

Designing the iPhone User Experience

*A User-Centered Approach
to Sketching and Prototyping iPhone Apps*

SUZANNE GINSBURG

◆◆Addison-Wesley

Upper Saddle River, NJ • Boston • Indianapolis • San Francisco
New York • Toronto • Montreal • London • Munich • Paris • Madrid
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iPhone Application Overview

1

THE *IPHONE HUMAN INTERFACE GUIDELINES* (HIG) define three different iPhone application styles—Utility, Productivity, and Immersive—to ensure a consistent user experience. These styles are based on visual and behavioral characteristics, the type of information, and the desired user experience.

Before you start designing your iPhone app, read through the application style guidelines included in the HIG. Having a strong grasp of these guidelines will help you understand what's possible within the iPhone framework and how your app may use the framework.

This chapter will review applications that clearly fit into the three classic definitions as well as apps that build upon principles set forth in the HIG. Additionally, the chapter will provide advice on how to choose an application style.

Utility Apps

Utility apps enable users to quickly access a specific type of information or perform a narrowly defined task. Apps well suited to this style include weather, stocks, traffic reports, and sports scores. To illustrate how these apps are used in context, consider the following scenario:



Quick Information Lookup

Sarah, a mother of two young children, owns a MacBook Pro and an iPhone, but she prefers using the iPhone in the morning since it fits into her “flow.”

On weekdays she can be found dashing between the kitchen, bathroom, and bedrooms as she gets the children ready for school. She turns to a weather app when deciding what the children should wear that day: Does she need to pack an extra jacket? An umbrella? Sunscreen?

This scenario shows how users with limited time may turn to a Utility app to help them accomplish a task as quickly and efficiently as possible. They may have only a few seconds to spare, so there is no time to create an account, enter preferences, and so on.

Characteristics of most Utility apps include

- Minimal setup
- Simple flows and layouts
- Standard user interface elements

Now, let's take a look at each of those characteristics.

MINIMAL SETUP

Utility apps are typically ready to use when first launched; thus setup processes are unnecessary or kept to a minimum. While this behavior is preferable for any app, it's even more critical for Utility apps since they are used for short periods of time. If setup takes longer than the primary task—and the value of the app remains to be seen—users may abandon the app. For example, the ideal weather app would forgo any registration and immediately detect Sarah's current location (with her permission).

SIMPLE LAYOUTS AND FLOWS

Utility apps have easy-to-scan layouts that include only the most essential information. Users may glance at a Utility app for only a few seconds and won't have time to wade through extraneous data or user interface elements. A good rule of thumb is that the app should still be legible from about five feet away. Also, keeping the task flow succinct allows users to quickly accomplish their goals. For example, Sarah can access weather in two steps: Go to the home screen, and tap on the app icon. When the app opens, she can quickly scan it to see the current temperature and the day's forecast.

STANDARD USER INTERFACE ELEMENTS

Utility apps tend to incorporate the standard user interface elements outlined in the HIG: the selected page, the Info button, and the series of dots that indicate additional pages (FIGURE 1.1). Although custom user interface elements may seem more aesthetically pleasing, they may slow Utility app users down since they are less familiar.

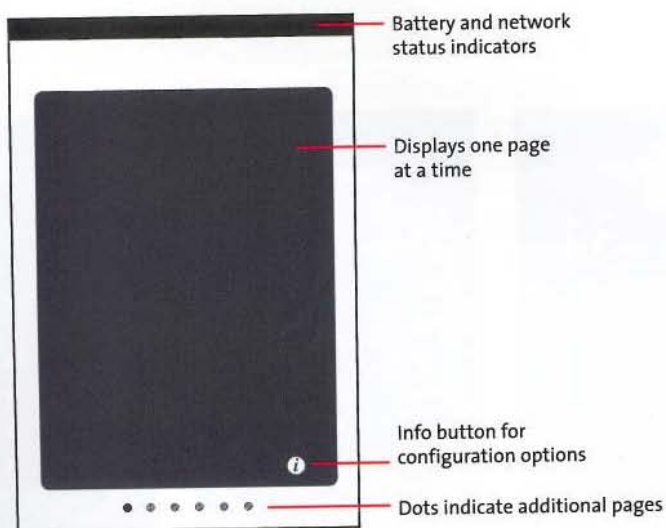


FIGURE 1.1 Utility schematic with standard user interface elements

UTILITY APP TOUR

The Utility application style is predominantly used for “bite-sized” pieces of information like sports scores, stocks, and weather. FIGURES 1.2–1.4 show how ESPN uses the Utility application style for sports scores. Notice how the background color changes depending on the league—NFL, NBA, NHL.



FIGURE 1.2 ESPN NFL scores



FIGURE 1.3 ESPN NBA scores

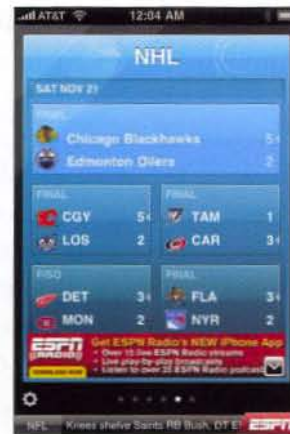


FIGURE 1.4 ESPN NHL scores

Similarly, the background image of the Yahoo! Weather app changes depending on the time of day and weather conditions. FIGURES 1.5–1.7 show the background images for sun, clouds, and snow; the background color switches to a dark plum shade in the evening. Consider incorporating relevant visual cues into your Utility apps, as they help users process the information more rapidly.



FIGURE 1.5 Yahoo! Weather with sunny graphic



FIGURE 1.6 Yahoo! Weather with cloudy graphic



FIGURE 1.7 Yahoo! Weather with snow flurries graphic

Productivity Apps

Productivity-style apps are more full-featured than Utility apps and encompass everything from social networking to mobile banking. The time spent with these apps varies based on the context and task; for example, a user may spend a few seconds checking for new email messages but several minutes reading the messages. To illustrate how several Productivity apps may be used in context, let's look at another scenario:



(Photo courtesy of Paulette Ginsburg)

Stay Connected

David is a college sophomore majoring in biochemistry. In the morning he wakes to the alarm on his iPhone, which charges on his nightstand while he sleeps.

While lying in bed, he scans through his Facebook and MySpace apps, looking for updates from his friends and family. Next, he checks for emails and reviews his calendar for the day. He relies heavily on the calendar since it has his school and work schedules.

After he has showered and dressed, he walks to the train, often double-checking the train schedule and location using an iPhone app.

This scenario shows how a user may use different Productivity apps to stay connected with family, friends, and work. Although Productivity apps may be used for long durations, the setup process should still be kept to a minimum.

Productivity apps are highly diverse, but most can be identified by the following characteristics:

- Hierarchical structure
- Accelerators and shortcuts

Let's take a look at each of those characteristics.

HIERARCHICAL STRUCTURE

Nearly all Productivity apps have a hierarchical structure composed of list and detail views, as shown in [FIGURE 1.8](#). List views contain a scrollable list of items (e.g., text, images, video), as well as tab controls to navigate to other sections of the app. Detail views provide more information on list items and tools related to the items, such as Favorites or Email.

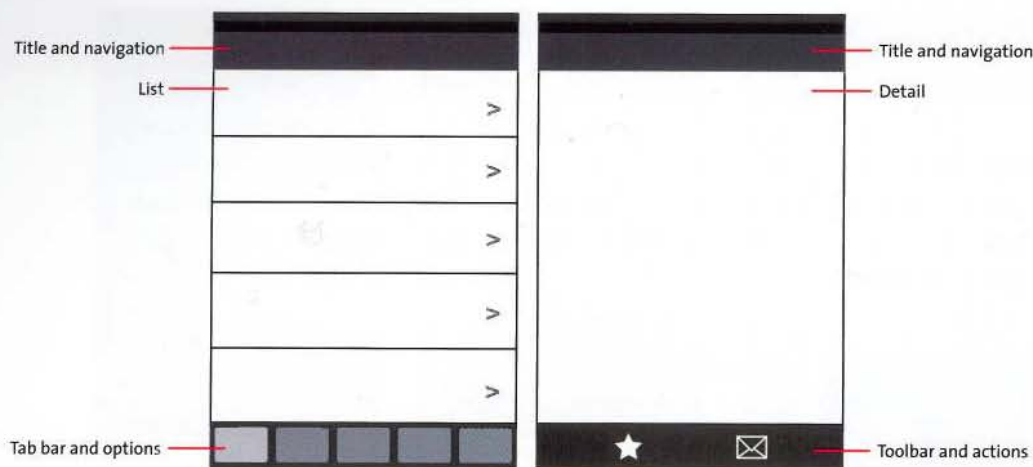


FIGURE 1.8 Productivity schematic including list and detail views

NOTE

Productivity apps such as Facebook and Yelp use a grid to navigate to other sections of the app, not the tab bar. This will be discussed in Chapter 9, “User Interface Design.”

ACCELERATORS AND SHORTCUTS

Productivity apps often require text entry for messages, search, or forms. Since these tasks are challenging in a mobile context and further complicated by the small keyboard, your app should minimize text entry as much as possible.

For example, as David views schedules on his way to the train station, it would be much easier if the app could detect his current location and display destinations in a predefined list. When free-form text is required, such as when he is composing an email, the app should provide accelerators to minimize text entry and typing errors. Some of these features, such as spell check, are built into the iOS, and others, such as search suggestions, can be custom-designed. For example, the Google app suggests search matches based on the user’s past queries and popular queries on Google, as shown in **FIGURE 1.9**.



FIGURE 1.9 Google Search suggests search matches as the user types.

PRODUCTIVITY APP TOUR

Although there are thousands of Productivity apps, many of them can be grouped according to high-level user goals. These groupings are helpful when discussing user-centered design, but keep in mind they are not mutually exclusive.

In many cases, one app can help users achieve several related goals. For example, the Foursquare app enables users to “check-in” to places, navigate to places, and connect with members of the Foursquare community (FIGURES 1.10–1.12).

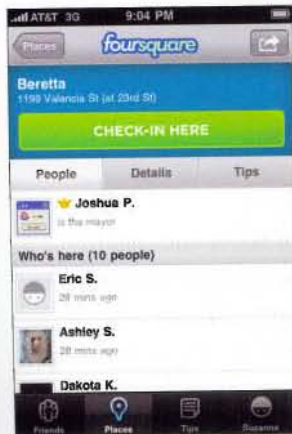


FIGURE 1.10 Foursquare check-in



FIGURE 1.11 Foursquare map



FIGURE 1.12 Foursquare profile

We'll review the following Productivity app groupings:

- Stay connected
- Navigate the world
- Find information
- Transact and track

Stay Connected

One of the primary reasons users have an iPhone is to stay connected with friends, family, and colleagues. Many apps in this category overlap with the iPhone's built-in functionality, specifically the phone, text messaging, and email. Other widely used communication apps, such as Skype, Tweetie, and Facebook, support social networking and collaboration, as shown in FIGURES 1.13–1.15, respectively.

Common features in these apps are

- Message creation
- Message management
- Contact management
- Alerts



FIGURE 1.13 Skype



FIGURE 1.14 Tweetie 2



FIGURE 1.15 Facebook

Navigate the World

With the iPhone's built-in GPS capabilities (iPhone 3G and later) and magnetometer (iPhone 3GS and later), users can locate themselves and get directions to almost anywhere in the world. The Maps application (default on every iPhone device) is perhaps the most widely used mapping app, but there are many niche apps that focus on a particular city, method of transportation, or type of destination, as shown in FIGURES 1.16–1.18.

Common features in these apps include

- Maps
- Directions
- The ability to pinpoint your current location
- The ability to find [something] nearby



FIGURE 1.16 Yelp



FIGURE 1.17 CityTransit for the New York City subway

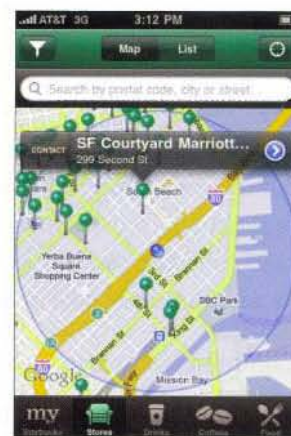


FIGURE 1.18 My Starbucks

Find Information

Users turn to information-rich apps for news, entertainment, or reference material. These apps are typically connected to an existing web service but may also download and cache data for offline access. For example, the Dictionary.com app works as a stand-alone app but connects to the Internet for the “Word of the Day” as well as audio pronunciations. FIGURES 1.19–1.21 show a variety of information-rich apps.

Common features in these apps include

- Search
- Bookmarks
- Recents
- Favorites
- Featured content
- Content creation tools (for user-generated content)
- Alerts

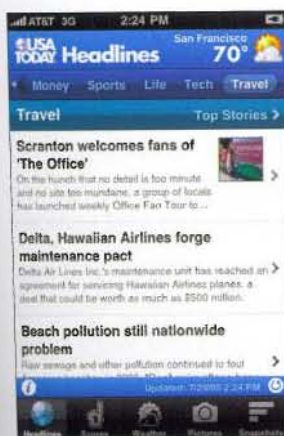


FIGURE 1.19 USA Today



FIGURE 1.20 Howcast

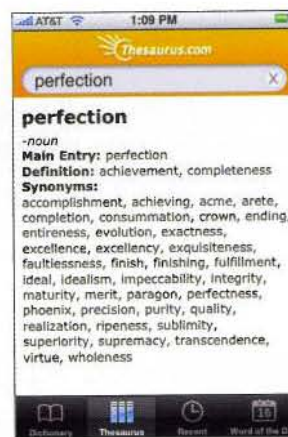


FIGURE 1.21 Thesaurus

Transact and Track

Many banks let their account holders check their account balances and pay bills using dedicated iPhone apps or third-party apps such as Quicken and Mint (FIGURES 1.22–1.23, respectively).

There are also numerous apps for tracking packages (such as FedEx's app, shown in FIGURE 1.24), items for sale, and personal goals such as “to-do” lists, calorie counters, and exercise logs. Alerts, a common feature in this category, can be set for a particular date or milestone.

Common features in these apps are

- Goal settings
- Ability to check current status
- Graphs that show progress over a specified time period
- Alerts



FIGURE 1.22 Quicken



FIGURE 1.23 Mint

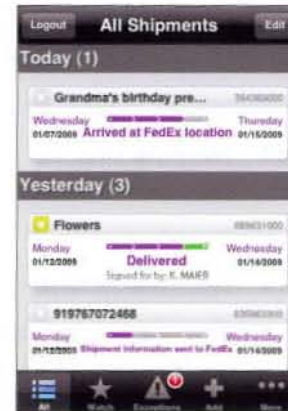


FIGURE 1.24 FedEx

The possibilities for Productivity apps are endless. As mentioned earlier in the chapter, the Productivity style may be combined with Utility or Immersive application styles. For example, a video app may offer the ability to *find* videos with the Productivity style but *watch* the videos with the Immersive style. The next section will discuss the Immersive style in more detail.

Immersive Applications

Immersive applications are used to play games, view media, and perform specialized tasks. Users typically turn to games and media apps when they have some downtime, which can last several minutes or several hours. In contrast, task-oriented Immersive apps are used to complete a specific task, such as taking a picture and viewing it via the slideshow. The next scenario illustrates how a task-oriented Immersive app may be used in context.



Perform Specialized Task

About every three or four weeks, Sharon and her assistant receive a new shipment of artwork at her gallery. Although Sharon has a traditional level in the back of the gallery, she finds it easier to use the iHandy app since her iPhone is always in her pocket.

Her assistant typically holds the art in place as Sharon checks its level with iHandy. Afterward, she uses her iPhone to take photos of the art and then views it via the slideshow.

NOTE

While the iHandy Level is listed in the Utility section of the App Store, the application style is Immersive since the app takes over the entire screen and has a fully customized user experience.

Although Immersive applications are relatively diverse, most can be recognized by the following characteristics:

- Focus on the content
- Customized user experience

Let's take a look at each of those characteristics.

FOCUS ON THE CONTENT

Immersive apps may take over the entire screen, including the status bar that displays battery and network information, as is done in many games, movies, books, and musical instruments. This immersion lets users focus exclusively on the primary content. Settings and other controls are within reach, but they may or may not be visible, depending on the app. For example, steering controls are often shown when a driving game is played, but Play and Pause controls are hidden when a movie is being watched. FIGURES 1.25–1.26 show a YouTube video in these two states.



FIGURE 1.25 YouTube video with controls hidden



FIGURE 1.26 YouTube video with controls shown

CUSTOMIZED USER EXPERIENCE

Immersive apps often provide a fully customized user experience for which there are no standard controls outlined in the HIG. While it may be tempting to make all of your apps Immersive, be sure the design goals cannot be achieved with a Utility or Productivity application style. As mentioned earlier, incorporating standard controls makes it easier for users to learn and use your app.

IMMERSIVE APP TOUR

Although you can theoretically create any type of app with the Immersive application style, the style is most effective for playing games, viewing media, and performing specialized tasks.

Play a Game

The App Store includes almost every kind of game imaginable: flight simulators, puzzles, role-playing games, board games, and so on. Some of these apps provide simple graphical environments and controls, and others, such as *The Sims 3* (FIGURE 1.27), offer multiplayer 3D experiences comparable to stand-alone gaming systems. Another growing area of interest is iPhone games that interact with “real-world” toys such as the Xachi iPhone app (FIGURE 1.28).



FIGURE 1.27 *The Sims 3* (Courtesy of Electronic Arts Inc. © 2009 Electronic Arts Inc. All rights reserved. Used with Permission.)



FIGURE 1.28 Xachi iPhone app (Courtesy of Taptic Toys)

Viewing Media

The most common apps in this category include e-readers and video players, as shown in FIGURES 1.29–1.30. Users often turn to these apps while commuting, traveling, exercising, or during unexpected downtime. The featured content typically takes over the entire user experience, and controls are displayed in an overlay when the user taps the screen. Controls can be customized, but many applications incorporate well-established design patterns, such as Play, Pause, and Stop controls for video content.



FIGURE 1.29 SlingPlayer



FIGURE 1.30 Classics

Performing Specialized Tasks

The Immersive application style is appropriate for many specialized tasks, but a few use cases are popular: sound capture and creation, image creation, and measurement. The iPhone 3GS's built-in Voice Memos app (FIGURE 1.31) and More Cowbell (FIGURE 1.32) rely heavily on metaphors, but apps such as Convertbot (FIGURE 1.33) can sport a customized UI that looks like none of the standard UI controls you'll find in other apps.



FIGURE 1.31 Apple's Voice Memos app



FIGURE 1.32 More Cowbell from Maverick Software



FIGURE 1.33 Convertbot from Tapbots

Choosing an Application Style

Whether you choose one application style or a combination of styles depends on your users' needs, the type of experience you aim to provide, and the app content. As mentioned earlier in the chapter, the Utility style tends to work well with "bite-sized" pieces of information, whereas the Productivity style is appropriate for more structured, hierarchical information. In contrast, the Immersive style is effective when the app has little or no structure, particularly with games.

To illustrate how you might choose an application style, imagine that your app has the following goal: to help users stay physically fit. Technically, all of the application styles can help users achieve this goal (as shown in [FIGURES 1.34–1.36](#)), but there are notable strengths and weaknesses associated with each style, as shown in [TABLE 1.1](#).

The strengths and weaknesses of each application style will vary depending on your design goals, so it's important to evaluate each project accordingly. Also, remember that many apps can contain more than one application style. With the previous exercise app example, it's possible to use the Productivity style along with video instruction (Immersive style) as well as a flattened list of exercises (Utility style).

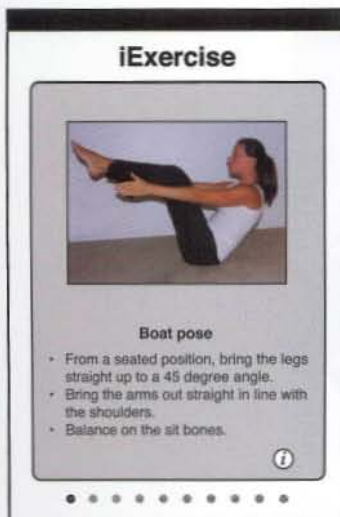


FIGURE 1.34 A Utility app could have separate screens for each exercise.

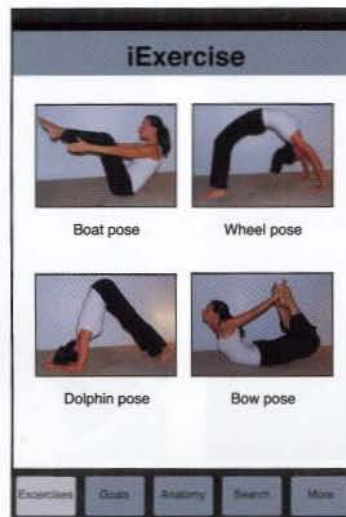


FIGURE 1.35 A Productivity app could use the tab bar to access different exercise tools.

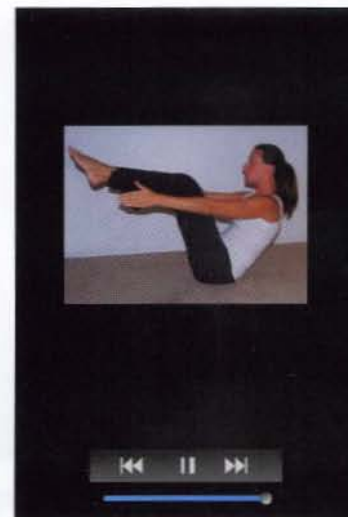


FIGURE 1.36 With an Immersive app, users could watch video demos of the exercises being performed.

(Photos in Figures 1.34–1.36 courtesy of Christine Clarkson)

TABLE 1.1 Strengths and Weaknesses of Each Application Style

Style	Strengths	Weaknesses
Utility	Easy to swipe between exercises during a workout.	No overview screen, plus users may get bored with a small set of exercises (ten max).
Productivity	Can provide a full-featured fitness app with many different exercise-related tools.	If lists are too deep, users may find it too difficult to navigate while working out.
Immersive	Video is an established way to simulate a real-world workout experience.	May be challenging to position in the gym; better suited for in-home use.

Summary

Apple's *iPhone Human Interface Guidelines* describe three different application styles: Utility, Productivity, and Immersive:

- Utility apps enable users to quickly access a specific type of information or perform a narrowly defined task.
- Productivity apps are more full-featured than Utility apps and encompass everything from social networking to mobile banking.
- Immersive apps are used to play games, view rich media, and perform specialized tasks.

Choosing an application style depends on your users' needs, the experience you want to provide, and the content. You should evaluate the respective strengths and weaknesses of each type (as shown in [TABLE 1.1](#)) before determining which application type might be best. Keep in mind that the application styles outlined in the iPhone HIG are just a starting point; apps often include a combination of styles, and many build upon the guidelines to provide differing experiences. ■