Working with Menus

Android SDK has extensive support for menus. It supports regular menus, submenus, context menus, icon menus, secondary menus, and alternative menus. Android 3.0, in addition, introduced the action bar, which integrates well with menu items. The action bar and menu interaction are covered in Chapter 10. Now Android 4.0 has introduced pop-up menus: menus that can be invoked at any time based on a button click or any other UI event.

In Android, menus, much like other resources, can be represented as both Java objects and entries in XML files. Android generates resource IDs for each of the loaded menu items. This chapter covers the XML menu resources in detail as well.

Being resources, all menu items take advantage of auto-generated resource IDs.

Understanding Android Menus

The key class in Android menu support is `android.view.Menu`. Every activity in Android is associated with one menu object of this type. The menu object then contains a number of menu items and submenus.

Menu items are represented by `android.view.MenuItem`. Submenus are represented by `android.view.SubMenu`. These relationships are graphically represented in Figure 7–1. Strictly speaking, this is not a class diagram but a structural diagram designed to help you visualize the relationships between various menu-related classes and functions.
Figure 7–1 illustrates that a Menu object contains a set of menu items. A menu item carries the following attributes:

Name: A string title

Menu item ID: An integer

Group ID: An integer representing which group this item should be part of

Sort order: An integer identifying the order of this menu item when it is displayed in the menu

The name and menu item ID attributes are self explanatory.

You can group menu items together by assigning each one a group ID. Multiple menu items that carry the same group ID are considered part of the same group.

The sort-order attribute demands a bit of coverage. If one menu item carries an order number of 4 and another menu item carries a order number of 6, the first menu item will appear above the second menu item in the menu. Some of these menu item sort-order-number ranges are reserved for certain kinds of menus. These are called menu categories. The available menu categories are as follows:

Secondary: Secondary menu items, which are considered less important (and are less frequently used) than others, start at 0x30000 and are defined by the constant Menu.CATEGORY_SECONDARY. Other types of menu categories—such as system menus, alternative menus, and container menus—have different order-number ranges.