

Project report

Drive through simulation for Starbucks

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Major tools used for this Project: Vizard, Sketch-up.

Goal of the project:

The goal of this project is to create a drive through simulation for star bucks to be user controlled. The user will control the car movement and he allows the car to start from a point in the city and reach to its destination i.e. starbucks. The user will use the arrow keys to control the forward, backward and side movements. The page up and page down buttons are used to move car forward and backward; while left arrow key and right arrow key allows to turn car left and right. When the car reaches the drive through of starbucks, there will be a sound played for welcome of customer. Then they ask for the order, and then car move to the pick-up window. A sound played for thanking the customer. The overall environment will give a person the feeling of drive through. The modeling of the buildings, landscape, and other environment settings will give the illusion of downtown of a big city and drive through of Starbucks.



The figure above shows the spotlights and a city we've added.

Lights: We added spotlights. It combines both directional and point lights, and casts a cone of illumination that can be adjusted to have either a sharp or a soft edge around a circular illumination area.



The figure above illustrates the city view in our project.

Keyboard functionalities: The page up and page down buttons are used to move car forward and backward; while left arrow key and right arrow key allows to turn car left and right. And we have also used 'p' key to toggle the sensors.

Proximity Sensor: We used proximity sensor at three places. First one is for welcoming the car into the drive through second one is at placing the order and third one is for pick-up and thanks message.



The figure above shows the first proximity sensor we've used at the Starbucks to popup the Welcoming message.





The figures above shows the proximity sensor placed at the ordering of the menu at the Starbucks drive through.



The figure above illustrates the proximity sensor used at the delivery of the Drive through. We've used box here for sensorial illustration.

Collision: We used the built-in collision detection will detect when the viewpoint has collided with another object in the scene and stop the viewpoint from moving any further.



The figure above illustrates the ‘view point’ collision of the car.

Avatar Animation: We’ve done all the avatar animations inside the Starbucks.





The figures above illustrates the avatars animations done inside the Starbucks.

Audio files: We've added "school1.mid" file to run while the car is moving and also added "order.mp4" at the ordering of the menu in the Starbucks.

Video Files: We added a video file "pickup.mp4" at the pickup location of the ordered menu at the Starbucks drive through.



Action events in the environment: When the car reaches the drive through of starbucks, there will be a sound played for welcome of customer. Then they ask for the order, and then car move

to the pick-up window. A sound played for thanking the customer. The animations inside the Starbucks has action event at the billing.



The above figures shows the action environment inside the Starbucks.

Future development:

- Add few more cars moving around the city.
- Animations at the time of picking stuff at Starbucks.
- Animations for the steering wheel of the car.

