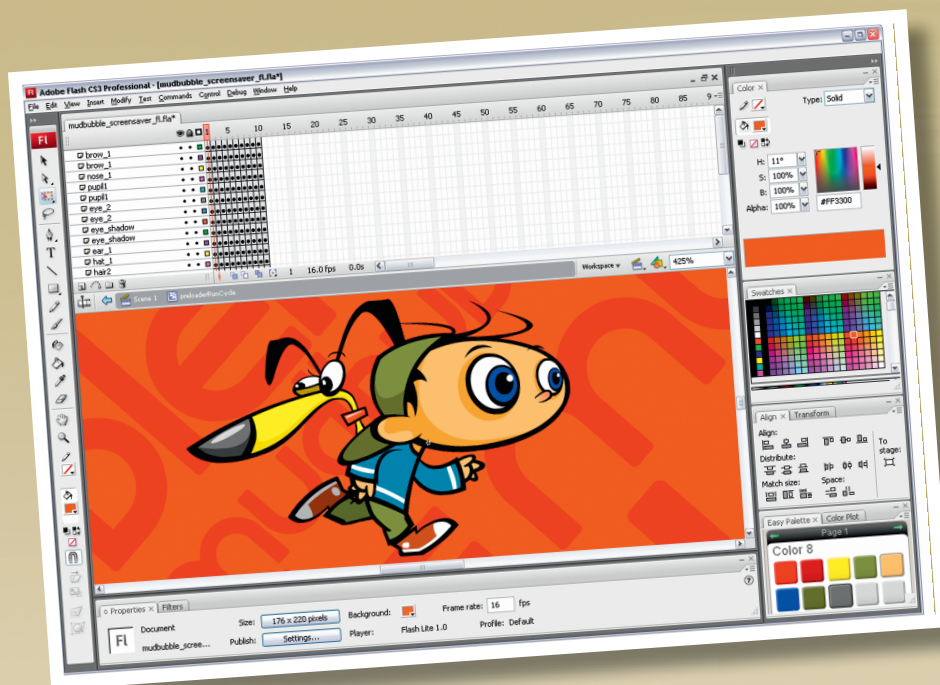


How to Cheat in



■ You may already have a hard drive full of Flash animations and applications that, with a little optimizing, could be repurposed for the mobile platform. From Flash to Adobe Device Central, you already have the necessary tools available for preparing your content for this exciting and fast-growing platform.



Flash

1

Bonus Chapter 1

THERE ARE CURRENTLY OVER TWO BILLION mobile device subscribers worldwide, the mobile thus surpassing the personal computer as the work and communication tool of choice. It is predicted by the year 2010 that the number of global mobile phone subscribers will increase to over 3 billion. If you are having difficulty deciding what platform to author content for, you may want to consider going mobile.

Mobile devices do have their limitations, however, processing power being the most significant, followed closely by lack of memory, small screen sizes and bandwidth limitations as well. We'll look at how to create an animated screensaver for a mobile device and how to test its performance across all supported devices, even if you don't own one.

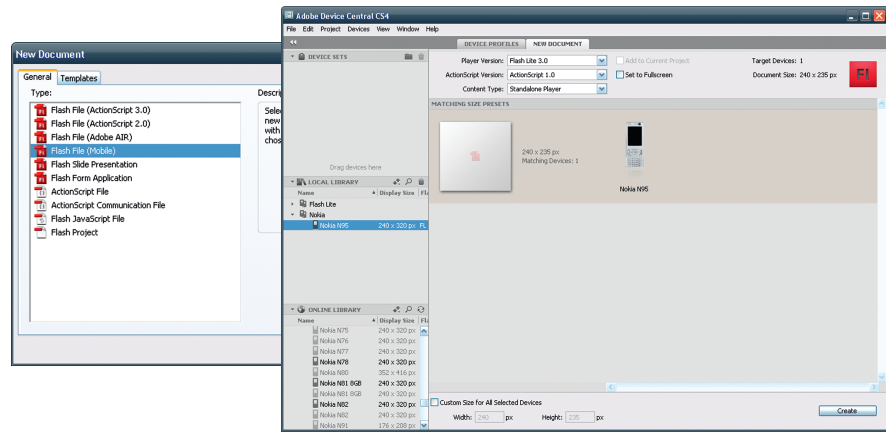
Creating a dynamic screensaver

Contributed by Vivek
www.i2fly.com



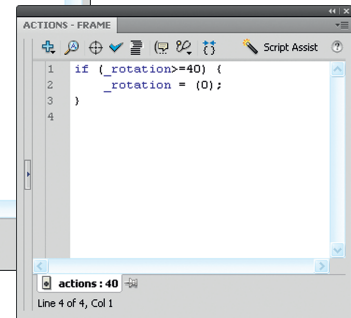
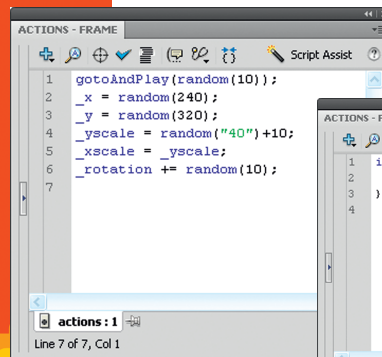
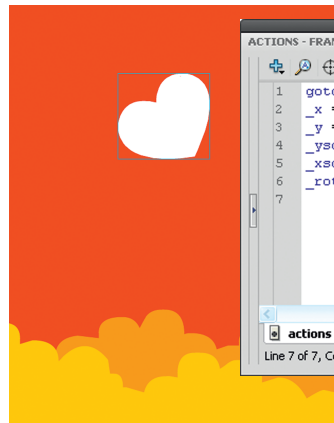
FLASH LITE™ is the mobile version of Flash Player which is currently available in three versions: Flash Lite 1.1, which is based on Flash 4 technology, Flash Lite™ 2.0, which is based on Flash 7 technology and the current version Flash Lite™ 3.0, which is based on Flash 8 technology. From interactive applications, games, browser, screensavers, to wallpapers and more, Flash CS4 will continue to play a huge role on the mobile platform, providing creative opportunities to develop and design content for a variety of devices.

PHOTO: NOKIA 6131



1 Create a new Flash document and click on Flash File (Mobile) and click "OK". This will launch Adobe Device Central where you can then browse and select the mobile device you wish to author your content to.

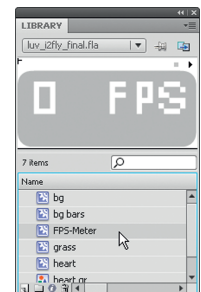
2 Device Central provides detailed information of over 450 mobile devices. Browse the Online Library panel and select your target device. Then click "Create" in the lower right corner. This will create a new Flash mobile document.



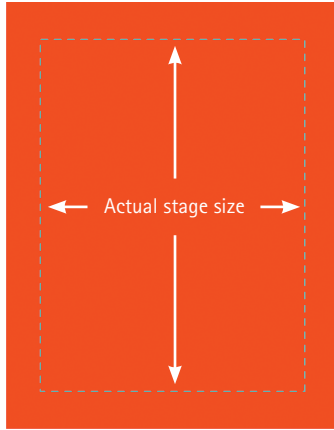
6 Next create a new layer above the grass layer and drag the *heart* movie clip from the Library to the stage. Double-click this symbol to see the animation already created. There's also a layer containing some ActionScript in frame 1

that randomizes the animation of this movie clip by varying its size and rotation. In the last frame there's some ActionScript that returns the heart symbol to the "0" position.

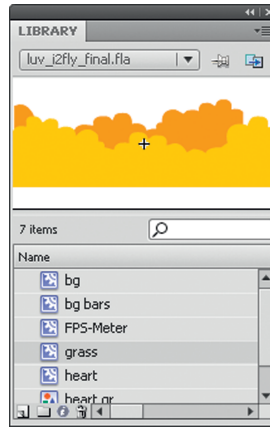
9 Locate the FPS-Meter extension from the "Chapter 11" folder on the source CD. Copy it to your hard drive and double-click it. The Adobe Extension Manager will launch automatically and prompt you to install the extension. Restart Flash (if necessary), and go to Window > Common Libraries > FPS-Meter Lite. FPS-Meter Lite is for Flash Lite 1.1 and FPS Meter Lite 2 is for Flash lite 2.x. Drag the FPS-Meter Movie Clip to a separate layer in your Flash Lite document and publish your movie. The FPS Meter provides accurate feedback when played inside the actual mobile device you are testing on. Based on your movie's performance, you may need to optimize your graphics, which is discussed in the next topic.



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3 Next, create a background with the Rectangle tool **R** and a color fill. Make sure the shape extends just beyond the actual size of the stage.



4 Open *luv_i2fly.fla* from the source CD, and you will find a few movie clips and graphics in the Library for creating this screensaver.

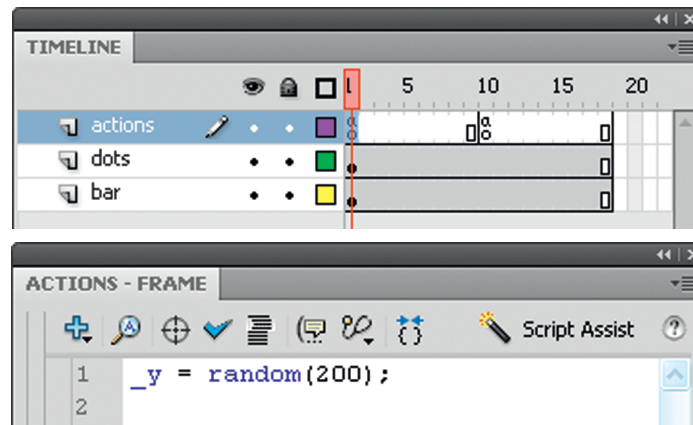


5 Drag the *grass* movie clip to the stage and align it along the bottom edge, making sure it extends beyond the stage itself.

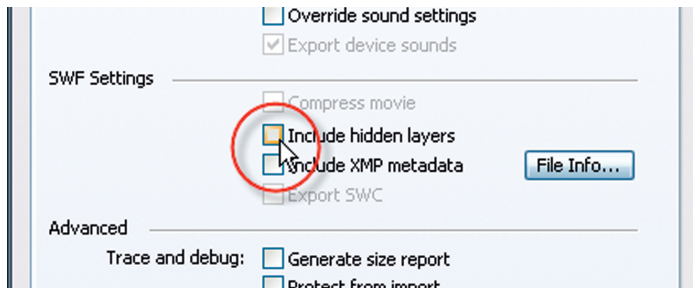


7 Return to the stage and drag the *bg_bar* movie clip from the Library to the stage on a new layer. This movie clip contains some graphics to help add interest to our otherwise plain red background.

10 Before you publish your Flash content for final deployment, remove the FPS-Meter extension from the timeline. With Flash CS4 you can simply turn off the visibility of this layer if you have *Include hidden layers* deselected in your Publish Settings. For all other versions of Flash, turn the layer into a guide layer or delete it entirely.



8 Double-click the *bg_bar* movie clip and you will find some frame actions that move the graphics randomly. Of course you also have the option to create timeline animations with keyframes. The result of using ActionScript to generate randomized motion is a smaller file size than if you created long timelines filled with keyframes and motion tweens.



HOT TIP

Do not leave unnecessary blank key frames or layers on your timeline. Empty frames and keyframes contain bytes, so it's always good to keep your timeline as clean as possible. While using vector graphics for mobile devices, it's always best to use the built-in optimization tool which you can find under **Modify > Shapes > Optimize**. Use the slider to adjust the amount of optimization based on your needs and the integrity of the shape(s).

SHORTCUTS

MAC WIN BOTH

Optimization

Contributed by John Say (www.saydesign.com)

GAME DESIGNERS who understand the limitations of the medium used to deploy the game, and, especially, those who have a programming background are able to creatively solve performance issues at the highest level, that of the style and gameplay design. If you don't have the horsepower to make a compelling simulated 3D game, it is necessary to focus on a game design that perhaps can provide the same exciting gameplay that can still allow for a higher frame rate that delivers an exciting arcade experience.

limitations of the target platform is always a focus of the serious Flash game programmer. Because every game and every platform will be different, you can imagine how difficult it is to create some kind of formula or table that would make this an easier task. It is recommended to only go as high as you need for the particular game experience, and no higher. If the game plays well at 15 frames per second, then changing it to 30 frames per second is unnecessary and will most likely have adverse results. It is best to stick with the lower



The best way to become proficient at this is to build a wide range of games for a variety of platforms with varying system requirements. Flash Lite enabled devices, due to their limited processor speeds, require the game designer and programmer to think outside the box, or in this case the desktop PC. From a production standpoint it could save days, if not weeks, of code and graphical optimization if the developer simply focuses on a game mechanic and concept that is more "Flash Lite friendly".

Frame rate

Identifying optimal frame rates that map most effectively for both desired gameplay and



value, especially when dealing with slower processors.

Bitmap graphics

Unless your game really relies heavily on rotation and scaling, it is best to stick with bitmap graphics. Original art can be made with vectors, but then parsed into bitmaps in Photoshop. This allows you to keep the game running in low-quality mode and enjoy dramatic improvement in the number of objects incorporated into the game as well as improved frame rate. You can increase the level of quality dynamically on game menus and screens that you wish to use for vector art. When

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the user enters the actual gameplay, force the quality back to low to optimize playback for both animation and ActionScript. Regarding which graphic formats are optimal for bitmaps, there aren't any real hard-and-fast rules. Sometimes it is best to experiment with a few formats before you lock-down on any particular one. For critter crossing we stuck with 24-bit PNG format with 1-bit transparency to avoid making the processor have to deal with grayscale alphas. This we felt gave us a performance boost. But again, ultimately it is

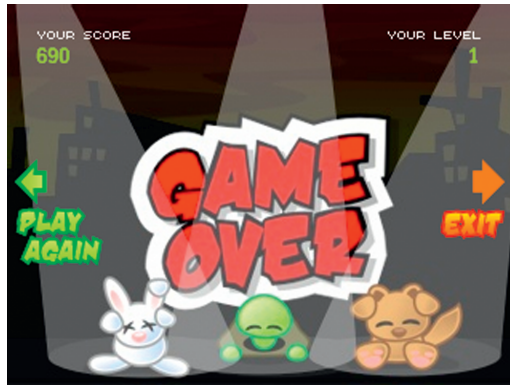


best to try a few different approaches and, test on the target device, and ultimately you will have the optimal strategy for your particular game.

Code optimization

There are so many great Flash game programming books out there that really go into the detail of optimizing code. Flash Lite and the devices that employ it demand that one becomes adept at understanding what Code is friendly, and what work-arounds should be utilized in order to contribute to the desired end-result. The more you learn these "tricks of the trade", the more you can leverage multiple

strategies to create outstanding results. Keep in mind that just because the Flash Lite instruction set may give you a quick and easy way to create functionality for your game, you should still watch the frame rates achieved once deployed to the target platform. Benchmarking a few approaches to core functionalities is the best thing since you can find that perhaps one outperforms the others by as much as 200%! There are some great resources on the Net that contain various benchmarks for various programming functions in Flash. The main walk-away is that



there are numerous ways of accomplishing the same desired result or calculation in Flash. Nurture your optimization skills by building and benchmarking various techniques until you find the best solution, and can leverage those findings as you progress forward.

You will always have more compelling and engaging content than your competition because of your focus on creating more fluid and engaging experiences. This can only help push the proliferation of the technology into yet other devices and platforms, thus allowing a much larger audience to enjoy our content.

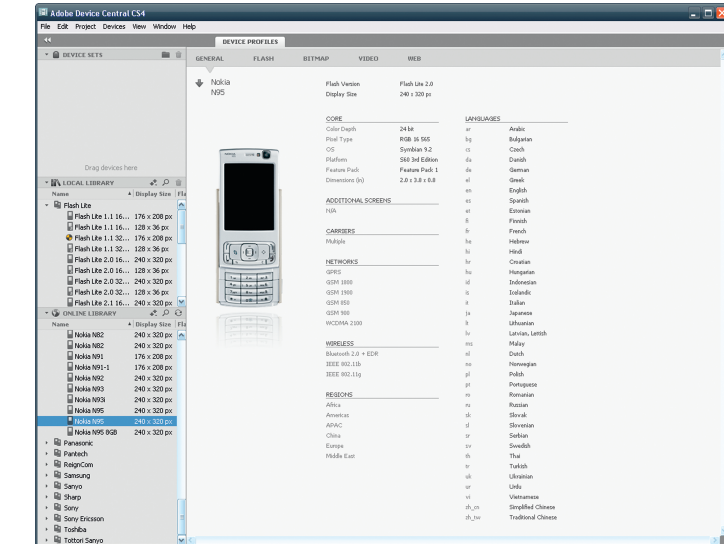
HOT TIP

The CPU can only do so much at any given time. If you learn to structure your calculations, sounds, and, especially, animations in a way where things are happening in succession rather than simultaneously, you will avoid any choking points where things seem to come to a screeching halt.

Adobe Device Central CS4



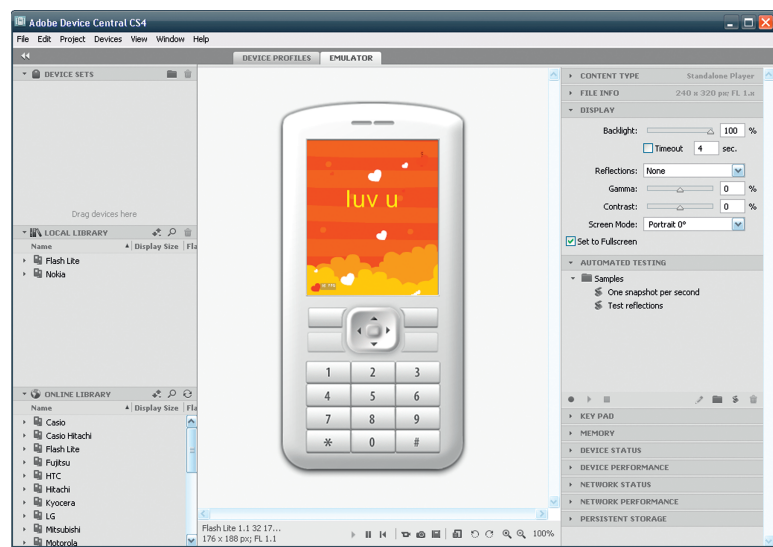
THE FLASH LITE™ MOBILE platform can be an elusive technology for many. It wasn't until I got my hands on a Flash-enabled device that I started to truly understand the platform. But for those of you who don't have a device that supports the Flash Lite™ player, Adobe Device Central CS4 is the closest thing to having every supported mobile device at your fingertips.



1 A wealth of information is available for each device just by clicking on the device profile folder. Detailed information about Flash Lite version, display size, operating system, networks and languages is just a sample of the information provided. There's even a handy search function available to help you quickly find the device you are looking for. Probably the biggest

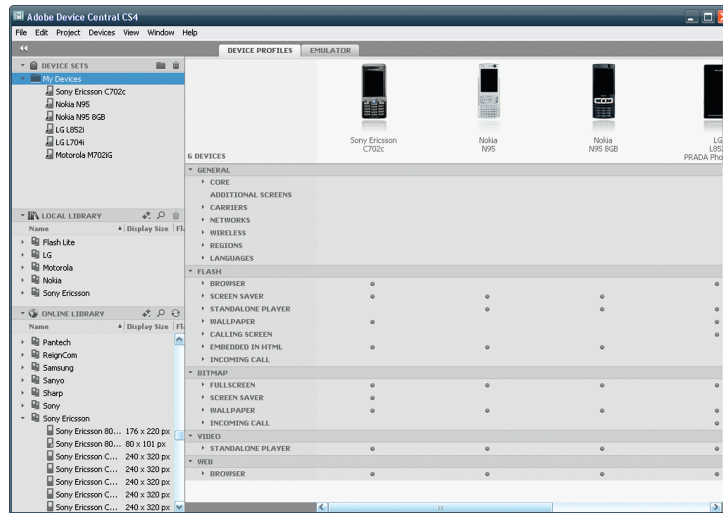
advantage of using Adobe Device Central is having the ability to preview and test mobile content for a wide range of mobile devices. You don't even need to own any of these devices to get a really good idea as to how your content will perform on them. Of course nothing is better than testing on the actual device(s), but that's not a realistic option for many of us.

3 When you test your Flash Lite content in Flash, Device Central will launch, allowing you to emulate your movie's performance in the included device skin. If your movie is designed to react to the device's hardware, you can test these features with your mouse by clicking the Emulator tab keypad directly or using the keyboard shortcuts that are specifically mapped to each button: the arrow keys on your keyboard map to the corresponding navigation keys; the **Enter** **Return** keys correspond to the Emulator's left and right soft keys; and the number keys on your keyboard map correspond to number keys on the Emulator keypad.



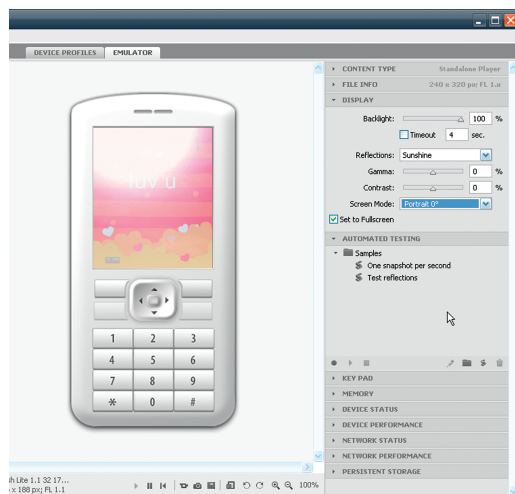
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2 Your client has just asked you to help them develop mobile content over a variety of devices. Before Device Central, that may have been a difficult assignment from a technical standpoint. You can now organize your project by creating a custom device group in Device Central and dragging the preferred devices to its folder. When you click on this folder, each device will be categorized by screen sizes. You can sort by player version, ActionScript version and content type from the drop-down menus. Click the Create button to launch Flash with a new document matching the profile for the device you had selected. Blissful integration.

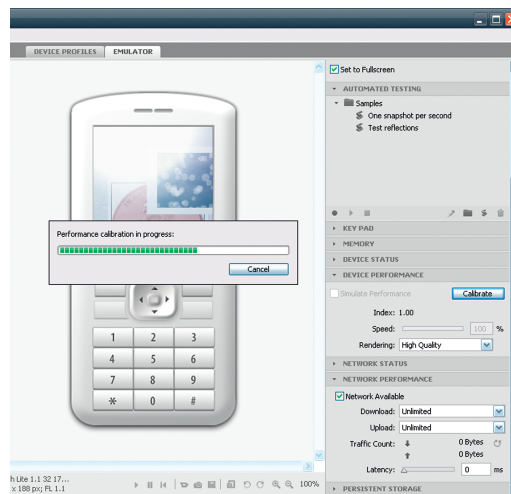


HOT TIP

The new Online Library panel is always connected to the Internet and will always keep your devices up to date (assuming you are connected to the Web). You can also use the integrated search feature to quickly find the device(s) you are looking for.



4 In the Display category, adjust the level of backlight to simulate the characteristics of the device screen and how your content will be seen (or not seen). The Backlight slider lets you adjust the amount of backlight to simulate a device entering sleep mode. Some mobile device users lower their backlight brightness purposely to save battery power. When designing mobile content, check if the content is visible with low backlight. You can even simulate how the display might react to indoor, outdoor or sunshine lighting. Simulate Timeout, Contrast and Gamma features and even rotate the device if your content is designed for a landscape orientation.



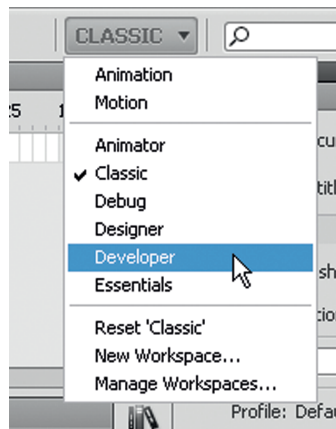
5 Simulate the performance of your content with the handy Calibrate feature. When you click Calibrate, the series of performance tests will begin measuring the performance of your content. There's no substitute for testing with the actual device itself, but that is usually not realistic when there's over 450 device profiles to choose from. Device Central CS4 is as close to real world testing as you can get without the device(s) itself.

SHORTCUTS

MAC WIN BOTH

Cheap tricks

LAUNCHING FLASH FOR THE FIRST TIME can be an overwhelming experience. Between the multitude of panels and menus, knowing where to start can become frustrating almost instantaneously. My first experience with Flash was with Version 3 many years ago when it was still in its infancy as a simple Web animation program. I had the luxury of incrementally growing with each version of Flash through the years. With the latest CS4 toolset Flash has to offer, feeling a bit intimidated and not knowing where to start can be normal. At least now, with Flash CS4 and its integration into the entire suite of Adobe products, there's a better chance you might feel a little more at home with the general interface. Here are a few tips and tricks I have found useful in my daily workflow that aren't all documented in the Help files.



Flash CS4 offers a convenient drop-down menu for easy access to default preset workspaces. Throughout a long workday, you may find yourself altering a preset workspace by moving panels around. To return the workspace to its original configuration, use the drop-down menu to select "Reset [name of workspace]". You can design your own custom workspaces and save them as presets for easy access. If this drop-down isn't quick enough for you, try assigning keyboard shortcuts for your favorite workspace layouts.

The new Edit Bar performs a variety of helpful tasks. Alternatively it can be removed completely by going to Window > Toolbars > Edit Bar.



Use this arrow to navigate back to the parent timeline.

Indicates where you are in your document relative to nested timelines and the main timeline.

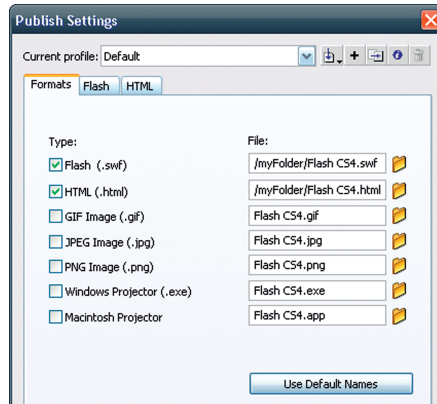
Use this shortcut menu to quickly find and edit any existing symbol in the current document.

Navigate between scenes (if any) using the Edit Scenes shortcut tool.

Control the magnification of your stage.

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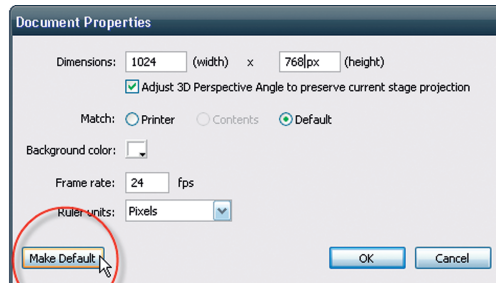
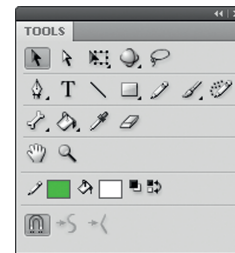
You can specify any directory for your published files by clicking on the folder icons to the right of the format file name fields. Go to File > Publish Settings and click on the Formats tab. When you click a folder icon, you will be prompted to locate the new folder on your local hard drive. You can provide a new name for your published files as well. If you ever want to return to the default name and the default directory, click the Use Default Names button.



Want a quick way to remove all the contents of the stage for the current frame? Double-click the Eraser icon in the Tools panel.

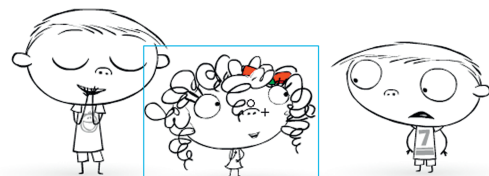
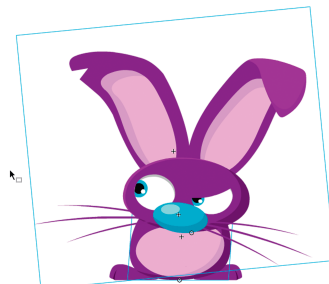


The Tools panel can be configured in a variety of ways. It works like an explorer window: just click and drag a corner or one of the sides of the panel.



You can change the default document properties every time you create a new Flash document by opening the Document Properties panel (Ctrl + J) and making your preferred changes. Before clicking "OK", click the Make Default button to force your new settings for every new document.

As you might already know, double-clicking a symbol instance on the stage will bring you to Edit in Place mode. What you might not know is, to return to the parent timeline just double-click anywhere outside of your artwork in the stage area.



With an object on the stage selected, zooming in to the stage using the keyboard shortcuts will always keep the selected object centered.