

Project for the ICG

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The purpose of this project is to develop a Three.js application that allows the user to command a robot to gather and set objects in a predetermined position by typing commands.

After all the things are successfully collected and placed, the user receives a prize.

In order to complete the project, the robot and the objects must be modelled in 3D, human input must be implemented to control the robot's movement, robot and object collisions must be detected, and the scene must be updated when objects are gathered and placed.

Requirements:

Animations: To make the scene livelier and captivating, the robot and objects should have animations like rotation and movement.

Textures: To make the robot and items appear more lifelike and visually attractive, textures should be applied.

Control: The user should be able to direct the movement of the robot through keyboard input. The scene ought to react to human input by, for example, detecting collisions and changing the scene as necessary.

Illumination: For the robot and items to be visible, the scene should be well-lit. The lighting system in Three.js can be used to accomplish this. A light source must be carried by the robot because some levels may be played in the dark and necessitate it. Three.js's spotlight and point light objects, which can be attached to the robot and moved with it, can be used to do this. For the user to explore, a realistic and immersive atmosphere will be created with the aid of proper lighting.

Conclusion

To sum up, the goal of this Three.js project is to create an interactive 3D world in which the user may direct a robot to gather and position objects in a predetermined spot. As part of the project, 3D models must be made, user input for robot movement must be implemented, object collisions must be detected, and the scene must be updated as necessary. The project also must integrate correct lighting using Three.js's lighting system and perhaps include a light source for the robot to use in lower-light levels in order to create a realistic and immersive environment. This project is a fantastic opportunity to learn and use skills in web programming, JavaScript, and 3D modelling while giving users a fun and interesting interactive experience.