

# What's new in Shockwave—how is it better than Flash?

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Phillip Kerman [www.phillipkerman.com](http://www.phillipkerman.com)

## \_\_\_Description:

What makes Director Shockwave so special when all you hear about is Flash? Director is unarguably the granddaddy of multimedia authoring tools—but do years of CDROMs mean Director is ready for retirement? No way! The latest advancements in version 8.5 (support for 3D, Real Media, and Flash 5) have re-energized interest for the nearly 250 million web users who already have the Shockwave player. In this presentation I—an admitted Director refugee making a living as a Flasher—will explain what's new and show the situations that make Director an appropriate solution.

## \_\_\_More about what's new in Director 8.5 Shockwave Studio:

The latest version of Director includes support for high performance 3D worlds that stream over the internet and tap into modern hardware. The quality level is matched only by expensive proprietary technologies. Director ships with a set of pre-built behaviors so you can let users fly-through or pick-up and inspect your products—without programming. The good news is that when you need to program something advanced you'll find Director's programming language—Lingo—has been greatly expanded to give you access to every detail in the 3D world. Other esoteric 3D support includes *motion blending* to ensure transitions from one animation to another appear smooth; *particle systems* to create natural looking animations of anything from water to fireworks; *bones* so that a skeleton can define how interconnected shapes will interact; and *rigid body physics* that make collisions look real.

If 3D weren't enough, Director 8.5 now fully supports Flash 5. This means you can combine the best features in each technology. In addition, Real Media can now be streamed into your Shockwave presentation. Flash and Real Media support are added to the existing list of support that includes every conceivable file type.

Naturally, there's more. But this presentation will serve to both demonstrate the new features and to show when Director is appropriate to educate, entertain, and inspire.

## \_\_\_Interesting Director Links:

[www.director-online.com](http://www.director-online.com)

[www.macromedia.com/software/shockwaveplayer/3d\\_content/samples/](http://www.macromedia.com/software/shockwaveplayer/3d_content/samples/)

[www.xonko.com](http://www.xonko.com)

[www.macworld.com/2001/09/reviews/director.html](http://www.macworld.com/2001/09/reviews/director.html)

## Flash vs. Director: *Can't they both get along?*

The comparison is inevitable but competition is unnecessary. Most arguments that one is "better" than the other are usually based on biased information coming from an expert in one tool. Anyway, here's my best attempt at a fair comparison.

Aspect	Flash 5	Director 8.5
<p><b>Vector or Raster Graphics.</b> Computer images are stored in one of two primary methods. 1) Vector graphics (like Illustrator files or Flash files) contain the mathematical instructions to re-draw the image on screen. 2) Raster (or bitmapped) images (Pict, BMP, or JPG) contain color information for each pixel. Vector graphic files are very small (they download quickly), they can scale to any size (it's just math after all), however they take longer to appear on screen because they require more computer power to decode the mathematics. Raster files are larger but display on screen very fast. Scaling a raster graphic usually degrades quality (like blowing up a photograph, it can get grainy).</p>	<p>Flash is ideally suited as a vector-only tool. Although raster graphics <i>can</i> be included in Flash—it makes sense to only do so when absolutely necessary (like if you're including a photographic image). One problem for Flash is that it's possible to display graphics at fractional pixel locations—say 105.3 pixels. Naturally, these ultimately get displayed in discrete whole pixel locations (your monitor can't display fractional pixels). However, at display time Flash will round off such fractional pixels to cause raster graphics to jitter or otherwise look bad.</p>	<p>Director excels in the display and management of raster graphics. However, Director supports inclusion of vector graphics in several forms including its own primitive "vector shapes" as well as Flash files (which have been exported as ".swf"). Using vector graphics in Director affects performance slightly.</p>
<p><b>Drawing &amp; Painting tools</b> Though neither tool is a replacement for Photoshop, Illustrator, or Freehand—they both have some drawing capabilities.</p>	<p>You can create vector drawings inside Flash. Though it may not be ideal, it's totally possible in Flash. Personally, I find drawing in Flash to be ideal for my needs. You can create all the graphics for your project.</p>	<p>Director has a "paint" window and other creation windows—though they're mainly used for editing content already created elsewhere. So, Director is more of an assembly tool rather than a media creation tool.</p>
<p><b>Animation tools</b> Conventional animation has evolved over time. Animation software now incorporates such tools as "onion skinning", "tweening", and "synch points".</p>	<p>Flash is arguably a better interface for animation. Unique to Flash is its "shape tween" or morphing tool. Keyframe and frame-by-frame animation is also easy to do.</p>	<p>Director includes decent animation tools. Particular to Director is its ability to retain perfect synchronization (for audio especially). Flash's synchronization ability is more limited.</p>
<p><b>Programming abilities</b> Programming is the key difference between a presentation which the user passively watches and an experience with which the user interacts. Programming involves writing instructions that specify what will happen when any one of many events occur. Events include the user clicking a button (your script specifies what should happen next). Another event is when an animation reaches a known point (say, the end)—you can write a script the responds to any event.</p>	<p>It used to be that Flash's ActionScript language was "lite" programming. Not so anymore. Flash 5 brings ActionScript into the big league by using the same standard JavaScript uses. No one (who knows what they're talking about) can say ActionScript is a wimpy language. Flash also has a guided mode of programming that helps novices.</p>	<p>Director can be used without any significant programming (for just animations). However, with Director's Lingo language you can add a little or a lot to the power of Director. Director's "Behavior" interface can insulate the novice from getting his hands dirty programming—and allows for programmers to flex their muscles. The big advantage of Director is that it's fully extensible. Not only do built-in features let you interact with the user's computer but support for custom code (called Xtras) extend Director's capabilities infinitely. In this way Director is better suited to create applications.</p>
<p><b>Performance</b> When your masterpiece is complete you have many options to deliver it—through the web or as a stand-alone executable. Not only do users need a minimum system configuration but depending on their setup your creation may playback differently.</p>	<p>Flash is slow. It seems blatantly obvious but—in fact—fast performing computers have counteracted this fact. The entire "theory of Flash" is that download speeds haven't improved nearly as much as processor power—so why not offload the work to the user's machine? Such tiny Flash (vector) files come at the cost of slower performance. Additionally, some programming operations are absurdly slow in Flash—it's not that surprising when you learn all of ActionScript adds only 25K to the size of the player!</p>	<p>While the minimum system requirements for Director have certainly crept higher over the years the performance of practically any operation in Director is very fast. Ironically, the one thing that's a bit sluggish in Director is the display of Flash movies. That's because in effect both Director and Flash are running simultaneously. This isn't an impossible challenge to overcome. The bottom line: Director is faster and better for applications like games.</p>
<p><b>Linked files &amp; video</b> Sort of two different subjects, but I have a couple final points to make.</p>	<p>Media in Flash must be imported. Flash can, however, interchange text data via Form GET and POST, JavaScript, and XML. Also, Flash doesn't support video.</p>	<p>Director can store all media in native file formats externally (like .jpg or .wav—to name two). This means updates can be made without re-opening Director. Plus Director supports video.</p>