Beyond Java: Programming in Python and Friends

While Java is undoubtedly the major programming language for Android devices, it is a long way from the only method available.

Figure 4-1. Some people are naturally multi-lingual.

Scripting Layer for Android (SL4A) is an open source project that allows programmers to write applications not only for Android devices, but also on Android devices.

SL4A is a common framework that permits programming in any of a host of scripting languages: Python, JavaScript, BeanShell, LUA, TCL, PHP, Ruby, and Perl are all supported, with options for porting more.

All of these languages use a common API, so for the most part it is a matter of picking your favorite language and going for it.

The thing that first attracted me to SL4A is the fact that you can actually develop on the phone itself. It has a simple text editor, and allows you to manage, edit, and run your scripts either with a terminal...
display or without. It also supports a simple Linux shell, and you can get into the command line environment of all the interpreters.

Without doubt the most popular of the supported scripting languages is Python, so I’ll concentrate on that.

### Why Use Another Language?

But the Android SDK is mainly programmed in Java. Why would we use anything else?

Well, Java at this stage requires a host computer to do all your compiling and editing, for a start. Java itself can be a bit daunting to learn, and there tends to be a moderate amount of setup for each program you wish to write.

Or you might just like Python (or PHP or JavaScript or Ruby or whatever), or you may wish to take advantage of some of the many third-party libraries written in these languages.

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**Note** I’m not going to attempt to teach you Python, just how to use it on an Android. If you want to learn Python, check out python.org, or get one of Apress’s fine books on the subject.

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### Getting Started

Go to the SL4A web site at [http://code.google.com/p/android-scripting/](http://code.google.com/p/android-scripting/), and download the latest version of SL4A. Conveniently, there is a barcode on the front page that you can scan in, and it will start downloading the APK. Remember to allow Unknown Sources in your application settings. Once it has downloaded, install it and run it.

At this point, you’ve downloaded the framework, but no actual interpreter. **Menu ➤ View ➤ Interpreters, Menu ➤ View ➤ Add** will get you a list of interpreters to add. I’m going to do all of my examples in Python, so go with that.

Once you’ve downloaded and installed your Python for Android app, there is still one more step to do, which is to download all the supporting files. This is quite simple, though: just hit the Install button. Once the three libraries are downloaded, you should be good to go. Open up SL4A, and you should now see a selection of scripts to run.

### Script Management

One of the nice things SL4A does for you is include a number of sample scripts to get you started (see Figure 4-2).

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1 Such as *Beginning Python: From Novice to Professional*, by Magnus Lie Hetland (Apress, 2008)