The following is the first few sections of a chapter from The Busy Coder's Guide to Android Development (/Android), plus headings for the remaining major sections, to give you an idea about the content of the chapter.

Issues with Battery Life

Most Android devices are powered by batteries — Android TV is the biggest class of device that is not. Batteries are wonderful gizmos with one major problem: they are *always* running out of power.

Hence, users are very sensitive to battery consumption. Their ability to use their phones as actual *phones*, let alone for Android apps, depends on having enough battery power. The more apps drain the battery, the more frequently the user has to find a way to recharge the phone, and the more frequently the user fails and their phone shuts down.

The catch is that you may not notice the battery issues in your day-to-day development. The Android emulator's emulated battery does not drain based on you running your app. Your devices are often connected to your development machine via USB for testing and debugging, meaning they are perpetually being charged. Unless you are a regular user of your own app, you might not notice any increased power drain.

This part of the book is focused on helping you understand what is draining power and what you can do to be kinder and gentler on your users' batteries.

Prerequisites

Understanding this chapter requires that you have read the core chapters and understand how Android apps are set up and operate.

You're Getting Blamed

Users, for better or worse, have limited ability to determine what is responsible for draining the battery of their phone. Their #1 tool for this is the "Power Usage Summary" screen in the Settings app, sometimes referred to as the "battery blame screen".
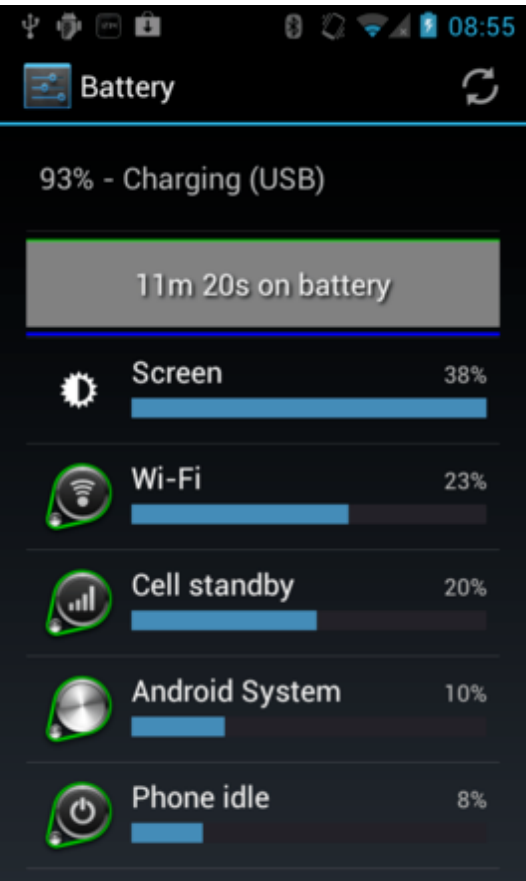

Figure 1055: Battery Screen from Settings App

This lists both device features (e.g., the display) and applications. Android incrementally improves the accuracy of this screen with each passing release, trying to make sure the user understands what specifically is consuming the power.

If your application starts appearing on this screen, and the user does not feel that it is justified, the user is likely to become irritated with you.

Now, your appearance on this list might be perfectly reasonable. If you have written a video player app, and the user has just watched a few hours' worth of video, it is very likely that you will appear on this list and will be justified in your battery consumption.

However, anything that you can do to not appear on this screen, or appear lower in the list, will help with user acceptance of your app.

This part of the book will show you how to measure your power usage and ways of trying to use less of it.

Not All Batteries Are Created Equal

The preview of this section is presently indisposed.

Stretching Out the Last mWh

The preview of this section may contain nuts.