PROJECT SUBMISSION 2

Features and Improvements in Submission 2 :

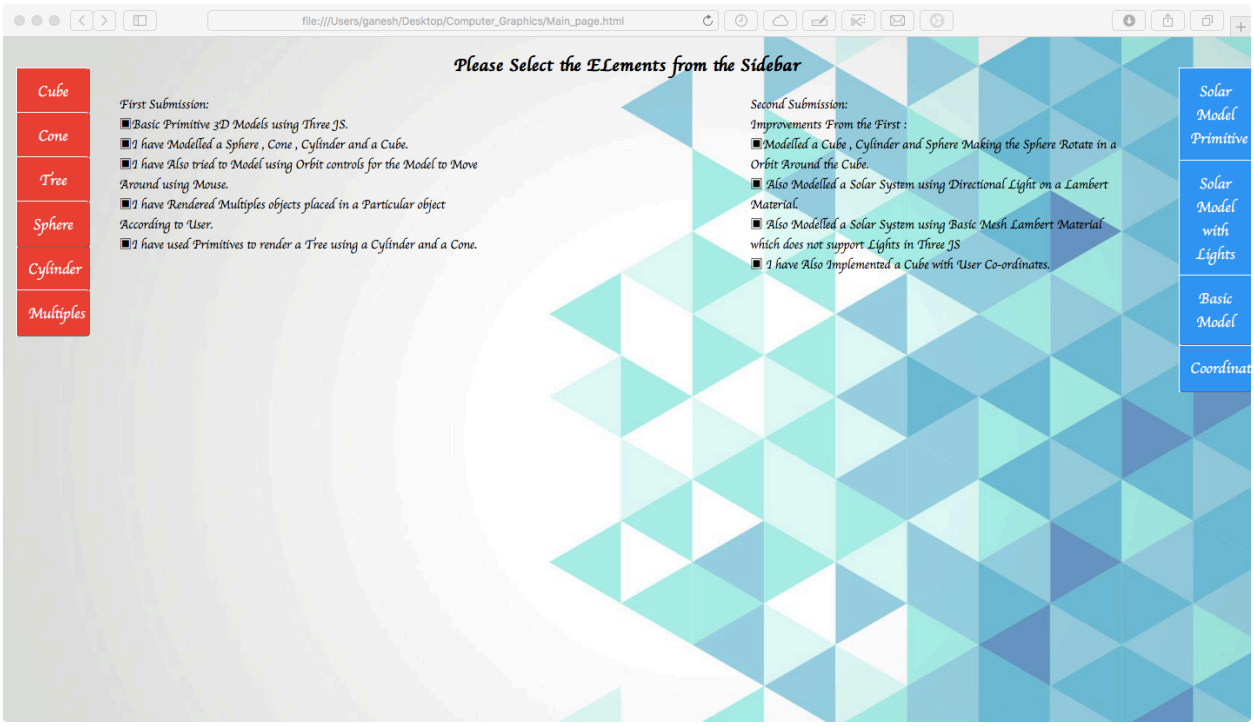
1. A 3D Cube Rendered with User Co-ordinates with Dynamic HTML DOM Manipulation using Javascript and Three JS to Accomplish the Task.
2. A primitive Rendering of a Solar System with Spheres Placed in a orbit and with the Orbits Drawn Around the sphere representing a planet in our Solar System.
3. A 3D rendering of a solar system using MeshLambert Material in three Js and with the orbits rotating to form a constructive basic Solar system.
4. A Basic rendering of a cube , Cylinder and 2 Spheres.

Note: The Position of the planets are random and not based on any hard Math or Calculations. The Solar System represented in my submission placed the sphere In set positions to get a better view of the system rendering.

Software , API, Editors used :

1. Brackets and Web-storm Editors t write HTML and Java scripts .
2. Three JS API which is a Web GL API available for Free on the Internet.
3. Chrome and Safari to test my Webpage.

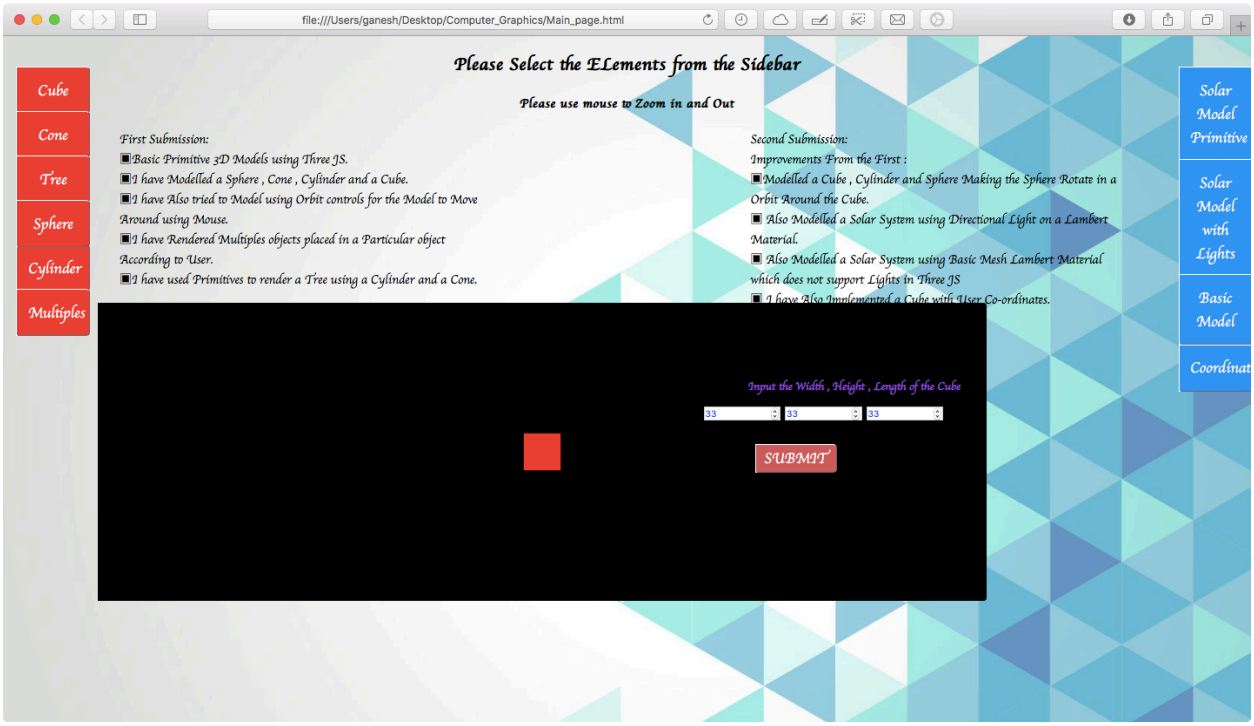
Features Explained :



- Tabs In RED are First Submission , BLUE are Second Submission

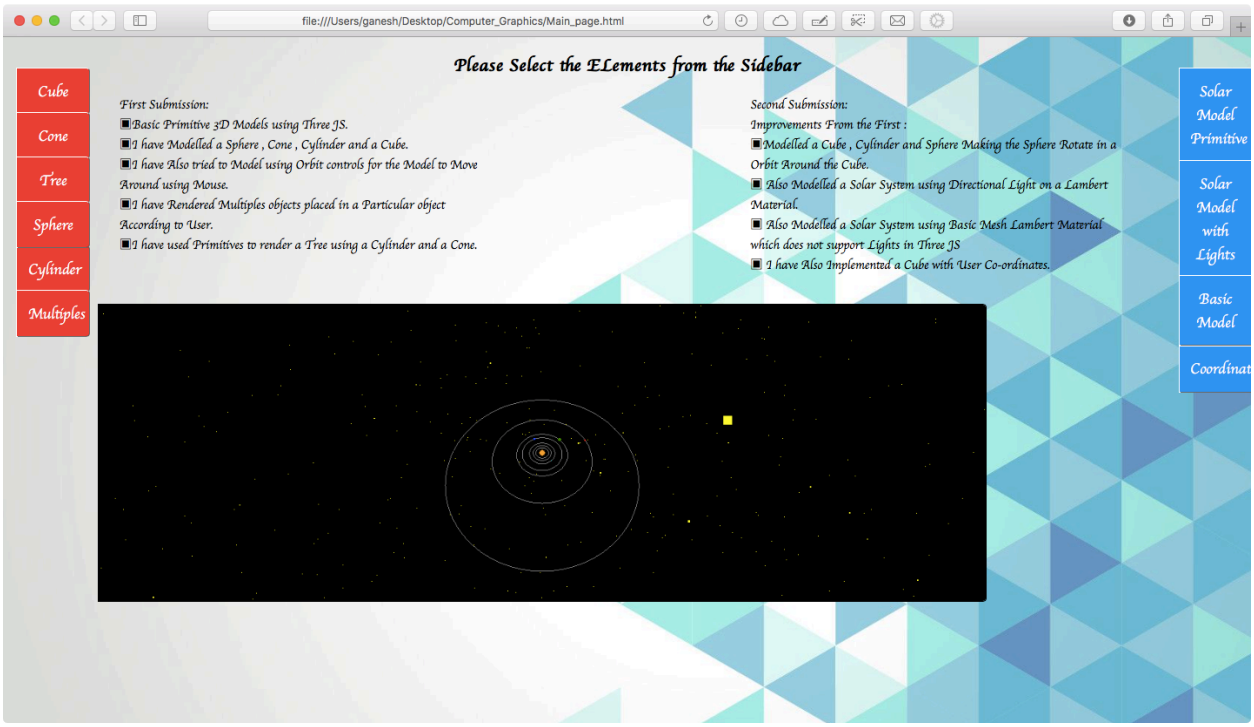
1. A 3D Cube Rendered with User Co-ordinates with Dynamic HTML DOM Manipulation using Javascript and Three JS to Accomplish the Task.

- Used the Cube Geometry function readily Available in the Three JS API to Render a Cube.
- I have created Node Elements which are number Boxes to get user inputs for the width, length and height of the cube to rendered.
- I had to learn how to inject HTML elements dynamically through W3 Schools.
- The infected Elements are modeled and Styled using CSS to be placed at particular Positions.
- The 3D rendering is done once the user Enters all the three fields.
- There are No checks placed to force the user to enter all Inputs.



2. A primitive Rendering of a Solar System with Spheres Placed in a orbit and with the Orbits Drawn Around the sphere representing a planet in our Solar System.

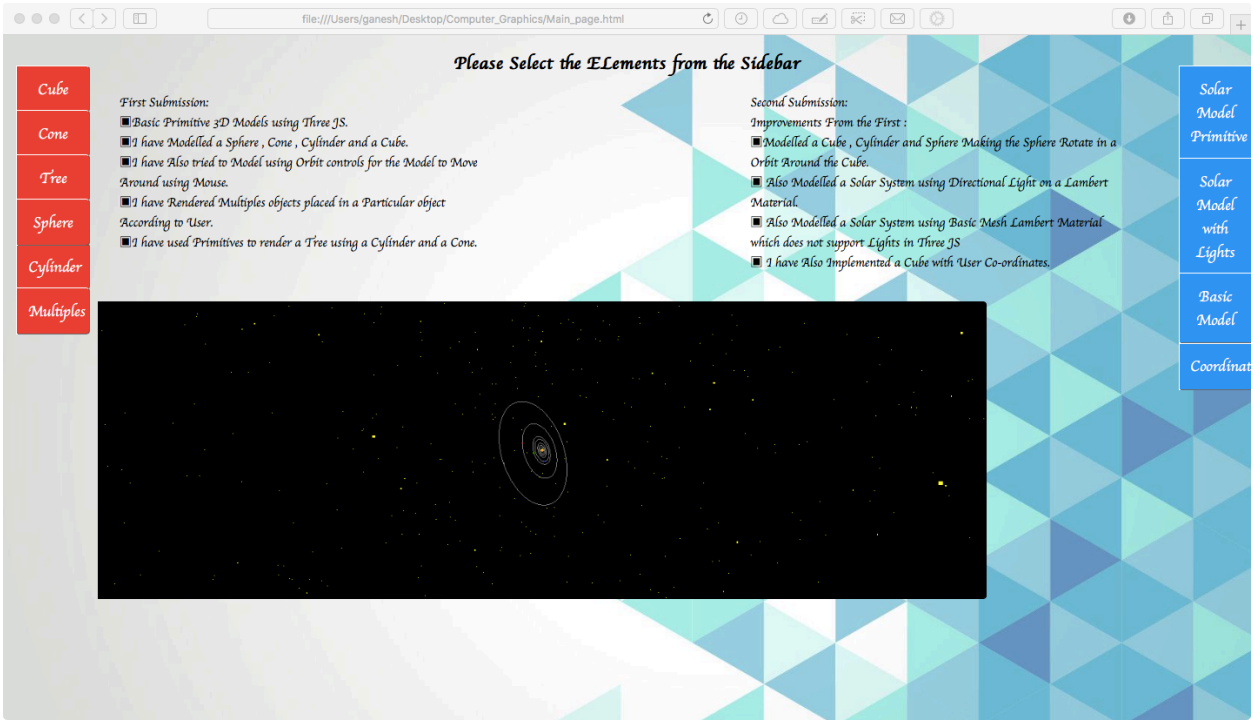
- Used Primitive renderings of a sphere to pose as the planets in our solar system,
- I have user particle geometry and Randomly spread the particles which are cubes to form Stars surrounding my Solar System.
- I have manually set the Position of the orbits and Planets for a Better View of the Rendering .
- I have created a Three Group to add All the Planets .
- I used Mesh Basic material in this rendering which does not have any effects when lights are introduced using the API.



Note: The Position of the planets are random and not based on any hard Math or Calculations. The Solar System represented in my submission placed the sphere In set positions to get a better view of the system rendering.

3. A 3D rendering of a solar system using MeshLambert Material in three Js and with the orbits rotating to form a constructive basic Solar system.

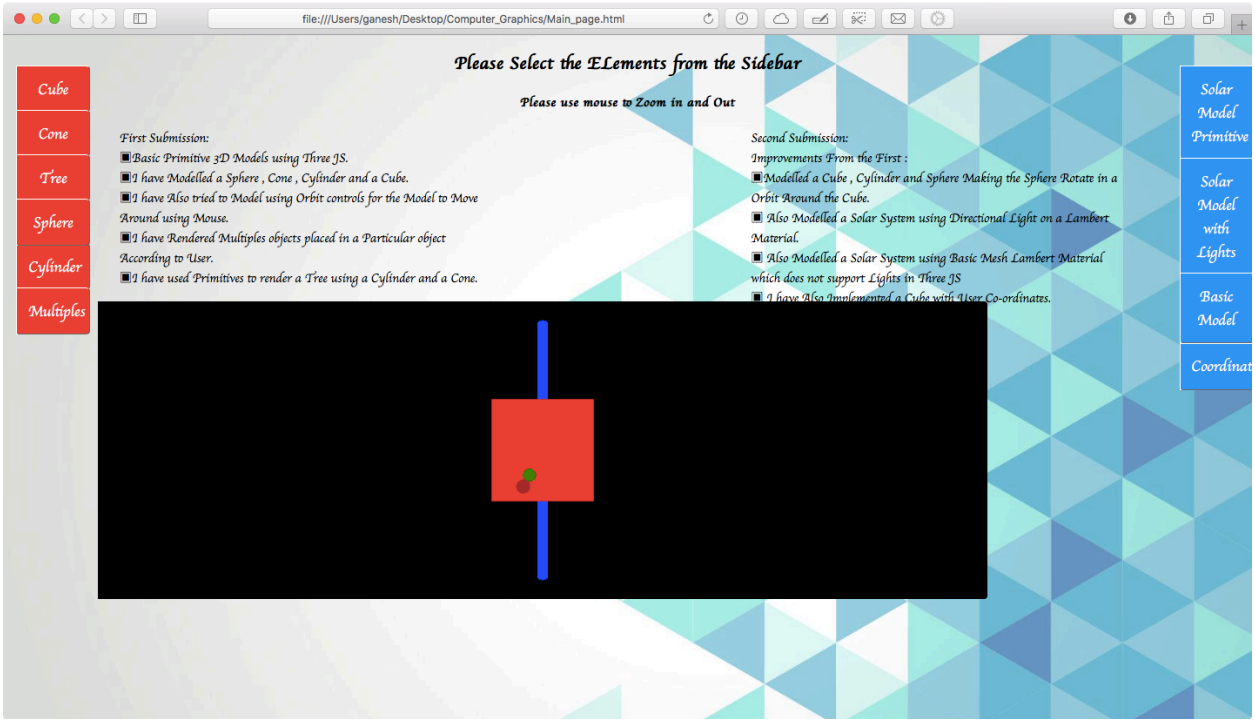
- Used Primitive renderings of a sphere to pose as the planets in our solar system,
- I have user particle geometry and Randomly spread the particles which are cubes to form Stars surrounding my Solar System.
- I have manually set the Position of the orbits and Planets for a Better View of the Rendering .



- I have created a Three Group to add All the Planets .
- I used Mesh Basic material in the above rendering which does not have any effects when lights are introduced using the API.
- So, I used Mesh Lambert Material which has lighting features on them in the second rendering.

Note: The Position of the planets are random and not based on any hard Math or Calculations. The Solar System represented in my submission placed the sphere In set positions to get a better view of the system rendering.

4. A Basic rendering of a cube , Cylinder and 2 Spheres.
- I have Made the 2 Spheres move around the cube and Cylinder.
- This was the basic render which helped me create the solar System.



References:

- https://threejs.org
- https://www.youtube.com/watch?v=YKzyhcyAijo
- https://www.youtube.com/watch?v=lshPMbN5ws8
- I have used various web resources.
- Three Js Beginner tutorials to construct a Cube on Youtube.
- I have used the Official Three JS module from the Three JS website to download the Build and orbit control Files.
- I have visited three JS website to find out about the materials and different types of Geometry's available to construct the Website.
- I have Used CSS tricks.com to style my Web Page.
- I have used Stack over Flow to figure out the geometry of a orbit.
- I also used Youtube videos to learn on how to light a canvas using Three JS.

INSTRUCTIONS TO EXECUTE:
Please Have Internet connection as the Javascript for Three JS is a http Link .
Please view the Website In Full screen.

Link to My Site :
http://www.cs.uml.edu/~gramani/427546s2018/Final_project/Submission_2/Computer_Graphics/