Barnes & Noble™

The SDK Quick Start Guide

Version 1.2
July 2011

The SDK Quick Start Guide, Version 1.2

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1 Introduction

The Barnes & Noble™ SDK 1.2 Quick Start Guide provides Developers with all of the information that they need to:

- Prepare the development environment
- Download the Android SDK
- Choose the appropriate tool to install the Android SDK
- Understand the features of the Barnes & Noble Add-on
- Enable the Barnes & Noble Add-on
- Install the NOOK COLOR™ Emulator
- Run the Hello World application on the NOOK COLOR™ Emulator

This guide assumes no prior knowledge of or experience with Android application development. It contains all of the procedures to help you get started in the basics of creating your own NOOK COLOR™ application.Developing for NOOK COLOR™ color is, in fact, building an Android application. Once you have succeeded in this phase, you can apply to Barnes & Noble for consideration as an approved Application Developer.

In this chapter:

1.1 Task Overview

1.2 Documentation Conventions

1.3 Contacting Barnes & Noble

1.1 Task Overview

The tasks in this guide are meant to be performed in order, and are described in detail in subsequent chapters in this guide.

The tasks are:

- Preparing your development environment
- Installing or configuring the Android SDK 1.2
- Installing the NOOK COLOR™ Emulator

- Running the NOOK COLOR™ Emulator
- Running the Hello World application

1.2 Documentation Conventions

The following documentation conventions are used throughout this manual.

Documentation Guidelines

Convention	Description
Bold	Commands and user interface elements such as text boxes and button names.
Italics	References to other documents.
`Courier New`	File paths, filenames and URLs.
Mouse Instructions	Click refers to the left mouse button. In some instructions, the word “select” also refers to clicking the left mouse button, such as “select a menu command”. Double-click refers to two quick clicks of the left mouse button. Right-click refers to the right mouse button. Drag refers to pressing the left mouse button while moving the mouse
Blue underlined text	Hyperlinks to other parts of the manual, when viewing the manual on the computer. Click the hyperlink to go directly to the referenced text.

1.3 Contacting Barnes & Noble

If you encounter any problems or have questions regarding the B&N Add-on, contact Barnes & Noble Technical Support by visiting the support section of the developer site:

https://nookdeveloper.barnesandnoble.com/support/support.html

2 Preparing Your Development Environment

This chapter outlines the prerequisites and describes the tasks to perform to prepare your development environment.

In this chapter:

2.1 Prerequisites

2.2 Installing the Android SDK 2.2

2.3 Installing the NOOK COLOR™ SDK Add-on

2.1 Prerequisites

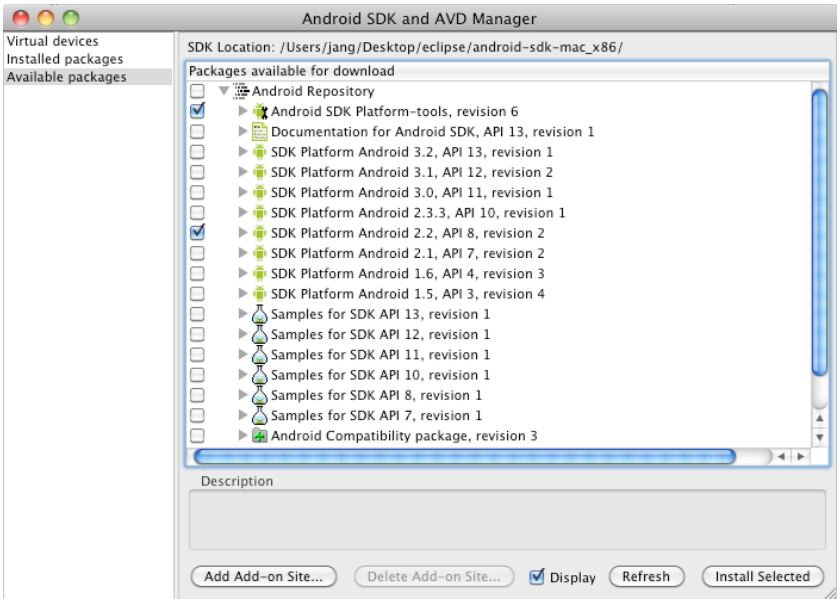
Before installing your development environment, you will need to:

- Make sure that your system meets the requirements for developing Android applications for the Android SDK: http://developer.android.com/sdk/requirements.html
- Install the Java Development Kit (JDK), which includes the Java Runtime Environment (JRE): http://www.oracle.com/technetwork/java/javase/downloads/index.html

2.2 Installing the Android SDK 2.2

To install the Android SDK 2.2:

1. Use the Classic Eclipse or another type that you want as long as it includes the Java development support: http://www.eclipse.org/downloads/packages/eclipse-classic-37/indigor
2. Go to the Android Developer site and follow Steps 2 – 4 to install the Android SDK 2.2: http://developer.android.com/sdk/installing.html
3. In addition to the SDK and AVD Manager, install the platform tools and the SDK Platform Android 2.2 API 8.



2.3 Installing the NOOK COLOR™ SDK Add-on

The NOOK COLOR™ SDK Add-on enables you to emulate the NOOK Color™ on your desktop.

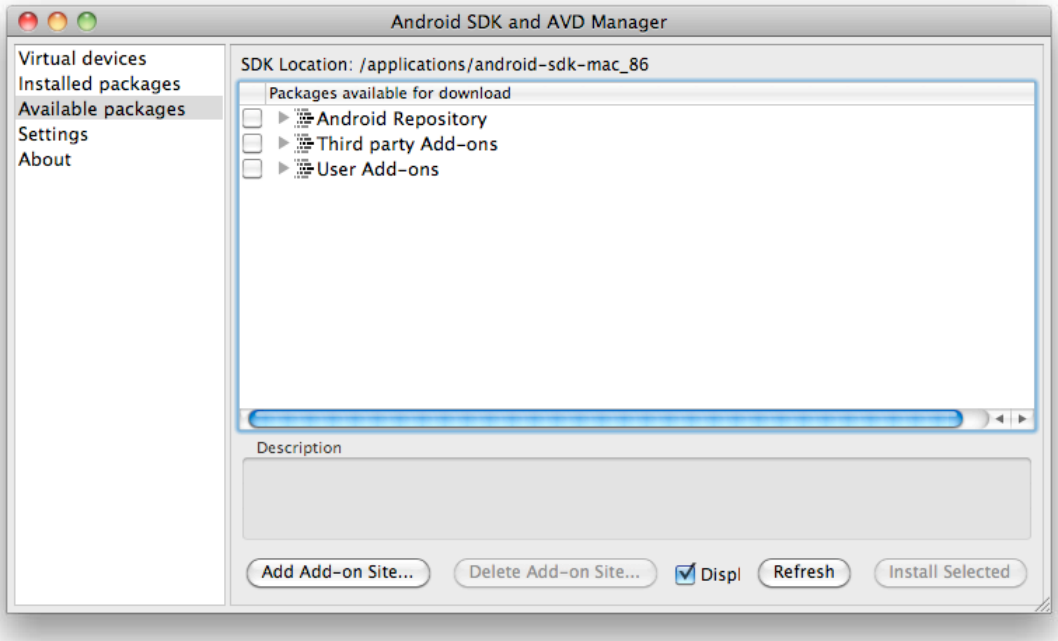
1. From the command line, run the following command:

   ```
   $ <ANDROID_SDK>/tools/android
   ```

2. In the Android SDK and AVD Manager window:

   a) From the left-hand menu, select **Available Packages**.

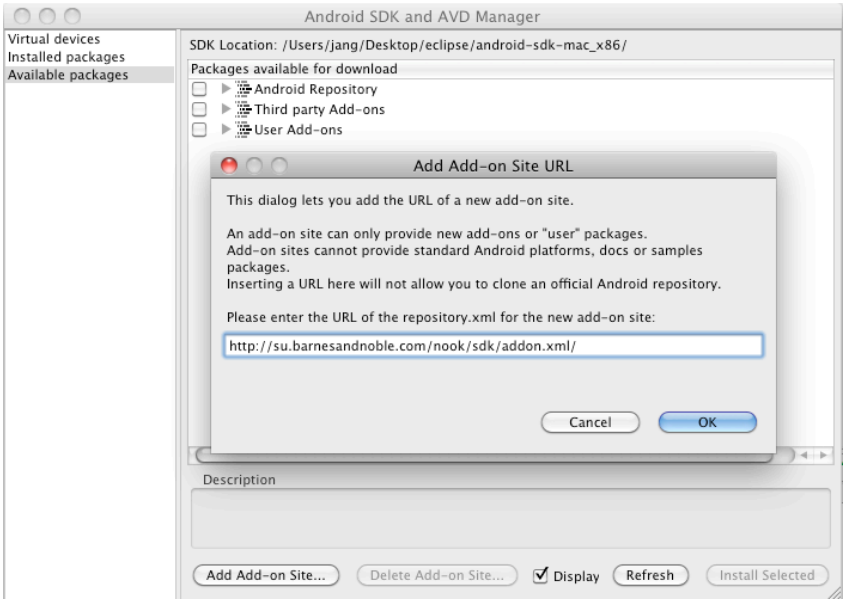
   b) Click the **Add Add-on Site** button.



3. In the Add Add-on Site URL window:

   a) Enter the URL for the NOOK Color™ add-on SDK: http://su.barnesandnoble.com/nook/sdk/addon.xml/

   b) Click **OK**.

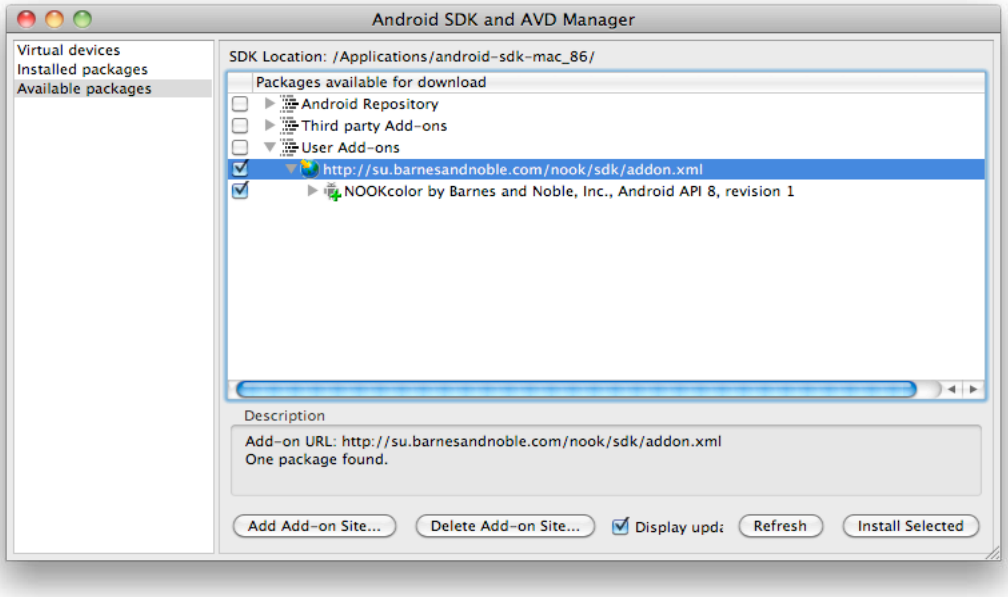


4. In the Android SDK and AVD Manager window:

   a) In the Packages available for download, click the following checkbox for the package:

      http://su.barnesandnoble.com/nook/sdk/addon.xml

   b) Click the **Install Selected** button.

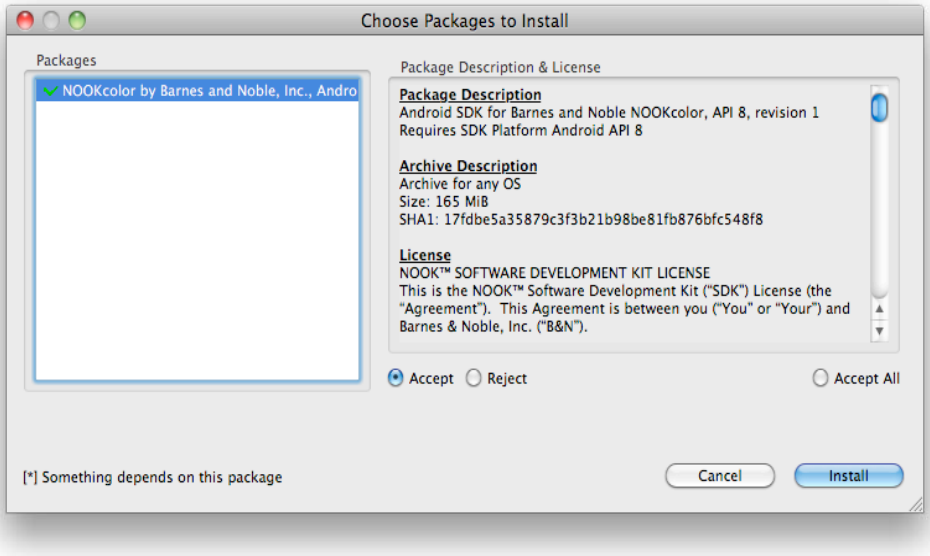


5. In the Choose Packages to Install window:

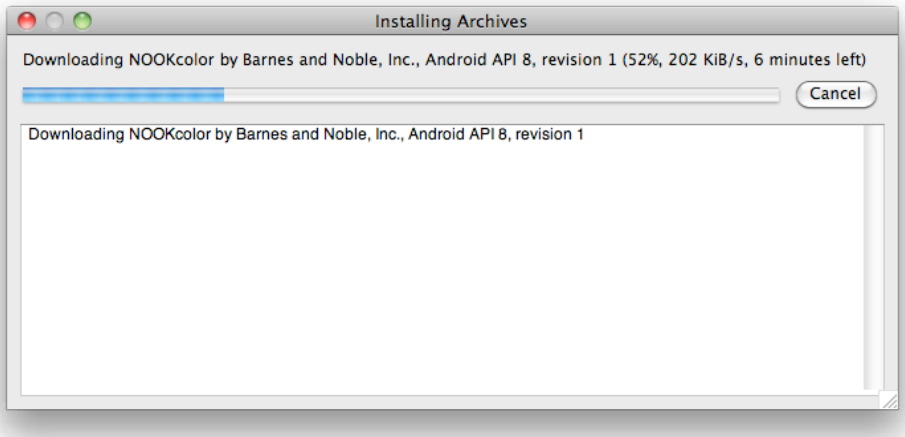
   a) Select the package, **NOOK Color™ by Barnes and Noble, Inc**.

   b) Accept the License Agreement.

   c) Click the **Install** button.



The NOOK SDK downloads and installs in the Android SDK.



3 Using the NOOK COLOR™ Emulator

This chapter provides the tasks to install, run, and operate the NOOK COLOR™ Emulator.

Barnes & Noble ships the NOOK Color™ 1.2 platform in the Emulator.

Note Since the Android Emulator is based on ARM hardware emulation, the Emulator can take several minutes for it to start completely..

In this chapter:

3.1 Installing and Running the NOOK COLOR™ Emulator

3.2 Unsupported Technologies

3.3 Unsupported Android Elements

3.1 Installing and Running the NOOK COLOR™ Emulator

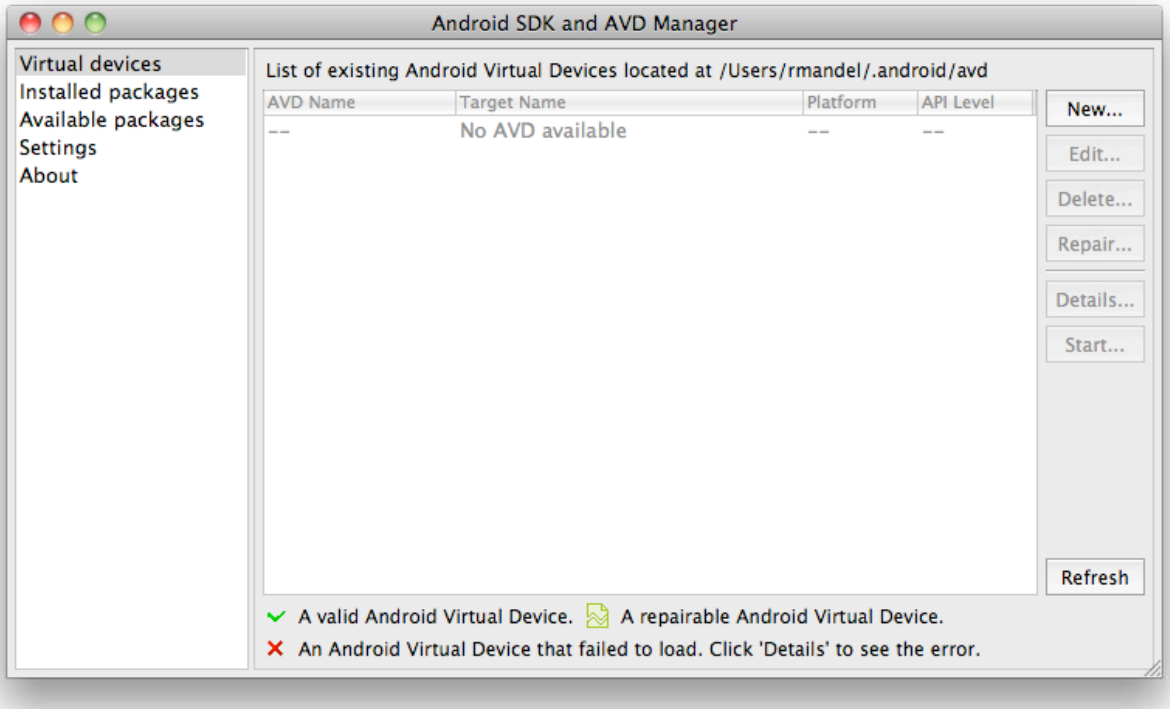
Accessing the Emulator requires that it be configured properly using the Android SDK and AVD Manager. Once a new Android Virtual Device (AVD) has been created based on the NOOK Color™ Emulator, it can be launched in one of two ways:

- Within the context of Eclipse (or the Interactive Development Environment of your choice)
- Using the stand-alone command line

3.1.1 Using the AVD to Install and Run the NOOK COLOR™ Emulator

To start the NOOK COLOR™ Emulator as an AVD, follow these steps:

1. In the Android SDK and AVD Manager window:
   a) From the left-hand menu, select **Virtual devices**.
   b) Click the **New** button.



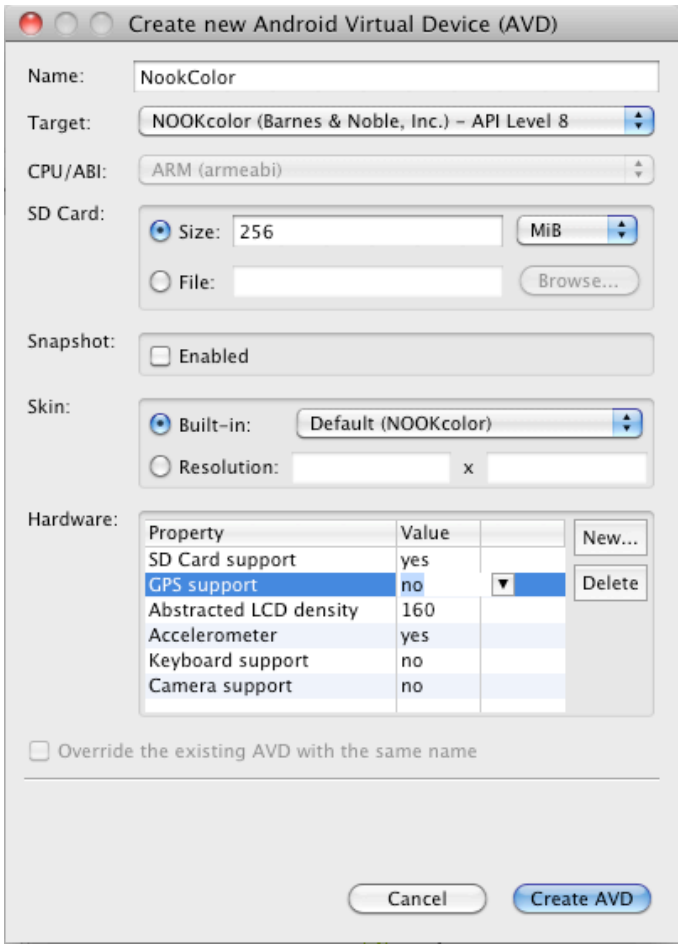
2. In the Create new Android Virtual Device (AVD) window:

   a) Enter these details:

   - **Name** — Choose a name for the AVD instance
   - **Target** — Select **NOOKcolor (Barnes & Noble, Inc.) — API Level 8, Revision 1**
   - **Hardware** — Add hardware properties for the Accelerometer and Touch-screen support. For Keyboard Support, specify **no** and for Abstracted LCD Density, use **160**.

Note Barnes & Noble recommends **not** to install an SD Card unless you want it for other testing purposes.

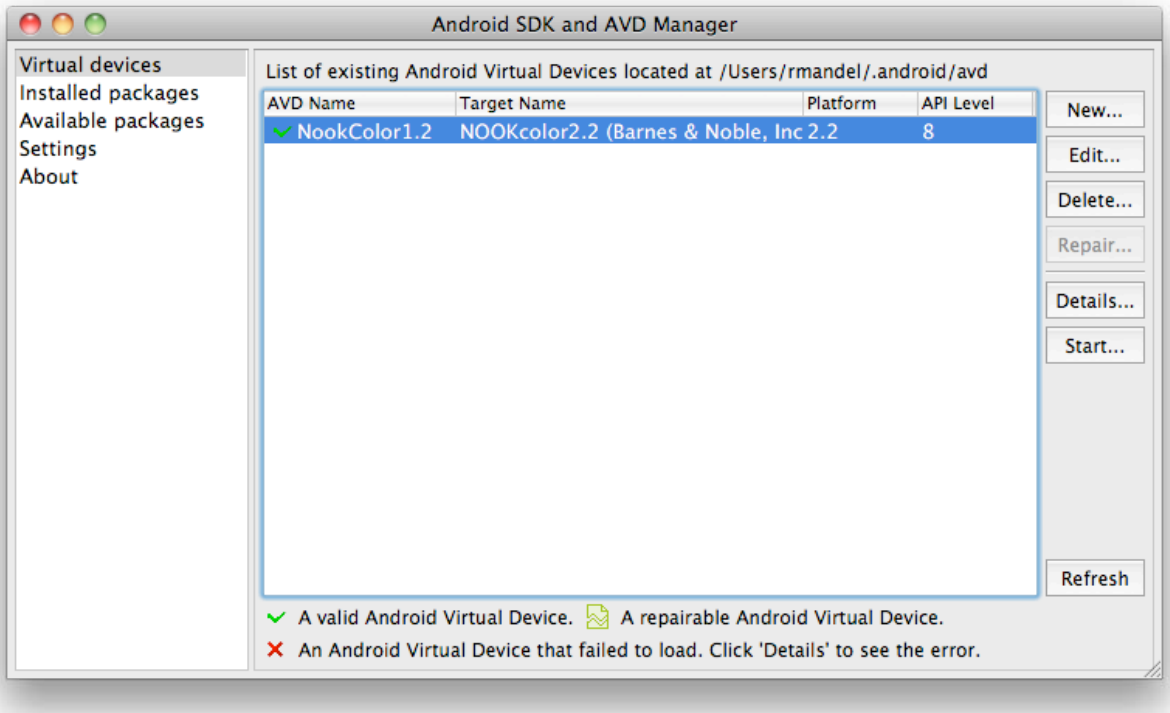
   b) Click the **Create AVD** button.



3. In the Android SDK and AVD Manager window:

   a) In the list of existing AVDs, select **NOOKcolor**.

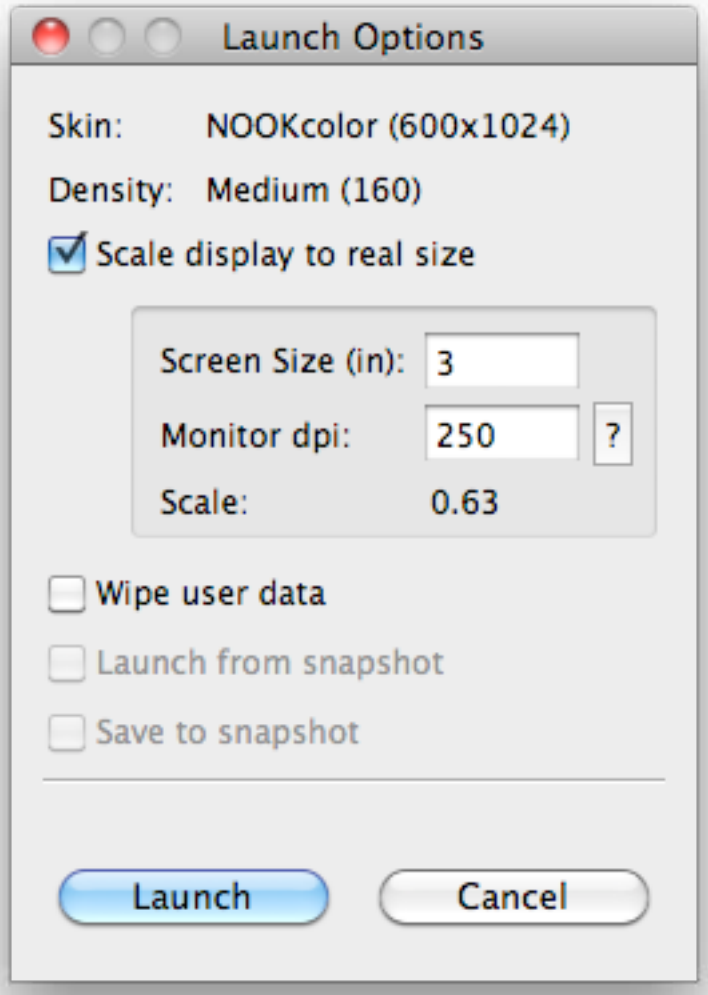
   b) Click **Start**.



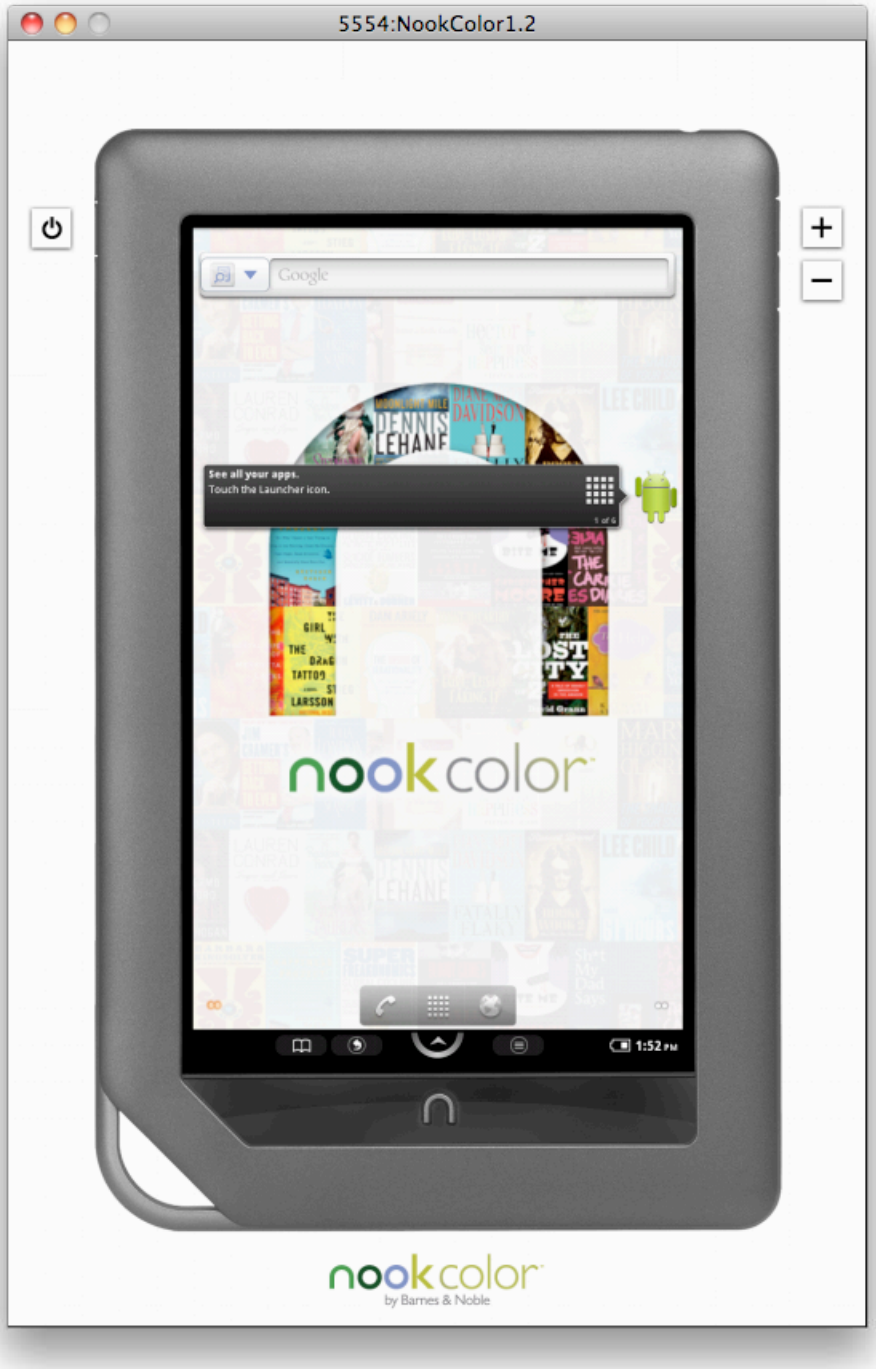
4. In the Launch Options window:

   a) Click the check box for **Scale display to real size**.

   b) Click the **Launch** button.



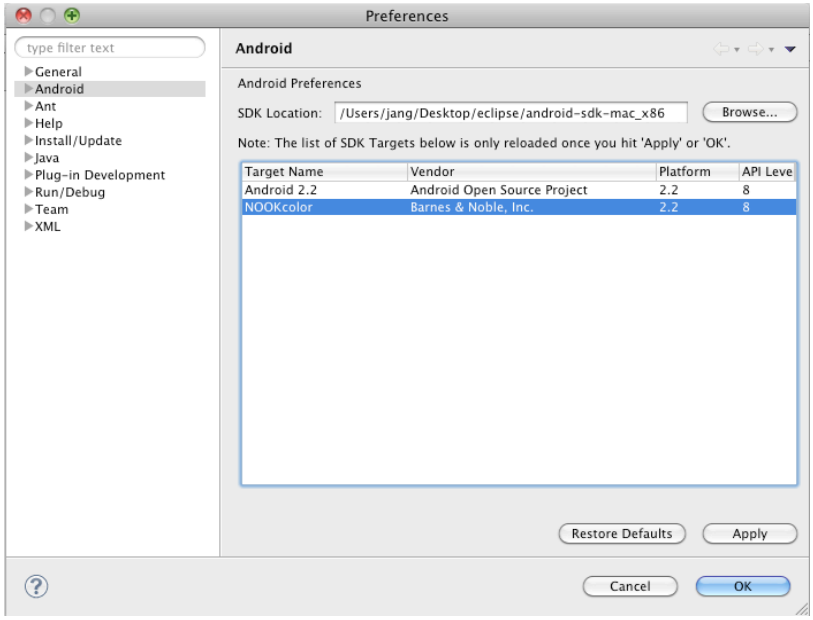
The AVD launches and boots up:



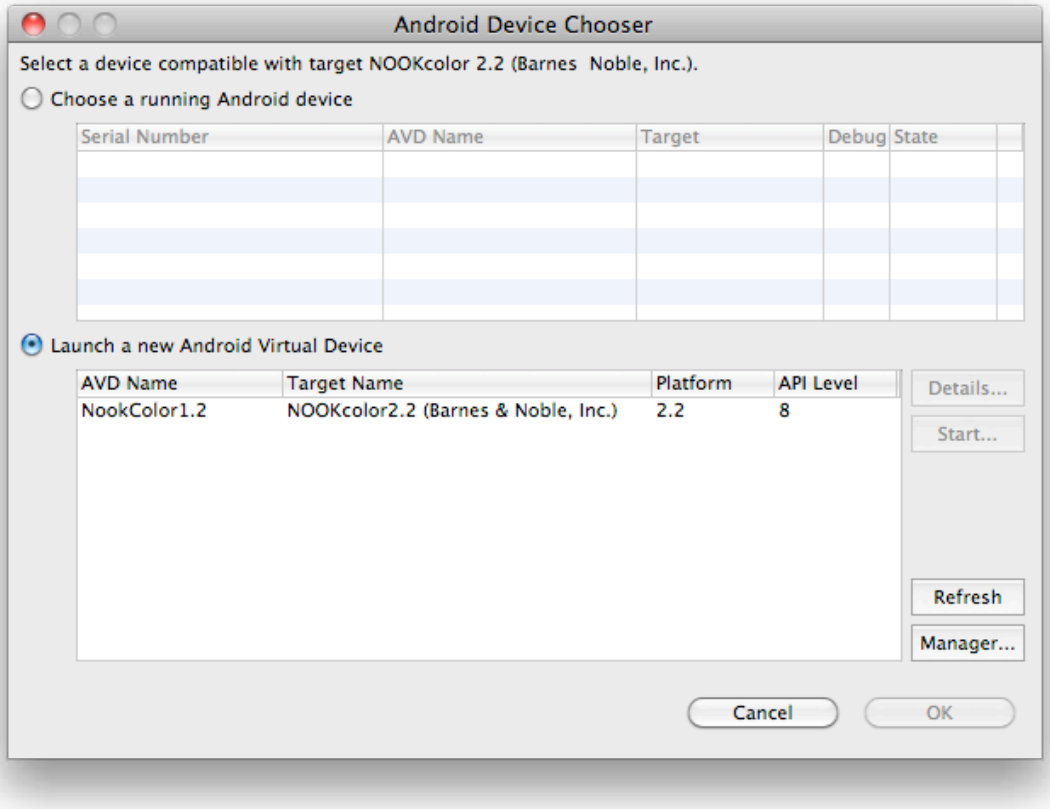
3.1.2 Using Eclipse to Run the NOOK COLOR™ Emulator

When you are in the process of testing a debugging your applications designed for NOOK Color, you can target the AVD created in section 3.1.1:

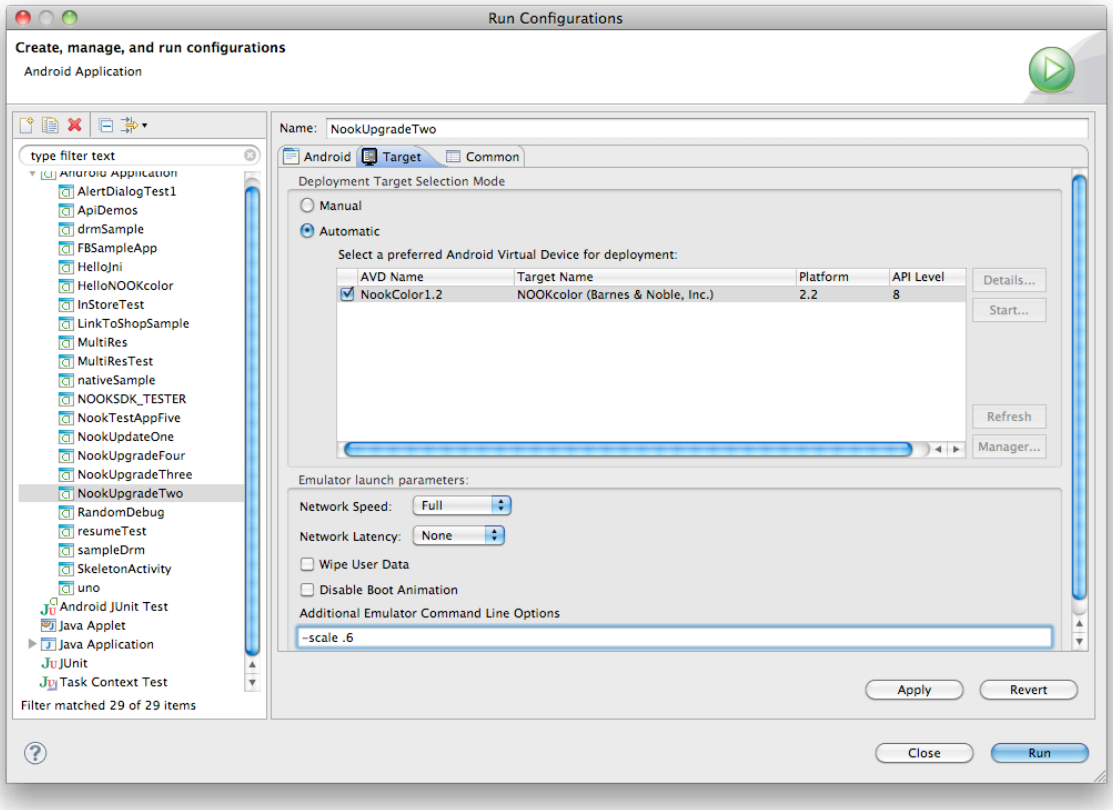
1. From the Preferences within Eclipse, choose **Android**.
2. Input the location of your Android SDK installation and click **Apply**.
3. Choose the default target for your applications to be the NOOKcolor.



When choosing to run your application for testing and debug purposes, you will be able to invoke the Emulator directly from within Eclipse:



You can also apply command line parameters to the Emulator by choosing to create a Run Configuration within Eclipse:



3.1.3 Using the Stand-Alone Command Line to Install and Run the NOOK COLOR™ Emulator

You can run the NOOK COLOR™ Emulator from command line using the Emulator command, which is in the `<android-sdk-install>/tools` directory:

```
emulator -avd NOOKColor -scale 0.63
```

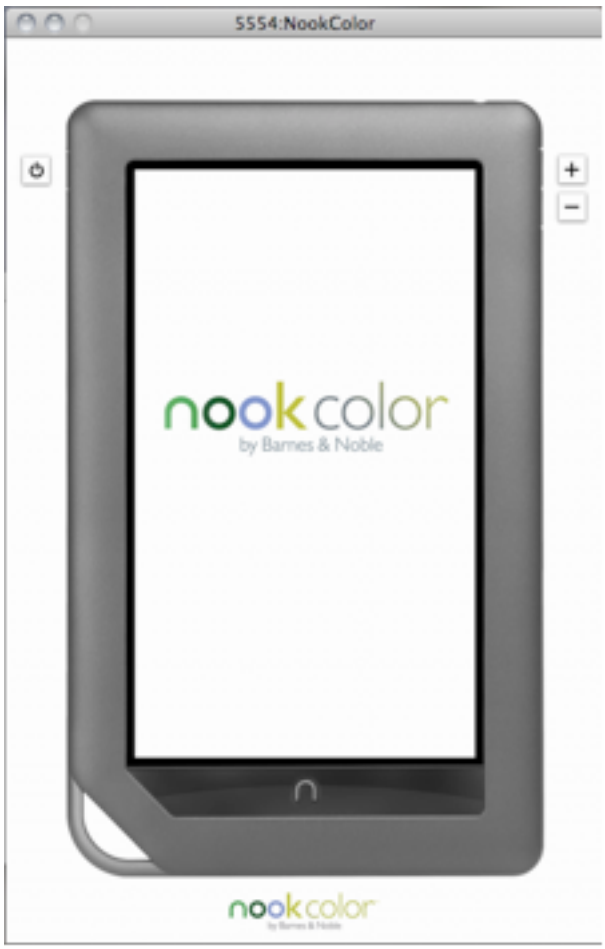
3.1.4 Operating the AVD

The AVD has four physical buttons to provide simulated control of the Emulator and to identically match the behavior of the NOOKcolor device:

- Power
- Volume Up
- Volume Down
- Home — The NOOK symbol, **n**

The Emulator provides a base emulator for the NOOKcolor device.

Note The device specific applications such as the reader, the library, search, and the settings application are not present in the Emulator.



3.2 Unsupported Technologies

NOOK Color™ does **not** support the following technologies:

- LocationManager (with or without GPS)
- Bluetooth
- Microphone
- TTS
- Camera
- Messaging (SMS/MMS)
- HDMI
- 3 Axis Gyro

3.3 Unsupported Android Elements

NOOK Color™ does **not** support Android Widgets.

In addtion, the following elements of the NOOK Color™ platform are **not** required for or exposed to third-party software development, so they are **not** present in the emulator image:

- Library
- Shop
- Search
- Apps
- Settings

4 Running the Hello World Application

The following Barnes & Noble application, Hello NOOK Color™ , shows you how to begin developing a NOOK Color™ app.

Follow these steps:

1. In Eclipse, start a new Android project:
    - Enter the Project name: HelloNOOKcolor.
    - In the Contents section:
        - Click **Create new project in workspace**.
        - Click the check box for **Use default location**.
    - In the Build Target section, click the check box for **NOOKcolor**.
    - In the Properties section:

    a) Enter the Application name as : **HelloNOOKcolor**.

    b) Enter the Package name as: **com.example.nookcolor.hellonookcolor**.

    c) Click the check box for **Create Activity**.

    d) In Min SDK Version, enter **8**.

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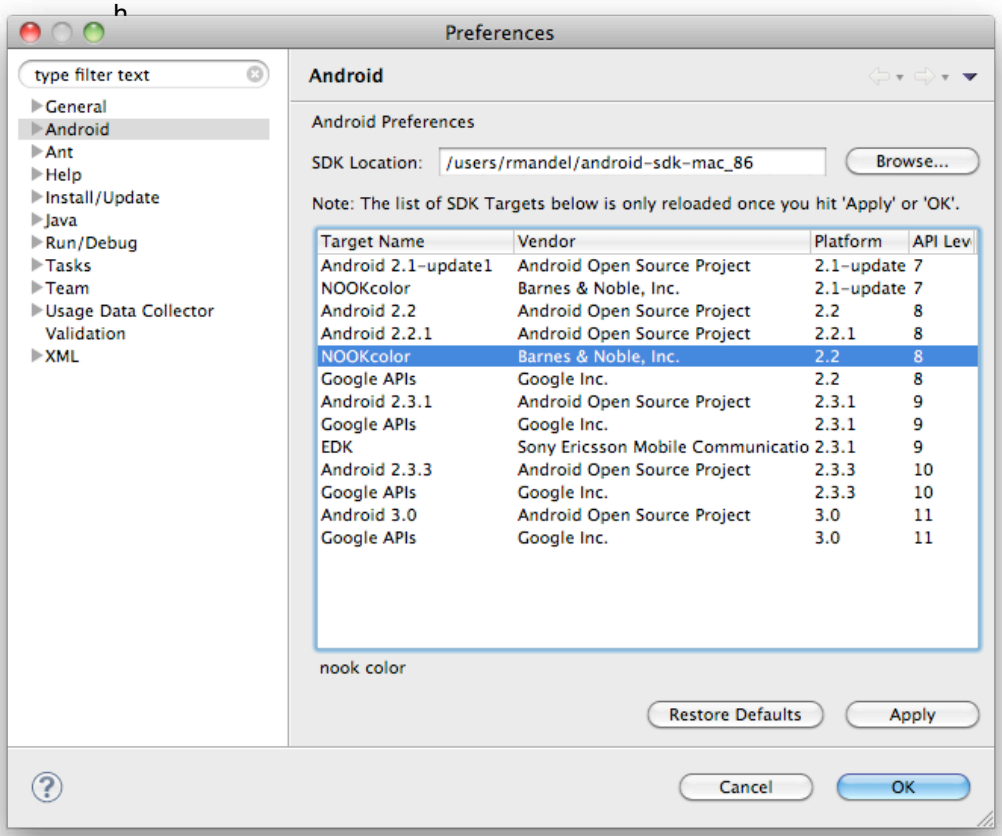
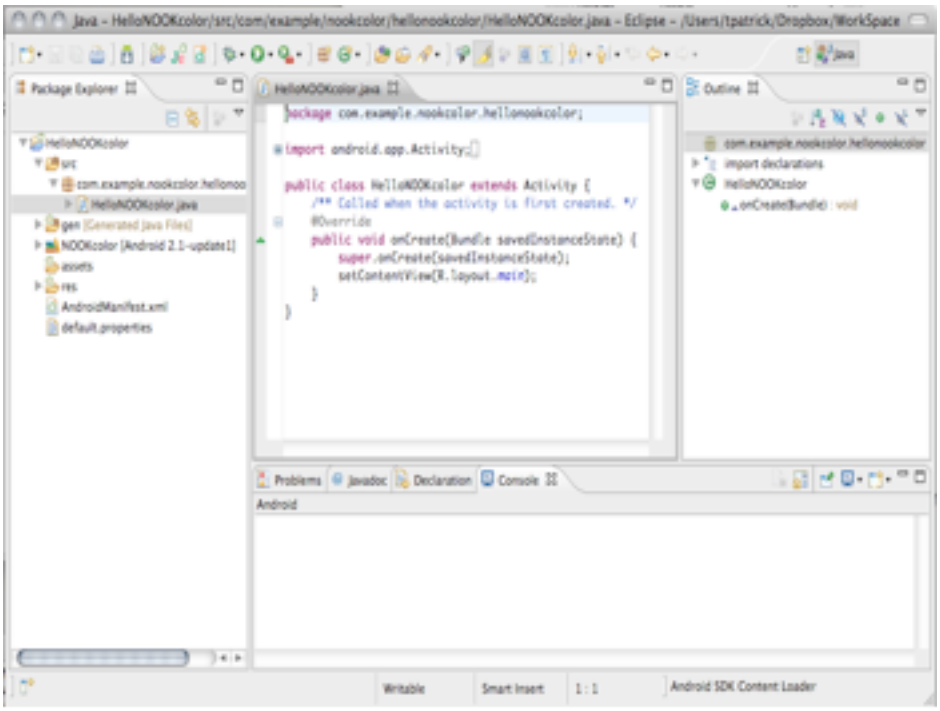
h

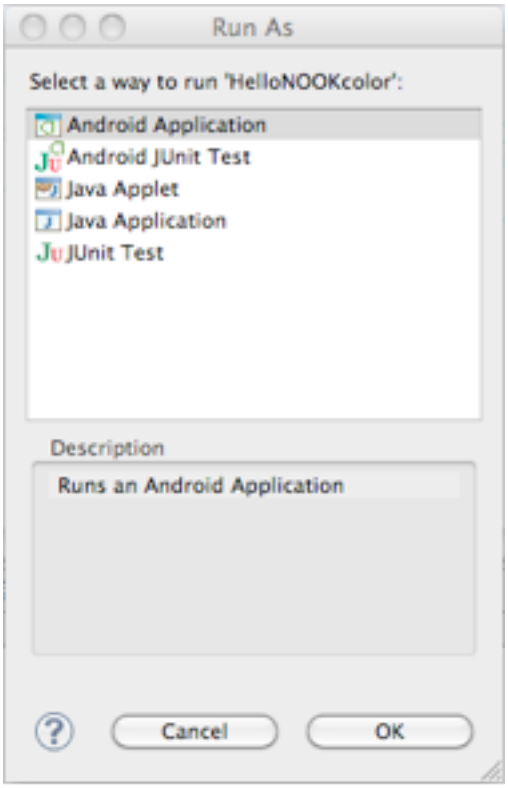

Preferences
type filter text
General
Android
Ant
Help
Install/Update
Java
Run/Debug
Tasks
Team
Usage Data Collector
Validation
XML
Android
Android Preferences
SDK Location:
/users/rmandel/android-sdk-mac_86
Browse...
Note: The list of SDK Targets below is only reloaded once you hit 'Apply' or 'OK'.
Target Name
Vendor
Platform
API Lev
Android 2.1-update1
Android Open Source Project
2.1-update
7
NOOKcolor
Barnes & Noble, Inc.
2.1-update
7
Android 2.2
Android Open Source Project
2.2
8
Android 2.2.1
Android Open Source Project
2.2.1
8
NOOKcolor
Barnes & Noble, Inc.
2.2
8
Google APIs
Google Inc.
2.2
8
Android 2.3.1
Android Open Source Project
2.3.1
9
Google APIs
Google Inc.
2.3.1
9
EDK
Sony Ericsson Mobile Communicatio
2.3.1
9
Android 2.3.3
Android Open Source Project
2.3.3
10
Google APIs
Google Inc.
2.3.3
10
Android 3.0
Android Open Source Project
3.0
11
Google APIs
Google Inc.
3.0
11
nook color
Restore Defaults
Apply
Cancel
OK

e
d

in Step 1 are shown in the following screen:



2. In the Run As window, select **Android Application** and click the **OK** button.



The NOOK Color™ Emulator shows that is is running the HelloNOOKcolor basic application.

Note The Android SDK provides some sample applications to get started. You can get Android sample code using the Android SDK Manager by choosing the Android repository. However, the sample code does **not** work on the Emulator due to requirements in the code that provide support for telephony, camera, microphone, and Bluetooth emulation. These elements are **not** present in the Emulator image.