amazing tool for getting something done. Don't confine your imagination to the iPhone yet. When you've got it really rich in your head, write it down. Then, you can take it apart and see how you could do that with your iPhone. Don't just think of software; the iPhone can interact with external hardware as well. While you daydream, the sky is the limit! Put off worrying about how to do what you are think about for later in the process.

Taking an inventory of what you can offer

At this point, you might already have an idea for the type of app you'd like to pursue. But we also encourage you to do this part of the process anyway. You might discover things about yourself that you weren't thinking about. You might find a new angle to add to your concept. And, if this first venture works out well, you are probably going to want to create more apps. Having fully invested yourself in the process will give you a greater depth to draw from and give you more to work with.

Start by writing a brief life history. This doesn't have to be an autobiography. Bullet points are great. You can draw a timeline to help yourself remember sequentially, or just start writing a list of everything that comes to mind. You've had millions of life experiences. Even by just scratching the surface, you will unlock areas of interest, knowledge, and expertise that you might not be focusing on in your present-day life, particularly if you've had multiple careers, as many people have.

Now, like our fishing net analogy, we are dredging up past experience so we can have as much raw material on the table as possible to start from. Otherwise, you might focus just on your immediate interests and miss something that could be a gold mine. If you are reading this book, you are probably interested in making some sort of change in your life or career. A great place to start with this is by bringing back to life things you were interested in as a child, but have let go by the wayside. Dig out your old records. Go through your old stuff. Even reconnect with old friends. Make an initial list and keep it around to add to and play with.

Now let's hone in a little bit more. Take an area of interest from your past or present and drill down on it. This might be your present career or hobby. Or it might be something you used to do, but haven't done for a while. Just

take something that sparks your interest and inventory everything you know about it. Even if you don't realize it, you probably have specialized knowledge in at least one area. This doesn't have to be something serious. It could be a mastery of miniature golf, card tricks, or a video game. But, of course, it can also be something related to your career or hobby.

You are also welcome to start with something you have an interest in but don't yet have a lot of experience with. This will make your process longer, because you'll have to become an expert or find experts in the area, but it might be worth it to you.

If you are working with a partner or team, it may be that only one or some of you are experts in the area you choose to pursue. That is okay. Knowledge in the subject matter of your app is only one job in the many that will need to be done. It can actually be helpful for one or more of your team not to start out as experts, so that they can catch things and pose questions that those who have worked with a subject for a long time are prone to make assumptions about or overlook.

Try to wrap up this part of the process with a set of multiple interest areas and angles on those interests. We want to have more than one, because now we will combine the three approaches we have taken and try to come up with the optimal fit between

- ✔ Your particular interests
- ✔ The needs and wants of the environment around you
- ✔ The existing marketplace in the App Store

Synthesizing the approaches to find your idea

Let's start with your interest list. Take each of the major areas you've come up with and condense them each into a short phrase, like these:

- ✔ Gold mining
- ✔ Dart throwing
- ✔ Action-adventure games
- ✔ Managing the combustion process for nuclear power plants

Now let's do the same for the discoveries you've made about your environment. Dig out that *iPhone Inspiration* note from your Notes application and compile them the same way:

- ✔ It's annoying to keep track of my notepad and my phone while I'm gold mining.
- ✔ Judy would like a way to know where to find the cheapest gas in her neighborhood.
- ✔ I wish I had a quick way to look up nuclear reactor core temperatures.
- ✔ I wish I had a way to learn music on my phone.
- ✔ I want to catalog my bug collection and compare it to an online database.

And the same for any realizations we had while checking out the App Store:

- ✔ I like apps that let me pinch and zoom the screen.
- ✔ I find shaking the iPhone annoying.
- ✔ There is no iPhone app for nuclear power plants.
- ✔ Science apps tend to look very basic and don't have great graphics.
- ✔ I love the way kids' app X looks and works.
- ✔ Task management apps have been really overdone.

Once you've thoroughly gone through and catalogued your discoveries from each of these processes, you can start to look for patterns and connections. In our preceding list, the most obvious pattern is that we have a level of expertise with nuclear power plants, we wish we had a tool to help us manage part of a nuclear power plant, and there is no software for nuclear power plants. Your lists may not yield as obvious a connection between each other, but they will help you to cross-reference. The thing we are looking for is something that connects with us personally, fills a real need in the real world (which includes the digital world as well), and has not been overdone in the App Store. Once you find ideas that meet all of these criteria, you are ready to move into more specifically assessing the market for your app by determining demand, getting specific about the competition, targeting your demographic, and envisioning your app in detail. This book guides you through the process.

Connecting with Apple's Strategy and Vision

Apple is notoriously close to the chest with even near-term announcements, let alone long-term strategy. But a look at the historical context out of which

the iPhone was developed, combined with observation of how Apple has staged the release of functionality for the device so far, can paint a picture of Apple's strategy and vision.

Unlike Microsoft, which is a software company, Apple has created itself as a lifestyle company that specializes in hardware and software. The difference is important. Every move Apple makes is informed primarily by how its products will integrate into the lives of its customers. Whereas Microsoft puts a premium on its operating system being compatible with any number of hardware systems, Apple creates its own hardware that is engineered to be the optimal fit for its operating system. Where Microsoft emphasizes a diversity of products, Apple focuses on product lines it feels matter most to a broad range of consumers, and leaves specialty applications to third-party developers. Whereas Microsoft relies on a whole industry of third-party companies to service its products, Apple makes great service and repair a central theme of its business operation. The list goes on. Take a moment to make your own list of qualities that make Apple unique and express its approach to the market. You can compare it to many other companies besides Microsoft.

As an iPhone entrepreneur, it is important for you to *grok* (deeply understand) the ideology that informs the Apple brand so that your products can find synergy with Apple, and thus the expectations of your customers. That will help propel you to the forefront by making you a co-innovator with Apple, not just someone trying to do something with the iPhone.

Connecting between iPhone hardware and applications

We explore the various novel hardware and software features of the iPhone in Chapter 2. For now, we want to help you get onboard with Apple's vision for the iPhone and why it created it the way it did, so that you can participate with Apple in this exciting new medium, rather than simply going along for the ride.

The iPhone is a computer, nothing less. Indeed, the fact that it is called a *phone* is a bit of a misnomer. Apple engineered the iPhone to be the leading-edge mobile computing platform from the ground up, based on its venerated OS X operating system that runs its desktop and laptop computers. Because the iPhone is really essentially a miniaturization of a laptop computer, it has a rich subset of all of the capabilities of Apple's standard computers, including fast processing power, strong graphics rendering, and robust input/output capabilities.

As you approach the platform from a development perspective, you should be looking at the iPhone as a tiny computer, not a phone that can run some software. This differentiates the iPhone strongly from Blackberry, Nokia, and other

"smart phones." The iPhone is differentiated from Palm because of the robustness of its hardware and operating system and from Microsoft's Windows CE platform because of its usability, which we discuss next.

In order to create a device small enough to fit in your pocket and still give the level of user experience that is at the core of the Apple brand, Apple got creative with the iPhone's hardware design, particularly its input hardware. If you have an iPhone, you are familiar with its multitouch touch screen. You also know that that you can control certain things on the device by moving it in space. This is accomplished with the iPhone's accelerometer, a device that measures the phone's relative position over time and its position relevant to gravity.

Some iPhone applications even use sound as an input, such as Smule's *Ocarina*, which allows you to use the mic like a wind instrument, and *Google*, which uses voice recognition for searches, like in Figure 1-17.

Figure 1-17:
Do a Google search on your iPhone with your voice.

These novel input methods, combined with the size and shape of the iPhone's screen and its ergonomic characteristics (the way it fits into your life physically), demand certain behaviors and characteristics of the software that is developed for the iPhone. The iPhone also has methods to communicate to the world outside, including cellular, Wi-Fi, Bluetooth, and its dock connector. Some or all of these will need to be contemplated in your application development process.

The iPhone is the hub of Apple's contemporary realization of a concept called the Personal Area Network. Similar to Local Area Network (LAN), such as the network in a typical office, and Wide Area Network (WAN), one that

connects multiple locations across a distance; the Internet itself; or a company's intranet), the concept of the Personal Area Network (PAN) is that, in a computer-enabled society, individuals can be the center of their own network of interoperating devices.

Until iPhone 3.0, the iPhone was simply a LAN and WAN device: It allowed one to connect with the world, but had no direct interoperability with hardware or devices in its local vicinity, except in the context of a LAN (connecting with your computer over Wi-Fi, for example). Once Apple opened up access to the iPhone's Bluetooth port, it became a PAN device (though Apple doesn't describe it in these terms).

Bluetooth is a network protocol (a way of sending and receiving information) for devices that are within about 60 feet apart. You are most certainly familiar with Bluetooth headsets for cellphones. But a phone headset is only one of dozens of possible Bluetooth profiles. There are profiles for all sorts of doo-dads, including headphones, microphones, keyboards, mice, game controllers, sensors, and printers. The fact that the iPhone supports Bluetooth means that you can walk into a room and control an iPhone-supported printer, stereo system, home appliance, or nearly any other type of device simply and seamlessly from your phone. You can also interoperate with devices you carry with you in a pocket or purse — even computerized clothing.

In addition to Bluetooth, iPhone 3.0 opened up the opportunity for developers to use the iPhone's dock connector to interoperate with various devices. The dock connector allows a more discreet, secure connection to the phone, and allows access to video and audio out. The dock connector interface also is cheaper to implement. because you don't need to embed Bluetooth hardware in the device you want to interoperate with.

As you move forward with your iPhone projects, keep in mind that you are helping to advance the evolution of an entirely new computing model. The iPhone exists in a space that is related to both cellphones and standard computers, but is really a transcendence of both: mobile computing. Imagine out three to five years. What kind of amazing ways could you, the people you know, and humanity at large, use a computer network that is composed of millions of tiny interoperating devices, all of which are connected, aware of each other, able to command and be commanded by other devices, and able to process huge amounts of information simultaneously? How does this shape what it is like to be a citizen, consumer, worker, entrepreneur, etc.? That's where we want you to put your head, because, as an iPhone entrepreneur, you are helping to create that future.

Following iPhone releases has affected the app world

In the beginning, there was a twinkle in the eye of Steve Jobs. Then there was an iPhone that looked like it should be able have apps installed on it, but couldn't. Then there was an iPhone that you could hack, or jailbreak, so you could put apps on it. Then there was iPhone 2.0, which legitimized putting apps on the iPhone and started an industry. Then there was iPhone 3.0, which allowed all sorts of new functionality, including the ability to connect to external devices.

A new version of iPhone hardware/software is released approximately each year, in the summer. Similarly, a new version of the iPod Touch is also released each year. The iPod Touch has most of the functionality of the iPhone, but lacks its cellular connectivity. Both run the same operating system, and the iPod Touch is compatible with most apps available for the iPhone. For simplicity's sake in this book, we will typically refer to applications running on the iPhone, but the iPod Touch is another market for your app.

Let's look at the progression of the iPhone:

- ✔ **Phase 1: The iPhone Is Born.** When the iPhone was first released, it was met with excitement and critical acclaim, but it featured only a few proprietary Apple applications: Calendar, Phone, Mail, Text, Clock, Camera, Pictures, Settings, Safari, iPod, Maps, Stocks, and iTunes.

    The remaining slots available on the home screen caught the imaginations of users and developers, but Apple offered no plans for opening up the device for third-party development. Instead, Apple touted the third-party creation of Web apps, which are Web sites optimized to fit the iPhone's screen and make use of some of its features. Many Web apps were created, and they are still relevant today, but people were underwhelmed. Many an ireful blog bemoaned such a capable device lacking such an obvious function as third-party apps.

- ✔ **Phase 2: The Users Strike Back.** To get around the frustration, some developers began *jailbreaking* iPhones, a process that removes Apple's roadblocks to installing third-party apps on the device, and reverse engineering the iPhone Software Development Kit (SDK), a set of applications that allow a developer to program an iPhone application. Before long, it became cool to jailbreak your phone and use third-party applications developed by programmers using the hacked SDK.

- ✔ **Phase 3: The iPhone 2.0 Cometh!** In March of 2008, lo and behold, Apple revealed that it had planned to support third-party developers all along, and unveiled

- iPhone OS 2.0, which allowed the installation of third-party apps

- Its iPhone Developer program, which supports and assists iPhone developers

- The App Store

It could almost be said that iPhone 1.0 was merely a prologue and that the release of iPhone 2.0 was the real beginning of the iPhone story, because iPhone apps have become such a central driver of the iPhone's sales, narrative, and appeal. Upon the release of iPhone 2.0, the App Store exploded with activity and has made several individual developers millionaires, spawned dozens of new companies specializing exclusively in iPhone development, and become a cultural phenomenon.

✔ **Phase 4: The Users are Still Restless.** After the App Store had been around for a while, consumers and developers began to wonder why it was so hard to interact with the iPhone on a hardware level. The iPhone wouldn't even support a stereo Bluetooth headset, let alone more interesting devices. In that spirit, companies such as Perceptive Development (where Damien and Aaron currently work), along with several others, set out to find a workaround for Apple's locked-down hardware. Perceptive came up with a way to communicate with the iPhone through its audio port using FSK, the same type of technology used in the now-antiquated serial modem. Remember *bee-do-beeeee-squaaaaash-bee-do-beeeeee?* That's code being sent as an audio signal, and it's how our software called Tin Can allowed devices to talk to the iPhone and for iPhones to communicate with each other.

✔ **Phase 5: The Dawn of iPhone 3.0.** Shortly after Perceptive worked out the kinks, however (what do you know?), Apple announced iPhone 3.0, which has support for hardware interaction. At the writing of this book, the release of iPhone 3.0 portends to unleash a similar if not so frenzied torrent of iPhone-related activity as developers plunge in to make hardware for the iPhone and take advantage of other features of the new OS, including in-app purchase.

If you think the iPhone would be better with a certain attribute, it's probably on the radar of the folks at Apple. Some of the earliest releases on the App Store were apps that had been developed with the hacked SDK for jailbroken iPhones. Once Apple opened up the phone to apps, those developers simply had to port their code to the legitimate SDK; they were instantly ahead of the pack. As for our hardware workaround, it has some uses, even in the context of 3.0, and it shows off our programming prowess, but the release of 3.0 makes it somewhat irrelevant on a commercial level. The moral of the story is that, to a certain extent, you can anticipate that Apple will eventually release the cool features that "everyone" thinks it should. Planning accordingly can really help your business.

Writing for current or future functionality

Given the development history of the iPhone, several people begin to wonder whether it's important to write for the current functions available to iPhone application developers, or to plan an application that would work with potential future functions of the iPhone. If you can prove the concept of an app like the Tin Can app, then you'd be a step ahead of everyone else when the new hardware function is announced.

When you are looking at whether to focus on current or future functionality, keep in mind that Apple announces new upgrades to the iPhone to everyone all at once. You can follow the speculation on blogs and other resources mentioned later in the book, but in order to get the real news that you should act on, you'll need to wait with everyone else for one of Apple's announcement events. It's a good idea to jump on new features early if you can, but don't gear your business toward new functionality that is only speculation.

Stay right on top of the wave, instead of ahead or behind it.

That said, many features that are desired by the development community, but not yet enacted by Apple, are still being utilized with jailbreaking. Keeping your eye on these developments can give you a good idea of what Apple has in store, so you can be anticipating that in your planning.

In other words, it's up to you, but your focus should be on what your app will provide, not necessarily what functions you can write code for on the iPhone. Your application should make sense to the user community and provide some sort of utility or entertainment. If you need a function that's not available, look for a workaround first. When and if Apple announces a new feature, you'll be better positioned to incorporate and use that new feature.