Decoding Encoding: A Primer on Online Media

You ve decided to add dynamic video to your website — to promote a product, impress investors, or train employees — but you ve run into one major problem: How do you do it? The wide world of browsers, codecs (encoder/decoders), internet connections, and media players is enough to make you want to pull your hair out. Well, don t stress. The following information breaks it down in language you won t need your IT expert to translate.

History

Internet video came on the scene in 1998 with the introduction of the Sorenson codec. This enabled video to be compressed to as small as one percent of its original size — certainly a revolutionary development. Internet users could actually look at a video file, which originated as multiple megabytes and even gigabytes in size, via an Internet connection. Broadband wasn t even necessary- users with a mere 28k connection could view video, if they could tolerate waiting for the download and occasional buffering stops.

Since then, the world of Internet video has grown with the development of different codecs for such applications as: slide shows, talking heads , or action-packed video-like movie trailers for the web. Choices are abundant at every step. We will need to decide among codecs, optimize for narrowband or broadband, and select from such formats as: Windows Media, MPEG, Real Media, or QuickTime (which are mostly mutually exclusive). Often, in order to satisfy a diverse audience, multiple versions of the same media has to be developed. The need for standards is apparent.

MPEG 4

A promising development for those interested in streamlining and simplifying the whole process is MPEG 4. Apple has developed this format with the goal of standardizing web media. Hopefully, multiple versions will no longer be necessary.

MPEG 4 is scalable. Encode your video once for optimal quality with a 28k or a T1 connection. Encode your video once for optimal quality playback in RealPlayer, Quicktime, or Windows Media Player. Encode your video once for optimal quality on the Internet, on PDAs, or whatever devices the future brings. Encode once for impressively high quality (comparable to VHS quality) no matter how constrained the bandwidth.

Other Formats

The future is definitely looking bright, but until MPEG 4 is actually the standard, it is important for those developing web media to answer these questions:

1) What is the speed of your average user s Internet connection? T1, 56k, broadband?

2) What is the media content? Talking head style video or high motion? Only speaking or music, too?

3) What media player is the user likely to use?

4) How big should the viewing area be?

Answering these questions is fundamental to developing a web video that will actually be viewed. Users likely will not want to wait too long for video to be downloaded. If there are too many hiccups , they might give up. And, if they have to download a new player they may even decide it s not worth the trouble.

Know your audience. This should have been the main consideration when producing the video in the first place, and a key consideration when encoding your video for the web, too.

It s important to strike the right balance between quality and speed.

Users will not tolerate low quality, but they will also not tolerate slow downloads. Unfortunately, you can not have it both ways. The higher the quality, the bigger the file, and the slower the download. The lower the quality, the smaller the file, the quicker the download.

Fast Start vs. Streaming

Another important consideration is whether you want the media to be fast start (fully downloaded before playing) or streaming (played while the data is being received). For live feeds, streaming is the only answer. Otherwise, consider the pros and cons of each:

With fast start video, no special server software is required. The video is always received no matter what the connection, and firewalls do not pose a problem.

However, live feeds cannot be transmitted, multicasting is not possible, and the viewer must wait for the entire download to complete — important considerations when trying to reach a diverse audience.

The main qualities of streaming media include: relatively quick starts, prevents viewers from downloading copyrighted video to hard drives, can have redundant host servers to accommodate multiple users simultaneously.

There is no doubt that the process can be confusing. Do yourself a favor and make sure your on-line media encoding is done by experts. Striking the right balance requires a mixture of art, science, and magic.

However you intend to present your on-line media, it s wise to start with basic high-quality video.

For a free consultation about on-line video, please contact Staylor-Made Communications at (800) 711-6699 or info@staylor-made.com