

Developing for NOOKcolor

This document provides an overview of the development process for the Barnes & Noble NOOKcolor and details how to get started creating reader-centric applications.

NOOKcolor runs Android 2.1 (Eclair – Android SDK API 7) customized as a Readers Tablet . Similar to all Android devices, a developer uses the Google Android SDK to build applications.

Hardware Features

These hardware features provide a great foundation for building interactive reader-centric applications for NOOKcolor:

- **Display** – 7” display with a resolution of 600px by 1024px @ 169PPI
- **Processor** – 800Mhz TI OMAP ARM
- **Graphics** – Support for OpenGL ES 1.1/2.0 with hardware acceleration
- **Video/Audio/Images** – Support for standard video, audio, and image formats
- **Multi-touch** – Support for two touch points supported
- **Accelerometer** – Support for three axis
- **Networking** – WiFi Enabled

Overview of the Tasks for Developing NOOKcolor Apps

The following sections provide the tasks to perform to get up-to-speed in developing apps for NOOKcolor:

- Getting Started to install the required software
- Installing the NOOK SDK Add-on
- Starting NOOKcolor as an Android Virtual Device (AVD)
- Building a sample application
- Where to go from here

Getting Started

Follow these steps:

1. Install the required software:

Required:

Java - <http://java.com>

Android SDK - <http://developer.android.com/sdk/>

Optional:

Eclipse – <http://www.eclipse.org/downloads/>

ADT Plugin for Eclipse – <http://developer.android.com/sdk/eclipse-adt.html>

2. Update the Android SDK to support Android 2.1 API 7.
3. Install the NOOK SDK ADD-ON.

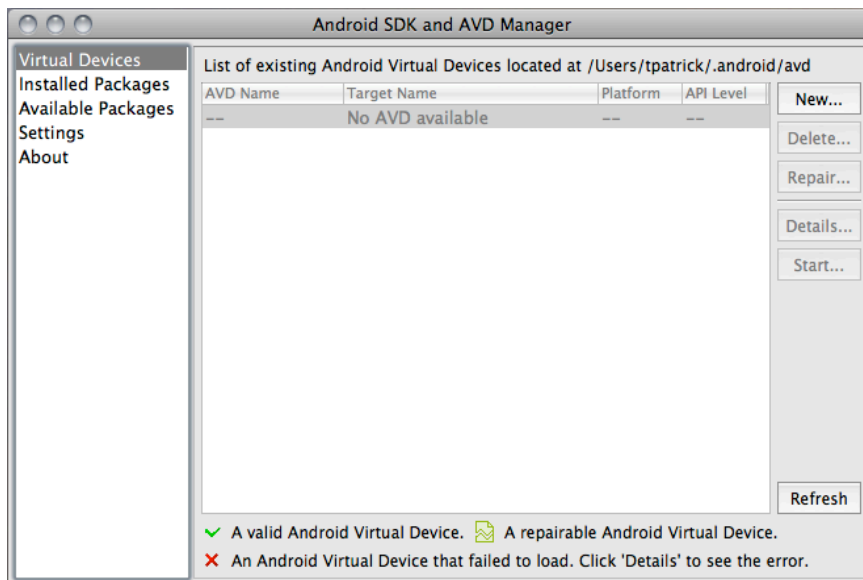
The NOOK SDK ADD-ON enables you to emulate NOOKcolor on your desktop and install, test, and debug software using the Android Debug Bridge (ADB).

Installing the NOOK SDK Add-on

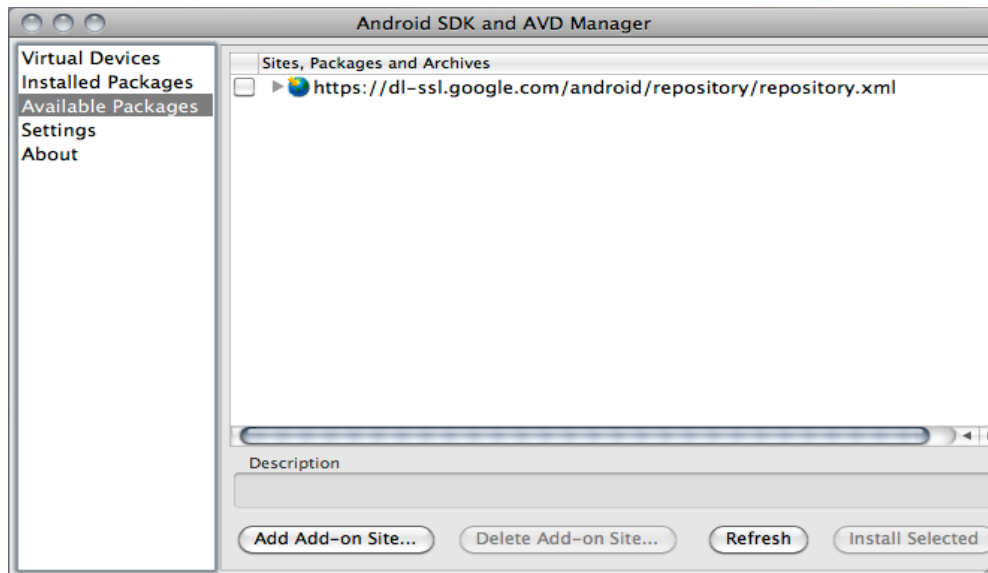
Follow these steps:

1. From the command line, run the following command:
\$ <ANDROID_SDK>/tools/android

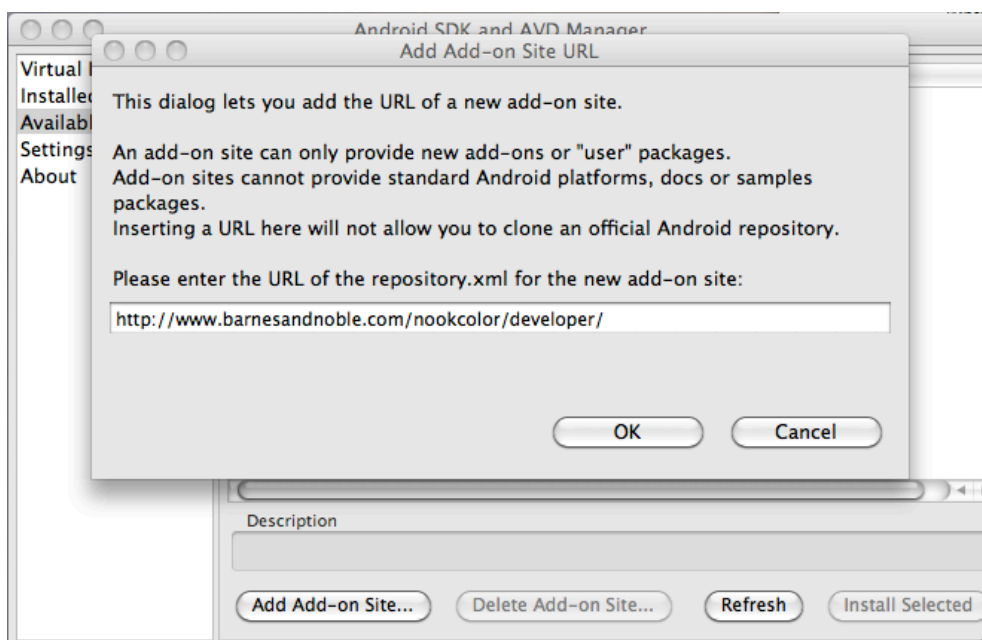
The command opens the Android SDK and AVD Manager.



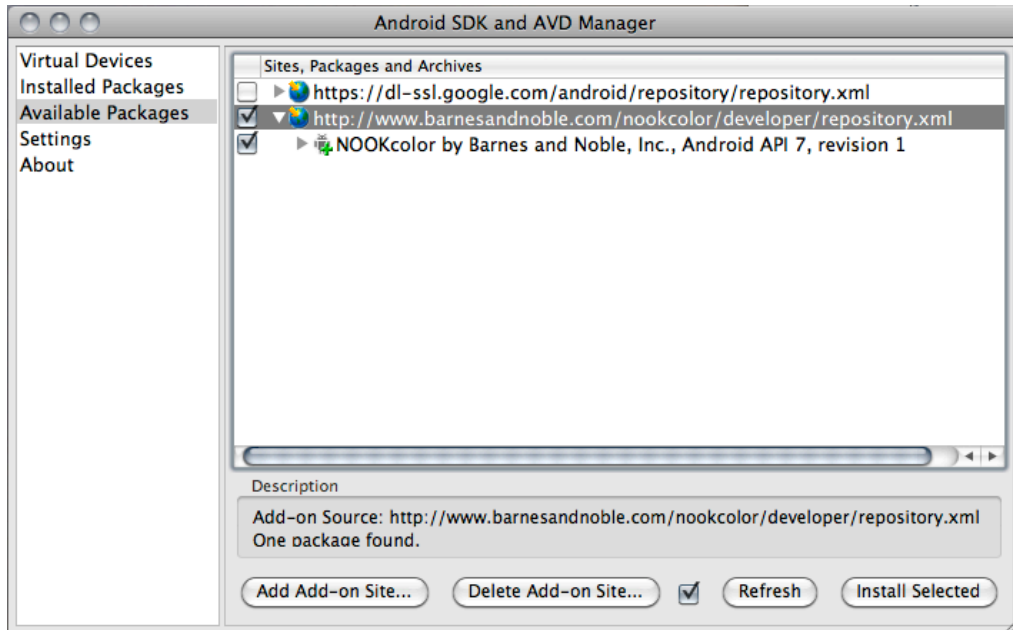
2. In the Android SDK and AVD Manager window:
 - a. From the left-hand menu, select **Available Packages**
 - b. Click the **Add Add-on Site** button.



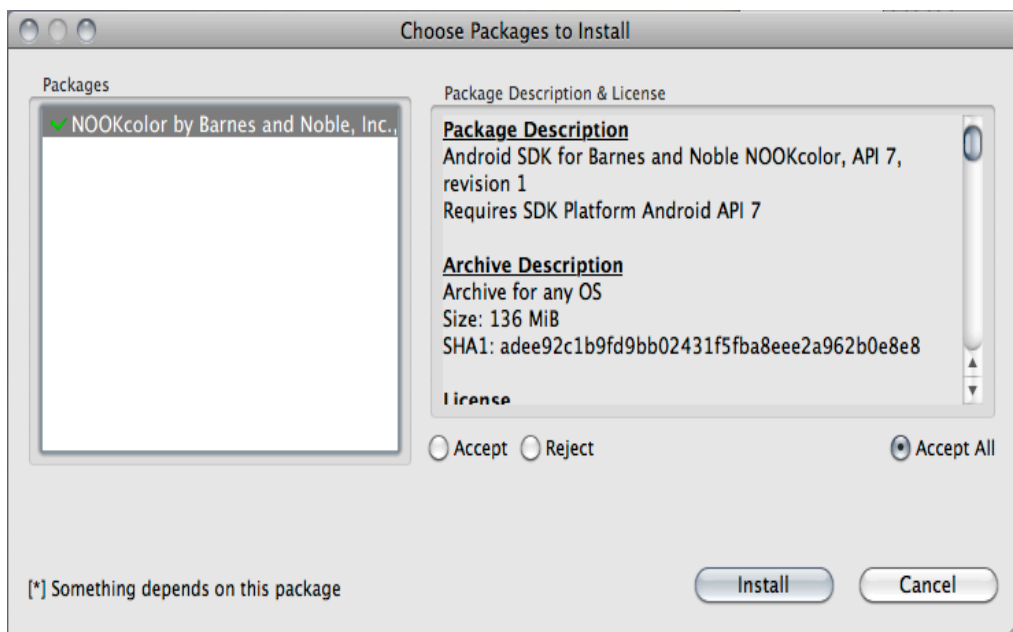
3. In the Add Add-on Site URL window:
 - a. Enter the URL for the NOOKcolor SDK: <http://www.barnesandnoble.com/nookcolor/developer/>
 - b. Click **OK**.



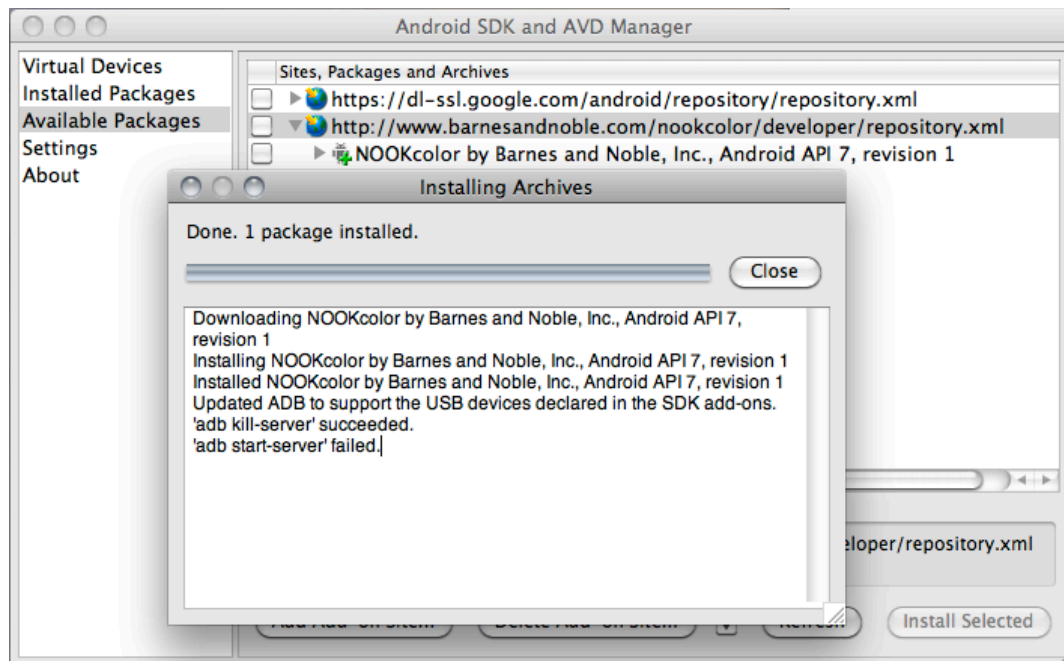
4. In the Android SDK and AVD Manager window:
 - a. In the Sites, Packages and Archives section, click the checkboxes for the following packages:
 - <http://www.barnesandnoble.com/nookcolor/developer/repository.xml>
 - **NOOKcolor by Barnes and Noble, Inc., Android API 7, revision 1**
 - b. Click the **Install Selected** button.



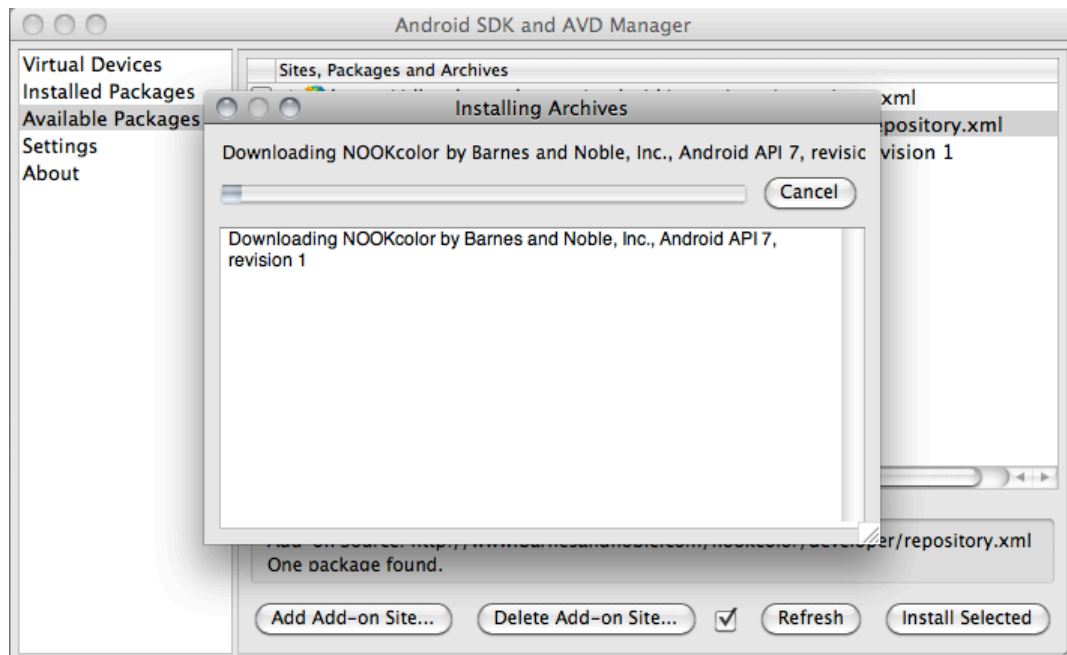
5. In the Choose Packages to Install window:
 - a. select the package, **NOOKcolor by Barnes and Noble, Inc.**
 - b. Accept the License Agreement.
 - c. Click the **Install** button.



The NOOK SDK downloads and installs in the Android SDK.



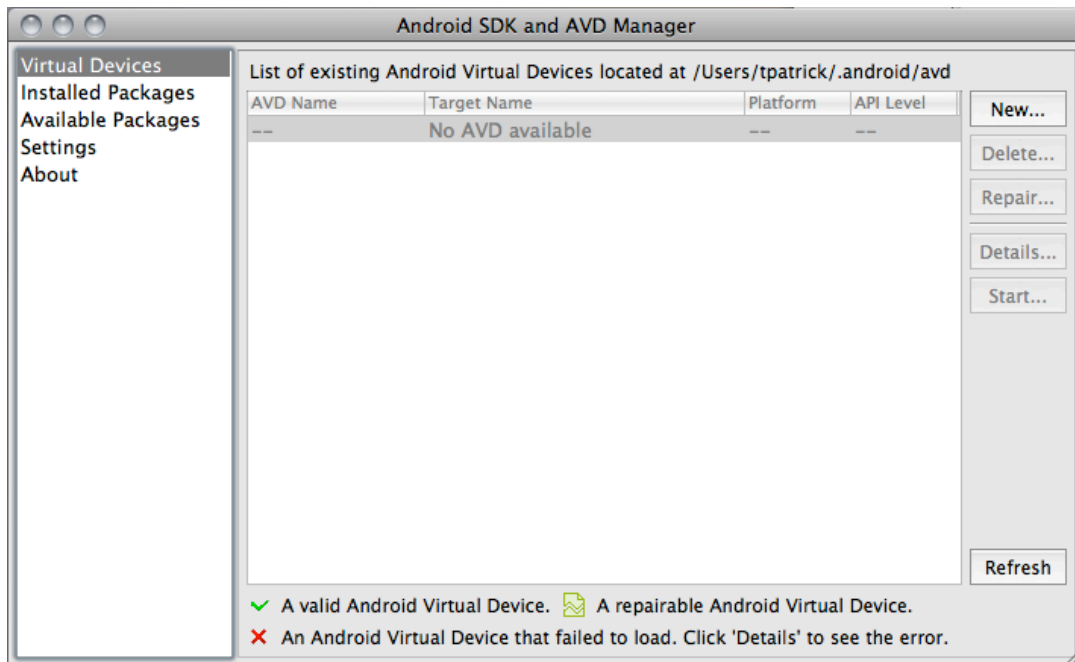
When the installation process is complete, you see the confirmation dialog that the process is done and one package is installed.



Starting NOOKcolor as an Android Virtual Device (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 7**.
 - **SD Card** – Optional, depends on end user.
 - **Skin** – Built-in “Default (NOOKcolor)”
 - **Hardware** – Add hardware properties for the Accelerometer and Touch-screen support.
 - b. Click the **Create AVD** button.

Create new Android Virtual Device (AVD)

Name:

Target:

SD Card:

☒ Size: MiB

☐ File:

Skin:

☒ Built-in:

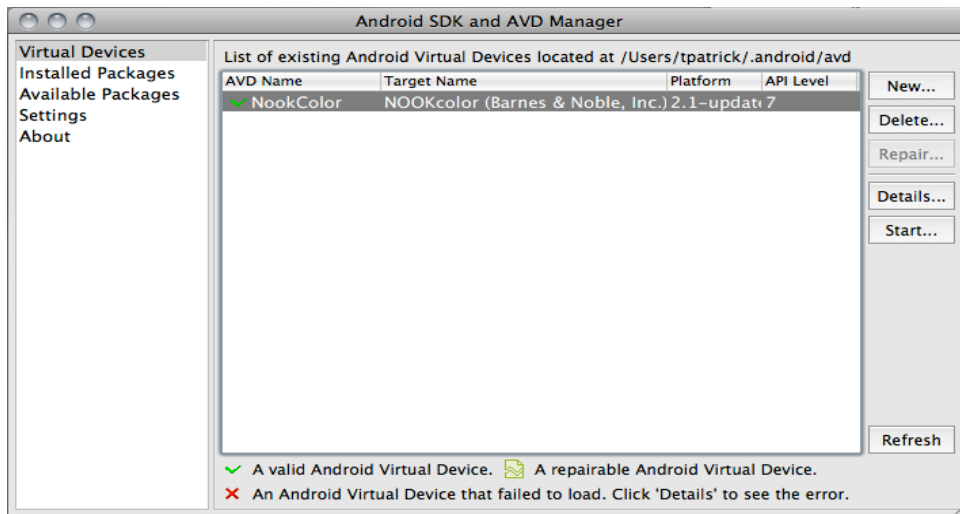
☐ Resolution: x

Hardware:

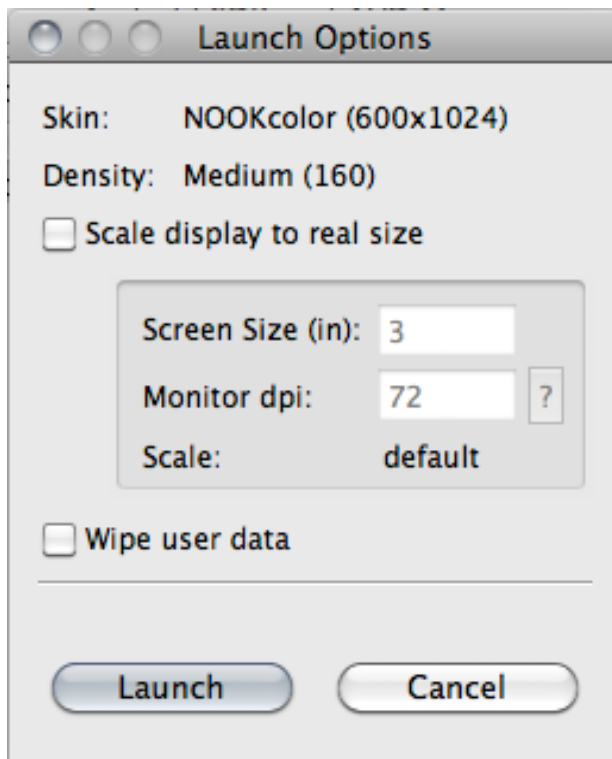
Property	Value
Accelerometer	yes
Touch-screen support	yes

☐ Override the existing AVD with the same name

3. In the list of existing AVDs, select **NookColor**.

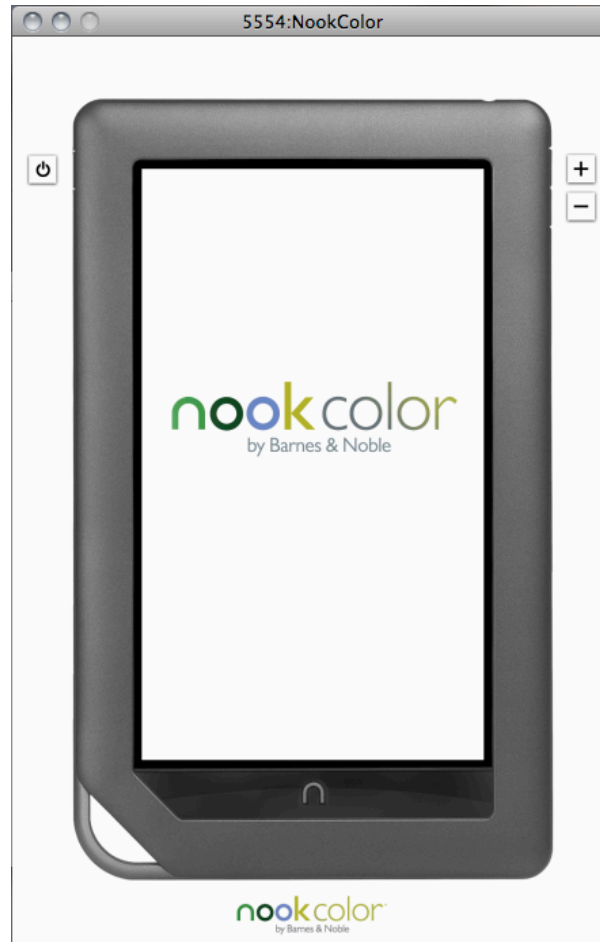


4. Set the launch options for the virtual device and click the **Launch** button.
Depending on your computer screen size, you may need to “Scale display to real size”, typically a screen size of 5”-10” fits the device to screen for best viewing.



The AVD launches and boots up. 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 the base emulator for the NOOKcolor device.

NOOKcolor does **not support** Android Widgets so the following elements are **not** required for third-party software development:

- Home Screen
- Store
- Library
- Extras

Building a Sample Application

The Android SDK provides some sample applications to get started.

Our sample application, Hello NOOKcolor, shows you how to begin developing a NOOKcolor app.

Follow these steps:

1. In Eclipse, start a new Android project:
 - Enter the Project name: **HelloNOOKcolor**.
 - In the Contents section:
 - Click the **Create new project in workspace** option.
 - Click the **Use default location** check box.
 - In the Build Target section, click the **NOOKcolor** check box.
 - In the Properties section:
 - a. Enter the Application name: **HelloNOOKcolor**.
 - b. Enter the Package name: **com.example.nookcolor.hellonookcolor**
 - c. Click the **Create Activity** check box.
 - d. In Min SDK Version, enter **7**.

New Android Project
Creates a new Android Project resource.

Project name: HelloNOOKcolor

Contents

- ☒ Create new project in workspace
- ☐ Create project from existing source
- ☒ Use default location

Location: /Users/tpatrick/Dropbox/WorkSpace/HelloNOOKcolor [Browse...](#)

☐ Create project from existing sample

Samples: ApiDemos

Build Target

Target Name	Vendor	Platform	API L
<input type="checkbox"/> Android 1.1	Android Open Source Project	1.1	2
<input type="checkbox"/> Android 1.5	Android Open Source Project	1.5	3
<input type="checkbox"/> Google APIs	Google Inc.	1.5	3
<input type="checkbox"/> Android 1.6	Android Open Source Project	1.6	4
<input type="checkbox"/> Google APIs	Google Inc.	1.6	4
<input type="checkbox"/> Android 2.0	Android Open Source Project	2.0	5
<input type="checkbox"/> Google APIs	Google Inc.	2.0	5
<input type="checkbox"/> Android 2.0.1	Android Open Source Project	2.0.1	6
<input type="checkbox"/> Google APIs	Google Inc.	2.0.1	6
<input type="checkbox"/> Android 2.1-update1	Android Open Source Project	2.1-update1	7
<input checked="" type="checkbox"/> NOOKcolor	Barnes & Noble, Inc.	2.1-update1	7
<input type="checkbox"/> NOOKcolor	Barnes & Noble, Inc.	2.1-update1	7
<input type="checkbox"/> Google APIs	Google Inc.	2.1-update1	7
<input type="checkbox"/> Android 2.2	Android Open Source Project	2.2	8
<input type="checkbox"/> Google APIs	Google Inc.	2.2	8

nook color

Properties

Application name: Hello NOOKcolor

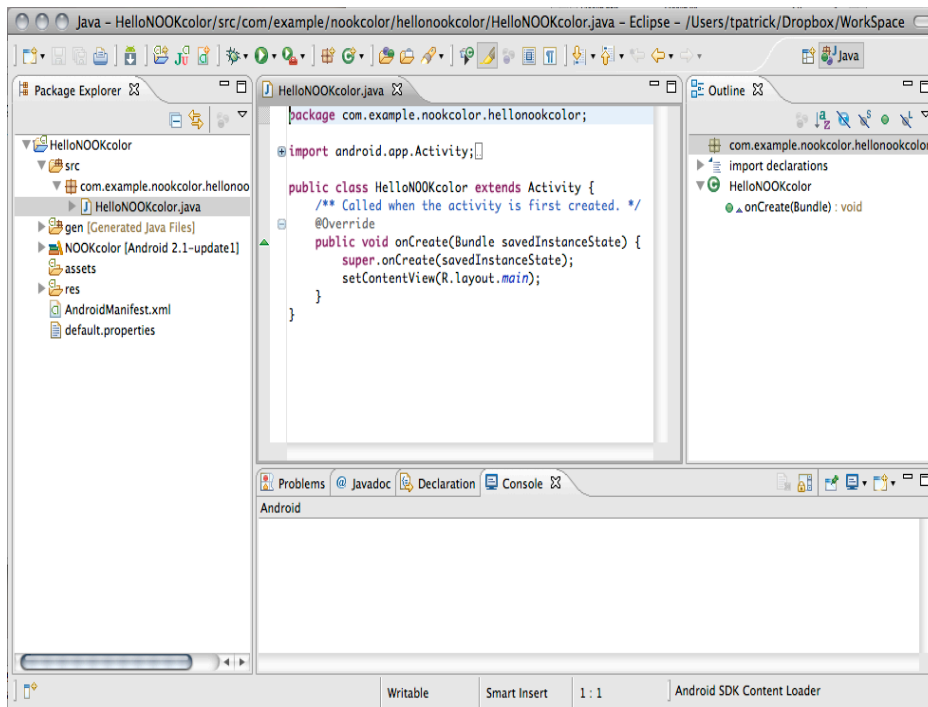
Package name: com.example.nookcolor.hellonookcolor

☒ Create Activity: HelloNOOKcolor

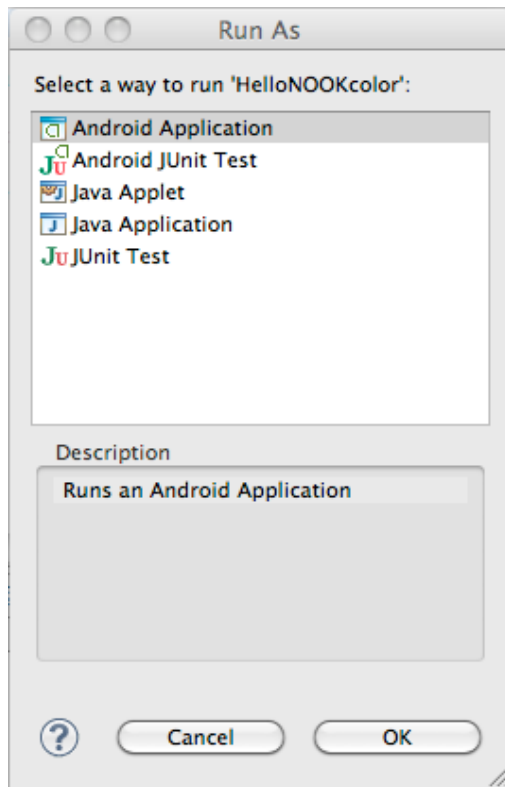
Min SDK Version: 7

[?](#) [< Back](#) [Next >](#) [Cancel](#) [Finish](#)

2. In the generated Android project, click **Run** with the NOOKcolor emulator running.



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



3. The NOOKcolor emulator is now running the HelloNOOKcolor basic application.



Where to Go from Here

For more tutorials on getting started with Android, visit:

<http://developer.android.com/guide/>.

Barnes & Noble will be posting additional tutorials and samples in our developer program, NOOKdeveloper, to help you get started building successful reading-centric applications for NOOKcolor.

Make sure to visit NOOKdeveloper for up-to-date information on the latest development news for NOOK devices:

<http://bn.com/nookdeveloper>