



Assignment #3

Multimedia and Computer Graphics

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Game Project Deliverables:

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Game Story:

The Racer is a new street racer, eager to prove themselves in the world of underground racing. They have heard rumors about a legendary mountain road race, where only the best and most daring racers compete. The race is simple: two cars, one road, and the first one to finish in the required time wins. The racer decides to enter the race, and they find themselves lined up at the starting line with their opponent, a seasoned racer with a reputation for being ruthless. The starting gun fires, and they both launch forward, racing down the winding mountain road.

The road is narrow and treacherous, with sharp turns and steep cliffs. The Racer and their opponent trade places back and forth, each of them pushing their car to the limit. They know that one mistake could mean disaster, but they are determined to win.

As the race enters its final stages, the Racer and their opponent are neck-and-neck. They can see the finish line in the distance, and they know that this is their chance to win. They push their car even harder, and they manage to gain a slight edge.

They cross the finish line just ahead of their opponent, and they are crowned the winner of the legendary mountain road race. They have proven themselves to be one of the best street racers in the world, and they have earned the respect of their fellow racers.

Game Logic:

The game logic of the simple car racing game on the mountain road can be implemented as follows:

1. Initialization

- Create two cars, one for the player and one for the opponent.
- Place the cars at the starting line of the mountain road.
- Set the race timer to the required time.

2. Game loop

- While the race timer is not expired:
 - ❖ Update the position of the player's car based on their input.
 - ❖ Update the position of the opponent's car based on a simple AI algorithm.
 - ❖ Check if the player's car has crossed the finish line. If so, the player wins.

- If the race timer expires, the player loses.

3. Program/Algorithm for the opponent car

- If the opponent car is behind the player's car, it will accelerate.
- If the opponent car is ahead of the player's car, it will brake.
- If the opponent car is next to the player's car, it will try to overtake the player's car.

It can be made more sophisticated by adding additional factors.

4. Finish line detection

Finish line detection can be implemented by checking if the player's car has crossed a certain point on the mountain road. This point can be represented by a trigger collider.

Game Environment:

The game environment of the simple car racing game on the mountain road is a narrow and winding road that winds its way through a series of tall, Rocky Mountains. The road is surrounded by dense forests and sheer cliffs. The environment is both beautiful and treacherous, and players must be careful not to crash their cars into the walls of the road or the surrounding mountains.

Overall, the game environment of the simple car racing game on the mountain road is a challenging and visually stunning environment. It is a perfect environment for a fast-paced and exciting racing game.

Game Type:

The game type of the simple car racing game on the mountain road is a point-to-point race. This type of race is where the player starts at one point and must race to the finish line.

In this specific game, the player is racing against the opponent car to finish the race in the required time. The player also gets bonus points for finishing the race ahead of the opponent.

Character Details:

There are two characters in the car racing game. The one character is the racer who is trying to improve his racing skills and the other character is the opponent player who is programmed to defeat the racer.

Levels and Scoring System:

The simple car racing game on the mountain road could have a single level, with the goal of finishing the race in the required time. The scoring system could be as follows:

- Finishing the race in the required time: 100 points
- Finishing the race ahead of the opponent: 25 bonus points

This gives a total of 125 points possible. The player with the highest score at the end of the race wins.