

---

Subject: animated png: a new format for scientific animations

Posted by [pgrigis](#) on Wed, 21 May 2008 14:28:23 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

Hi folks,

production of animations (i.e. movies) is one perennial subject of discussion in this group. One of the main difficulties is the large number of mutually incompatible formats, not always equally well supported by different platforms and softwares.

Furthermore, scientific animations are not well suited to lossy compression schemes (i.e. jpeg, mpeg etc.) such that the quality is in general low, or the file size huge when higher bitrate is used.

For still images, the alternative png format has been available for some time, and has become the format of choice for plots etc. So it seems quite logical that png animations should be the way to go. The mozilla folks have come up with a new specification for animated pngs that is supported in firefox 3. I tried out the new format and I can confidently say that the quality is much better than any other movie format I have ever seen, and the file size is quite reasonable.

I've put up an example, but bear in mind that to be able to see the animated png you'll need the firefox 3 beta (release candidate)!

The web page show the animated png and 3 quicktime movies of increasing quality (and file size!).

<http://hea-www.harvard.edu/~pgrigis/scianim/index.html>

Of course, the availability (finally!) of a good format specification for scientific animations does not mean that it is easy or convenient to use. The main problem now are the fact that only a few player and encoders are available.

On the other hand, you can play the movies with firefox 3 and you can encode the images using

a (closed source) command line java utility  
(<http://www.reto-hoehener.ch/japng/>), therefore  
at least a minimum of multiplatform support already  
exist.

Anyway, if you are willing to live with the limited  
support for the format, it will probably give you  
the best quality for your scientific animations  
(and arguably is still a better solution than having  
IDL open and issuing for `i=0,100 do tv,img[*,*,i] ;-`)

Ciao,  
Paolo

---

---

Subject: Re: animated png: a new format for scientific animations

Posted by [David Fanning](#) on Fri, 23 May 2008 02:49:25 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

Mark writes:

> AVI with MS Video 1 codec, 85% quality. Play it with Imagen. All you  
> need (on Windows, anyway).

I'm trying to download that codec right now. I'm told it's,  
uh, obsolete. Course if you wanted to pair it up with IDL 5.6,  
you'd have a hell of a package! ;-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

---

---

Subject: Re: animated png: a new format for scientific animations

Posted by [Vince Hradil](#) on Fri, 23 May 2008 14:40:24 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

On May 22, 5:04 pm, Mark <[mark.h...@gmail.com](mailto:mark.h...@gmail.com)> wrote:

> AVI with MS Video 1 codec, 85% quality. Play it with Imagen. All you  
> need (on Windows, anyway).

>

> Re animated PNG, I'm sceptical. A group of enthusiastic, very smart

- > people spent years developing MNG with the intention it would replace
- > animated GIFs. All that effort came to nothing, basically, because 10
- > years on there are very few applications that support it. As to the
- > reasons for the failure, I'm sure someone could write a book about it.

That codec looks really "blotchy" to me. Not the type of quality I want. I would prefer my videos to look like a slide-show of very high quality images - I've used huffyuv lossless compression for avis, but then you have to worry about the decode part if you want someone else to look at it on his/her computer.

For these reasons, I think aPNG or MNG are great alternatives, but I agree with your assessment - not enough support. aGIFs are nice, but then there's that patent issue.

What else should I try? Flash...?

Cheers,  
Vince

P.S. ImageN for scientific animations?

---

Subject: Re: animated png: a new format for scientific animations  
Posted by [Mark\[1\]](#) on Sun, 25 May 2008 23:00:24 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

On May 24, 2:40 am, Vince Hradil <hrad...@yahoo.com> wrote:

- > On May 22, 5:04 pm, Mark <mark.h...@gmail.com> wrote:
- >
- >> AVI with MS Video 1 codec, 85% quality. Play it with Imagen. All you
- >> need (on Windows, anyway).
- >
- > That codec looks really "blotchy" to me.

Odd. I don't find that at all. You've set the quality high enough? On the scenes I use (with lots of lines and 256-colour plots) 85% quality is pretty well lossless. This codec supports only 16-bit colour, so smooth gradients in colour can be reduced to bands in some circumstances.

Here's a couple of examples:

<ftp://ftp.niwa.co.nz/incoming/hadfieldm/animation/example/example-msvc.avi.gz>  
<ftp://ftp.niwa.co.nz/incoming/hadfieldm/animation/example2/example2-msvc.avi.gz>

- > P.S. ImageN for scientific animations?

What's the question? I was referring to Gromada's Imagen:

<http://www.gromada.com/imagen.html>

---

---

Subject: Re: animated png: a new format for scientific animations

Posted by [Mark\[1\]](#) on Sun, 25 May 2008 23:08:05 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

On May 23, 2:49 pm, David Fanning <n...@dfanning.com> wrote:

> Mark writes:

>> AVI with MS Video 1 codec, 85% quality. Play it with Imagen. All you

>> need (on Windows, anyway).

>

> I'm trying to download that codec right now. I'm told it's,

> uh, obsolete.

What OS/version are you downloading it for? It is bundled with all Windows versions up to XP.

---

---

Subject: Re: animated png: a new format for scientific animations

Posted by [Vince Hradil](#) on Mon, 26 May 2008 00:33:32 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

On May 25, 6:00 pm, Mark <mark.h...@gmail.com> wrote:

> On May 24, 2:40 am, Vince Hradil <hrad...@yahoo.com> wrote:

>

>> On May 22, 5:04 pm, Mark <mark.h...@gmail.com> wrote:

>

>>> AVI with MS Video 1 codec, 85% quality. Play it with Imagen. All you

>>> need (on Windows, anyway).

>

>> That codec looks really "blotchy" to me.

>

> Odd. I don't find that at all. You've set the quality high enough? On

> the scenes I use (with lots of lines and 256-colour plots) 85% quality

> is pretty well lossless. This codec supports only 16-bit colour, so

> smooth gradients in colour can be reduced to bands in some

> circumstances.

>

> Here's a couple of examples:

>

> [ftp://ftp.niwa.co.nz/incoming/hadfieldm/animation/example/ex](ftp://ftp.niwa.co.nz/incoming/hadfieldm/animation/example/example-msv...)

[ample-ftp://ftp.niwa.co.nz/incoming/hadfieldm/animation/example2/example2-m...](ftp://ftp.niwa.co.nz/incoming/hadfieldm/animation/example2/example2-m...)

>

>> P.S. ImageN for scientific animations?

>

> What's the question? I was referring to Gromada's Imagen:

>

> <http://www.gromada.com/imagen.html>

Ah - different Imagen...

I have image series from mri, not just lines. It's the mri that look that way. Thanks.

---