Cisco Cius Development Guide Version 1.0

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Preface

Overview

This *Cisco Cius Development Guide, Version 1.0* provides you instructions for installing, configuring, and using the Cisco Cius skin with the standard Android SDK 2.2 developer environment. After reading this guide, you can run and test pure Android applications written for Cisco Cius from the Android 2.2 development environment.

Audience

This document is targeted at generic Android developers and Cisco Developer community who wish to develop Android applications for Cisco Cius.

General knowledge of developing applications using Android SDK 2.2 is expected and is not covered in this document.

See the Related Information, page vi for a list of related information.

Organization

This guide includes the following chapters:

Chapter	Title	Description
1	Installation of Cisco Cius Emulator Skin	Provides a tutorial on installing and configuring the Cisco Cius emulator skin for usage with Android 2.2.
2	FAQs on Cisco Cius Emulator Skin	Provides a list of frequently asked questions and their answers.

Related Information

For more information on Cisco Cius or Android SDK, refer to the following:

Cisco Cius application development	http://developer.cisco.com/web/cius/home
Cisco Cius documentation	http://developer.cisco.com/web/cius/docs
Versions of Eclipse	http://wiki.eclipse.org/Older_Versions_Of_Eclipse
Android SDK downloads	http://developer.android.com/sdk/index.html
Android system requirements	http://developer.android.com/sdk/requirements.html
ADT plug-in for Eclipse	http://developer.android.com/sdk/eclipse-adt.html
Android developers guide	http://developer.android.com/guide/topics/fundamentals.html
Android API reference	http://developer.android.com/reference/packages.html
Android FAQ	http://developer.android.com/guide/appendix/faq/commontasks.html

Providing Feedback

If you have comments or questions regarding this document please provide your feedback in a detailed e-mail to the following Cisco Developer Support e-mail alias:

cius-app-development-support@cisco.com

Conventions

This document uses the following conventions:

Convention	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{ x | y | z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
`courier` font	Terminal sessions and information the system displays appear in `courier` font.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note Means *reader take note*.

Tip Means *the following information will help you solve a problem*.

Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.

Warning **Means *reader be warned*. In this situation, you might perform an action that could result in bodily injury.**

Cisco Developer Network

The Cisco Developer Network (CDN) portal provides access to multiple Cisco technology developer interfaces and collaborative support communities. CDN also provides formalized support services for these interfaces to enable developers, customers, and partners to accelerate their development. The formalized process provides access to CDN Engineers who are an extension of the product technology engineering teams. CDN Engineers have access to the resources necessary to provide expert support in a timely manner.

The Cisco Developer Network Program is designed for businesses (IHV's and ISV's) interested in going to market with Cisco. The CDN Program enables members to develop compelling solutions that unify data, voice, video, and mobile communications on Cisco's powerful communications platform. The program also allows members to take advantage of Cisco's brand, market leadership position, and installed base to help drive positive business results for themselves and their customers.

For additional information about the CDN Program and CDN support services go to *http://developer.cisco.com/web/devservices*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

CHAPTER 1

Installation of Cisco Cius Emulator Skin

Overview

The innovative Cisco Cius is an ultra-portable, mobile collaboration business tablet that offers access to essential business applications and technologies. It is designed to help employees stay connected to their work, increase productivity, and reduce costs.

Based on the Android operating system, Cisco Cius is an open platform for communication and collaboration, enabling developers to build business-class productivity applications for themselves or customers.

Cisco Cius, with its unique form factor and a 1024x600 screen resolution, offers a screen layout not commonly seen on traditional Android based mobile devices. Cisco Cius is mostly expected to be held in landscape mode. With these display considerations, it is important for developers to ensure that their applications look and behave as expected. In order to ensure the correct look and behavior, developers must run their applications on an Android Virtual Device (AVD) that mimics the Cisco Cius hardware. To make the transition to Cisco Cius hardware easier for developers, Cisco provides an emulator setup with Cisco Cius specific skin.

This chapter provides information on the following topics:

- Software Requirements, page 1-1
- Setup Android Emulator With Cisco Cius Emulator Skin, page 1-2
- Resizing the Emulator Window, page 1-4
- Cisco Cius Home Screen Grid Layout, page 1-6
- AVD Issues, page 1-7
- Memory and Performance Impact, page 1-7

Software Requirements

This section provides information of the following topics:

- Operating Systems, page 1-2
- Development Environments, page 1-2

Operating Systems

For information on supported operating systems, refer to http://developer.android.com/sdk/requirements.html

Development Environments

The following are the various development environment requirements:

- ECLIPSE IDE (3.4 and 3.5 tested)
- JDK 5 or JDK 6 (JRE alone is not sufficient)
- Android Development Tools (ADT) plug-in

Cisco Cius AVD

Cisco Cius device has 512MB of RAM

For complete description of the system and software requirements for developing Android applications using the Android SDK, refer http://developer.android.com/sdk/requirements.html

Setup Android Emulator With Cisco Cius Emulator Skin

Follow this process to setup the Android emulator with Cisco Cius specific skin.

Step 1 Download the Eclipse development platform from the following location and install it on your computer:

http://wiki.eclipse.org/Older_Versions_Of_Eclipse

Eclipse version 3.4 or 3.5 is recommended.

Step 2 Download the Android SDK package from the following location and install it on your computer:

http://developer.android.com/sdk/index.html

You must ensure to setup environment variables for your OS to run SDK command line tools.

Note You do not need Google APIs.

Step 3 Download and install the Android Development Tools (ADT) as per the instructions in the following location:

http://developer.android.com/sdk/eclipse-adt.html

Step 4 Download the Cisco Cius skin from the following location:

http://developer.cisco.com/web/cius/CiscoCiusSkin.zip

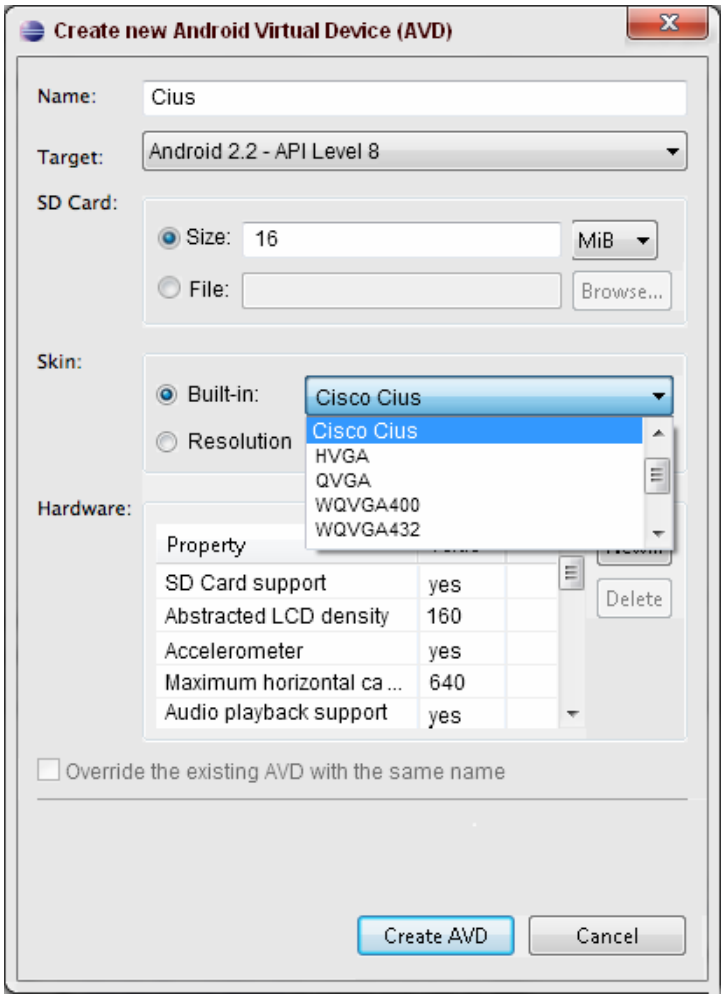
Step 5 Unzip the Cisco Cius skin file and copy the directory and files to the following location within the installation directory of the Android SDK:

.\platforms\android-8\skins

Step 6 Create an Android Virtual Device (AVD) as per the instructions in the following location, with Skin field set to Cisco Cius as shown in Figure 1:

http://developer.android.com/guide/developing/tools/avd.html

Figure 1 Creating Android Virtual Device



By default the emulator skin window is too large, occupying the whole screen area of the host machine. In order to resize the window to almost actual Cisco Cius size, provide a scaling factor when starting the AVD. For more information see Resizing the Emulator Window, page 1-4

Resizing the Emulator Window

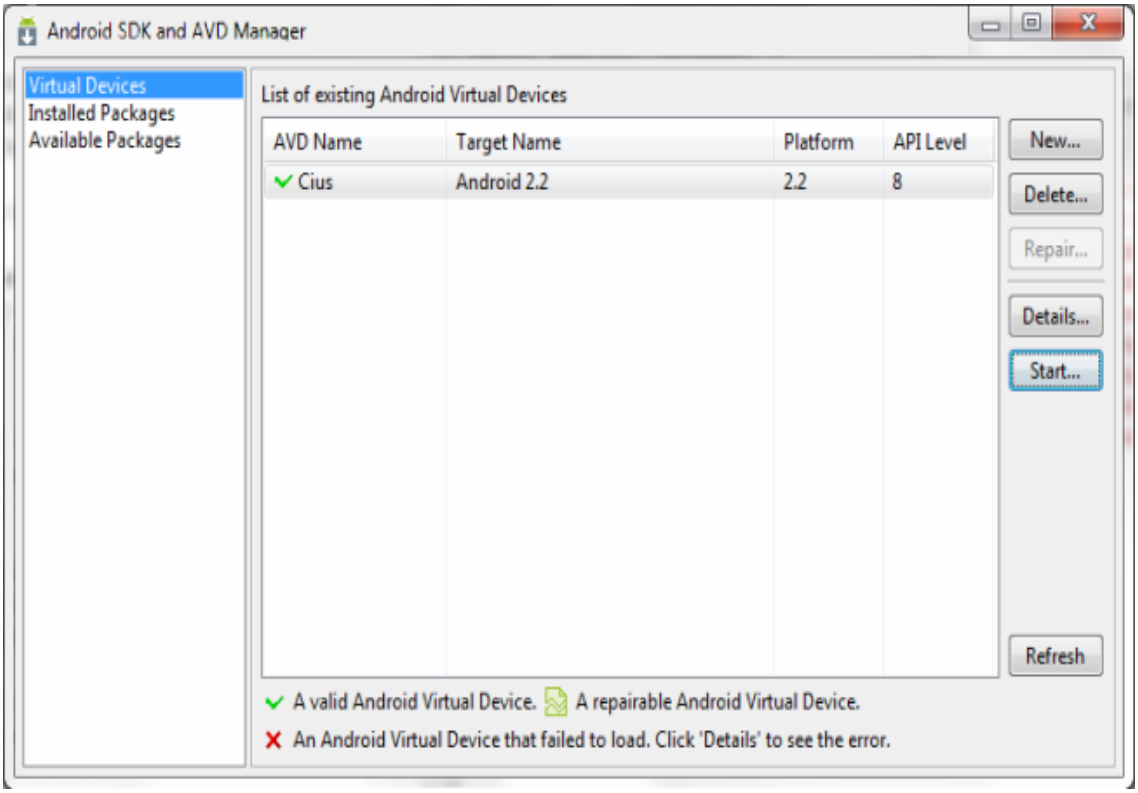
Follow this procedure to resize the emulator window.

Step 1 Open Eclipse

Step 2 Select **Window > Android SDK and AVD Manager**.

The Android SDK and AVD Manager window appears (see Figure 2).

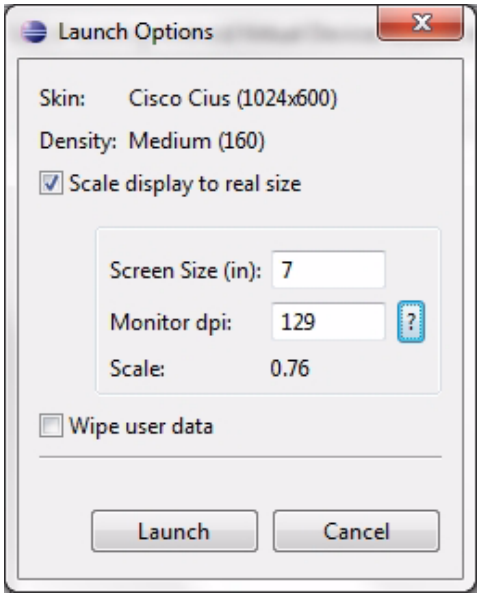
Figure 2 Android SDK and AVD Manager



Step 3 Select the Cisco Cius virtual device and click **Start...**

The Launch Option dialog box appears (see Figure 3).

Figure 3 Launch Options Dialog Box

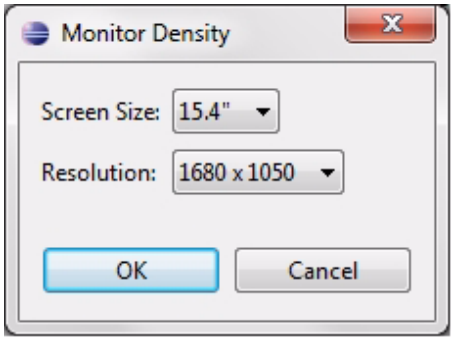


Step 4 Check the **Scale display to real size** check box to enable the **Screen Size** and **Monitor dpi** fields.

Step 5 Click the **?** button adjacent to the Monitor dpi field.

The Monitor Density dialog appears (see Figure 4).

Figure 4 Monitor Density Dialog Box



Step 6 Set your monitor's screen size and resolution and click **OK**.

Step 7 In the Launch Options dialog box (see Figure 3), set the **Screen Size (in)** field to the required size and click **Launch**.

Note Another method to change the screen size is to telnet to the port number shown in the emulator and use the **window scale <scale>** command.
For example, the command **window scale 0.5** resizes the screen to half the original size.

Cisco Cius Home Screen Grid Layout

Note **Subject to Change Disclaimer**

The Cisco Cius home screen is subject to change. For latest information write to cius-app-development-support@cisco.com

The Cisco Cius launcher application uses a 9x5 grid layout and has custom home screen button-set. The green bar under the button-set indicates the selected screen among the five home screens.

Figure 1-5 shows the launcher application running in the emulator, with few application icons and widgets.

Figure 1-5 Cisco Cius Home Screen Grid Layout

AVD Issues

The camera and voice recorder applications, which are a part of the Android SDK, crashes when you run the Android 2.2 code base. This is a known issue and not specific to Cisco Cius skin.

Memory and Performance Impact

The following are the memory and performance considerations:

- Each emulator setup uses about 512MB or more of system RAM. We recommend more than 2GB of RAM on the host computer.
- The AVD setup is restricted to 512MB RAM and sustains a much slower performance compared to the real device. The RAM restriction is to avoid memory constraints on the host machine. The speed penalty is due to cross platform emulation performed. Basic development efforts can be achieved because of Android compatibility support.

CHAPTER 2

FAQs on Cisco Cius Emulator Skin

Q. **Why does my application have a black border on left, right, and bottom?**

A. If the target SDK version is lower than 4, then the application may have a black border as shown in Figure 2-1. To resolve this issue, set the target SDK version to more than or equal to 4. You can also modify the manifest file (AndroidManifest.xml) of your application to support larger screen size and any pixel density. The application without the black border is as shown in Figure 2-2.

```
<supports-screens android:smallScreens="false"
    android:normalScreens="false"
        android:largeScreens="true"
        android:anyDensity="true"/>
```

Figure 2-1 Application with Black Border

Figure 2-2 Modified Application

Q. Why does my AVD instance look so big when I invoke Run from Eclipse?

A. If the AVD instance looks big, then set a scaling factor when starting the AVD and SDK manager as part of the runtime parameter for the emulator. For example a scale factor of 0.65 can be used to start the AVD from Eclipse.

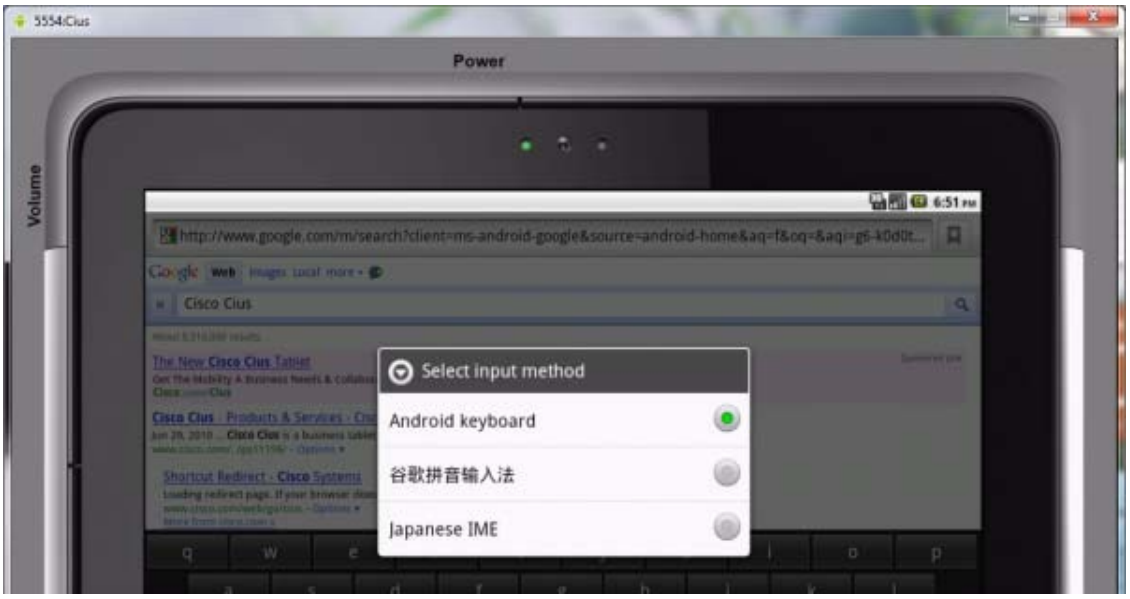
Set the run parameter *-scale 0.65* under **Run > Run configuration**. Use a screen scale factor suitable for your display.

Another method to change the screen size is to telnet to the port number shown in the emulator and use the **window scale <scale>** command.

Q. Why is my keyboard not working correctly?

A. If your keyboard is not working, then invoke any application that has an edit box in it (for example, a browser) and press and hold the edit box. The IME Select input method dialog box appears. Select **Android keyboard** as shown in Figure 2-3.

Figure 2-3 Select Input Method



Q. What if I have other questions?

A. See the Google Android FAQ page at the following location:

http://developer.android.com/guide/appendix/faq/commontasks.html