Making a movie

Lisbon Workshop
October 2006

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These movies were made with mpeg2encode
(http://www.mpeg.org/)

See Application Developer Guide, Visualization,
Making A Movie (from next release)

Mpeg files

- If this presentation doesn't run on your computer
  - The movies can be downloaded from http://www.hep.man.ac.uk/u/johna/pub/Geant4/Movies/
  - Individual files are indicated on relevant slides
  - Get a Mac

Method

- Produce lots of files; for example
  - /vis/oglx/set/printEPS true
    /control/loop movie.loop theta 0 360 1
  - where movie.loop is
    /vis/viewer/set/viewpointThetaPhi {theta} 30
    /vis/viewer/zoom 1.005
    /vis/viewer/update

- Convert to ppm files for mpeg2encode
  - for i in G4OpenGL*eps; do j=`basename $i .eps`;
    convert $i $j.ppm; done

mpeg2encode parameter file

- I found a helpful shell script
  - make_mpeg2encode_parfile.sh G4OpenGL_*eps
- Edit resulting mpeg2encode.par
  - 2   /* input picture file format: 2=*.ppm */
    1   /* aspect_ratio_information 1=square */
- Encode
  - mpeg2encode mpeg2encode.par G4OpenGL.mpg
- Very messy and time consuming
- Documented in next release

Quality

- Quality disappointing
  - No reason why mpeg2 should be so poor
  - 50 parameters; not learnt how to drive
- Or buy QuickTime Pro (Windows and Mac)
  - Not expensive (£20)
  - Convert to gif and File->Open Image Sequence
  - Export to mpeg4
  - Much superior quality

DAWNFILE

produces prim files, dawn converts to eps files, convert (Image Magick) converts to ppm files for input to mpeg2encode.

QuickTime™ and a
YUV420 codec decompressor
are needed to see this picture.

DAWN.mpg

/vis/oglx/set/ printEPS

A collection of shapes

Some artifices of "painter's algorithm"

Text lost in printEPS at present

QuickTime™ and a
YUV420 codec decompressor
are needed to see this picture.

RayTracer

Notice cyan shape not currently renderable in other drivers

Transparency respected

Took 3 days CPU time

g4RayTracer.mpg

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YUV420 codec decompressor
are needed to see this picture.