Program Description

For my final project, I propose to create a driving game. The hero object will be a car with firing capabilities. The user will gain points by shooting other moving cars on the screen. The car will have a turret on top that the user can rotate and move in different directions. The user will have 3 lives. If all lives are lost the game will end. The game world will have a racetrack with buildings around it. If the user hits a building, one life will be lost and the game will continue. A life will be lost if the user hits another car.

User Interface

Control of the user's car will be through the keyboard. The user will be able to move the car in any direction. The user will also be able to control the direction and speed of the car. The turret on the car will also be able to be controlled by the user. The user will be able to rotate and fire the turret.

Objects

Hero car - The car that will be controlled by the user. This car will be able to move in any direction. The user will have control of its speed. The turret on top of the car can be rotated and moved horizontally to be fired at other cars.

Villain cars - There will be two villain cars that will drive around the game world. If they hit the hero car, the user will lose one life. The user will be able to shoot the cars to remove them from the game world. They will
reappear after time though. The user can gain points by shooting the villain cars. The villain cars will move at a constant speed.

Racetrack obstacles - There will be two obstacles, oil slicks and logs, on the racetrack the user will have to avoid. If the user hits an oil slick, the car will rotate and move in a random direction for a period of time. If the user hits a log, one life will be lost.

Sideline obstacles - There will also be obstacles off the racetrack. There will be stationary buildings. If the user hits a building a life will be lost. There will also be tree obstacles that the user must avoid.
Example of Game World:

**Game World** – The game world will consist of a racetrack that is surrounded by stationary obstacles. If the user goes off the racetrack and hits an object, one life will be lost.

**Desired Additional Features** – If I have time I will try to implement one or more of the following features:

- Sound effects for each car
- The ability to choose from different cars
- Give villain cars the ability to shoot at the hero car
• More weapons can be acquired such as oil slick and smoke
• Special objects that will give special effects such as speed or invulnerability
• The ability to choose between different racetracks. Different racetracks will have different features (snow, sand, etc.)
• Different soundtracks
• The ability to pause the game
• The ability to gain extra lives
• The ability for 2 players to play against each other