Creating User Interfaces

It's vital to create compelling and intuitive User Interfaces for your applications. Ensuring that they are as stylish and easy to use as they are functional should be a primary design consideration.

To quote Stephen Fry on the importance of style as *part* of substance in the design of digital devices:

As if a device can function if it has no style. As if a device can be called stylish that does not function superbly. ... yes, beauty matters. Boy, does it matter. It is not surface, it is not an extra, it is the thing itself.

— *Stephen Fry,* The Guardian *(October 27, 2007)*

Increasing screen sizes, display resolutions, and mobile processor power has seen mobile applications become increasingly visual. While the diminutive screens pose a challenge for creating complex visual interfaces, the ubiquity of mobiles makes it a challenge worth accepting.

In this chapter, you'll learn the basic Android UI elements and discover how to use Views, View Groups, and layouts to create functional and intuitive User Interfaces for your Activities.

After being introduced to some of the controls available from the Android SDK, you'll learn how to extend and customize them. Using View Groups, you'll see how to combine Views to create atomic, reusable UI elements made up of interacting subcontrols. You'll also learn how to create your own Views to implement creative new ways to display data and interact with users.

The individual elements of an Android User Interface are arranged on screen using a variety of layout managers derived from ViewGroup. Correctly using layouts is essential for creating good interfaces; this chapter introduces several native layout classes and demonstrates how to use them and how to create your own.

Android's application and context menu systems use a new approach, optimized for modern touchscreen devices. As part of an examination of the Android UI model, this chapter ends with a look at how to create and use Activity and context menus.