

Step-by-Step Tasks in Full Color

Includes

- Workshops ▶
- ACE Exam Objectives ▶
- More than 600 Essential
Flash Professional CS5
Tasks ▶

Adobe®

Flash Professional CS5

1 2 3 4 5 6 7 on Demand

What you need, when you need it!

que®

Steve Johnson, Perspection, Inc.

Adobe® Flash® Professional CS5 On Demand

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Introduction

Welcome to *Adobe Flash Professional CS5 On Demand*, a visual quick reference book that shows you how to work efficiently with Flash. This book provides complete coverage of basic to advanced Flash skills.

How This Book Works

You don't have to read this book in any particular order. We've designed the book so that you can jump in, get the information you need, and jump out. However, the book does follow a logical progression from simple tasks to more complex ones. Each task is presented on no more than two facing pages, which lets you focus on a single task without having to turn the page. To find the information that you need, just look up the task in the table of contents or index, and turn to the page listed. Read the task introduction, follow the step-by-step instructions in the left column along with screen illustrations in the right column, and you're done.

What's New

If you're searching for what's new in Flash CS5, just look for the icon: **New!**. The new icon appears in the table of contents and throughout this book so you can quickly and easily identify a new or improved feature in Flash. A complete description of each new feature appears in the New Features guide in the back of this book.

Keyboard Shortcuts

Most menu commands have a keyboard equivalent, such as Ctrl+P (Win) or ⌘+P (Mac), as a quicker alternative to using the mouse. A complete list of keyboard shortcuts is available on the Web at www.perspection.com.



How You'll Learn

How This Book Works

What's New

Keyboard Shortcuts

Step-by-Step Instructions

Real World Examples

Workshops

Adobe Certified Expert

Get More on the Web

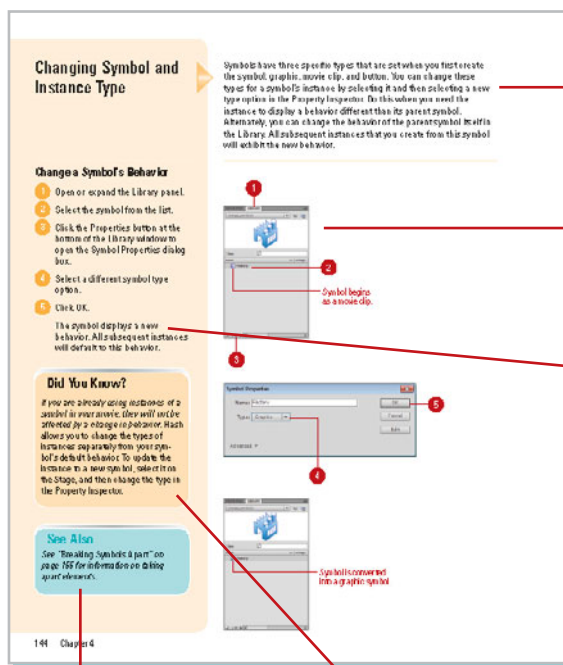


Step-by-Step Instructions

This book provides concise step-by-step instructions that show you “how” to accomplish a task. Each set of instructions includes illustrations that directly correspond to the easy-to-read steps. Also included in the text are time-savers, tables, and sidebars to help you work more efficiently or to teach you more in-depth information. A “Did You Know?” provides tips and techniques to help you work smarter, while a “See Also” leads you to other parts of the book containing related information about the task.

Real World Examples

This book uses real world example files to give you a context in which to use the task. By using the example files, you won’t waste time looking for or creating sample files. You get a start file and a result file, so you can compare your work. Not every topic needs an example file, such as changing options, so we provide a complete list of the example files used throughout the book. The example files that you need for project tasks along with a complete file list are available on the Web at www.perspection.com.



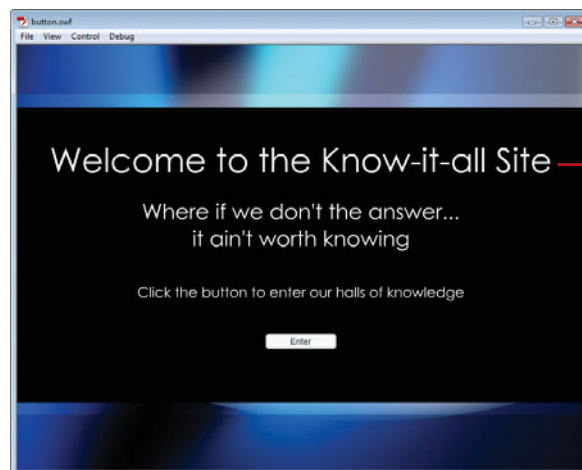
Easy-to-follow introductions focus on a single concept.

Illustrations match the numbered steps.

Numbered steps guide you through each task.

See Also points you to related information in the book.

Did You Know? alerts you to tips, techniques and related information.



Real world examples help you apply what you've learned to other tasks.

Workshops

This book shows you how to put together the individual step-by-step tasks into in-depth projects with the Workshop. You start each project with a sample file, work through the steps, and then compare your results with a project results file at the end. The Workshop projects and associated files are available on the Web at www.perspection.com.

Adobe Certified Expert

This book prepares you fully for the Adobe Certified Expert (ACE) exam for Adobe Flash CS5. Each Adobe Certified Expert certification level has a set of objectives, which are organized into broader skill sets. To prepare for the certification exam, you should review and perform each task identified with an ACE objective to confirm that you can meet the requirements for the exam. Information about the ACE program is available in the back of this book. The Adobe Certified Expert objectives and the specific pages that cover them are available on the Web at www.perspection.com.

Workshops

Introduction

The Workshop is all about being creative and thinking outside of the box. These workshops will help your right-brain soar, while making your left-brain happy, by explaining why things work the way they do. Exploring Flash's possibilities is great fun; however, always stay grounded with knowledge of how things work. Knowledge is power.

Getting and Using the Project Files

Each project in the Workshop includes a start file to help you get started with the project, and a final file to provide you with the results of the project so you can see how well you accomplished the task.

Before you can use the project files, you need to download them from the Web. You can access the files at www.perspection.com in the software downloads area. After you download the files from the Web, decompress the files into a folder on your hard drive to which you have easy access from Flash.

Project 1: Creating and Customizing Scrollable Text

Skills and Tools: Flash component and ActionScripting

Flash comes with a set of built-in components—Button, CheckBox, Label, RadioButtons, and UIScrollBar—that make it easy to add elements and controls to a Flash document. The components are available in the Components panel. There is a set of components for use with Flash documents (ActionScript 2.0) and another one for use with Flash documents (ActionScript 3.0). However, each set contains many of the same components. Some of the components include a skin, or look and feel, which you can use to create your own artistic nature.

The Project

In this project, you'll learn how to create scrollable text using the UIScrollBar component, and then customize the component.

The Process

- 1 Open Flash CS5, create a new document (200), and then save it as `scroll_text_component.fla`.

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The **Workshops** walk you through in-depth projects to help you put Flash to work.

Adobe Certified Expert

About the Adobe Certified Expert (ACE) Program

The Adobe Certified Expert (ACE) program is for graphic designers, Web designers, systems integrators, value-added resellers, developers, and business professionals seeking official recognition of their expertise on Adobe products.

What Is an ACE?

An Adobe Certified Expert is an individual who has passed an Adobe Product Proficiency Exam for a specific Adobe software product. Adobe Certified Experts are eligible to promote themselves to clients or employers as highly skilled, expert-level users of Adobe software. ACE certification is a recognized worldwide standard for excellence in Adobe software knowledge. There are three levels of ACE certification: single product certification, specialist certification, and master certification. To become an ACE, you must pass one or more product-specific proficiency exams and sign the ACE program agreement. When you become an ACE, you enjoy these special benefits:

- Professional recognition
- An ACE program certificate
- Use of the Adobe Certified Expert program logo

What Does This Logo Mean?

It means this book will prepare you fully for the Adobe Certified Expert exam for Adobe Flash Professional CS5. The certification exam has a set of objectives, which are organized into broader skill sets. The Adobe Certified Expert objectives and the specific pages throughout this book that cover the objectives are available on the Web at www.perspection.com.



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Get More on the Web

In addition to the information in this book, you can also get more information on the Web to help you get up-to-speed faster with Flash CS5. Some of the information includes:

Transition Helpers

- ◆ **Only New Features.** Download and print the new feature tasks as a quick and easy guide.

Productivity Tools

- ◆ **Keyboard Shortcuts.** Download a list of keyboard shortcuts to learn faster ways to get the job done.

More Content

- ◆ **Photographs.** Download photographs and other graphics to use in your Flash documents.
- ◆ **More Content.** Download new content developed after publication.

You can access these additional resources on the Web at www.queondemand.com or www.perspection.com.

Keyboard Shortcuts

Adobe Flash CS5

If a command on a menu includes a keyboard reference, known as a keyboard shortcut, to the right of the command name, you can perform the action by pressing and holding the first key, and then pressing the second key to perform the command quickly. In some cases, a keyboard shortcut uses three keys. Simply press and hold the first two keys, and then press the third key. Keyboard shortcuts provide an alternative to using the mouse and make it easy to perform repetitive commands.

If you're searching for new keyboard shortcuts in Adobe Flash CS5, just look for the letter **⌘**. The **⌘** appears in the Keyboard shortcuts table so you can quickly and easily identify new or changed shortcuts.

Keyboard Shortcuts		
Operations/Tool	Windows	Macintosh
3D Rotation Tool (select in Toolbox)	W	W
3D Translation Tool (select in Toolbox)	C	C
3D Scale Tool (select in Toolbox)	S	S
3D Rotate Tool (select in Toolbox)	R	R
3D Translate Tool (select in Toolbox)	T	T
3D Scale Tool (select in Toolbox)	V	V
3D Rotate Tool (select in Toolbox)	A	A
3D Translate Tool (select in Toolbox)	⌘	⌘
3D Rotate Tool (select in Toolbox)	X	X
3D Translate Tool (select in Toolbox)	Z	Z
3D Scale Tool (select in Toolbox)	B	B
3D Rotate Tool (select in Toolbox)	Shift+drag	Shift+drag
3D Translate Tool (select in Toolbox)	Alt+drag	Option+drag
3D Scale Tool (select in Toolbox)	E	E
3D Rotate Tool (select in Toolbox)	Alt+drag+line	Option+drag+line
3D Translate Tool (select in Toolbox)	U	U
3D Scale Tool (select in Toolbox)	-	-

Additional content is available on the Web.

Working Together with Adobe Programs

Introduction

Adobe programs are designed to work together so you can focus on what you need to do, rather than on how to do it. In fact, the Adobe program suite tools and features for your most common tasks so you can work uninterrupted and move seamlessly from one program to another. Adobe Creative Suite is an integrated collection of programs that work together to help you create designs in print, on the Web, or on mobile devices. When you install Adobe Creative Suite or a stand-alone Adobe program, you also get additional Adobe programs—Bridge, CS Live, ConnectNow, Device Central, Extension Manager, and JavaScript Toolkit—to help you perform specific jobs, such as locating, downloading, and modifying images for projects, managing files and program extensions and testing files for different mobile devices.

Adobe Bridge is a program that lets you view, organize, modify, and manage images located on your computer from any Adobe Creative Suite program. Adobe Bridge is literally the glue that binds Adobe Creative Suite programs together into one cohesive unit with shared tools. Bridge allows you to search, sort, filter, manage, and process image files one at a time or in batches. You can also use Bridge or Mini Bridge to do the following: create new folders; rename, move, delete, and group files; edit metadata; rotate images; create web galleries and contact sheets; and run batch commands. You can also import files from your digital camera and view file information and metadata.

What You'll Do

- Explore Adobe Programs
- Explore Adobe Bridge
- Get Started with Adobe Bridge
- Get Photos from a Digital Camera
- Work with Raw Images from a Digital Camera
- Work with Images Using Adobe Bridge
- Set Preferences in Adobe Bridge
- Automate Tasks in Adobe Bridge
- Use Mini Bridge
- Explore CS Live Services
- Share My Services
- Review CS Documents
- Explore Adobe Device Central
- Check Content Using Adobe Device Central
- Use Adobe Extension Manager

Additional content is available on the Web.

Developing iPhone Apps

Introduction

Apple has this device called an iPhone. Have you heard of it? Of course you have. There is even a good chance you have an iPhone. While the iPhone itself is an amazing piece of technology, it is the software that makes the iPhone really great.

The challenge in developing applications for the iPhone is that you need to know how to develop using Apple's Cocoa Touch framework and the programming language Objective C. One of the most interesting and talked about features in Flash CS5 is Adobe's inclusion of a tool that converts your Flash movies to files that will run on any iPhone OS device without needing to know Objective C. You just need to apply the Flash and ActionScript knowledge you already have. A new tool in Flash CS5, called the iPhone Packager, converts files into valid iPhone applications.

Before you can create an iPhone App there are several activities you need to complete so you can develop in Flash CS5. They are (1) Become a Certified Apple Developer, (2) Create a Development and Developer P12 certificate, and (3) Register your development iPhone with Apple.

In this chapter, you'll get an overview for how to start developing for the iPhone using Flash CS5 including deploying an App to the iTunes App Store.

What You'll Do

Become an Apple Certified Developer

Register an iPhone and other Apple Testing Devices

Create App's ID

Create a Developer's Provisioning Profiles

Create and Publish an iPhone App

Control the Accelerometer

Save Images to the Camera Roll

Understand the Limitations of Flash

Identify Devices to Deploy an Ad Hoc App

Create an Ad Hoc Distribution Profile

Package an Ad Hoc App

Use iTunes Connect to Publish an App

Use Screen Orientation in an App

Use Geolocation in an App

Use Multitouch in an App

Becoming an Apple Certified Developer

Become an Apple Certified Developer

- 1 Open your Web browser on the Mac, and then go to the iPhone Dev Center site:

◆ <http://developer.apple.com/iphone>

IMPORTANT Use a Mac for these steps. later work can be done on a Windows computer.

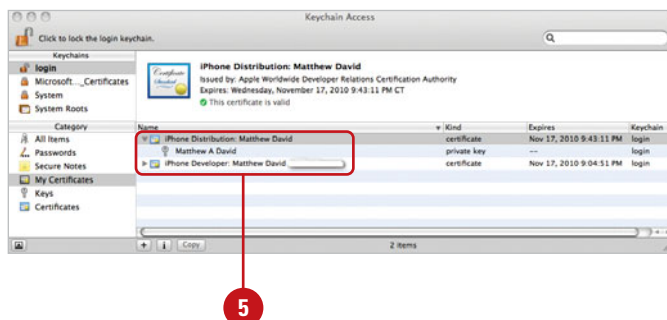
- 2 Click the **Register** link on the Web page.
- 3 Follow the registration process; either use an existing iTunes Account or create a new account to register with the site.

◆ Upon completion, you'll receive an email confirmation.

- 4 Go to <http://developer.apple.com/iphone/manage/certificates> to download and install your Apple iPhone Development Certificate.

- 5 Open the Keychain to view your Apple iPhone Development Certificates: a Developer and a Distribution Certificate.

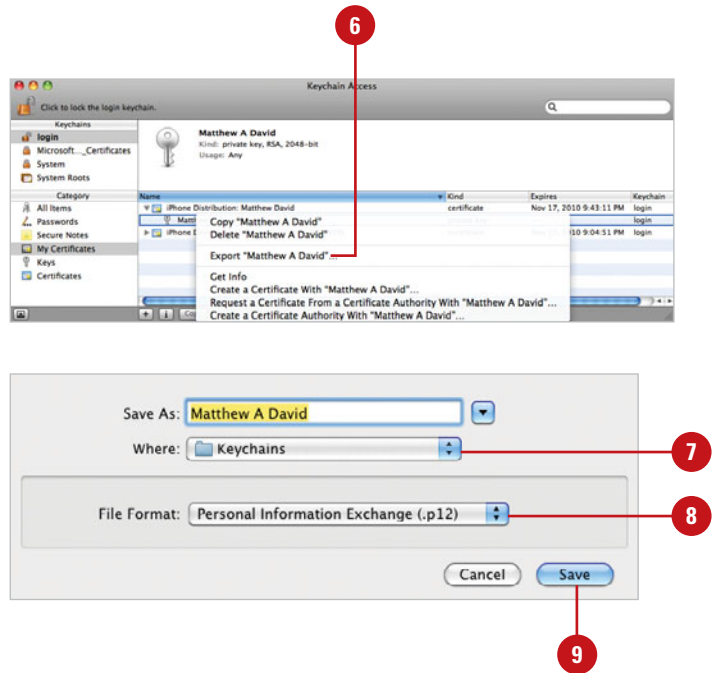
The iPhone OS has rapidly become the mobile operating systems against which all other mobile systems, such as Android, Windows Mobile 7, BlackBerry, WebOS and Symbian, are all compared to. There is a very good reason for this: the iPhone OS is rock solid. Each App you develop for the iPhone OS will run on an ever increasing number of products shipping from Apple. They include the iPhone 3G and 3GS, iPod Touch and the iPad. All of your Flash CS5 applications (**New!**) will run on these devices. To be able to develop applications for the iPhone you do need to become a registered Apple developer. The cost is only \$99 a year and this gives you the ability to load applications up to the iTunes App Store. Yes, you heard me right; it only costs \$99 a year to load as many apps as you can develop into the iTunes App Store. This is an amazing deal. Similar programs run by Nintendo to develop apps for their Wii Wares store start in the low thousands of dollars.



- 6 Control-click on the Developer Certificate, and then click **Export Certificate**.
- 7 Navigate to the location where you want to save the certificate.
- 8 Click the **File Format** list arrow, and then click **Personal Information Exchange (.p12)**.
- 9 Click **Save**.
- 10 Enter a strong password for your App, and then remember it as you'll need it later.
- 11 Repeat Steps 6-10 to export the Distribution Certificate in the Personal Information Exchange (.p12) format.

Did You Know?

You can use the P12 Certificates on Windows. You can copy the P12 Developer and Distribution Certificates to a disc and use them on a Windows computer. Creating the P12 Personal Information Exchange Certificates can be done on a Windows computer, but it requires the use of third party software such as OpenSSL. It is not easy. You are much better off starting with a Mac (find a friend, if you need to) and then moving to a Windows computer for your future Flash CS5 iPhone development needs.



For Your Information

Developing Apps on Macs and Windows

Amazingly, Adobe is the only company that allows you to develop iPhone Apps on Windows. All you need to accomplish this is to use a P12 Developer and Publishing certificate. The easiest way to get a P12 certificate is from a Mac computer. Just ask a friend if you can create an account on their Mac and then register yourself with Apple's Development program and create your own P12. After that you can copy the P12 certificate onto your Windows machine and develop the iPhone Apps.

Registering an iPhone and Other Apple Testing Devices

Find your iPhone's Unique Identifier

- 1 Connect your test iPhone/iPod Touch to your computer.
- 2 Open iTunes, and then select your device from the list to view the Summary tab information.
- 3 Click the Serial Number next to your device.

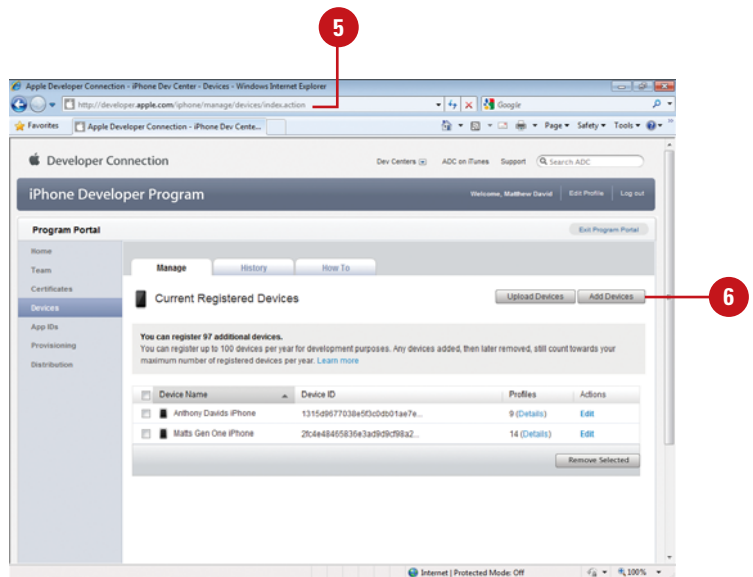
The number changes to an Identifier (UDID) number, which is about 40 alpha-numeric characters long.

- 4 Copy the UDID number.
- 5 Open your Web browser, and then go to the Devices page on the iPhone Developer site:

◆ <http://developer.apple.com/iphone/manage/devices/index.action>

- 6 Click the **Add Devices** button.
- 7 Paste in the UDID number and then enter a name for your device.
 - ◆ Suggestion: you may want to choose something like “iPhone Development” or “iPod Touch Gen 3 Development.”

The hardest part of developing apps for the iPhone is not the code you develop, but ensuring you have all of your i's and t's dotted and crossed per Apple's rigorous registration process. One small step in the wrong direction and your App will not compile or install correctly. It is worth taking your time to go through the setup process (**New!**). After you have your P12 Certificates you will need to register your test iPhone with Apple. You can register up to 100 devices per year. The developer account ID, registered device and P12 certificates are needed for all apps you want to sell in the iTunes App Store. You can register iPhone's, iPod Touches and iPads.

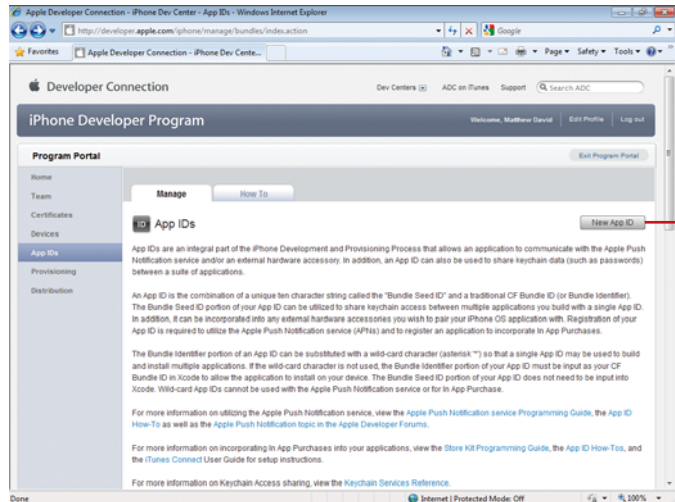


Creating App ID's

Create an App ID

- 1 Open your Web browser, and then go to the App ID page on the iPhone Developer site:
 - ◆ <http://developer.apple.com/iphone/manage/bundles/index.action>
- 2 Click the **New App ID** button.
- 3 Enter a new App name you can find easily, such as *WorldlyWordSearch*; the name has to be all one word.
- 4 Enter a Bundle Seed ID.
 - ◆ The convention is to reverse your Web site address and add your Apps name at the end. For example, *com.pearson.worldlywordsearch*; the name has to be all one word.
- 5 Click **OK**.

The App ID is a unique identifier Apple uses to identify your App from the tens of thousands of Apps in the iTunes App Store. There are ten's of thousands of applications in the iTunes App Store with more in constant development. Part of your registration process is to assign your App an ID, called the App ID. The App ID (**New!**) will be connected to your certificate and to the development and publication profiles you generate. You control the name of the App, but behind the scenes, Apple associates it an unique ID, called a Bundle Seed ID. Apple will know what your App is when it comes time for you to submit your App to iTunes.



Creating a Developers Provisioning Profiles

Create a Developer Profile

- 1 Open your Web browser, and then go to the Provisioning Profiles page on the iPhone Developer site:

◆ <http://developer.apple.com/iphone/manage/provisioningprofiles/index.action>

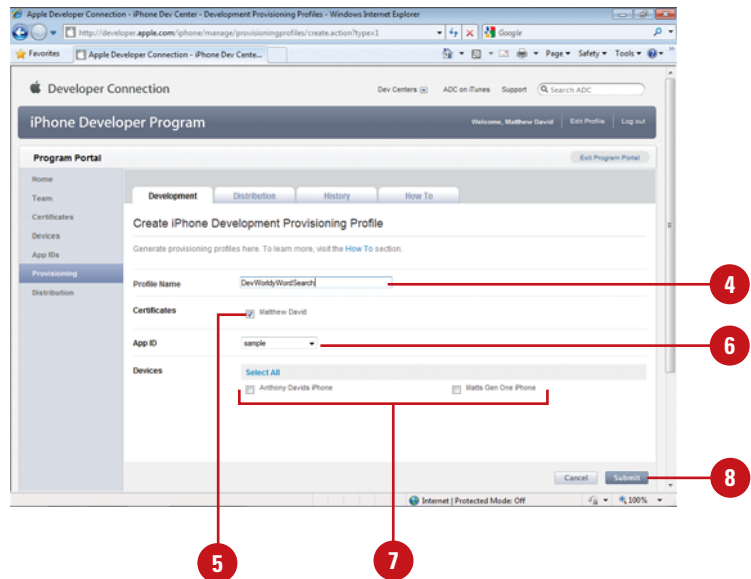
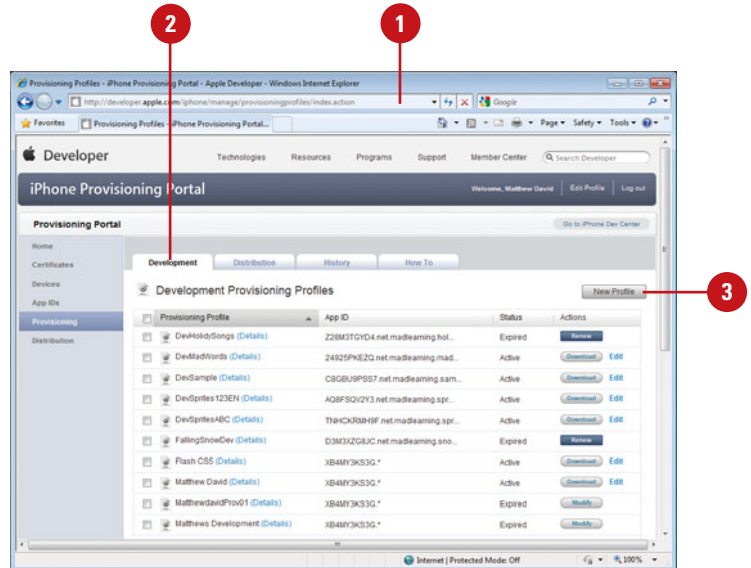
- 2 Click the **Development** tab.
- 3 Click the **New Profile** button.
- 4 Enter a meaningful Profile name.

A convention that is gaining popularity is to use the prefix “Dev” followed by the App ID, such as *DevWorldlyWordSearch*.

- 5 Select the check box with your name in the Certificates list.
- 6 Click the **App ID** list arrow, and then select your App ID.
- 7 Select your test device from the devices listed.
- 8 Click the **Submit** button.

Your developer profile takes about 30 seconds to generate.

A provision profile is a document which is associated with your App and developer certificate for either development or iTunes App distribution. There are three types of Provisioning Profiles (**New!**) you can use: Developer, Distribution to Ad Hoc and Distribution to iTunes App Store. You will cover how to use the Distribution Profiles later in the chapter. For now, let's focus on creating Developer Profiles.



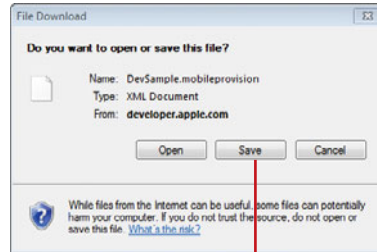
- 9 Click **Download** (Mac) or **Save** (Win), and then save the Developer profile to your desktop.

The file will have the extension “mobileprovision”

- 10 Connect your test iPhone to iTunes.

- 11 Drag the downloaded Developer Profile onto iTunes, and then sync your iPhone.

This adds the Developer Profile to your testing device.



For Your Information

Developing Icons for your iPhone Apps

In preparation for your iPhone App there are four PNG images you need:

29.png – a file that is 29x29 pixels

57.png – a file that is 57x57 pixels

512.png – a file that is 512x512 pixels

Default.png – this placeholder file that is used while your App is loading. It is important the file starts with a capital “D”.

You can create all of these files using Adobe Fireworks.

Creating and Publishing an iPhone App

Create and Publish an iPhone App

- 1 In Flash, click the **File** menu, click **New**, click **iPhone OS**, and then click **OK**.

A new movie opens with the size 320x480 pixels.

- 2 Create an iPhone App using Flash tools.

- 3 Open the **Properties** panel.

- 4 Click the iPhone Settings **Edit** button.

The iPhone Settings dialog box opens, displaying three tabs: General, Deployment and Icons.

- 5 Click the **General** Tab.

- 6 Enter an Output file name, such as *wordsearch.ipa*.

- 7 Enter the App Name that you want to appear on the iPhone, such as *Word Search*. You are limited to 11 characters.

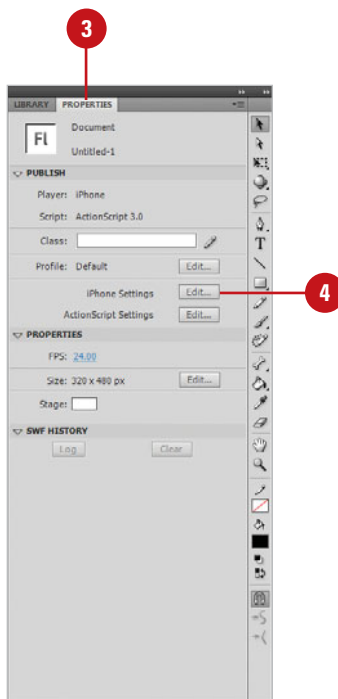
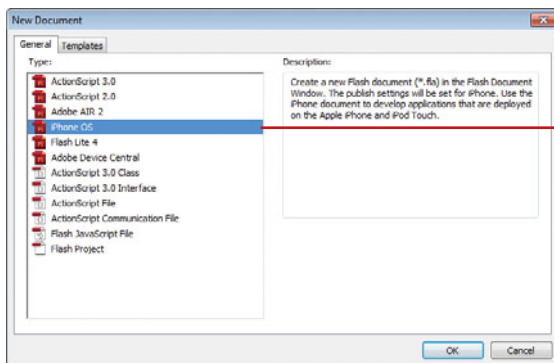
- 8 Enter a version number for the App, such as *1.0*.

- 9 Click the **Aspect Ratio** list arrow, and then select a display option: Portrait or Landscape view.

- 10 Select or deselect any of the following options:

- ◆ **Full Screen.** Select to force your App to take up all of the screen space on your phone;

With all of these tasks completed you are now ready to complete your first iPhone App. Sometimes it seems like a world full of red tape where you need to dot your i's and cross your t's, but you do get to the point where you can develop applications for your iPhone using Flash CS5 (**New!**). You need to go through the steps of creating a Developer Certificate, registering your test iPhone, creating an App ID, and downloading a developers profile in order to develop for any iPhone development tool; this is not just a unique Flash CS5 feature. Flash CS5, however, does allow you to very easily create the final iPhone App.



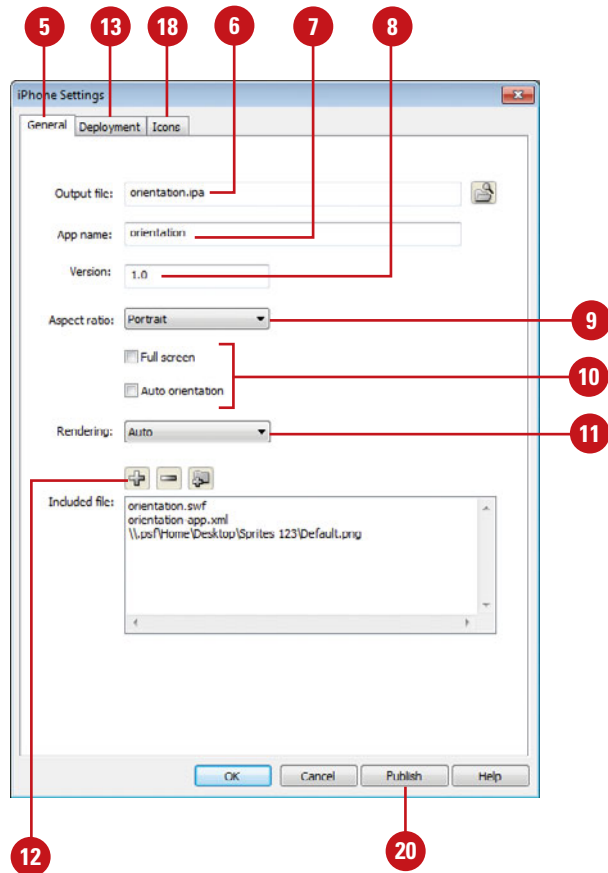
deselect to show information at the top of your iPhone, including carrier signal, WiFi connection, time and battery life, will be visible in your App.

- ◆ **Auto Orientation.** Select to change the orientation of your App as the iPhone is rotated.

- 11 Click the **Rendering** list arrow, and then click an acceleration option, **Auto**, **CPU**, or **GPU**.
- 12 Click the **Add** button (+) in Included Files, and then select the Default.png file. The Default.png file displays when your App starts to run and disappears when your App has loaded.
- 13 Click the **Deployment** tab.
- 14 Click **Browse**, and then select your Developer P12 certificate file, and then enter your password.
- 15 Click **Browse**, and then select the developer Provisioning Profile you downloaded.
- 16 Enter the full name of the App ID you created in the iPhone Developer Center.
- 17 Select the **Quick Publishing For Device Testing** option.
- 18 Click the **Icons** tab.
- 19 Locate and add the 29.png, 57.png and 512.png file.
- 20 Click **Publish**.

Flash launches the iPhone Packager tool and generates (6-10 minutes) an IPA iPhone App file in the same folder as your Flash files.

- 21 Locate the IPA file, and then drag the file onto iTunes and sync your device. When the sync completes you will be able to launch your App from your iPhone.



For Your Information

Playing Back Video

You can play back video in the iPhone, but there is a caveat. The only types of video that you can add to your iPhone Apps are Sorenson and ON2 VP6 video formats. If you want to use H.264 then you need to essentially post the video to a URL string so it pops up in Mobile Safari.

Controlling the Accelerometer

With the release of the Flash Player 10.1 and Adobe Integrated Runtime, AIR 2.0, the Flash team added several new core API features (**New!**). Access to a device's Accelerometer is one of those. The role of the Accelerometer is to detect when you move your phone. The Accelerometer is a listener that is triggered when it is used. The following example adds an Accelerometer listener to your iPhone App.

Add an Accelerometer Listener

- 1 Create a new iPhone App and add the necessary development properties in the iPhone settings.
- 2 Add a dynamic text field to the Stage with the name *myTextField* in the Properties panel.
- 3 Create a new layer on the Timeline with the named *Actions*, and then select the Actions layer.

- 4 Open the **Actions** panel.

- 5 Add code to import the libraries for the Accelerometer to work correctly:

```
import flash.events.AccelerometerEvent
import flash.sensors.Accelerometer;
```

- 6 Add code to create a new Accelerometer object:

```
var acc1:Accelerometer = new Accelerometer();
```

- 7 Add a boolean object to test if the Accelerometer works or not:

```
var isSupported:Boolean =
    Accelerometer.isSupported;

    checksupport();
```

- 8 Add a function that contains the event listener, which waits for the Accelerometer to be triggered:

```
function checksupport():void {
    if (isSupported) {
        myTextField.text = "Accelerometer feature
            supported";

        acc1.addEventListener
            (AccelerometerEvent.UPDATE, updateHandler);
    } else {
        myTextField.text = "howdy ";    }
}
```

- 9 Add a function that posts a message to the text field to tell what direction the device has moved to:

```
function
    updateHandler(evt:AccelerometerEvent):void {

myTextField.text = String("at: " + evt.timestamp
    + "\n" + "acceleration X: " + evt.accelerationX
    + "\n" + "acceleration Y: " + evt.accelerationY
    + "\n" + "acceleration Z: " +
    evt.accelerationZ);
```

- 10 Publish and package your file into an iPhone App and test it on your iPhone.

The Accelerometer gives you new ways for your customers to interface with your applications beyond touchscreen controls. The Accelerometer works great on the iPhone but the same code can be used for Adobe AIR apps running on Google's Android OS, Palm's WebOS and RIM's BlackBerry phones. Yes, that's right. Develop one App and have it deployed to multiple mobile devices.

Saving Images to the Camera Roll

Adobe does give you access to some core iPhone specific tools. One of those is the ability to add a function that will save an image of the screen to the Camera Roll (**New!**). The following example saves a screen image to the Camera Roll in an iPhone App.

Save a Screen Image to Camera Roll

- 1 Click the **File** menu, click **New**, click **iPhone OS**, and then click **OK**.
- 2 Create a new Movie Clip on the Stage with the name *snapshot*.
- 3 Add the following event Listener to:

```
snapshot.addEventListener(MouseEvent.CLICK, myScreenShot);
```

- 4 Add the following function that takes a screen shot of your iPhone:

```
function myScreenShot  
(event:MouseEvent):void
```

```
{
```

```
if (CameraRoll.supportsAddBitmapData)
```

```
{
```

```
var cameraRoll:CameraRoll = new  
CameraRoll();  
cameraRoll.addEventListener(ErrorEvent.ERROR,  
onCrError);
```

```
cameraRoll.addEventListener(Event.COMPLETE,  
onCrComplete);
```

```
var bitmapData:BitmapData = new  
BitmapData(stage.stageWidth,stage.stageHeight);
```

```
bitmapData.draw(stage);
```

```
cameraRoll.addBitmapData(bitmapData);
```

```
}
```

```
else
```

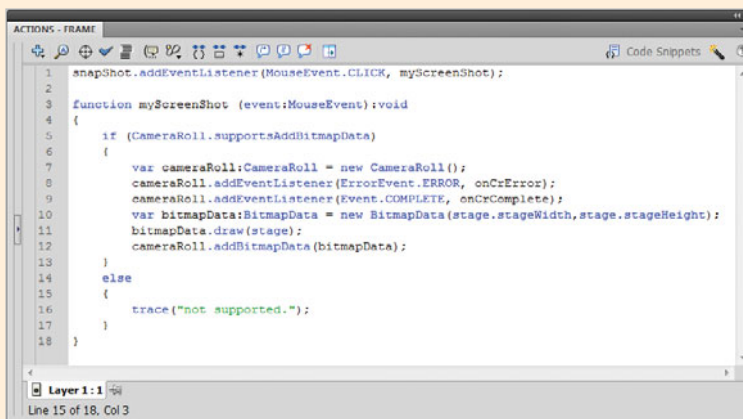
```
{
```

```
trace("not supported.");
```

```
}
```

```
}
```

- 5 Publish and package your file into an iPhone App and test it on your iPhone.



Understanding the Limits of Flash

There are some limitations to using the iPhone Packager for Flash CS5 (**New!**). The first is that you cannot load external SWF movies. You can, however, load external JPG and PNG files and sound files such as MP3.

There are also performance problems between different versions of the iPhone. For instance, the iPhone 3GS is literally twice as fast as the iPhone 3G and original iPhone. There some simple tricks you can do to speed up things. The following code will prevent event Bubbles starting:

```
override public function
    dispatchEvent(evt:Event):Boolean {
    if (hasEventListener(evt.type) || evt.bubbles) {
        return super.dispatchEvent(evt);
    }
    return true;
}
```

A second optimization trick you can do is to restrict your use of vector based images inside of Flash. Use PNG formatted images where possible. The good news is that that the iPhone has great support for PNG files.

If you do need to use vector images you can fool the iPhone into thinking it's a bitmap image by using the `cacheAsBitmapMatrix`.

- 1 Create a new image. Add code import the Flash Geom Matrix:

```
import flash.geom.Matrix;
```

- 2 Create a new shape:

```
var my_shape :MyShape = new MyShape();
addChild(my_shape);
```

- 3 Add the `cacheAsBitmap` property to ensure that all objects that create are cached:

```
my_shape.cacheAsBitmap = true;
my_shape.cacheAsBitmapMatrix = new
Matrix();
```

- 4 Create images on the screen that the iPhone thinks are bitmaps.

A final significant limitation is the use of audio files. Audio files can have a short delay between an event happening and the sound playing. This is because the audio file is not in the iPhone's cache for playback. You can avoid this by exporting your audio file to be triggered in the first frame of your movie.

What Flash Does Not Allow You To Do

Adobe has gone to great lengths to allow you to build applications for the iPhone using traditional Flash tools. BUT (and it is a big BUT) there are some things that Flash does not allow you to do using the iPhone Packager.

The biggest challenge you will have is the inability to use ActionScript 1.0 and 2.0. All of your apps must be developed using ActionScript 3.0. There are tens of thousands of great ActionScript 1.0 and 2.0 apps that can not be published to the iPhone due to the ActionScript 3.0 limitation.

You also have to be careful using video. Only Flash Video will work. You can use a URL link to load a MPEG4 video, but this is really a cheat as you are running the video through the iPhone's Mobile Safari Web browser.

If you are familiar developing iPhone Apps using the iPhone SDK then you may expect core iPhone Cocoa Touch kits available to you in Flash. This includes the StoreKit (for "in App purchase"), GameKit, MapKit and other rich media tools. These useful kits are simply not available to the Flash developer.

The good news is that Adobe is well aware that the Flash CS5 iPhone Packager is not complete. Expect releases for the iPhone Packager to keep coming during the lifecycle of Flash CS5.

Identifying Devices to Deploy an Ad Hoc App

Collect and Add Deployment Device IDs

1 Contact each person you will be deploying your App to and ask them to connect their iPhone, iPod Touch or iPad to their Mac or Windows computer.

2 Ask them to open iTunes, select their device, and then view the Summary tab information.

3 Ask them to click the Serial Number next to their device.

The number changes to an Identifier (UDID) number.

4 Ask them to copy the UDID number, and then send it to you.

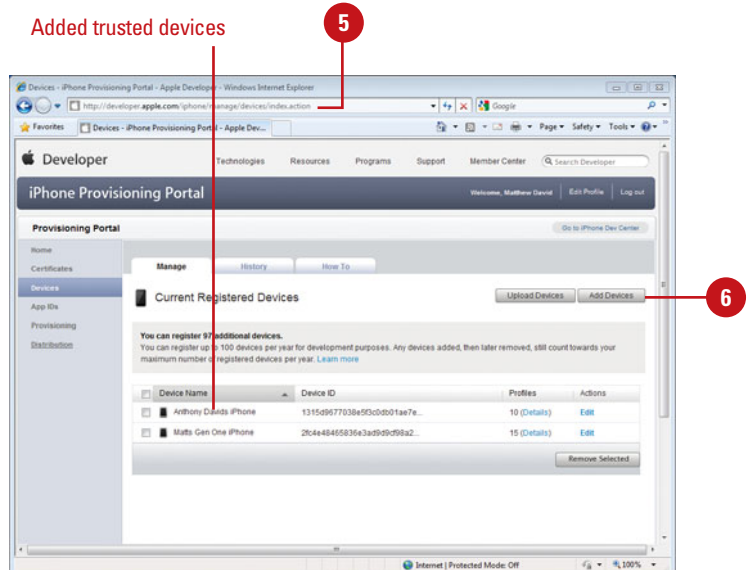
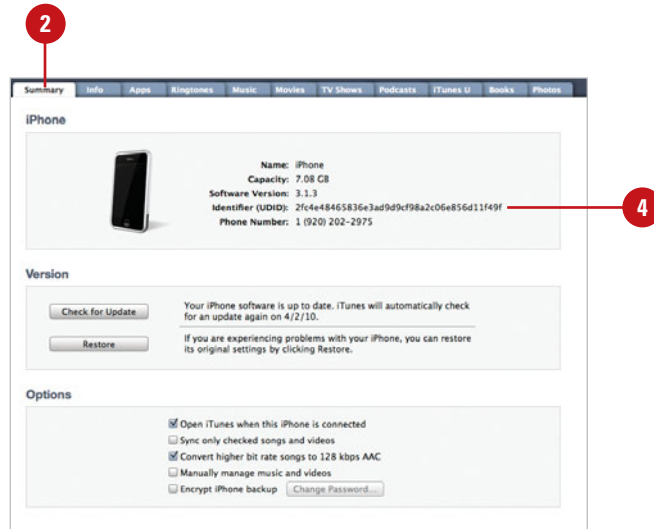
5 Open your Web browser, and then go to the Devices page on the iPhone Developer site:

◆ <http://developer.apple.com/iphone/manage/devices/index.action>

6 For each trusted device, click the **Add Devices** button on the Web page, paste in the UDID number and then enter a device name.

IMPORTANT You can only have 100 identified devices per year. You cannot add and remove devices to keep your list at 100. When you have added the 100th device you have to wait a year before you can remove a device and add a new one.

Ad Hoc is a method for deploying your App to up to 100 iPhone, iPod Touch and iPad devices. The Ad Hoc method (**New!**) is a solution that allows you to deploy your apps to a small group of friends and co-workers without the App appearing in the iTunes App Store. The method for creating the application is very similar to deploying an App for deployment to the iTunes App store. There are three steps you need to be able to successfully deploy an App using Ad Hoc: Identify each device you will be deploying your Ad Hoc App too; creating an Ad Hoc provisioning license; and packaging your Ad Hoc App.



Creating an Ad Hoc Distribution Profile

Create an Ad Hoc Distribution Profile

- 1 Open your Web browser, and then go to the Provisioning Profiles page on the iPhone Developer site:

◆ <http://developer.apple.com/iphone/manage/provisioningprofiles/index.action>

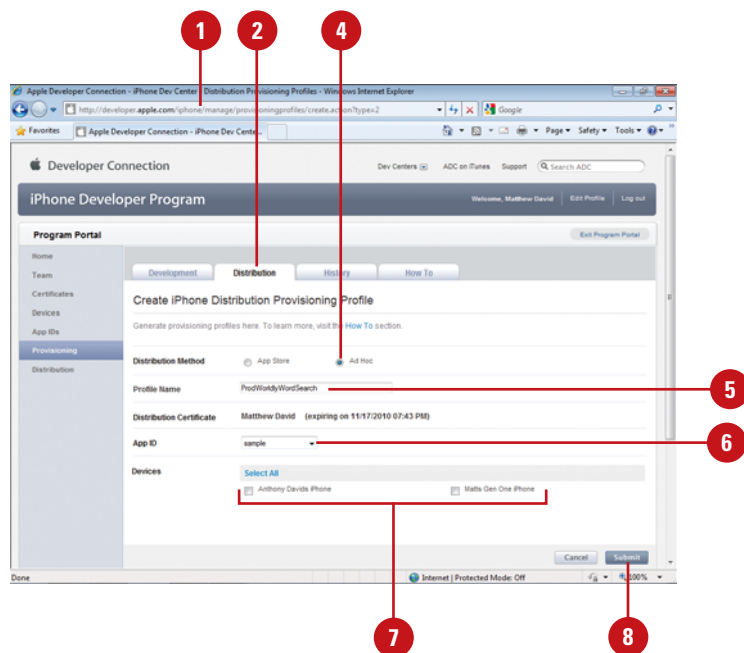
- 2 Click the **Distribution** tab.
- 3 Click the **New Profile** button.
- 4 Click the **Ad Hoc** option.
- 5 Enter a profile name for your App.
- 6 Click the **App ID** list arrow, and then select the App ID that matches the App you want to deploy using Ad Hoc.
- 7 Select the devices (from the list of ones you entered) you want to deploy using Ad Hoc.
- 8 Click the **Submit** button.

Your Ad Hoc profile takes about 30 seconds to generate.

- 9 Click **Download** (Mac) or **Save** (Win), and then save the Ad Hoc profile to your desktop.

At this point, you're ready to create your Ad Hoc iPhone App.

The first step is to identify the devices you will be deploying your Ad Hoc App to. The next step is to create the profile you will need to use when you are building your Application for Ad Hoc deployment. The Ad Hoc Distribution method (**New!**) removes the hassle of having to wait for your App to be approved by Apple (which can take days to weeks to complete). To be able to take advantage of the Ad Hoc deployment process you need to first create an Ad Hoc Distribution Profile. Creating the Ad Hoc Profile is very similar to the profile you will create when you submit your App to the iTunes Store. The one big difference is you need to have a list of all the unique iPhone's and iPod Touch devices you will be sending your final App too.



Packaging an Ad Hoc App

Publish and Package an Ad Hoc App

1 In Flash, open the iPhone App you want to publish and package as an Ad Hoc App.

2 Open the **Properties** panel.

3 Click the iPhone Settings **Edit** button.

The iPhone Settings dialog box opens, displaying three tabs: General, Deployment and Icons.

4 Click the **Deployment** tab.

5 Click **Browse**, and then select your Published P12 certificate file, and then enter your password.

6 Click **Browse**, and then select the Ad Hoc Distribution Profile you downloaded.

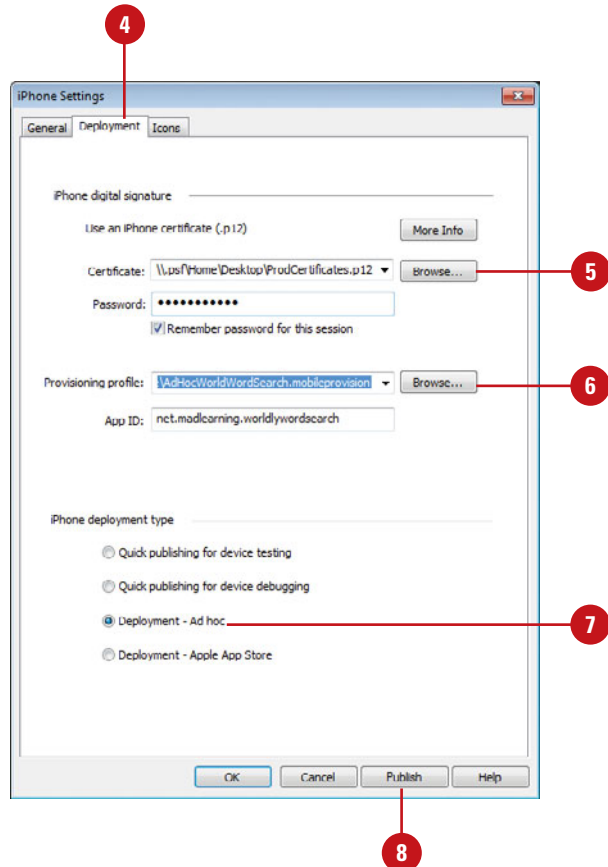
7 Click the **Deployment – Ad Hoc** option.

8 Click **Publish**.

Flash launches the iPhone Packager tool and generates (6-10 minutes) an IPA iPhone App file in the same folder as your Flash files.

10 Locate the IPA file and send it to anyone in the Ad Hoc Provisioning Profile list. Ask them to drag the file onto iTunes and sync their device. When the sync completes you will be able to launch your App from your iPhone.

The final step you need to take is to package your Flash movie into an iPhone App using the Ad Hoc profile (**New!**). The final step in creating your Ad Hoc App is to package your Flash App for distribution. The Ad Hoc distribution process is very similar to the final App Store Packaging publication process. There are some differences. The main change is that you must use the Ad Hoc Profile you created in the previous section. Without the Ad Hoc Profile your Ad Hoc deployment method will not work correctly.



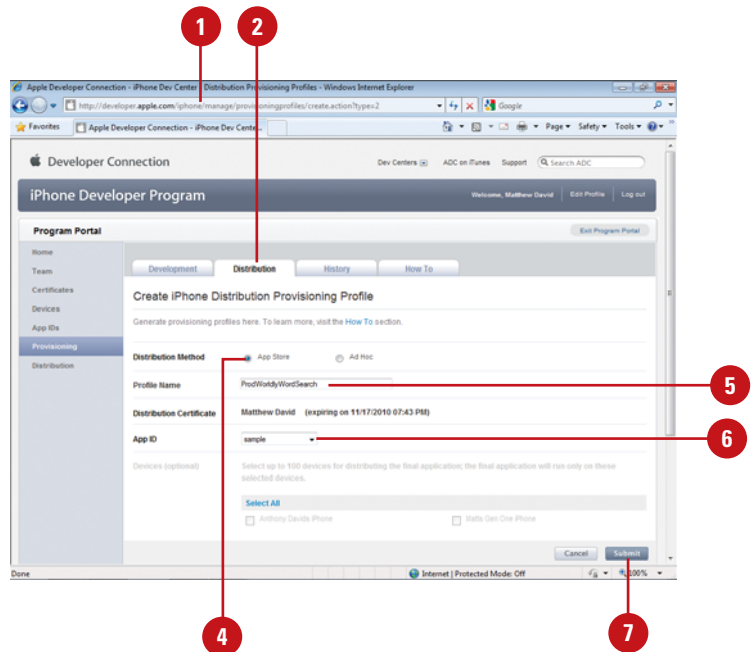
Packaging an App for the iTunes App Store

Publish and Package an iPhone App

- 1 Open your Web browser, and then go to the Provisioning Profiles page on the iPhone Developer site:
 - ◆ <http://developer.apple.com/iphone/manage/provisioningprofiles/index.action>
- 2 Click the **Distribution** tab.
- 3 Click the **New Profile** button.
- 4 Click the **App Store** option.
- 5 Enter a profile name for your App.
- 6 Click the **App ID** list arrow, and then select the App ID that matches the App you want to deploy.
- 7 Click the **Submit** button.
- 8 Click **Download** (Mac) or **Save** (Win), and then save the App Store profile to your desktop.
- 9 In Flash, open the iPhone App you want to publish and package as an App Store App.
- 10 Open the **Properties** Panel.
- 11 Click the iPhone Settings **Edit** button.

The iPhone Settings dialog box opens, displaying three tabs: General, Deployment and Icons.

Apple's iTunes Store is an amazing success story. 133,000 Apps and 3 Billion downloads in 20 months is nothing to sneeze at. There are many stories of companies making millions from Apple. But, before you can get any money, you need to have your App ready for deployment. The method for packaging your Flash file into an iPhone App for distributing to the iTunes store is very similar to the Ad Hoc process with the exception that you only need to create a distributing profile and create your iPhone IPA file from Flash CS5 (**New!**).



- 12 Select the **Deployment** tab.
- 13 Click **Browse**, and then select your Published P12 certificate file, and then enter your password.
- 14 Click **Browse**, and then select the App Store Distribution Profile you downloaded.
- 15 Click the **Deployment – Apple App Store** option.
- 16 Click **Publish**.

Flash launches the iPhone Packager tool and generates (6-10 minutes) an IPA iPhone App file in the same folder as your Flash files.

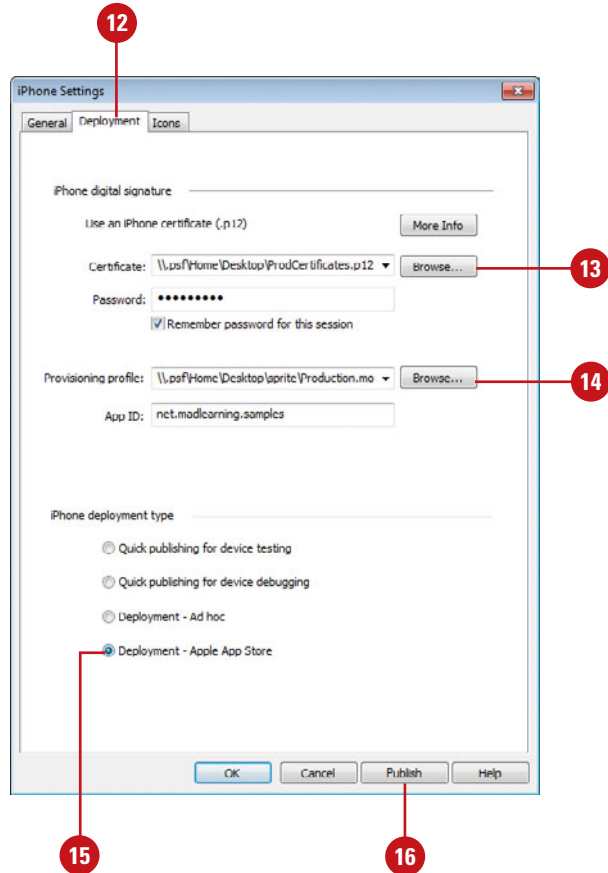
- 17 Locate the IPA file and then change the extension of the file from IPA to ZIP.

Both file formats are container formats. That is, they contain all of the files needed for the App to run; iTunes Connect only accepts files in the ZIP format.

At this point, your App is ready for deployment to the iTunes App Store.

Did You Know?

Ad Hoc is a great way to easily deploy apps to a small group of users. It is not a good solution for deploying apps to a large number of users. If you want to deploy your App to a large number of users then you will need to take advantage of Apple's powerful iTunes App Store.



Using iTunes Connect to Publish an App

Use iTunes Connect to Publish your App

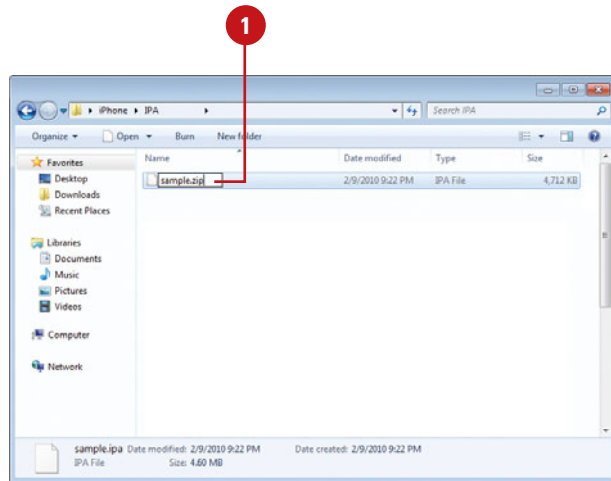
- 1 In Flash, create your iPhone App, publish and package it, and then change the extension from IPA to ZIP.
- 2 Convert the 512x512 PNG pixel image into a JPG image. Label the new file 512.jpg.
- 3 Take a screen shot of your App as it appears in your iPhone. When your App is playing on your iPhone, press the Home and Sleep buttons at the same time (screen flashes) to take a screen shot of your App.

The image is stored to your Camera Roll and is exactly the same size Apple needs.

Did You Know?

You can download Apple's Developer Guide. Open your Web browser, go to the Manage Your Application page on iTunes Connect, and then click the download link to save the PDF file.

You are now very close to having an App available on the iTunes store. Can't you feel the rush! You could be selling thousands of apps in a matter of a few days. The gap between you and riches is Apple's iTunes Connect publishing tool. You are very close now. You will be using a new Web site to upload your final iPhone Apps. The site is called iTunes Connect (<https://itunesconnect.apple.com/>). In every sense, iTunes Connect is your business relationship with Apple. The site allows you to set up your contracts, tax records, banking information, review sales trends, download financial report and manage your In App Purchases. You will need to complete these sections in order to sell your App in iTunes. This section is going to focus on the important part of iTunes Connect: Managing your Applications (**New!**).



- 4 Open your Web browser, and then go to the iTunes Connect page, and then use your Apple Developer ID and Password to log into the site:

◆ <https://itunesconnect.apple.com>

- 5 Click **Manage Your App** from iTunes Connect.

- 6 Add a new application or edit an existing one.

- ◆ **Add New App.** Click the **Add New Application** button to start the process of creating a new iTunes App.
- ◆ **Edit Existing App.** Double-click the application icon.

When you're done editing your App settings, click **Save Changes**.

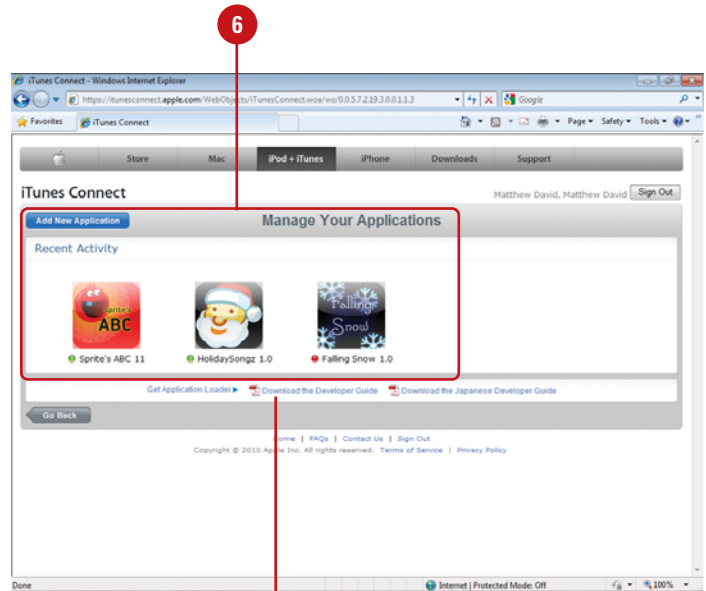
There are several screens you need to complete to upload your App to iTunes.

- 7 If prompted, click the **Yes** or **No** option to specify whether your App contains encrypted data.
- ◆ For a first App, click **No** to keep the process simple. In the future, you can experiment with different settings.

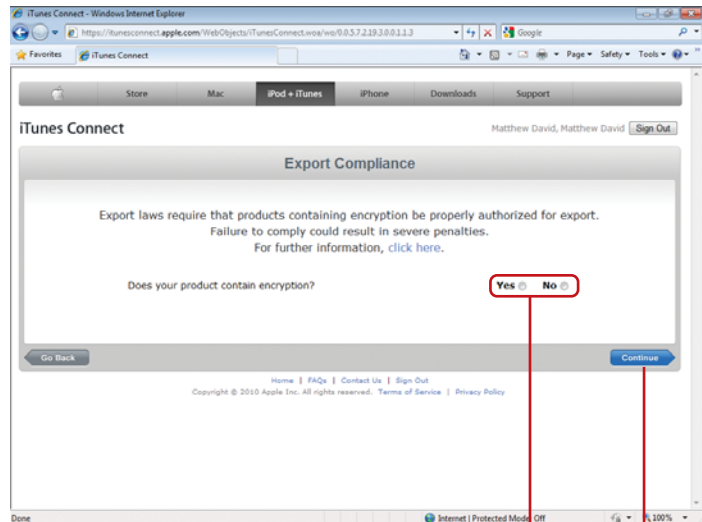
- 8 Click the **Continue** button when you have completed the page.

The next page allows you to add product overview information about your App. For the most part, the content you enter on this screen can be edited after your App has been submitted.

Continue Next Page



Link to download the Developer Guide



Continued from Previous Page

9 Enter or change information about your App. The information includes the following:

- ◆ Name and description.
- ◆ Product primary and secondary categories.
- ◆ Copyright, version number, and SKU number.
- ◆ Keywords. Use for search engines (up to 100 characters).
- ◆ URLs. Application/support URL and support email.

10 Click the **Continue** button when you have completed the page.

The next page allows you to add a rating for your App.

11 Click options to answer the 10 questions to determine a rating.

12 Click the **Continue** button when you have completed the page.

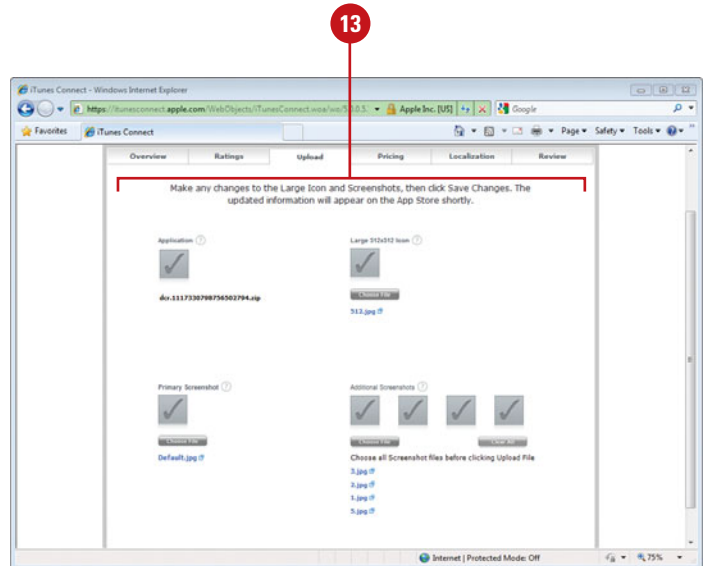
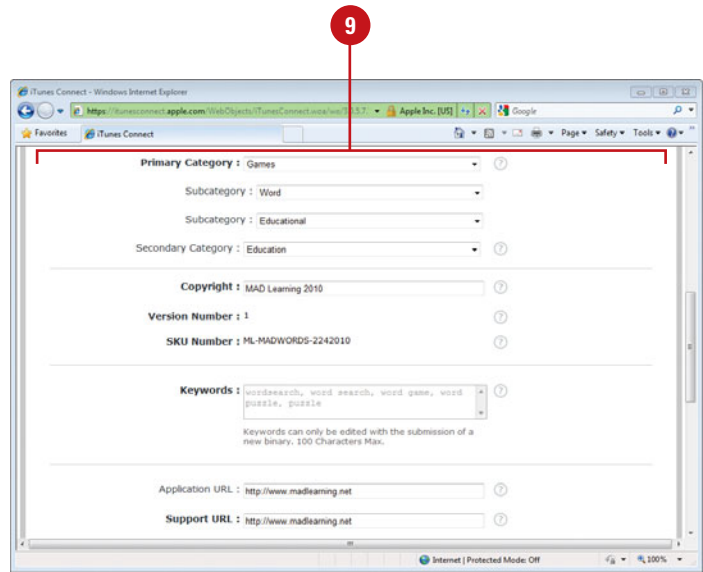
The next page allows you to upload all of your App files.

13 Click the **Choose File** button to upload your App files:

- ◆ Upload the ZIP'd IPA file for the Application.
- ◆ Upload the 512.jpg for the Large 512x512 Icon.
- ◆ Upload a 480x320 jpg image for the Primary Screenshot.
- ◆ Add 1-4 480x320 jpg images for the Additional Screenshots.

The upload will take about 20 minutes. The upload is checking for some basic settings such as including the correct profile.

A green check mark appears for each successfully loaded image. A red cross appears when something is wrong.



- 14 Click the **Continue** button when you have completed the page.

The next page allows you to specify availability and pricing for your App.

- 15 Specify an Availability Date and Price Tier.

- ◆ **Availability Date.** Specifies when your App goes on sale.
- ◆ **Price Tier.** Select a price tier level; you do not get to select a specific price for your App.

This removes the pain of selling with different currencies. A Tier 2 App will be \$0.99 in the US, 59 pence in England and AU\$1.29 in Australia. There are over 70 different currencies that Apple manages for you.

- 16 Click the **Continue** button when you have completed the page.

The next page allows you to specify localization for your App.

- 17 Specify the localization settings you want for your App.

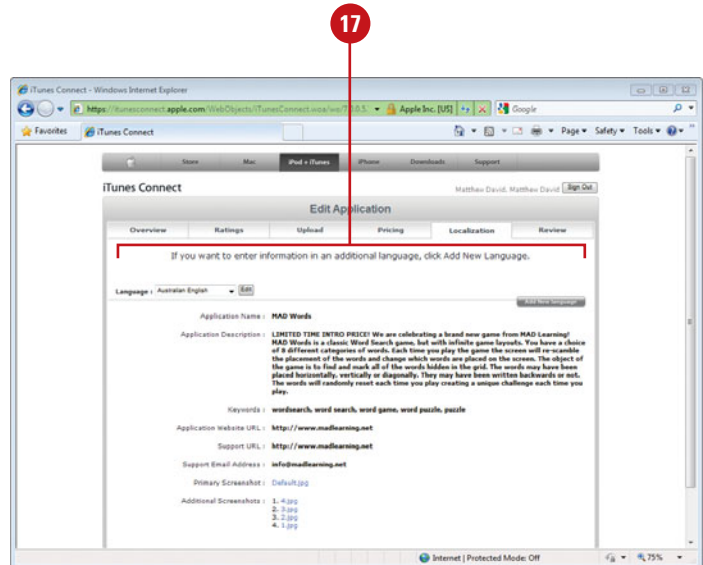
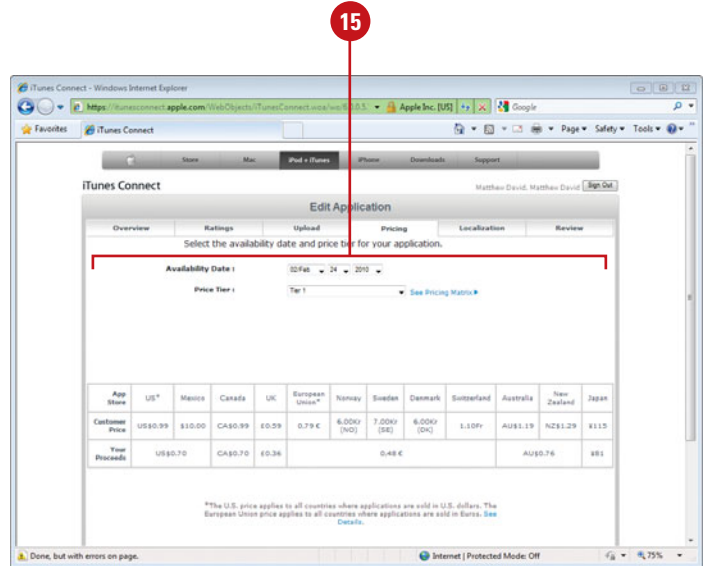
- 18 Click the **Continue** button when you have completed the page.

- 19 At this point, review all of your content, and then click the **Submit** button.

- ◆ When you're done editing your App settings, click **Save Changes**.

Did You Know?

Faster iTunes App Submission. Apple has done a lot to improve the review process for new apps. Today it only takes 5-7 days for an App to be approved and appear in iTunes.



Using Screen Orientation in an App

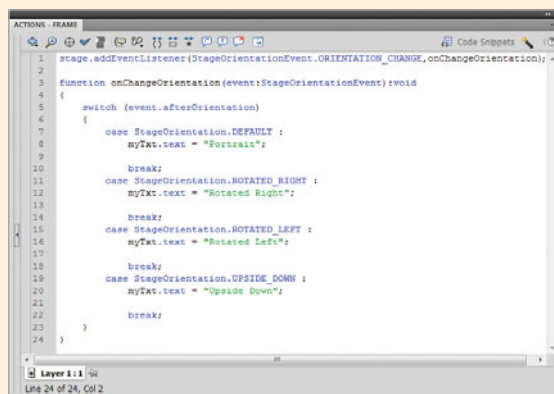
The iPhone has one characteristic that you will not see on a desktop or laptop computer: it can be easily rotated. Determining orientation can allow you to add interesting effects to your iPhone Apps (**New!**). For instance, the default Stocks tool on your iPhone will show you the numbers of a particular stock when you hold your phone in portrait; switch the phone to landscape and the content changes to a line chart illustrating how the stock is performing. This trick is accomplished through the iPhone being able to detect the orientation of the device. The iPhone can detect Orientation in four distinct directions:

- ◆ Default – Portrait
- ◆ Rotation Left – Landscape
- ◆ Rotation Right – Landscape
- ◆ Upside Down – Portrait, upside down

ActionScript contains a special class called the Orientation Class, which allows you to control content on the screen depending on the orientation of the device.

Use the Screen Orientation Class

- 1 Create a new iPhone App, apply the appropriate provisioning profiles, and then save the file with the name *iPhoneOrientation.fla*.
- 2 Add a dynamic text box to the Stage with the name *myTxt*, and then apply the *_Sans* font.
- 3 Open the **Actions** Panel.
- 4 Add a listener and function that changes the content of the text box based on the orientation of the device (see illustration).
- 5 Publish and package your file into an iPhone App and test it on your iPhone. Rotate your iPhone to see the text change on your iPhone.



In addition to using ActionScript to control the orientation of your phone, you can also have the whole movie auto-orientate as a default setting in your iPhone Settings screen. On the whole, however, you have much tighter control over your content is you use ActionScript to control the orientation of specific movies, sprites and objects over the auto-orientation Boolean setting.

For Your Information

Loading Files Into the iPhone

The Loader Class allows you to load external content into your Flash Player. For the most part, this still works when you package your Flash movie for the iPhone. For instance, you can still load MP3, Sorenson Flash video and PNG files. There is, however, one exception: you cannot load SWF files that contain ActionScript into your movies. This is a pain as a lot of Flash designers like to break up their movies into smaller, individual SWF files and then you use a shell SWF to package it all together. Hopefully that will change in future releases.

Using Geolocation in an App

Mobile devices are meant to move. With GeoLocation services, you can figure out your current location. So, when someone asks you “Where are you?” you can tell them.

The following example shows how to add Adobe AIR 2.0 GeoLocation Class (**New!**) to your iPhone App. This sample is stripped down to a simple Class file, which can give you an idea of how you can use this in other Apps.

Add GeoLocation Services

- 1 Create a new iPhone App, apply the appropriate certificates and profiles, and then save your file with the name *iPhoneGeolocation fla*.
- 2 Add a dynamic ClassicText box to the Stage with the name *myTxt*, and then apply the *_Sans* font.
- 3 Create a new Class for the App with the name *iPhoneGeolocation*.
- 4 Save the ActionScript file with the name *iPhoneGeolocation.as*.
- 5 Add code to import the class files that allow you to use the Geolocation objects:

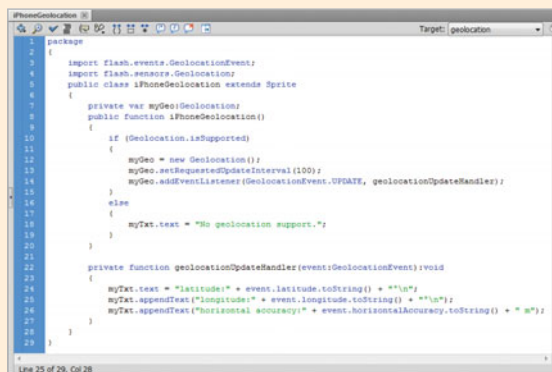
```
import flash.events.GeolocationEvent;
import flash.sensors.Geolocation
```

- 6 Create a new geolocation variable that you can use:
- 7 Create a simple If/Else statement that detects whether or not the geolocation services can be used.

The iPhone always gives the user of the iPhone a choice to whether or not you can use the Geolocation services. If you do not allow geolocation to be used a message will be posted to the text field

informing the user that a location could not be detected. If you do, however, allow the user to use geolocation then a new listener event will be triggered and then re-run 10x/second.

- 8 Add a function triggered by the geolocation listener:



```
package
{
    import flash.events.GeolocationEvent;
    import flash.sensors.Geolocation;
    public class iPhoneGeolocation extends Sprite
    {
        private var myGeo:Geolocation;
        public function iPhoneGeolocation()
        {
            if (Geolocation.isSupported)
            {
                myGeo = new Geolocation();
                myGeo.setRequestedUpdateInterval(100);
                myGeo.addEventListener(GeolocationEvent.UPDATE, geolocationUpdateHandler);
            }
            else
            {
                myTxt.text = "No geolocation support.";
            }
        }

        private function geolocationUpdateHandler(event:GeolocationEvent):void
        {
            myTxt.text = "Latitude:" + event.latitude.toString() + "°N";
            myTxt.appendText("Longitude:" + event.longitude.toString() + "°W");
            myTxt.appendText("Horizontal accuracy:" + event.horizontalAccuracy.toString() + " m");
        }
    }
}
```

- 9 Publish and package your file into an iPhone App and test it on your iPhone.

How Does the iPhone Know Your Location?

There are three ways to detect your location. The most accurate method uses the Global Position Satellites (GPS) built into the iPhone 3G and 3GS. The second method uses Cell Tower Triangulation where the location of the device is determined by using 3 or more Cell Tower's. This method can be used by all iPhones and 3G enabled iPad's. The third method uses a WiFi hotspot, which is similar to the Cell Tower Triangulation but is only accurate to within a few hundred feet. All iPhone OS devices (iPhone, iPod Touch and iPad) support WiFi hotspot geolocation services.

Using Multitouch in an App

By default, Flash assumes that you are using a mouse to touch the screen. This actually works OK for many iPhone Apps and allows you to take the same code you have developed for other Flash movies and move it into your iPhone projects. That's OK, but what about those cool iPhone gestures (**New!**) you see people using to swipe content? Flash can do that, too.

For the iPhone, Flash supports the following Multitouch gestures:

- ◆ `TransformGestureEvent.GESTURE_PAN`
- ◆ `TransformGestureEvent.GESTURE_ROTATE`
- ◆ `TransformGestureEvent.GESTURE_SWIPE`
- ◆ `TransformGestureEvent.GESTURE_ZOOM`

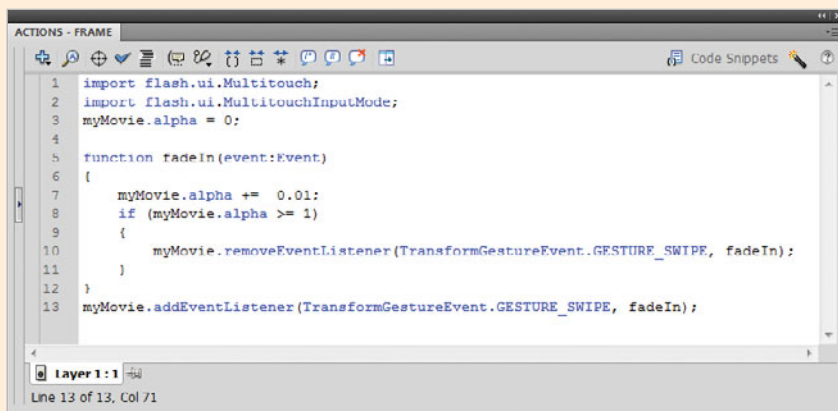
Each gesture is used as an interactive event in a Listener. This means that you can take your knowledge of Listeners and quickly apply it to iPhone Apps. The following example shows you how to add a swipe gesture that will trigger a movie clip to fade onto the screen.

Use the Multitouch Class

- 1 Create a new iPhone App, apply the appropriate development profiles and certificates, and then save the file with the name *iPhoneMultitouch.fla*.
- 2 Draw a rectangle on the Stage, and then convert the rectangle into a Movie Clip with the name *myMovie*.
- 3 Open the **Actions** panel.
- 4 Add code to import the class libraries:

`import flash.ui.Multitouch;`
`import flash.ui.MultitouchInputMode;`
- 5 Set the default Alpha value for the Movie Clip to 0:

`myMovie.alpha = 0;`
- 6 Add a listener and function that enable the Movie Clip to fade onto the screen (see illustration).
- 7 Publish and package your file into an iPhone App and test it on your iPhone.



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