

Flash vs. Video: A Comparison


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At Quicksilver, we get a lot of requests for 1 to 5 minute “videos” that teach about market segments, serve as punchy intros to sales presentations or act as a way of delivering key messages during presentations.

Sometimes our clients ask for a Flash animation, sometimes they ask for a video. Sometimes our clients use these terms interchangeably, not knowing the nuts and bolts of what makes these content delivery methods different.

In many ways, Flash and video can be used interchangeably. Both are self-contained motion graphics delivery systems. Both involve the incorporation of elements like photos, video clips, illustrations, text and sound synchronized on a timeline. Both can be streamed over the internet. For both, there is a direct correlation between the quality of the source material and the quality of the final product.

So the first question we ask a client is, “How is this “Flash/video” going to be viewed?” Will it reside on a website with file size limitations; be played back on a plasma monitor (or series of monitors) at a tradeshow booth or in the airport; or will it be projected on a screen at a meeting? The size of the playback image relates to scalability.



Complementary and Relevant
Global Team

- Right knowledge
- Right experience
- Right locations
- Right chemistry



Your Goal

Implement a Global SAP System to
harmonize global business processes

This is a Flash animation created from high resolution photographic images (raster graphics) and type (vector graphics) being moved as individual elements along a timeline.

Flash vs. Video: A Comparison (continued)

Scalability

Scalability, the ability to make an image larger or smaller and still maintain the quality of the photos, video clips, illustrations and text of which it is composed, is heavily dependent on the source material being incorporated into the project, particularly the graphics.

Graphics and text are generated in two formats, vector and raster. Wikipedia defines them this way:

Vector graphics use geometrical primitives such as points, lines, curves, and shapes or polygon(s), which are all based on mathematical equations, to represent images in computer graphics. They scale up or down and retain image quality.

Raster graphics, which are complementary to vector graphics formats, are the representation of images as an array of pixels (small squares). They are typically used for the representation of photographic and video images. When they are scaled up, they quickly lose image quality.

Through ActionScript, the programming language within Flash, you can write a bit of code that tells the Flash Player to expand the contents to fill the screen. If your Flash piece is primarily filled with vector art and text, you will notice that no matter what size it blows up to the text and graphics still look crisp.

With video and photographs, this is not the case. Let's say you have a video clip whose size is 320 pixels by 240 pixels, a pretty common size for videos on sites like YouTube. When you click to play in full screen mode, you will notice that the image quality diminishes significantly, like it's made up of large blocks.

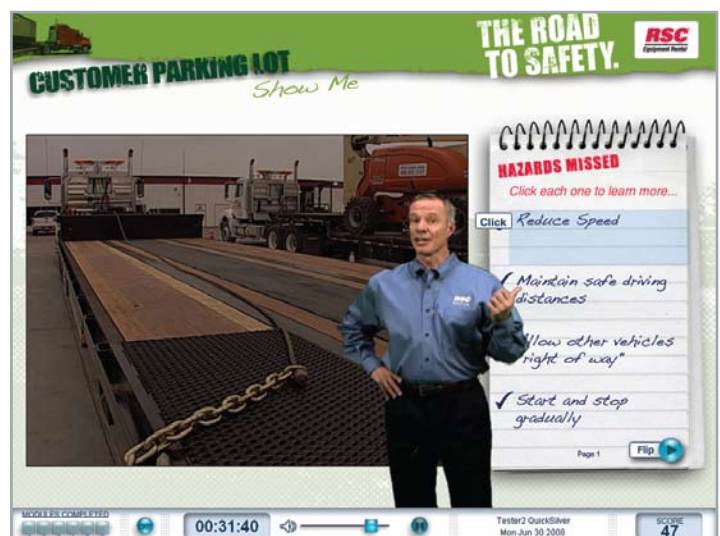
In either case, if you know how the piece will be displayed, you can optimize your images to best reflect your output size, thereby minimizing any quality loss.

This is an interactive training program which contains numerous video elements and runs inside a Flash architecture. To see the case study for this project on our website, [click here](#).

Interactivity

A second question which helps determine the selection of Flash or video is inclusion of interactivity. The real advantage of Flash over video lies here. If you want to be able to click to send emails, visit websites or jump to different sections of the presentation, Flash is the way to go. Any object you bring into Flash can be made into an interactive button by adding a little ActionScript to it. In addition, you can easily make a self-launching CD or DVD-ROM by exporting an executable file and burning it to disc with an autorun file.

To be thorough, you can create rudimentary interactivity (i.e. hotspots, text layers and web links) with video by using third party development tools for QuickTime and Windows Media players. Another way to add interactivity to a video is to author a DVD or BluRay disc with navigable menus. But by far the most elegant solution for interactivity is Flash. It simply has more bells and whistles, such as rollovers, multiple sound events and dynamic input fields (like check boxes, radio buttons, etc.). And when you bring ActionScript and Flash components into the mix to track mouse movements, call information from a database or play a game, the content is an even more dynamic and engaging user experience.



Flash vs. Video: A Comparison (continued)

Under what conditions, then, would video be selected over Flash?

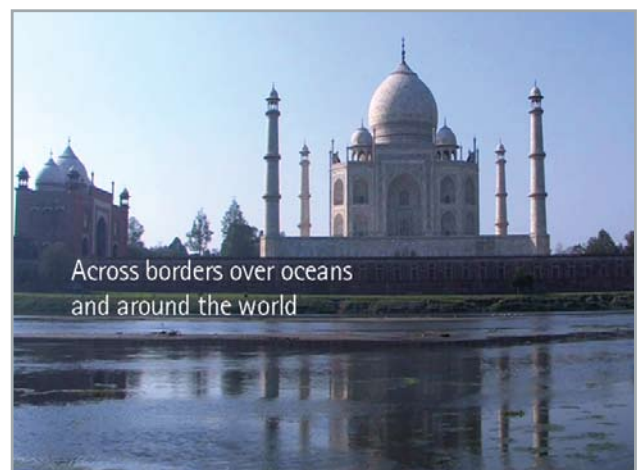
First, video minimizes the risk associated with playback performance. When you have finished determining the order of your elements (video, photos, illustration, text) and laid them on the timeline at the precise point at which you want them to occur, you render a video file or publish a Flash. How video and Flash handle the elements at that point is a key differentiator. When you output a video file, all of the elements are combined into a series of frames and only those frames with the combined elements are a part of the final video. In Flash, all of the elements and all of the directions associated with the manipulation of those elements are combined into the final product. So let's say you have a full frame photo that pans, zooms and fades while another image with a mask on it wipes in from off stage. To play this back effectively requires sufficient memory and processor power. All this activity will likely cause your Flash playback to drop frames and periodically play catch-up to get back into sync with the soundtrack. Sometimes there's just too much going on for Flash Player to handle playback smoothly.

Another clear winner for video is asset manipulation. Final Cut Pro (a commonly used video editing system) has a robust bank of image manipulation tools like color correction, that allow you to tweak the look of your video footage and still images. Final Cut does not destroy your original elements; it simply puts effects layers on top of your originals that you can toggle on and off. Flash will play video—you can import and convert to Flash Video (FLV) format—but the range of what you can do to adjust the look of your footage doesn't even compare to video editing software.

This is a video created from stock video images (raster graphics) and type (vector graphics). Because the majority of the source material was video, this was created as a video animation.

In Conclusion

The choice of Flash or video is further confused by the fact that a completed video can be put into a Flash wrapper to control its playback on a website. We consistently recommend that if your source material is primarily video or photographic images that need to move smoothly within the frame and synchronization is critical, then video is the best choice. If you are working primarily with vector graphics, and interactivity is key, Flash is the first choice. Something to note, however, is that the Flash Player is a plug-in for web browsers and not all machines have it installed.



Flash vs. Video: A Comparison (continued)

Common video and flash file extensions, abbreviations, and acronyms

Extension	Format	Description
.mov	Apple QuickTime Movie	This is a wrapper file that is used for a variety of purposes, from web streaming to high-end video editing.
.avi	Audio-video interleave	This is a somewhat dated, but still popular format used mostly on Windows-based edit systems.
.mpg, .mpeg, .mpeg-1, .mpeg-2	MPEG 1 or 2 (acronym for Motion Picture Experts Group, which is an industry group that sets standards for video compression).	MPEG 1 or 2 compression. MPEG-2 is the compression format for consumer DVDs, Standard Definition (SD) digital television, and used to be popular for streaming and video CD delivery. This is a muxed (multiplexed) file that contains both the audio and video in a single self-contained file.
.mpa, .mp2, .m2a	MPEG audio	Refers to an MPEG compressed audio stream (not the same as an mp3 audio file - see below). This is combined (muxed) with an MPEG video file to create a DVD or digital TV stream, for instance.
.mp2v, .m2v, .m2s	MPEG video	Refers to an MPEG-2 compressed video-only stream; meant to be combined with the audio stream, see above.
.mp4	MPEG-4	MPEG-4 muxed audio and video. This newest, high quality, highly flexible MPEG standard. Used for everything from podcasts, WMVs, BluRay and high-definition broadcast.
.m4v	MPEG-4	The actual file is identical to .mp4 above, but this file extension is used by Apple to associate the file with its own iTunes/QuickTime applications, instead of other apps, such as Windows Media Player.
.wmv	Windows Media Video	This is Microsoft Windows proprietary codec and is based on MPEG-4. It is a good and nearly ubiquitous delivery format. It can also play on Mac with plug-in.
.wma	Windows Media Audio	Windows proprietary audio-only codec, based on mp3 compression.
.mp3	MPEG-Layer 3	This is an audio codec that is part of the MPEG-1/ MPEG-2 specification. It was originally intended to compress an audio stream for DVD or DTV, but has taken on a life of its own as a stand-alone format used to compress music into a very efficient file.



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Common video and flash file extensions, abbreviations, and acronyms (continued)

Extension	Format	Description
.asf	Active Streaming Format	Older Windows format for streaming video over the Internet, not in use much today (also known as advanced systems format).
.rm, .ra	RealMedia and RealMedia audio only	Another Internet streaming player/encoder option based on MPEG-4. Real is the third major platform, but always seems to be playing catch up to WMV and QuickTime.
.3gp	3gpp ("3rd Generation Partnership Project")	Simplified MPEG-4 format used to record and play video on mobile devices. May require a plug-in to run in some player apps, like Windows Media Player.
.swf	Shockwave Flash (also known as small web format), pronounced "swiff"	This is a proprietary format created using the Adobe Flash application. It usually runs in a browser but must have the (free) Adobe Flash Player installed in order to run. A SWF can encompass anything from a simple vector animation to a complex interactive application. When incorporating Flash into a PowerPoint presentation, this is the format required.
.flv	Flash Video	This is a proprietary format for incorporating video (non-vector) into the Flash environment. It is based on MPEG-4 and used by many websites, such as YouTube. Only playable through a Flash interface or with a stand-alone FLV player app.
.exe	Executable program file (Windows only)	As it pertains to Flash, a .swf file can be published as a self-executing "projector" which will run without the Flash Player app. Perfect for distributing a Flash project as a stand-alone piece, not requiring a web browser, Internet connection, or a player installed.
.app	Executable program file (Apple Mac only)	As it pertains to Flash, a .swf file can be published as a self-executing "projector" which will run without the Flash Player app. Perfect for distributing a Flash project as a stand-alone app, not requiring a web browser, Internet connection, or a player installed.

Pat Lehnerer is a senior designer. His flash design and animation has contributed to both clients and Quicksilver communicating creatively and effectively. Jeff Maslouski is our post production manager. He deals daily with the interchangeability (and lack there of) of digital media. They can often be found together at local music haunts broadening their performance appreciation.