

CS550 - Intro to Computer Graphics

Project - 4 - KeyTime Animation

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I have displayed a dinosaur using a dino obj file and a solid torus which looks like a donut and my theme was a dinosaur will be eating a donut. I have used glutSolidTorus for creating the donut. I have created with the rotation scaling and change of position for both donut and dinosaur. I have created a lighting as well which changes colour and changes position. Everything in this project changes at least 3 quantities for start and end of keyframes. I have created 6 key frames.

Animation quantities

Position(XPos_1, YPos_1, ZPos_1)

Scaled

Rotation(Rotn)

Color(Color_R, Color_G, Color_B)

EyeView(Eye_Pos_X, Eye_Pos_Y, Eye_Pos_Z)

LightColor(Light_Color_R, Light_Color_G, Light_Color_B)

LightPosition(Light_Pos)

A table showing your keytime values for each quantity. It is OK just to include the lines of code that set them.

```
Xpos_1.Init();
```

```
Xpos_1.AddTimeValue(0.0, -1.5);
```

```
Xpos_1.AddTimeValue(1.0, -1.0);
```

```
Xpos_1.AddTimeValue(3.0, 2.5);
```

```
Xpos_1.AddTimeValue(6.0, 2.8);
```

```
Xpos_1.AddTimeValue(9.0, -2.8);
```

```
Xpos_1.AddTimeValue(10.0, -1.0);
```

```
YPos_1.Init();
```

```
YPos_1.AddTimeValue(0.0, -1.5);
```

```
YPos_1.AddTimeValue(1.0, 1.5);
```

```
YPos_1.AddTimeValue(3.0, 2.8);
```

```
YPos_1.AddTimeValue(6.0, -2.8);
```

```
YPos_1.AddTimeValue(9.0, -2.5);
```

```
YPos_1.AddTimeValue(10.0, -1.5);
```

```
ZPos_1.Init();
```

```
ZPos_1.AddTimeValue(0.0, -1.5);
```

```
ZPos_1.AddTimeValue(1.0, -1.5);
```

```
ZPos_1.AddTimeValue(3.0, -2.5);
```

```
ZPos_1.AddTimeValue(6.0, 2.9);
```

```
ZPos_1.AddTimeValue(9.0, 2.5);
```

```
ZPos_1.AddTimeValue(10.0, -1.5);
```

```
Rotn.Init();
```

```
Rotn.AddTimeValue(0.5, 5.0);
```

Rotn.AddTimeValue(2.0, 50.0);

Rotn.AddTimeValue(3.5, 100.0);

Rotn.AddTimeValue(6.5, 80.0);

Rotn.AddTimeValue(8.5, 60.0);

Rotn.AddTimeValue(10.0, 10.0);

Scaled.Init();

Scaled.AddTimeValue(1.3, 0.15);

Scaled.AddTimeValue(3.6, 0.25);

Scaled.AddTimeValue(5.4, 0.55);

Scaled.AddTimeValue(6.0, 0.3);

Scaled.AddTimeValue(8.2, 0.15);

Scaled.AddTimeValue(9.3, 0.25);

Color_R.Init();

Color_R.AddTimeValue(1.0, 0.1);

Color_R.AddTimeValue(3.8, 0.9);

Color_R.AddTimeValue(5.5, 0.3);

Color_R.AddTimeValue(6.8, 0.6);

Color_R.AddTimeValue(7.8, 0.9);

Color_R.AddTimeValue(10.0, 0.9);

```
Color_G.Init();
```

```
Color_G.AddTimeValue(1.0, 0.7);
```

```
Color_G.AddTimeValue(3.8, 0.1);
```

```
Color_G.AddTimeValue(5.5, 0.7);
```

```
Color_G.AddTimeValue(6.8, 0.9);
```

```
Color_G.AddTimeValue(7.8, 0.5);
```

```
Color_G.AddTimeValue(10.0, 0.7);
```

```
Color_B.Init();
```

```
Color_B.AddTimeValue(1.0, 0.5);
```

```
Color_B.AddTimeValue(3.8, 0.9);
```

```
Color_B.AddTimeValue(5.5, 0.1);
```

```
Color_B.AddTimeValue(6.8, 0.9);
```

```
Color_B.AddTimeValue(7.8, 0.7);
```

```
Color_B.AddTimeValue(10.0, 0.5);
```

```
Light_Pos.Init();
```

```
Light_Pos.AddTimeValue(0.0, 1.2);
```

```
Light_Pos.AddTimeValue(2.0, -1.2);
```

```
Light_Pos.AddTimeValue(4.0, 1.8);
```

```
Light_Pos.AddTimeValue(7.0, 1.3);
```

```
Light_Pos.AddTimeValue(8.0, 4.5);
```

```
Light_Pos.AddTimeValue(10.0, 1.2);
```

```
Light_Color_R.Init();
```

```
Light_Color_R.AddTimeValue(1.0, 0.1);
```

```
Light_Color_R.AddTimeValue(3.8, 0.8);
```

```
Light_Color_R.AddTimeValue(5.5, 0.2);
```

```
Light_Color_R.AddTimeValue(6.8, 0.4);
```

```
Light_Color_R.AddTimeValue(7.8, 0.8);
```

```
Light_Color_R.AddTimeValue(10.0, 0.8);
```

```
Light_Color_G.Init();
```

```
Light_Color_G.AddTimeValue(1.0, 0.6);
```

```
Light_Color_G.AddTimeValue(3.8, 0.1);
```

```
Light_Color_G.AddTimeValue(5.5, 0.6);
```

```
Light_Color_G.AddTimeValue(6.8, 0.8);
```

```
Light_Color_G.AddTimeValue(7.8, 0.4);
```

```
Light_Color_G.AddTimeValue(10.0, 0.6);
```

```
Light_Color_B.Init();
```

```
Light_Color_B.AddTimeValue(1.0, 0.3);  
  
Light_Color_B.AddTimeValue(3.8, 0.8);  
  
Light_Color_B.AddTimeValue(5.5, 0.1);  
  
Light_Color_B.AddTimeValue(6.8, 0.8);  
  
Light_Color_B.AddTimeValue(7.8, 0.6);  
  
Light_Color_B.AddTimeValue(10.0, 0.3);
```

```
Eye_Pos_X.Init();  
  
Eye_Pos_X.AddTimeValue(1.6, 1.5);  
  
Eye_Pos_X.AddTimeValue(3.2, 1.5);  
  
Eye_Pos_X.AddTimeValue(4.8, -0.5);  
  
Eye_Pos_X.AddTimeValue(6.4, -1.5);  
  
Eye_Pos_X.AddTimeValue(8.0, -1.5);  
  
Eye_Pos_X.AddTimeValue(10.0, 1.5);
```

```
Eye_Pos_Y.Init();  
  
Eye_Pos_Y.AddTimeValue(1.6, 4.0);  
  
Eye_Pos_Y.AddTimeValue(3.2, 4.0);  
  
Eye_Pos_Y.AddTimeValue(4.8, 4.0);  
  
Eye_Pos_Y.AddTimeValue(6.4, 4.0);  
  
Eye_Pos_Y.AddTimeValue(8.0, 4.0);
```

```
Eye_Pos_Y.AddTimeValue(10.0, 4.0);
```

```
Eye_Pos_Z.Init();
```

```
Eye_Pos_Z.AddTimeValue(1.6, 0.5);
```

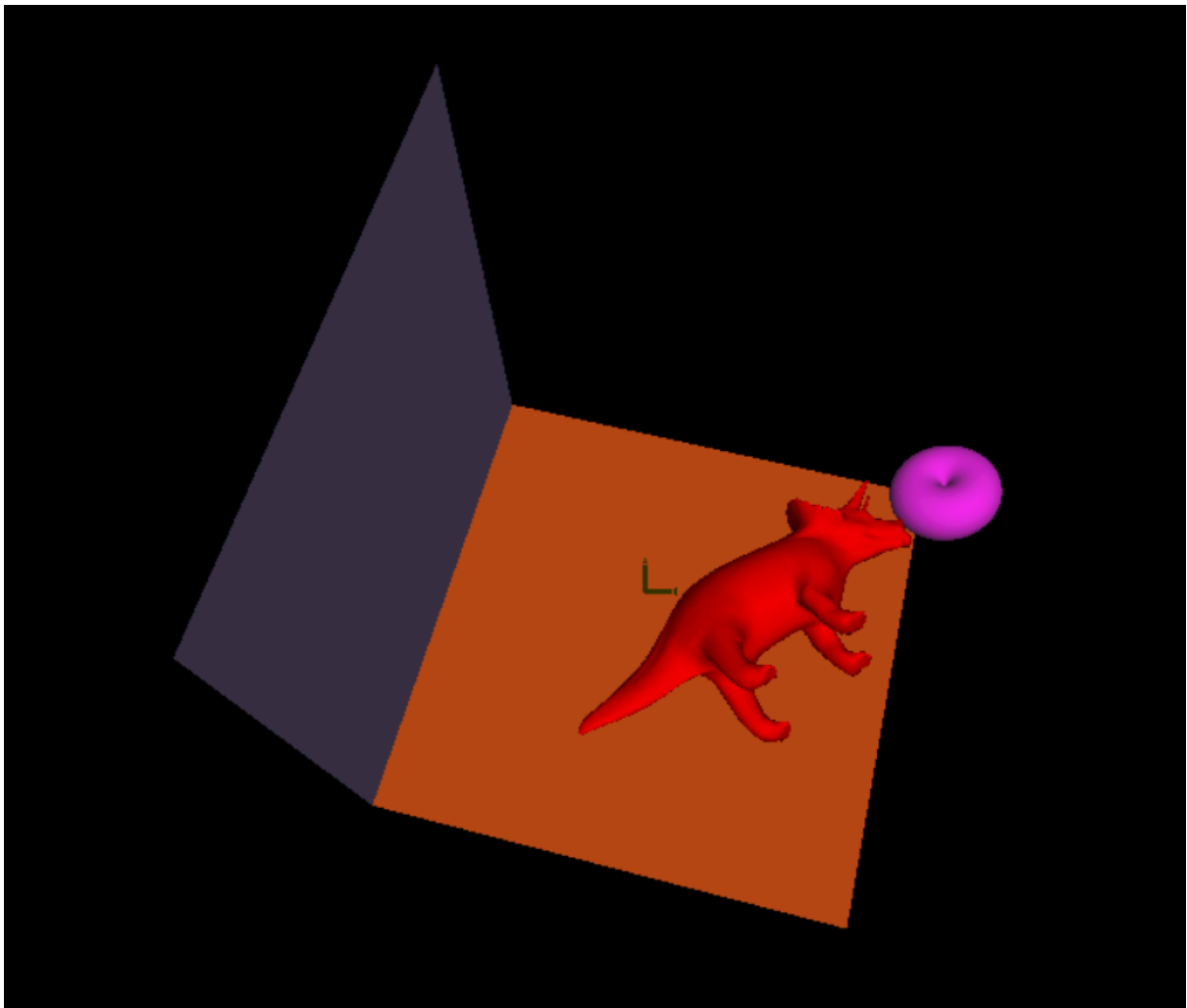
```
Eye_Pos_Z.AddTimeValue(3.2, 1.5);
```

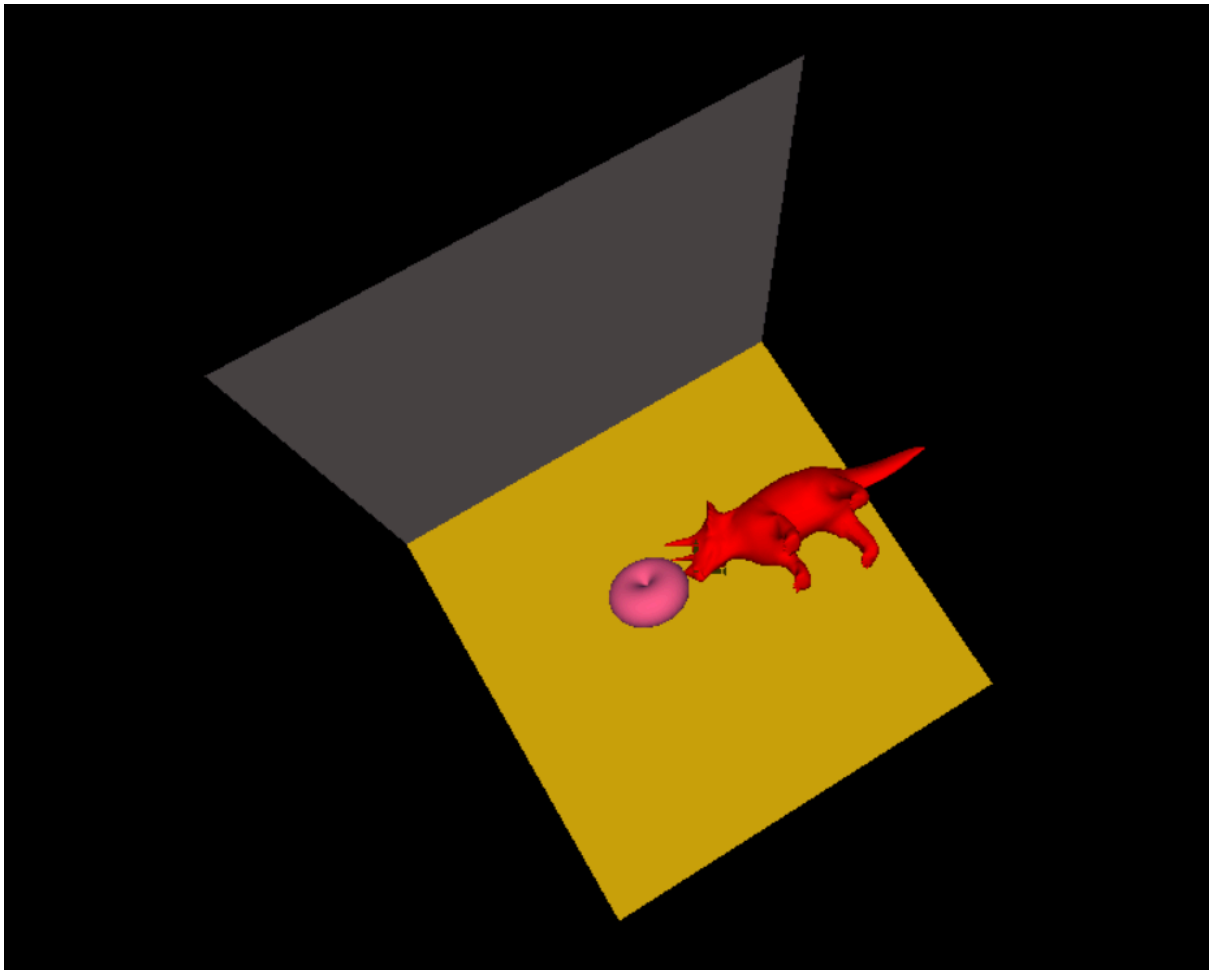
```
Eye_Pos_Z.AddTimeValue(4.8, 1.5);
```

```
Eye_Pos_Z.AddTimeValue(6.4, 1.5);
```

```
Eye_Pos_Z.AddTimeValue(8.0, 0.5);
```

```
Eye_Pos_Z.AddTimeValue(10.0, 0.5);
```





Video Link - https://media.oregonstate.edu/media/t/1_n7r0mtb6

Extra Credit - Animation Quantities

Position - Xpos_1, Ypos_1, Zpos_1