Introduction to the Aqua Human Interface Guidelines

Mac OS X is the world's most advanced operating system, combining a powerful core foundation with a new and compelling user interface called Aqua. With brilliant new features and an aesthetically refined use of color, transparency, and animation, Aqua makes computing even easier for new users, while providing the productivity that professional users have come to expect of the Macintosh. The user interface features, behaviors, and appearances introduced in Aqua deliver a well organized and cohesive user experience available to all applications developed for Mac OS X.

This document, which covers features up to Mac OS X version 10.2, describes what you need to do to design your application for Aqua. Primarily intended for Carbon and Cocoa developers who want their applications to look right and behave correctly in Mac OS X, these guidelines provide examples of how to use Aqua interface elements. Java application developers will also find these guidelines useful.

This document assumes that you are familiar with basic software design principles. Specific principles of designing for the Mac OS are summarized in the next chapter, "Human Interface Design Principles" (page 27).

Important
This document has been reviewed for technical accuracy, but the information herein is subject to change.

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The Benefits of Applying the Interface Guidelines

These guidelines are designed to assist you in developing products that provide Mac OS X users with a consistent visual and behavioral experience across applications and the operating system. Following the guidelines is to your advantage because

- users will learn your application faster if the interface looks and behaves like applications they're already familiar with

- users will accomplish their tasks quickly, because well-designed applications don't get in the user's way

- users with special needs will find your product more accessible

- your application will have the same modern, elegant appearance as other Mac OS X applications

- your application will be easier to document, because an intuitive interface and standard behaviors don't require as much explanation

- customer support calls will be reduced (for the reasons cited above)

- your application will be easier to localize, because Apple has worked through many localization issues in the Aqua design process

- media reviews of your product will be more positive; reviewers easily target software that doesn't look or behave the way "true" Macintosh applications do

The implementation of Apple's human interface principles make the Macintosh what it is: intuitive, friendly, elegant, and powerful.

Deciding What to Do First

If business reasons such as resource constraints or schedule commitments require you to adopt Aqua in stages, the following two lists can help you make decisions about which features to focus on first. To make your application feel at home on Mac OS X, it is most important for you to implement the following features (not in order of importance):

■ Install files in the proper locations (see "Installing Files" (page 245) and don't abuse the Documents folder (see "Where to Put Files" (page 247).)

■ Adopt the Aqua appearance and follow the layout guidelines provided in this document.

■ Abide by the filenaming conventions (see "Naming Files and Showing Filename Extensions" (page 249)).

■ Provide user assistance (see "User Help and Assistants" (page 235)).

■ Be aware of the Dock (see "The Dock" (page 41).)

■ Respect the accessibility features built in to Mac OS X version 10.2.

To take full advantage of Mac OS X and to offer your customers the richest user experience possible, your application should also do the following:

■ Implement sheets and drawers (see "Document-Modal Dialogs (Sheets)" (page 96) and "Drawers" (page 88)).

■ Use the Dock to provide meaningful feedback to users (see "Dock Notification Behavior" (page 42)).

■ Use the AddressBook framework provided with Mac OS X version 10.2 to access and create contact information entered by users. (See *Inside Mac OS X: System Overview,* available on the Mac OS X developer documentation website.)

■ Be speech-enabled (see "Speech Recognition and Synthesis" (page 253)).

Tools and Resources for Applying the Guidelines

APIs, frameworks, and other tools are available to help you implement the design principles and interface specifications described in this document.

- **Interface Builder** provides a rich environment for creating application menus, windows, dialogs, palettes, and other standard Aqua interface elements. It provides full Cocoa support. Carbon developers can also make their applications Aqua-compliant by using Interface Builder to create `nib` files.

  Interface Builder is on the Mac OS X Developer Tools CD, or you can download it from the Apple Developer Connection website (http://developer.apple.com/membership/index.html).

- **The JFC/Swing Toolkit** provides the Aqua look and feel for applications written using Java. For more information, go to http://java.sun.com/products/jfc/.

- **The Appearance Manager.** If your application is Carbon-based but uses custom controls, use the Appearance Manager to unify these elements with the rest of the Aqua interface. The Appearance Manager provides a variety of functions you can use to handle most aspects of drawing and tracking so that controls in your application look and behave correctly in both the Aqua and Graphite themes.

  For more information and code samples, see *Programming With the Appearance Manager* and the source code for the Appearance Sample, available as part of the Appearance Manager SDK available at http://developer.apple.com/sdk.

The Mac OS X developer documentation website has many other useful documents. When appropriate, specific titles are given throughout this book. These documents are available at http://developer.apple.com/techpubs/macosx.

If You Have a Need Not Covered by the Guidelines

If your application requires an element or a behavior that doesn't already exist, or has a need that this document doesn't address, you can extend the set of controls using these guidelines, provided that the new element or behavior supports Apple's interface design principles.

Be very cautious about creating new interface elements because you may introduce unnecessary complexity. Make sure that you can't use existing elements or a combination of them to achieve the desired result. Usability testing is essential for determining whether a new element works.

If you must invent a new element or behavior, consider the following recommendations:

■ **Build on the existing interface.** Begin with the already-defined visual and behavioral language that users are familiar with. Think about what the appearance means to people (the look) and how they expect elements to behave (the feel). Visual cues, such as the drop shadow and arrow on a pop-up menu, help people recognize how to use an element.

■ **Don't assign new behaviors to existing objects.** When you need a new behavior, design a new element for it, rather than changing the behavior of a standard element. If the same element behaves differently in different situations, the interface becomes unpredictable and harder to figure out.