

Visualisation features in examples

What features of visualisation should
we put in the vis.mac file?

viewer-0 (OpenGLStoredQt)

Run 0 (10 events) Tue Sep 4 12:07:20 2012

Shape2

Shape1

10 cm

G4

Geant4 exampleB1

Scene tree : viewer-0 (OpenGLStoredQt)

- ▶ Axes
- ▶ Date
- ▶ Frame
- ▶ Logo
- ▶ Logo2D
- ▶ Scale
- ▶ Text
- ▶ Text2D
- ▶ Touchables

Touchables slider

Show all Hide all

Search :

Session :

Output

```

### Run 0 start.
Start Run processing.
---> Begin of event: 0
Run terminated.
Run Summary
Number of events processed : 10
User=0.03s Real=0.2s Sys=0s
-----End of Run-----
The run consists of 10 gamma of 6 MeV
Dose in scoring volume Shape2 : 0.780212 picoGy +- 0.51526 picoGy
-----
10 events have been kept for refreshing and/or reviewing.
    
```

clear Filter :

Lights vector

```
# Specify view angle:  
-/vis/viewer/set/viewpointThetaPhi 90. 180.  
+/vis/viewer/set/viewpointVector -1 0 0  
+/vis/viewer/set/lightsVector -1 0 0
```

A nice view

```
# To get nice view  
/vis/geometry/set/visibility World 0 false  
/vis/geometry/set/visibility Envelope 0 false  
/vis/viewer/set/style surface  
/vis/viewer/set/hiddenMarker true  
/vis/viewer/set/viewpointThetaPhi 120 150
```

Name

```
# Name
```

```
/vis/set/textColour green
```

```
#/vis/set/textLayout right
```

```
#/vis/scene/add/text2D 0.9 -.9 24 !! exampleB1
```

```
# or
```

```
/vis/scene/add/text2D 0 -.9 24 !! exampleB1
```

```
/vis/set/textLayout # Revert to normal (left adjusted) layout
```

```
/vis/set/textColour # Revert to default text colour (blue)
```

Axes, scale, etc.

Axes, scale, etc.

/vis/scene/add/scale # Simple scale line

/vis/scene/add/axes # Simple axes: x=red, y=green, z=blue.

/vis/scene/add/eventID # Drawn at end of event

/vis/scene/add/date # Date stamp

/vis/scene/add/logo2D # Simple logo

/vis/scene/add/logo # 3D logo

Frame

```
# Frame  
/vis/set/colour red  
/vis/set/lineWidth 2  
/vis/scene/add/frame # Simple frame around the view  
/vis/set/colour      # Revert to default colour (white)  
/vis/set/lineWidth  # Revert to default line width (1.)
```

Labels

Attach text to one edge of Shape1, with a small, fixed offset

```
/vis/scene/add/text 0 6 -4 cm 18 4 4 Shape1
```

Attach text to one corner of Shape2, with a small, fixed offset

```
/vis/scene/add/text 6 7 10 cm 18 4 4 Shape2
```


Status of vis drivers

| Driver | Variant | Geometry | Text | Text2D | TextLayout | Other2D |
|-----------------------|----------|-------------|---|---|---|---|
| OpenGL | X | Implemented | Implemented | Implemented | Implemented | Implemented |
| | Xm | Implemented | Implemented | Implemented | Implemented | Implemented |
| | Qt | Implemented | Implemented | Implemented | Implemented | Implemented |
| | Win32 | Implemented | Should be implemented | Should be implemented | Would be nice to implement | Should be implemented |
| | printEPS | Implemented | Should be implemented | Should be implemented | Would be nice to implement | Implemented |
| OpenInventor | Xt | Implemented | Should be implemented | Should be implemented | Would be nice to implement | Should be implemented |
| | Win32 | Implemented | Should be implemented | Should be implemented | Would be nice to implement | Should be implemented |
| DAWN & DAWNFILE | | Implemented | Implemented | Implemented | Would be nice to implement | Would be nice to implement |
| VRML1/2 & VRML1/2FILE | | Implemented | Would be nice to implement | Would be nice to implement | Would be nice to implement | Would be nice to implement |
| HepRep | | Implemented | Would be nice to implement | Would be nice to implement | Would be nice to implement | Would be nice to implement |
| HepRepFile | | Implemented | Would be nice to implement | Implemented | Would be nice to implement | Would be nice to implement |
| gMocren | | Implemented | Not necessary nor possible to implement | Not necessary nor possible to implement | Not necessary nor possible to implement | Not necessary nor possible to implement |
| RayTracer | | Implemented | Not necessary nor possible to implement | Not necessary nor possible to implement | Not necessary nor possible to implement | Not necessary nor possible to implement |

- Implemented
- Not necessary nor possible to implement
- Would be nice to implement
- We should put effort into implementing

Other issues

- Make proper use of command line arguments
 - `./exampleB1 --macro run1.mac --session tcsh`
 - `./exampleB1 --session tcsh run1.mac` (Posix compliant)
 - `./exampleB1 run1.mac --session tcsh` (interactive)
 - `./exampleB1 --session tcsh` (executes `vis.mac`)
 - `./exampleb1 run1.mac` (batch)
 - `./exampleB1 -- macro run1.mac` (batch)