Computer Graphic I: Project Report

Project Name	My Parthenon
Description	Based on real Parthenon picture, I try to draw it or other objects by following methods: 1.(a) Draw three 2D "elevations" (front, top, side) (b) Enter coordinates: choose your model format(s) 2. Transform object: apply 3D (Translate/Rotate/Scale/SHear) transformations to the created object. 3. Viewing: view your created object from multiple views.(in 3d part) 4. Transform camera/viewer/light sources(s). 5. Generate different projections of the objects (refer to class discussions about different projections, see projection "tree" see figure). 6. Edit/Change perspective projection vanishing points (1, 2, 3). 7. Create texture/bump/environmental mappings for the object.
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Project Schedule

Date	Description
Week 1	I draw three 2D elevations: "front" is in left-top, "top" is in left-bottom, "side" is in right-top, they are presented as part of My Parthenon.
Week 2	I added transforms(Translate/Rotate/Scale/SHear) for each elevations, and used jQuery to control their parameters, which means user can input what numbers they want and then output the results.
Week 3	By combining my 2D elevations, I created a 3D rotate objection. And add a new button "Go to Camera/Light", which can link to transform camera/viewer/light sources. I put a cylinder in the side and a cube in the middle, user can click mouse and drag content to view effects of different light sources. The shadow will change according to light direction.
Week 4	Take a cube as a building, I draw “1 point perspective” in left-up side, “2 points perspective” in right-up side, and “3 points perspective” in left-down side. In addition, I added the Isometric of my Parthenon in right-down side.
Week 5	According to my 3D objection, I added texture mapping in my objection, and used a nature scene for environmental mapping.

Unexpected Events

Description	Impact	Actions Taken
Access to Image at 'file:///Users/XXX.png' from origin 'null' has been blocked by CORS policy: Invalid response. Origin 'null' is therefore not allowed access.	Cannot use image file from out source	Tried to bypass CORS, but it still failed.
Three.js cannot apply	The 3D functions cannot implement	I downloaded the three.js library documents and put in my project's folder. The problem solved.
Objection location is not I want	Objection was almost gone in the view	To figure out the relative distant with other objections, and find out which one is causing the problem. Make fixation and solve it.

Lessons Learned

Issue	Description
How to control variances what you want to change?	I learned how to use jQuery to implement the parameters change, for example, angle degrees, heights or sizes…etc.
Html, CSS, JavaScript	Before this class, they are strangers to me. But I am more familiar with them, due to I use them a lot of time in this semester.
Draw a graphic	I learned how to use SVG to draw a scalable vector graphic, it includes many functions that I can use to draw different shapes, and do transform functions.
Perform a 3D model	Compared to SVG, THREE.js is a better choice. Because it creates and displays animated 3D computer graphics in a web browser. More over, it has PerspectiveCamera function, that is why I choose THREE.js to solve camera and light part.