

## CS402 Project Possibilities:

1. Rubik's Cube
2. A Maze
3. Story Animation
4. Morphing (Betweening)
5. Abstract Machine (FSA, Pushdown, Turing)
6. Data Structures (trees, queues, stacks, lists)
7. Game (such as billiards)
8. Design Tool (Boxes, arrows, etc. for a software engineering environment)
9. Appearance changes (different hair colors, etc)
10. City Scene at various times (Night and Day) possibly with fog
11. Beach Scene at various times (Sunrise and Sunset) possibly with fog
12. Airport with control tower (Lighting could be interesting)
13. Scenes with water or snow
14. Physical properties display (gravity, magnetic attraction)
15. Biological Models (beating heart, motion of walking, etc.)
16. Fractals
17. Walk through a scene with a flashlight
18. 3D histograms to represent data
19. 3D drawing program to allow users to build houses, etc.
20. Allow users to manipulate images from files

## Requirements

The project should incorporate ideas of representation of objects, user interaction, lighting, a variety of views, something new such as texture, curves, hierarchical models.

There should be a general problem statement that defines what the project does.

Every project should include commentary (some embedded in the program and some general overview) that explains the work. You should include some explanation about the underlying mathematics you are using.

There should be explanation about how OpenGL supports the work. For example, when you do rotations or translations, you need to explain what is happening mathematically in each OpenGL call. You should include some comments about efficiency considerations.

## Grade

Statement:	25
Program:	150
Program Commentary:	25
Additional Commentary:	
Math:	50
OpenGL	25
Efficiency	25
Total:	300