CHAPTER 5

Bluetooth with J2ME

MIDP

Now that we’ve covered a lot of the foundational material, let’s start creating some Java Bluetooth applications. This chapter will give you your first full example of a Java Bluetooth application, but before we dive right in, we’re going to give a brief primer on J2ME and the Mobile Information Device Profile (MIDP). Afterwards, we’re going to examine two sample applications: Stealth Mode and the Piconet Browser.

NOTE If you’ve already developed a MIDlet, or if you have a working knowledge of J2ME, then feel free to skip down to the example code in the sections “Stealth Mode Example” and “Piconet Browser Example.”

J2ME Overview

Under the general term of J2ME, there are two configurations that correspond to two classes of devices. The connected device configuration (CDC) is a classification for devices that have a network connection, but have less processing power than a typical desktop computer. Set-top boxes, appliances, smart phones, and high-end PDAs fit into this category. The connected limited device configuration (CLDC) classifies many mobile devices; they are capable of making a network connection, but it isn't robust or dedicated. CLDC devices typically don’t have a lot of processing power, and many mobile phones, two-way pagers, and some PDAs fit into this category.

A J2ME Profile is a software layer that is built on top of a configuration (not to be confused with a Bluetooth profile). Configurations typically encompass a broad classification of devices, and profiles help to narrow the scope, while providing more functionality to the configuration. Figure 5-1 shows the J2ME world, and the relationship between configurations and profiles.
Now, let's take a look at what is (by far) the most widely used J2ME Profile: Mobile Information Device Profile (MIDP). If you have a Java-enabled mobile phone, then it's most likely a MIDP device. As stated earlier, the J2ME Profiles extend the functionality of a configuration. The CLDC provides the following packages for the developer in order to create Java applications for small devices:

- `java.lang` (basic core language classes)
- `java.io` (networking classes)
- `java.util` (utility classes)
- `javax.microedition.io` (more networking classes)

**NOTE** These are not the full J2SE versions of `java.lang`, `java.io`, and `java.util` APIs. The CLDC contains a subset of these packages that's optimized for micro devices.