

PH7: Virtual Museum

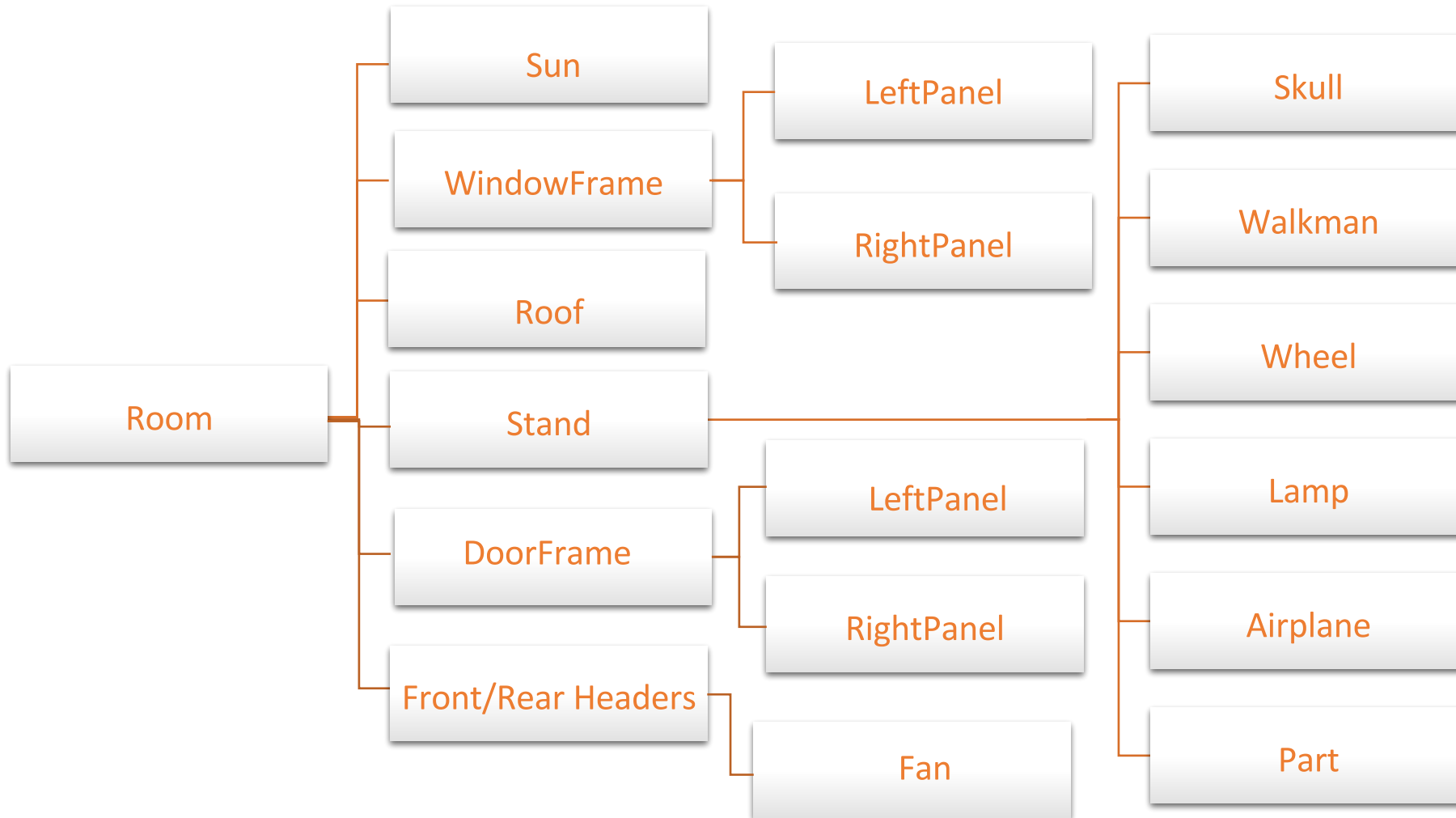
By

Hassan Salahe Matar & Pirah Noor Soomro

As a partial fulfillment of

Comp510

Program Structure



Main parts of the museum

1. The building
2. The Antiquities

Implementation of Tree structure

Object. h

Queues are used to implement the tree structure.

Generic methods like display, initialization, reshape and reset are implemented in the root class(Museum) and propagated to childs in object.h

Drawing Museum Objects

.ply files:

PLY is a computer file format known as the **Polygon File Format** used to store 3 Dimensional data from 3D scanners.

Museum objects like skull, airoplane, lamp etc.. Are drawn using their ply objects.

ply parser:

ply library has methods to read the data in it.

Overview of Drawing .ply objects



User Interface

Function	Keys		Function	Keys
Get help	h or H		Automatic Rotation on/off	a or A
Pick an object	mouse-click		Rotate Left	Left arrow key
Reset All	i or I		Rotate Right	Right arrow key
Zoom In	Z		Rotate Up	Up Arrow Key
Zoom out	z		Rotate Down	Down arrow key
Move Forward	f		Pick one object to rotate	left Mouse key
Move Backward	F		Open The door	click on door
Change Shading	s or S		Blending Windows	click on the window
Change Reflection	r or R		Quit/ close	q or Q
Change Projection	p or P			

Theoretical concepts implemented

Designing and rendering objects

Transformation

Shading

Picking

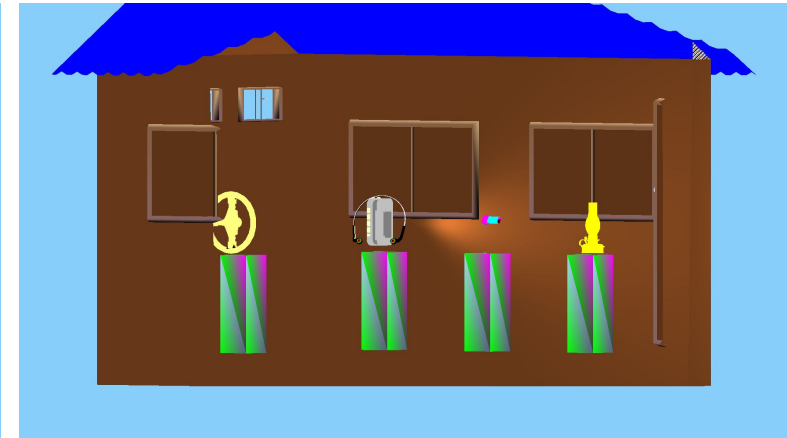
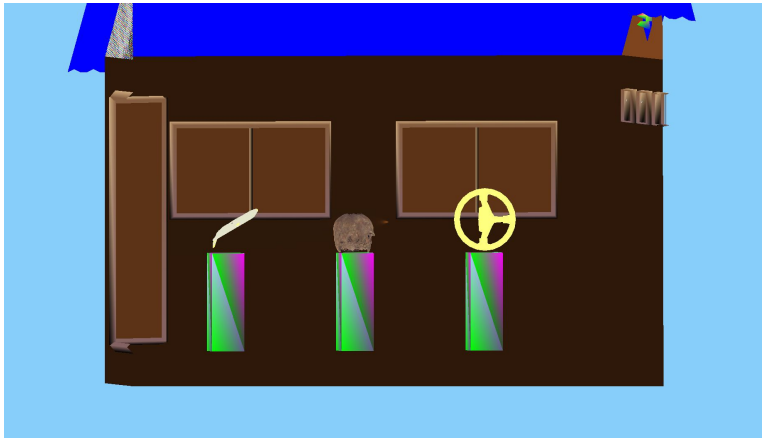
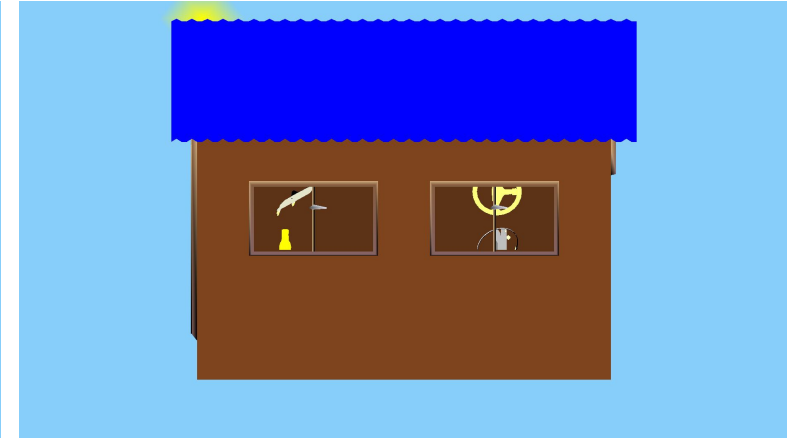
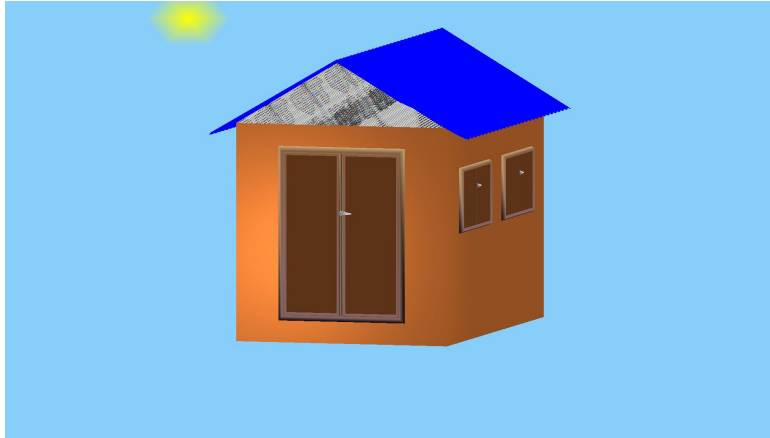
Texture Mapping

Projection (Orthographic/ Perspective)

Blending

Hierarchical Modeling

Some glimpses of virtual Museum



References

- Ply objects: <http://people.sc.fsu.edu/~jburkardt/data/ply/>
- BMP file reading:
<http://www.opengl-tutorial.org/beginners-tutorials/tutorial-5-a-textured-cube/>

Let's Run it now....