

Simple OpenGL with OpenGL::Simple

Jonathan Chin <jon-techtalk@earth.li>

July 2004



Why?

- ▶ `OpenGL.pm` is unmaintained.

Why?

- ▶ OpenGL.pm is unmaintained.
- ▶ OpenGL.pm is difficult/impossible to build.

Why?

- ▶ OpenGL.pm is unmaintained.
- ▶ OpenGL.pm is difficult/impossible to build.
- ▶ OpenGL.pm is fiddly to use anyway.

Texture mapping in OpenGL.pm

```
sub read_ascii_ppm{
    local($file) = @_; local($w,$h,$image); local(@image);
    open(PPM,"<$file") || die "cant open $file";
    (<PPM>);                # the first line is just a header: "P3"
    (<PPM>);                # The second line is a comment
    ($_=<PPM>);             # the 3rd line gives width and height
    m/(\d+)\s+(\d+)/; $w=$1 ; $h=$2 ;
    ($w>=64 && $h>=64 && $w<10000 && $h<10000) || die "strange sizes $w,$h";
    ($_=<PPM>);             # 4th line is depth (should be 255)
    (/255/) || die " improper depth $_";
    $image="";
    while(<PPM>) { chop; $image .= $_ . " "; }
    @image=split(/\s+/, $image);
    $size=$w*$h*3;
    ($size == $#image +1) || die "array length $#image +1 differs from expected size $size" ;
    $image=pack("C$size",@image);
    close(PPM);
    ($w,$h,$image);
}

[...]
```

glTexImage2D(GL_TEXTURE_2D, 0, 3, \$w,\$h, 0, GL_RGB, GL_UNSIGNED_BYTE,\$image);

Texture mapping in OpenGL::Simple

```
my $img = new Imager;  
$img->read(file=>'texture.png');  
glTexImage2D(image => $img);
```



Polymorphic interface

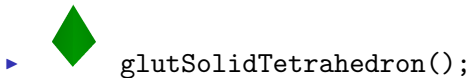
```
glVertex2d(1,2);  
glVertex3d(3,4,5);  
glVertex4d(6,7,8,9);
```

Polymorphic interface

```
glVertex(1,2);  
glVertex(3,4,5);  
glVertex(6,7,8,9);
```

The Six Platonic Solids

The Six Platonic Solids



The Six Platonic Solids



▶ `glutSolidTetrahedron();`



▶ `glutSolidCube(1.0);`

The Six Platonic Solids

▶  `glutSolidTetrahedron();`

▶  `glutSolidCube(1.0);`

▶  `glutSolidOctahedron();`

The Six Platonic Solids



▶ `glutSolidTetrahedron();`



▶ `glutSolidCube(1.0);`



▶ `glutSolidOctahedron();`



▶ `glutSolidDodecahedron();`

The Six Platonic Solids

▶  `glutSolidTetrahedron();`

▶  `glutSolidCube(1.0);`

▶  `glutSolidOctahedron();`

▶  `glutSolidDodecahedron();`

▶  `glutSolidIcosahedron();`

The Six Platonic Solids



▶ `glutSolidTetrahedron();`



▶ `glutSolidCube(1.0);`



▶ `glutSolidOctahedron();`



▶ `glutSolidDodecahedron();`



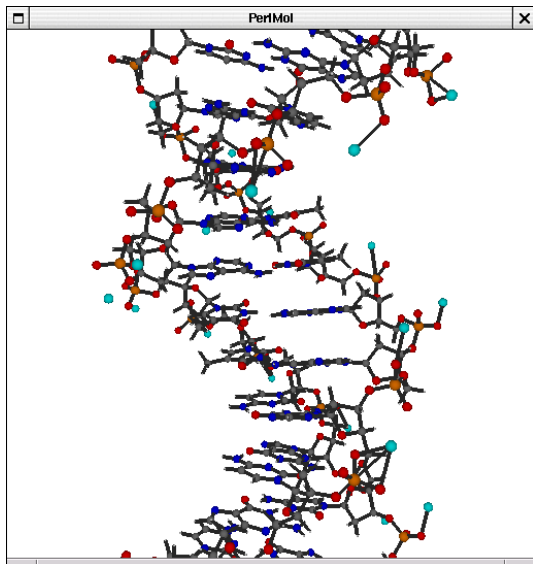
▶ `glutSolidIcosahedron();`

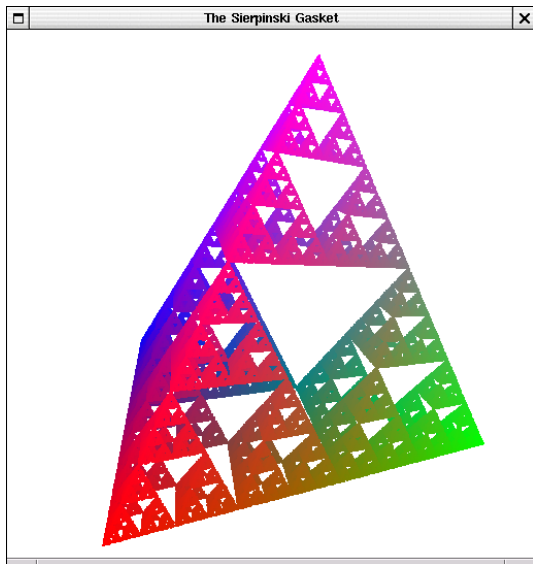


▶ `glutSolidTeapot(1.0);`

```
use OpenGL::Simple::Viewer;  
use OpenGL::Simple::GLUT ':all';  
  
glutInit;  
  
$v=new OpenGL::Simple::Viewer(  
    draw_geometry=> sub { glutSolidTeapot(1.0); }  
);  
  
glutMainLoop;
```







Why it sucks.

Why it sucks.

- ▶ Lots of stuff not implemented yet.

Why it sucks.

- ▶ Lots of stuff not implemented yet.
- ▶ No automated test suite (ideas?)

OpenGL::Simple

OpenGL::Simple

- ▶ It's simple.

OpenGL::Simple

- ▶ It's simple.
- ▶ It does OpenGL.