This chapter outlines how to make a very simple real world augmented reality (AR) application. By the end of this chapter, you will have a fully functional example app.

The app will have the following basic features:

- The app will start and display a live camera preview on the screen.
- The camera preview will be overlayed with the sensor and location data, as in the Chapter 3 widget overlay example app.
When the phone is held parallel to the ground, the app will switch over to display a map. We will add a margin of ±7 because it is unlikely that the user will be able to hold the device perfectly parallel to the ground. The user’s current location will be marked on the app. The map will have the option to switch among satellite view, street view, and both. The map will be provided using the Google maps application programming interface (API).

When the device is moved into an orientation that is not parallel to the ground, the app will switch back to a camera view.

This app can act as a standalone application or be extended to provide an augmented reality navigation system, which we will do in the next chapter.

To start, create a new Android project. The project should target the Google APIs (API level 7, as we are targeting 2.1 and above) so that we can use the map functionality of Android. The project used throughout this chapter has the package name com.paar.ch06, with the project name Pro Android AR 6: A Simple App Using AR. You can use any other package and project name you want, as long as you remember to change any references in the example code to match your changes.

After creating the project, add another class to your project by right-clicking the package name in the left bar of eclipse and selecting Class from the New menu (see Figure 6-1):