

ThreeJS - Car Game:

Trees:

Trees are made with array of objects using an Octahedron as leaves, cuboid as the trunk and a wireframe on top of leaves to create design which also has shadows placed randomly in the area.

Clouds:

Clouds are made with array of objects using a Cuboids which are transparent placed randomly in the area.

Cones:

Cones are made with array of objects using a Cone each cone also has a bounding box which is used to detect collision which also has shadows placed randomly in the area.

Car:

Car is made in a group having 3 main parts the main body, cabin, and wheels – The main and cabin are just 2 Cuboids and there are 2 sets of wheels which are cylinders under the car giving the illusion of having wheels on both sides also casting a shadow, The car can be moved with the arrow keys.

Grouping - <https://threejs.org/docs/#api/en/objects/Group>

Collision:

Collision detection is used with Bounding Box link below, A bounding box is placed over the main part of the car and on all the cones objects in the obstacles class when these bounding boxes collide it give a Boolean flag which then I use to end the game.

Bounding Box - https://www.youtube.com/watch?v=9H3HPq-BTMo&ab_channel=flanniganable

Shadows:

Shadows are used with a directional light which is targeted at the car and are following the car every time the car moves, the light follows the car when it goes left, right, forward, and backwards accordingly to keypresses.

Grass:

The grass is just a big defined plane with the road on top.

Road:

The road is a big defined over the grass the road has a canvas on top which I have created which rectangles to create road markings.

Road Markings @ 30 Min - <https://www.youtube.com/watch?v=JhgBwJn1bQw>

Game Objective/Scoring:

Game Object is to reach the end of the map/Reach your highest score without hitting a cone, Player dies when hitting a cone.

Camera Movement:

Camera movement is controlled by the mouse using orbit controls, Camera is also moved accordingly with keypress which move the car.