

BANGALORE INSTITUTE OF TECHNOLOGY

K R ROAD, V V PURA, BANGALORE-04

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Computer Graphic Visualization Laboratory with Mini Project(18CSL67)

SYNOPSIS

Car Parking

1BI20CS075
1BI20CS153

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DESCRIPTION:

The Car Parking Visualization project in CGV creates an immersive virtual environment that replicates a real-world car parking system. It provides real-time data on occupancy, available spaces, and vehicle movements. Users can interact with the system, analyze parking trends, and navigate through different areas. The project aims to enhance understanding, decision-making, and efficiency in managing and utilizing car parking spaces by offering an intuitive and visually appealing interface.

Features to be Implemented

1. Transformation Functions used:

Translation:

Definition: Moves an object in a specified direction by a certain distance.

Syntax: translate(object, tx, ty, tz)

Rotation:

Definition: Rotates an object around a specified axis or point.

Syntax: rotate(object, angle, axis)

Scaling:

Definition: Changes the size of an object uniformly or along specific axes.

Syntax: scale(object, sx, sy, sz)

2. **Menu Options.**

House: "House" option elegantly showcases the displayed houses, framing them with visual appeal.

MoveCar: "Move Car" grants users control to precisely navigate and park their vehicles at specific locations.

3. **Input Interaction (Keyboard/Mouse):**

UP KEY: Navigate forward to move in the desired direction.

DOWN KEY: Reverse your direction by moving backward with precision.

LEFT KEY: Rotate left to change your direction and navigate accordingly.

RIGHT KEY: Rotate right to change your direction and navigate accordingly.

Press D: Move right and discover new paths to navigate through your surroundings.

Press A: Move left and explore alternative routes to traverse your environment.

Press S: Move backward and create distance to navigate your surroundings effectively.

Press W: Move forward and closer to your destination, exploring your surroundings with ease.

Press T: Enjoy a top-view perspective, giving you a bird's eye view of your surroundings.

Press Q: Exit the program or quit the current operation.

4. **Preferably 3D/2D Projects:**

Implemented a 3D car parking visualization using C. Utilize graphics libraries like OpenGL for rendering.

Lab Incharges:

1. **BHANUMURALI MAM**

(Assistant Professor)

2. **TEJASWINI MAM**

(Assistant Professor)

CGV theory Incharge

BHANUMURALI MAM

(Assistant Professor)