

# SGI-T03-G02 2023/2024 - Ferrari Peek

## Run the program:

- Use Vscodex liveshare extension.

## Game Logic:

- Use of a state machine with different states for each step of the game.
  - Menu States = {Main\_Menu & Name\_Menu & Game\_Settings\_Menu}
  - Car choice States = {Choose\_Own\_Car & Choose\_Opponent\_Car}
  - Playing State = {Playing}
  - Obstacle States = {Choose\_Obstacle & Place\_Obstacle}
  - Pause State = {Paused}
  - Finish Game State = {Game\_END}

## Instructions:

### Main Menu:

- The interaction with the button is done via picking, clicking on “Play” will lead to the next menu.

### Name Menu:

- Type your name using the keyboard and press enter to proceed to the next menu.

### Game Settings:

- The interaction with the button is done via picking, clicking on “Start” will lead to the next menu.

### Choose Cars:

- The interaction with the cars is done via picking, clicking on any car will select it and lead to the next state.

### Playing:

- The controls to move the car are “W”, “A”, “S”, “D”. “Space” to break & “ESC” to go to the pause menu. The race will only start when you press “W”.

### Pause:

- Pressing “ESC” will lead you back to the playing state.

### Finished Game:

- Pressing “R” will restart the game.

### Powerup:

- There’s just one powerup object, however the effect that will give is random. It can either increase the max velocity, remove collisions & remove the off road constraint. (10 seconds)

### Obstacles:

- There's four different obstacles if you count the opponent's car. (5 seconds)
  - **Reverse Controls** - Reverts all the controls;
  - **Banana** - Decrease Max Speed;
  - **Oil** - Disables the car braking system.
  - **Opponent Car** - Decrease Max Speed;

### HUD:

- We have an HUD that displays the current velocity, the elapsed time since the beginning of the race, the current state of the game and also the buffs and debuffs and their remaining time of both the powerups & obstacles.

### Screenshots:

