

Getting Started

In this unit, you will get started creating Flash Lite content. You will begin by using the Flash Lite Content Development Kit and install Flash Lite on a device.

Objectives

After completing this unit, you should be able to:

- ▶ Use the Flash Lite Content Development Kit (CDK)
- ▶ Install the Flash Lite player on a handset
- ▶ Use the Flash 8 Professional authoring environment
- ▶ Become familiar with the mobile templates
- ▶ Use the mobile device emulator
- ▶ Transfer a SWF file to a handset

Installing the Adobe Flash Lite Player

- ▶ Must manually install the Flash Lite player

`http://www.adobe.com/products/flashlite/`

- ▶ Purchase it from Adobe for a small fee
- ▶ Provide your IMEI number from the back of your phone
 - Access the IMEI number from a Nokia Series 60 phone by pressing *#06#
- ▶ You will be provided with a *.sis file
 - Symbian OS, such as a Nokia device, use this type of file
- ▶ File can be installed through the software on your device using
 - Bluetooth or USB cable
 - and the Nokia PC Suite software

Using Nokia PC Suite

- ▶ Nokia PC Suite supports data transfer from a computer to your device
- ▶ Download Nokia PC Suite from the Nokia site:

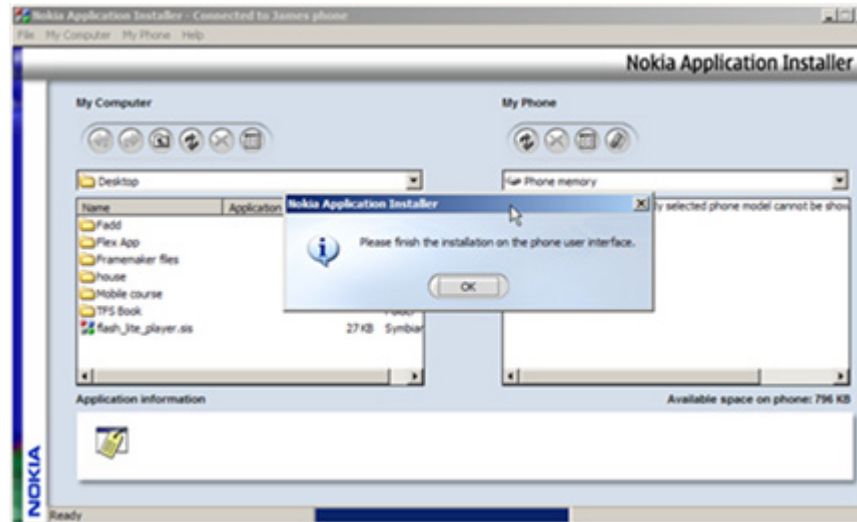
`europe.nokia.com/pcsuite`

`www.nokiausa.com/support/pcsuite/`

- ▶ Three Nokia PC Suite applications that Flash Lite developers will use:
 - Manage Connections
 - Creates USB cable or Bluetooth wireless connections from the PC to the device
 - File Manager
 - Moves files from your PC to the connected device

Using Nokia PC Suite

- Install Applications: Installs SIS files, such as Flash Lite player to the device



Installing the Player using Nokia PC Suite

Walkthrough 1: Installing the Flash Lite Player on a Device (optional)

In this walkthrough, you will perform the following tasks:

- ▶ Install Nokia PC Suite
- ▶ Transfer the SIS file for Flash Lite from your computer to the device.
- ▶ Install the Flash Lite player on your device.
- ▶ Verify the Flash Lite player works correctly.

Learning the Flash 8 Professional Interface

- ▶ Flash 8 Professional is a mature and robust authoring environment for creating widely distributable, data-driven interactive visual content for devices, web browsers, and desktops
- ▶ Flash development environment interface is similar to that of other Adobe design products; it's intuitive and easy to use

Using the Start Page

- ▶ By default, the Start page displays when you launch Flash 8, or when no documents are open
- ▶ Select options on the Start page to create new Flash documents, open recently edited Flash documents, or create new documents from pre-built templates



Flash Start Page

Using the Start Page

- ▶ All options on the Start page may also be accessed from the File menu
- ▶ Start page can be suppressed by selecting "Don't show again" in the lower-left corner

Understanding Flash file types

►Flash Document

- core FLA file type
- .fla extension
- primary repository for a Flash application's content
- along with any related script or class files, is the "source code" of a Flash application

►Flash Slide Presentation

- specialized version of the FLA file type, which supports easy creation of navigable "slides"

►Flash Form Application

- specialized version of the FLA file type, which supports easy creation of application interface "forms"

►ActionScript file

- a text file, saved with a .as extension, to contain either a procedural script, or an ActionScript class definition

►ActionScript Communication file

- text file, saved with a .asc extension, to contain procedural control scripts for the Flash Media Server

Understanding Flash file types

►Flash Javascript file

- a text file, saved with a `.jsfl` extension, to create custom panels and other interface elements within Flash 8 Professional

►Flash Project

- a file, saved with a `.flp` extension, to control publish settings and versioning for a group of related `.fla`, `.as`, and media files
- You "publish" a FLA file to compile a SWF file - the lightweight file format that is executed by the Flash and Flash Lite players

Exploring the interface elements

The primary Flash interface elements are:

- ▶ Main Menu
- ▶ Timeline
- ▶ Stage
- ▶ Panels
- ▶ Property Inspector

Exploring the interface elements

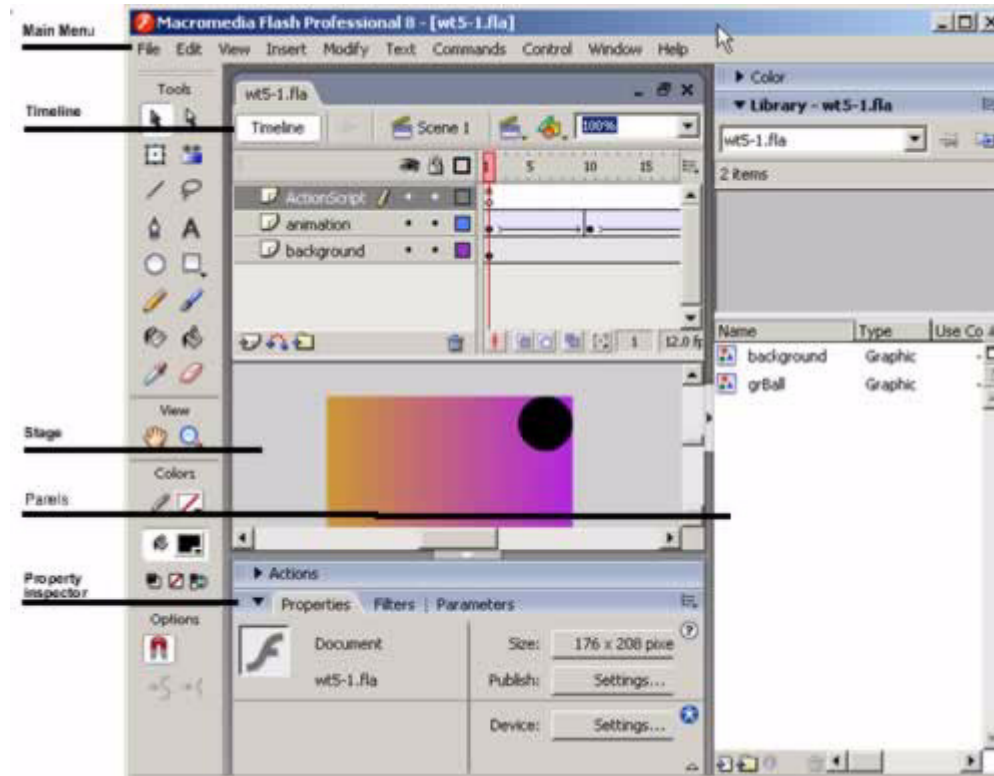


Figure 1: Flash 8 interface

Exploring the interface elements

Interface elements

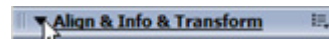
Primary Flash Interface Elements

Element	Usage
Main Menu	Options to affect a Flash document's files, formatting, and content.
Stage	A layout tool to define the horizontal and vertical placement of visual assets at runtime.
Timeline	A visual representation and placement tool for the phases of time - the "frames" - over which a document will play. The Timeline panel also defines Layers, controlling the visual depth of elements on the stage.
Panel	There are numerous Panels, each containing a group of tools for editing specific aspects of the document and its assets.
Properties Panel	The Properties Panel is a context-sensitive set of tools allowing the most important properties of the currently selected object to be edited.

Working with panels

Panels in the Flash interface have three states:

- ▶ **Open:** the panel's window is open in the interface.
- ▶ **Collapsed:** only the panel's title bar displays.
- ▶ **Closed:** the panel is not currently in the interface.



Opening and closing a panel

You can open a closed panel by selecting it in the Window menu

Working with panels



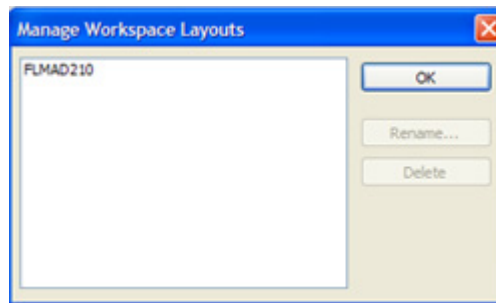
Gripper and Popup Menu

- **Moving a panel:** by dragging from the Gripper, you can undock, move, and dock panels within the interface
- **Accessing panel options:** panel-specific Help, along with configuration and grouping options are available from their Popup Menu

Saving and managing panel sets

After you configure the interface as you wish, you can save the panel layout.

- ▶ Select **Window > Workspace Layout > Save Current** and enter a unique name to save your customized panel arrangement.
- ▶ Select **Window > Workspace Layout** and select the panel set name to load a specific panel set into the interface.
- ▶ Remove and rename panel sets by selecting **Window > Workspace Layout > Manage**.



Managing Workspace Layouts

Using common panels

You will learn Flash panels throughout the course. Common panels include:

- ▶ Properties panel
- ▶ Tools panel
- ▶ Library panel
- ▶ Align panel
- ▶ Actions panel
- ▶ Help panel

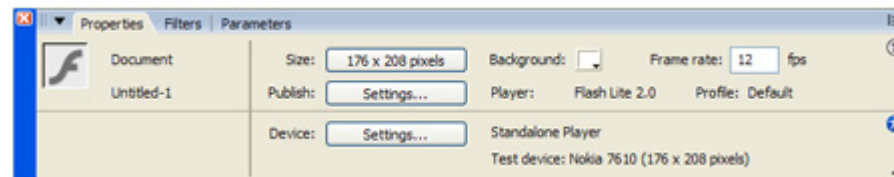
Using the properties panel

Use the Properties panel to view or change properties for a Flash document or its assets. The Properties panel is comprised of three tabs:

- ▶ Properties: context-sensitive tool for editing visual object properties
- ▶ Parameters: edit component properties
- ▶ Filters: visual effects for Text, MovieClip, and Button objects

Note: Flash Components should be avoided in Flash Lite, due to mobile device size and CPU limits. Filters only work in Flash Player 8, and are unavailable in Flash Lite 2.0.

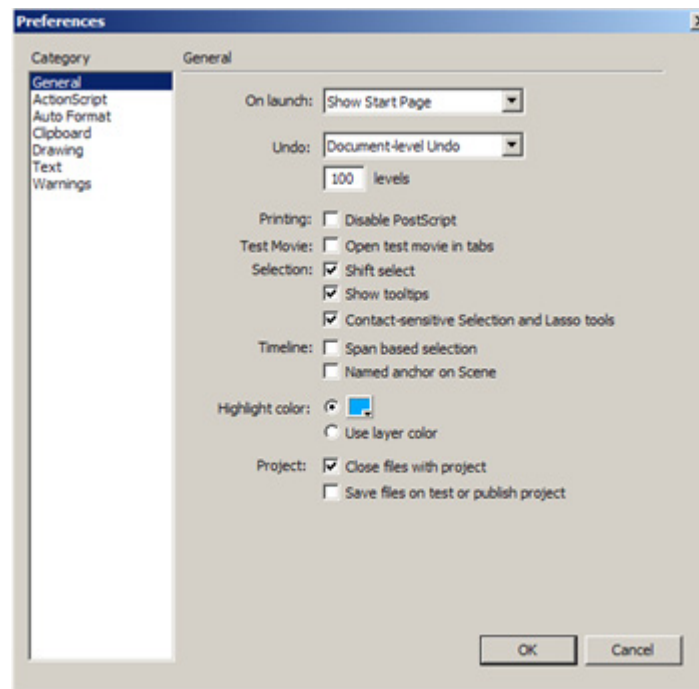
If no asset is selected, the Properties panel displays the document's properties.



The property inspector with the Stage selected

Setting preferences

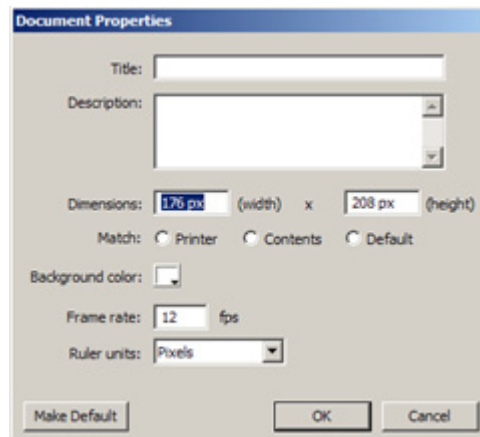
- ▶ **Preferences** dialog allows you to customize the Flash 8 authoring environment
- ▶ Arranged into categories and the different settings apply to each document you create
- ▶ **Edit > Preferences** on Windows; **Flash Professional > Preferences** on MacOS



Preference dialog

Setting document properties

- ▶ Document properties can be set with the **Properties** panel, or by selecting **Modify > Properties**
- ▶ Launch the **Document Properties** dialog by pressing the **Size** button
- ▶ **Document Properties** dialog can be used to change not only the background color and frame rate but the document measurement unit



Document Properties panel

Mobile device stage dimensions

- ▶ While the Flash Lite player can scale content, it is best to design an application to fit the dimensions - or at least proportions - of your target device screen
- ▶ Mobile device dimensions vary, though a pixel dimension of 176 wide by 208 high is common in many current devices

Mobile device screen control

- ▶ Mobile device applications will normally run in full screen mode, allowing Flash Lite full control of the screen while running
- ▶ Full screen mode is specified using an ActionScript global function called `fscommand2()`, placed on the first frame of the top layer of the main document Timeline

```
fscommand2("FullScreen", true|false);
```

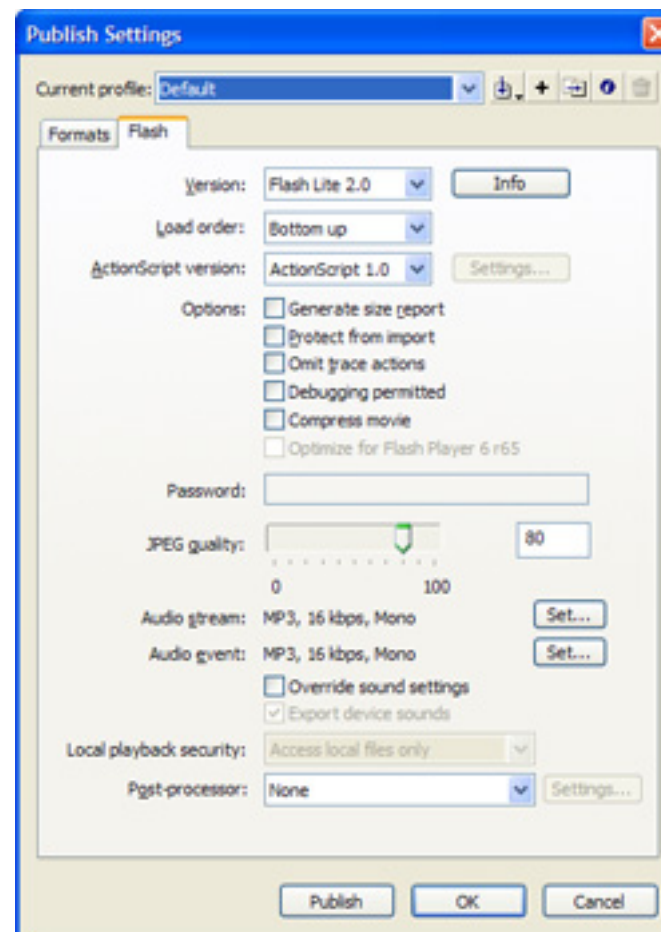
Note: Layers, ActionScript, and the `fscommand2()` global function are discussed in detail later in this course

Configuring document publish settings

- ▶ There are numerous settings related to how Flash 8 Pro publishes ("compiles") the FLA into a SWF file, available in the Publish Settings dialog
- ▶ Documents published for Flash Lite 2.0 must be targeted to that player version, and should be set to use ActionScript 2.0

Specifying target player settings

- Open Flash tab of the Publish Settings dialog at File > Publish Settings > Flash
 - Select Flash Lite 2.0 as the version or 2.1 depending on the target device
 - ActionScript version should be set to ActionScript 2.0



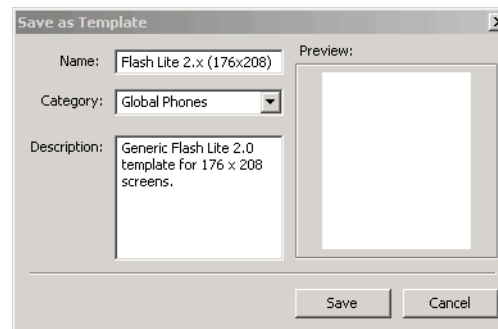
Using Document Templates

- ▶ Flash 8 Professional is distributed with a small set of pre-built templates, and allows you to create an unlimited number of your own, organized by category

Creating a template

The general steps to create a Flash 8 Professional template are:

1. Create a new Flash document
2. Assign common properties for documents to be created from this template
 - Stage dimensions
 - Publish settings
 - Any common content, etc.
3. File > Save as Template
4. Assign Name, Category, and Description
5. Press Save



Save as Template dialog

Mobile template specifics

Mobile device templates will commonly share these characteristics:

- ▶ Pre-set to the correct screen size.
- ▶ Distinct layer for ActionScript code.
- ▶ Pre-written ActionScript to launch full screen mode in device.
- ▶ Publish settings pre-set to Flash Lite 2.x.

Note: You will learn more about layers and ActionScript throughout the course.

Walkthrough 2: Exploring Flash 8 and creating a Flash Lite 2.0 template

In this walkthrough, you will perform the following tasks:

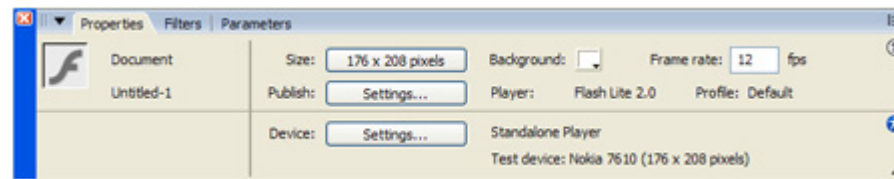
- ▶ Launch Flash 8
- ▶ Explore the interface
- ▶ Create a Flash document configured for mobile development
- ▶ Convert this document into a reusable template
- ▶ Create a useful panel set for mobile development

Publishing Mobile Documents

- ▶ Once you have created a Flash document using the mobile templates and added your assets, you will need to set the target device to use the mobile emulator to test your movie
- ▶ You will then publish your movie and test it in the emulator

Choosing the device

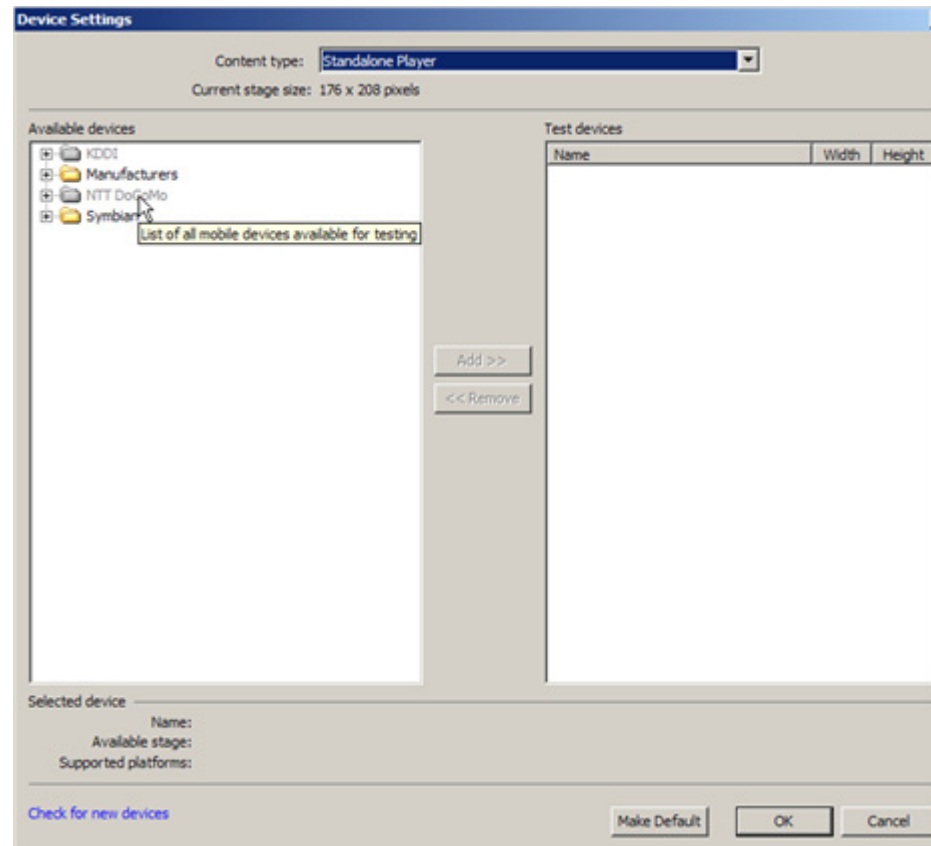
- ▶ Property inspector includes a Device Settings button that will let you review and change the list of supported devices (based on the templates currently available)
- ▶ When the Symbian Series 60 device template is used, the Property inspector reflects that our target is the standalone Flash Lite player



Property inspector

Using the Device Settings dialog

- When you click the Device Settings button on the Property inspector, you will receive the Device Settings dialog as shown below



List of Mobile Devices available in the emulator

Using the Device Settings dialog

► Settings on this dialog include:

- Content type
- Current stage size

► Available devices combo box allows you to browse the available handsets (here the Series 60 Flash Lite standalone player movies/applications)

- Blue entries are available for your current target
- Dimmed selections are not available for your current target

► Right combo box is the set of test devices you have access to from within the Mobile emulator

► Add additional handsets/devices from the left-hand combo box and remove them from the right-hand combo box to get only the set of devices you're concerned with

Note: If you add a test device to the right-hand list then make sure the stage size still matches up correctly- if it's not in the right-hand list to begin with it could very well be a different screen resolution.

Locating device profiles

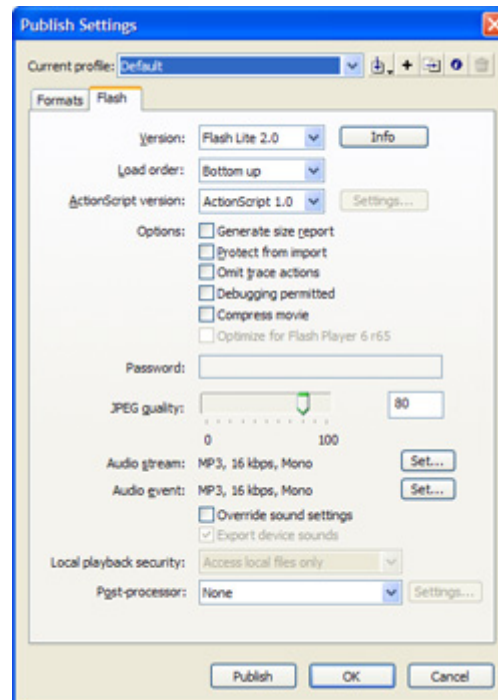
- ▶ Device profiles are managed via a collection of
 - XML property definitions in your Flash 8 configuration folder
 - a series of related PNG files
- ▶ Define the visual skin as well as the button functions/regions for that particular device
- ▶ Use the visual onscreen representation of your device and the soft/hard keys Flash Lite (or the Flash Player) can access directly are all clickable.=

Publishing documents

- ▶ Once you have selected your target device, you must now set up your publish settings
- ▶ Publish Settings button is found on the Property inspector

Initializing publish settings

- In the Publish Settings dialog, on the Flash tab, note that the Version menu lists Flash Lite 1.0, 1.1, 2.0, and 2.1 as player versions



Publish Settings dialog

Publishing documents

- ▶ FLA file needs to be published to create a SWF file that will be used to publish to a mobile device
- ▶ As you develop a Flash document, you publish to SWF files and view the results in the emulator so you can view your progress
- ▶ Three ways to publish a document and create a SWF file:
 - Publish directly using File > Publish from the main menu.
 - Publish indirectly using File > Publish Preview
 - Publish indirectly using Control > Test Movie from the main menu.
- ▶ When creating a SWF file using any of these methods:
 - SWF file that you create corresponds to the current state of the Flash document from which it's published
 - Flash FLA file is not automatically saved when you publish

Walkthrough 3: Publishing Flash Lite Applications

In this walkthrough, you will perform the following tasks:

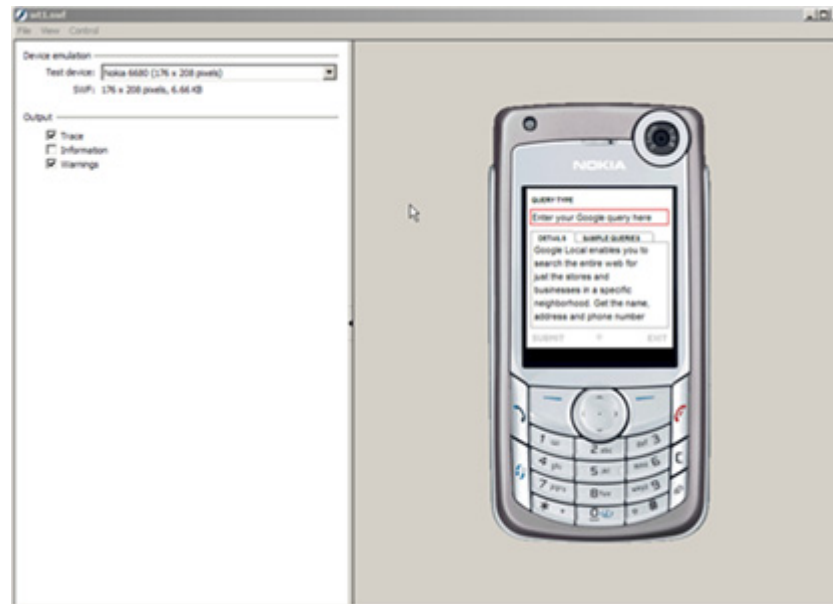
- ▶ Create a FLA file
- ▶ Add content to the FLA file
- ▶ Publish the FLA file as a SWF file
- ▶ Test the file using the mobile emulator

Using the Mobile Emulator

- ▶ The Flash Lite emulator and test window lets you test your content as it will appear on a real device
- ▶ You can switch to different handsets within the emulator to test multiple devices at once - which makes developing for carrier-specific handset groups very easy to manage.

Using the Mobile Emulator

A settings pane in the Flash Lite test window lets you select a different test device, view information about your application, and set emulator debug output options.



Flash 8 Mobile Emulator

Using the Mobile Emulator

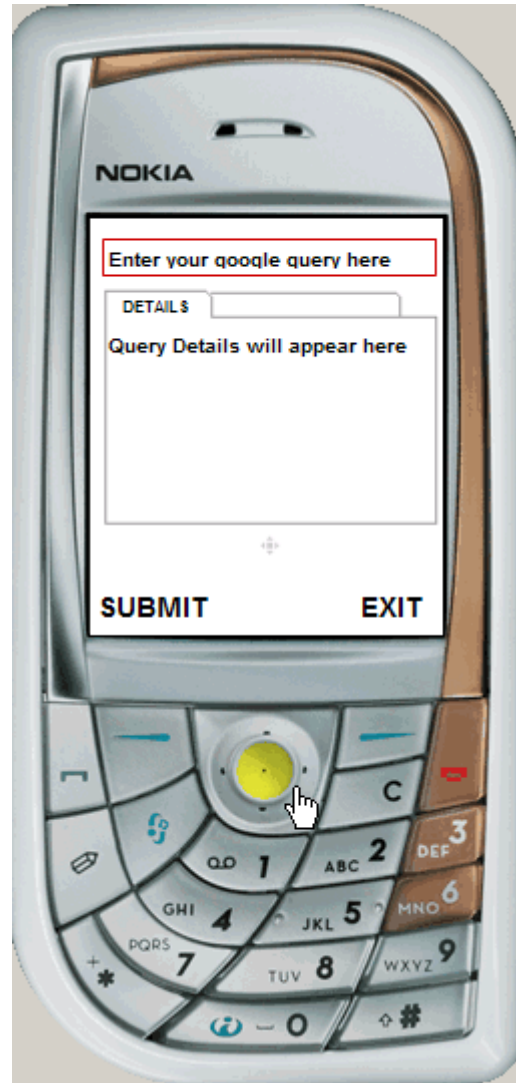
Using the emulator you can:

- ▶ Select from any of the devices you'd previously configured in the Device Settings chooser.
- ▶ Confirm the dimensions and file size of your SWF.
- ▶ Choose whether or not you'll want to see trace information, general information (as to the system features the currently-selected handset supports), and/or warnings in the Output panel.

Using the navigation keys

- ▶ You can use the joystick on the phone to navigate through the application just as if you were testing the SWF on a real handset
- ▶ To give you more control while testing your content you can change the magnification, rotation and quality settings to more accurately represent the user's experience

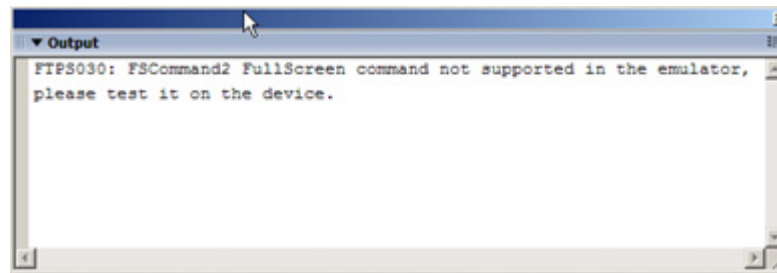
Using the navigation keys



Using the Joystick to move through the application

Using the Output panel

- ▶ When you use the mobile emulator and enable the output panel, you will see any messages about the browsing experience
- ▶ One such message is about the `FullScreen` command, as follows
- ▶ The emulator does not support the `FullScreen` command



Output panel

Walkthrough 4: Using the Mobile Emulator

In this walkthrough, you will perform the following tasks:

- ▶ Use the mobile emulator
- ▶ Navigate the application using emulator keys

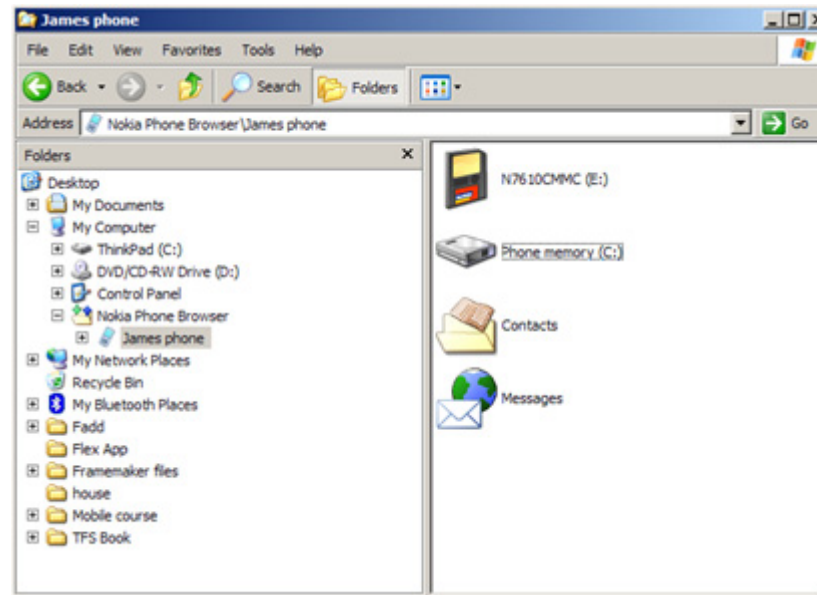
Transferring Files to the Handset

There are several methods you can use to transfer your files to the device.

- ▶ Bluetooth: wireless transfer to your device, if supported
- ▶ USB: cable transfer to your device
- ▶ Infrared: infrared transfer to your device, if supported
- ▶ You can upload your files to a web page and then download them using the Internet browser on your phone.

Transferring Files to the Handset

- Availability of transfer methods will vary depending on the supported handset



Transferring Files to a Handset via Nokia PC suite

Walkthrough 5: Moving SWF Files to a Handset

In this walkthrough, you will perform the following tasks:

- ▶ Transfer a SWF file from a PC to a handset
- ▶ Open the SWF file on the handset and verify that it works correctly

Note: this walkthrough may be done as a demo by the instructor if the course is being taught using the mobile emulator.

Comparing Mobile Specific Issues with the Desktop Flash player

- ▶ Developing applications for deployment on mobile phones requires specific considerations for the platform that a desktop Flash application does not have
- ▶ Considerations during development include:
 - screen limitations
 - memory limitations
 - processor speed

Working around screen limitations

- ▶ Targeting specific handsets is a major consideration for planning of Flash Lite content
- ▶ Models of handsets differ in:
 - screen size (as you can see by looking at the Flash 8 device templates)
 - control input methods can be different
 - Series 60 Nokia handsets have either a five-function direction button or joystick
 - Sony Ericsson P900 with its touch-screen and five-way jog wheel
- ▶ Pixel density of the screen is another important consideration
- ▶ Handsets can have different resolutions and this can affect how different types of images are displayed
- ▶ You should always test content on as many handsets as possible

Working around memory limitations

- ▶ Lack of memory on mobile phones is a major consideration of development
 - File size is not equal to memory used
 - File size is an important indicator, but it is not the same as how much memory your movie needs to run
 - JPEG images are compressed inside the SWF file, but they need to be restored to their full size for display
 - Same for sound files—an MP3 or ADPCM compressed sound file is a lot smaller than a raw sound file, but when played, it has to be turned back into raw sound.
 - Other objects, such as movie clips or code, need more memory at runtime by themselves than they would if they were stored in the SWF movie
 - Additionally, you're able to create more objects when the movie is running, for example, by duplicating movie clips
 - Each new object uses additional runtime memory without adding to the file size
- ▶ You may still have to meet file size limit specifications, and bandwidth when the file is received over the air is still very limited, similar to the bandwidth of a 14.4K modem—unless you are fortunate enough to develop for 3G networks only

Factoring in processor speed

- ▶ Another vital factor in the development of applications for Flash Lite is the processor speed of the target device
- ▶ A lack of speed can result in a slow, jerky, frustrating game experience
 - Varies between handsets

Factoring in processor speed

- ▶ Flash 8 provides a set of test applications as part of the Flash Lite content development kit (CDK)
- ▶ Includes a processor speedometer (see Examples > FPS Speedometer)
- ▶ If you use this speedometer to assess a handset's capabilities at the start of your project

Factoring in processor speed



FPS Speedometer

Walkthrough 6: Comparing Flash Lite vs. Flash player

In this walkthrough, you will perform the following tasks:

- ▶ View a SWF file on the desktop that keeps track of frames per second
- ▶ View a SWF file on a handset that keep track of frames per second

Note: this walkthrough may be done as a demo by the instructor if the course is being taught using the mobile emulator.

Summary

- ▶ The Flash Lite CDK contains resources to enable developers to build Flash Lite content quickly.
- ▶ The Flash Lite Player can be pre installed on a handset or is delivered as a SIS file that can be installed manually.
- ▶ The Flash authoring environment contains a graphical interface that makes laying out content easy.
- ▶ The Flash authoring tool contains mobile templates that are pre sized to the screen size of the handset.
- ▶ Flash contains a mobile emulator that can simulate the use of some aspects of handsets. There is no substitute for actually testing Flash Lite content on a handset.
- ▶ You can transfer a compiled SWF file from the desktop pc to a handset equipped with the Flash Lite player via Bluetooth, a USB cable or infrared.

