
Subject: mpeg next question

Posted by [R.Bauer](#) on Tue, 01 Oct 2002 06:41:46 GMT

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Hi

I have 40 frames and I like to have played each at a frame rate one per second.

I don't find a keyword to do this in mpeg. At the moment I defined frame_rate=2 this is 24 frames/sec. And then I used a loop to replicate each frame 24 times.

The mpeg file gets horrible big. I'am using 'IDLgrMPEG'

Any better ideas?

Reimar

--

Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)

Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

a IDL library at Forschungszentrum Juelich

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html

Subject: Re: mpeg next question

Posted by [Rick Towler](#) on Tue, 01 Oct 2002 19:15:02 GMT

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"Reimar Bauer" <R.Bauer@fz-juelich.de> wrote

> I have 40 frames and I like to have played each at a frame rate one per
> second.
> I don't find a keyword to do this in mpeg.

You can't. Since MPEG was designed for video the frame rate is tied to industry standards (PAL/NTSC). While some MPEG codecs may allow you encode at non-standard rates, the resulting file will probably only be decoded by the same codec. You lose your portability.

> At the moment I defined frame_rate=2 this is 24 frames/sec.
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Don't use MPEG. Or I should say, don't use MPEG-1 or MPEG-2.

While it is probably the most portable video file format (MPEG-1 that is), it just can't compete with newer codecs. Plus, MPEG wasn't designed with scientific animations in mind and it produces terrible results unless the quality settings are very high. Yes, probably *no* codec programmers were thinking of the scientists but there are codecs that do sci animations better.

To choose a codec, think of your audience. You will end up trading file size and quality for codec availability. The best decoders are freely available for PC and Mac. There are a few better one's available for Xanim.

In my experience, the best codecs for sci anim ("best" being based on file size and quality) are:

Sorenson video 3 (PC & Mac - codec ships with quicktime)

Ligos Indeo Video 5 (PC, Mac, UNIX Xanim - www.ligos.com)

DivX (MPEG-4) (PC, Mac & Linux - free codec www.divx.com)

If you have access to a PC, I *highly* recommend Ronn Kling's AVI2IDL windows only .dlm based on Oleg Kornilov's code which provides an interface to the Win32 AVIFile interface. This is by far the easiest way to create high quality animations using IDL. If not, you'll want to write the individual frames to disk and find a program that can stitch them together. I'm sure there are many for the Mac, but it might be more difficult to find good ones that run on Linux or other UNIX systems (mainly because the codecs aren't available, at least for free).

-Rick

Subject: Re: mpeg next question
Posted by [R.Bauer](#) on Tue, 01 Oct 2002 20:00:54 GMT
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Rick Towler wrote:

>

> "Reimar Bauer" <R.Bauer@fz-juelich.de> wrote

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> -Rick

The codecs all available for linux too. But I am missing some examples at the moment.

Reimar

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Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
<http://www.fz-juelich.de/icg/icg-i/>

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a IDL library at Forschungszentrum Juelich
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html

Subject: Re: mpeg next question
Posted by [Rick Towler](#) on Tue, 01 Oct 2002 20:55:13 GMT
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"Reimar Bauer" <R.Bauer@fz-juelich.de> wrote

> The codecs all available for linux too. But I am missing some examples at
> the moment.

I am not entirely sure what you are asking.

If you need playback on linux machines then you are limited to Indeo 4 & 5 and DivX. Playback should be straightforward. Xanim handles the Indeo 4 & 5 formats (with the proper Xanim decompressor files). DivX offers the codec for linux but the main site doesn't offer a player at this time. You'll have to search freshmeat.net or sourceforge for a player that can use the DivX codec on linux.

If you need to encode on linux then you are on your own. You will need a program that will take all of the still frames and create an .avi file from them (preferably using the codec of your choice). Try <http://heroinewarrior.com/index.php3> they make cinelerra which might do the job.

Since you posted the Powerpoint question you must have access to a windows PC. If this is the case you should at best be able to use Ronn's IDLtoAVI .dlm (if IDL is available on the PC). It is well documented and easy to use. If IDL isn't available on the PC the least you should be able to do is use a windows based tool to create the .avi files from your still frames. I use the shareware program videoMach (www.gromada.com) but there are undoubtedly many other programs that will work. The indeo codecs are at

www.ligos.com. You need to download and install the codecs, then reboot, before you can use them in videoMach.

The indeo codecs will work quite well. I think that in your case (linux support) they are the best choice. In my test cases visually they performed almost identically but the version 5 codec was speedier. Note that you will need the correct codec on *any* machine you wish to play your video on.

There is still a lot to know. Each codec can be tuned for your particular application, often to great benefit. It will take some time working with them to arrive at the best settings for your particular animation.

-Rick

Subject: Re: mpeg next question
Posted by [David Fanning](#) on Wed, 02 Oct 2002 12:56:37 GMT
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Rick Towler (rtowler@u.washington.edu) writes:

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Can I ask a dumb question? What does the word "codec" mean, exactly? :-)

Cheers,

David

--

David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: mpeg next question

David,

codec = "coder/decoder"

sort of like modem = "modulator / demodulator"

Doug

In <MPG.18049af5ed7a42479899cc@news.frii.com> David Fanning wrote:

> Rick Towler (rtowler@u.washington.edu) writes:

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