Computer Graphics

Nithya Vasantha Kumar

01689975

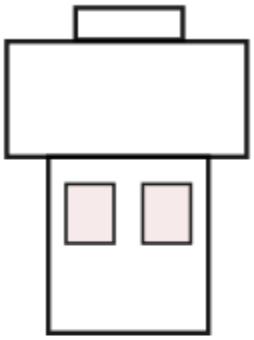
INDEX

INTRODUCTION

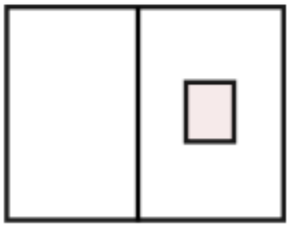
This project aims at creating a house in its different projections and trying to move it in different axis and rotating the drawing in different angles scaling the drawing to different scale and shearing it in different angles. I have also implemented how a cube appears when viewed in different angles and have created a 3D image rotation of a cube. By considering the isometric view of the house different textural mapping, bump mapping and environmental mapping has been implemented in the project.

FRONT

SIDE



TOP



1.TRANSLATE

This function moves the drawing by a certain distance according to the given value by the user by moving the range button. I have implemented functions to move the drawing in x- axis, y-axis and z-axis.

FRONT

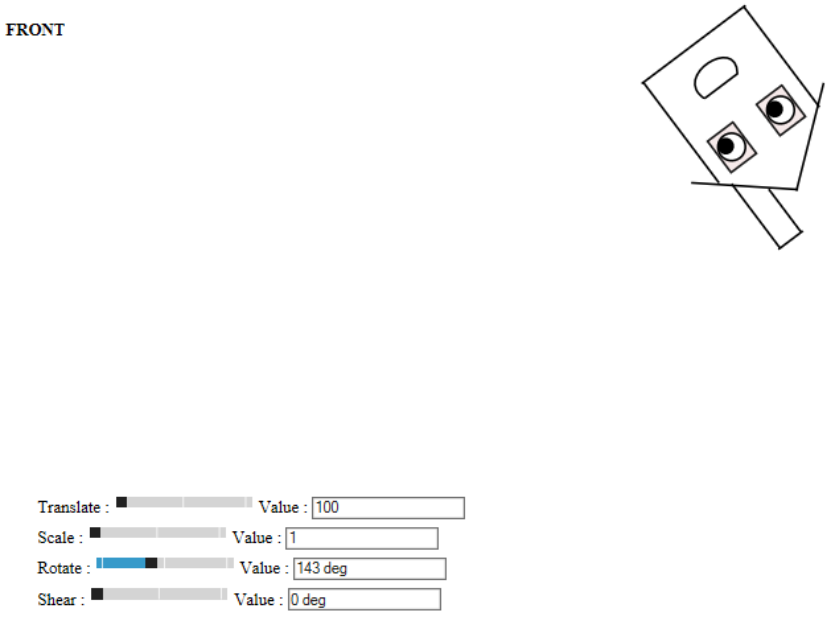
Translate : Value : 100
Scale : Value : 1
Rotate : Value : 0 deg
Shear : Value : 0 deg

FRONT

Translate : Value : 301
Scale : Value : 1
Rotate : Value : 0 deg
Shear : Value : 0 deg

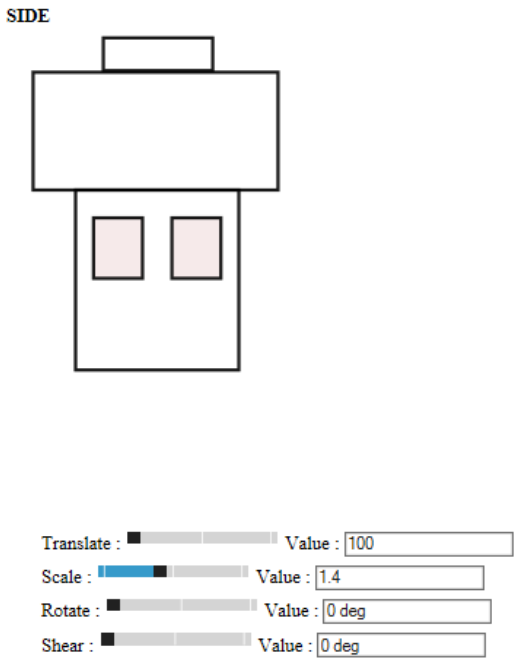
2. ROTATE

This function rotates the drawing by a certain angle according to the given value by the user by moving the range button in x-axis, y-axis and z-axis.

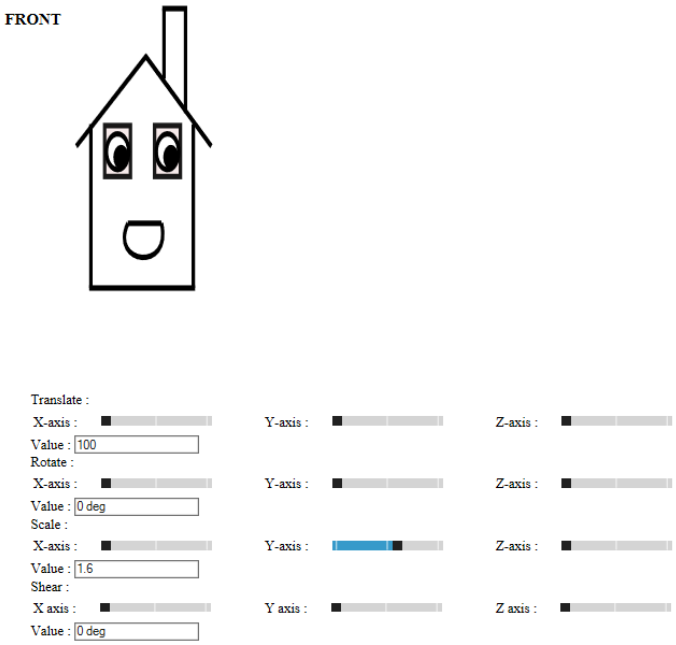


3. SCALE

This function scales up and increases the size of the object by the given value by the user by moving the range button.



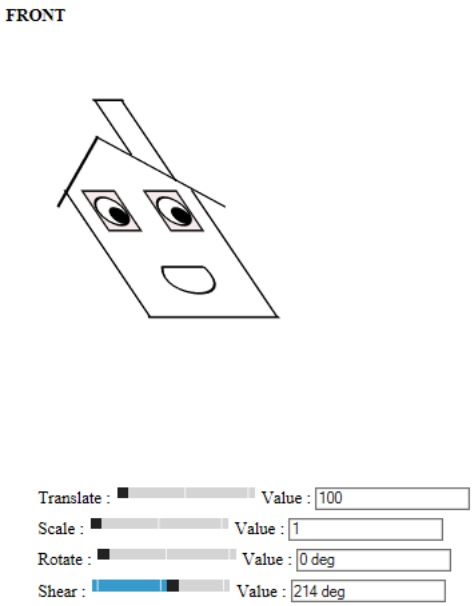
Scaled in x-axis



Scaled in y-axis

4.SHEAR

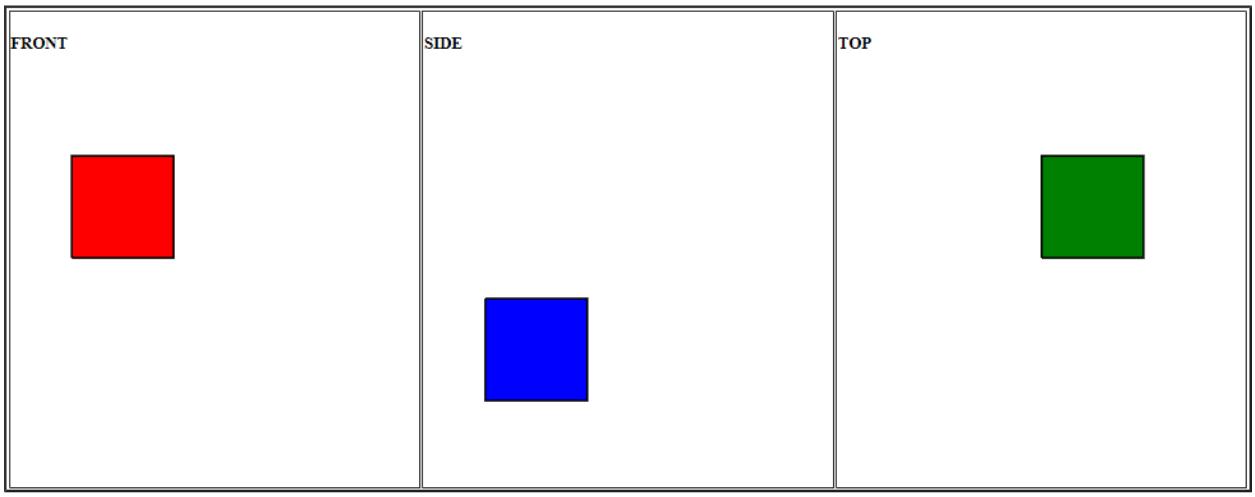
This function shears the drawing by a certain value as mention by the user by using the range button.



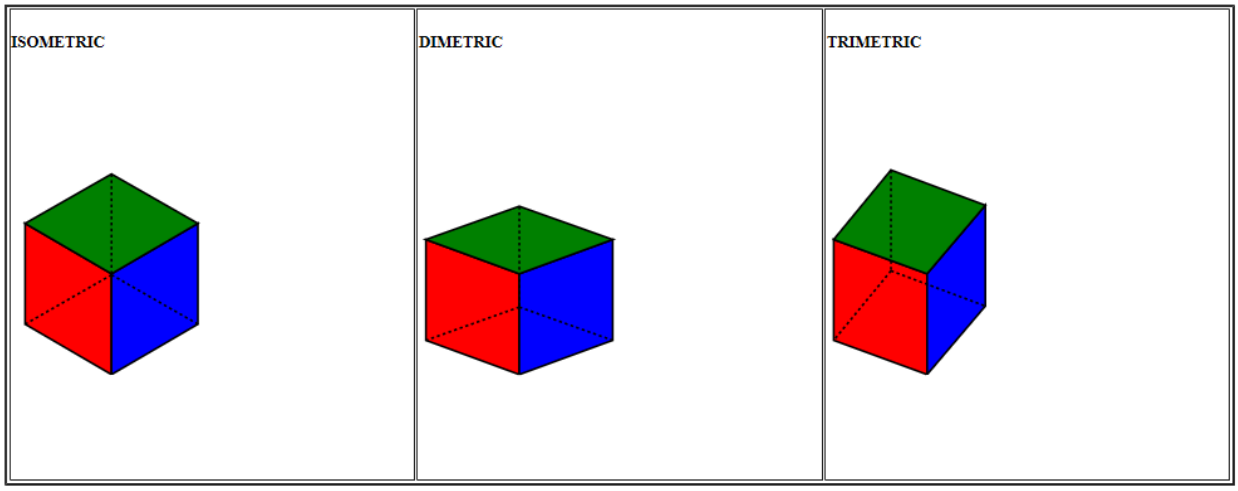
5. PROJECTION OF THE OBJECT

This shows how a cube can be viewed from a different angle.

a. Multiview orthographic

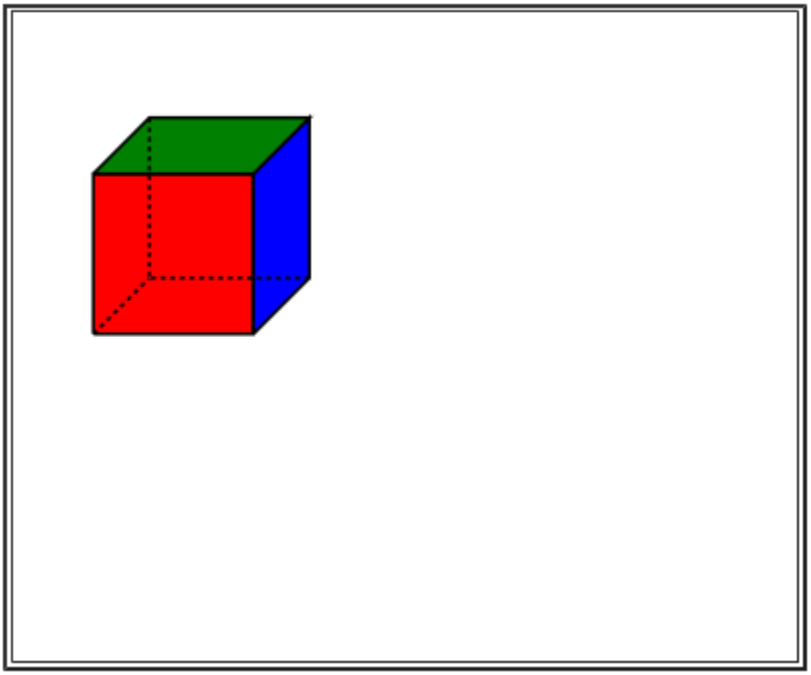


b. Isometric
c. Dimetric
d. Trimetric

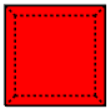
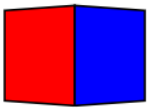
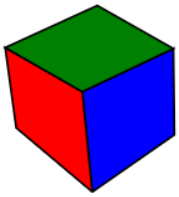


e. Oblique

3. Oblique



f. One point
g. Two point
h. Three point

ONE POINT	TWO POINT	THREE POINT
		

6. CREATE TEXTURE/BUMP/ENVIRONMENTAL MAPPING FOR THE OBJECT

I have tried to get the desired result using WebGL. I have chosen Inkscape tool to design 3d object (house). I have added bumpiness to walls using bricks and other textures (Bump Mapping). I have made roof look shiny using tiles (Environment Mapping). I have applied textures mapping for other parts of house like Windows, chimney etc. I have chosen Inkscape tool since it is easy to use, and it creates objects in SVG. It has a drawback of not having rotation feature, but I felt rotation is not necessary since main aim to the assignment is to create texture mapping. It provides a good feature to create different textures.