

MobGe Unity Car Driving Assignment

Assignment

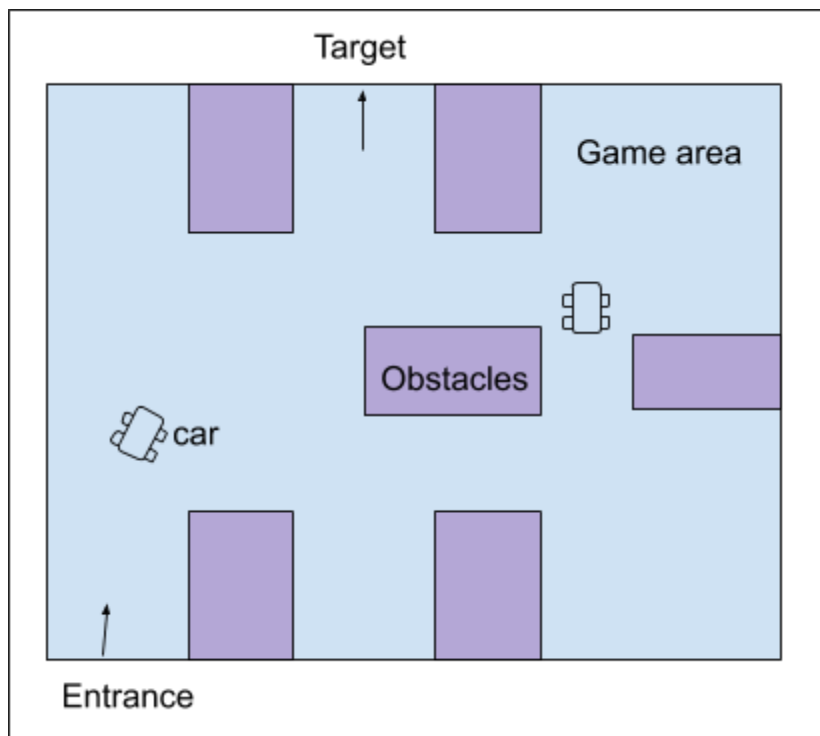
Implement a simple car driving game in a city-like environment

Outline

In this assignment, you get a game design document from game designer. The game designer explains mechanics, requirements, tools, controls, etc. *The destiny of the game always depends on the hands of the game developer.* The better default settings given to the designers, the game becomes more playable. The game designer needs some tools to design levels, but while you are implementing the project you might offer designers additional tools. Being a great game developer means to deliver good toolset to other team members and has a taste/sense to create great mechanics with outstanding code writing skills.

Scene setup

- The game should look similar to this sketch:



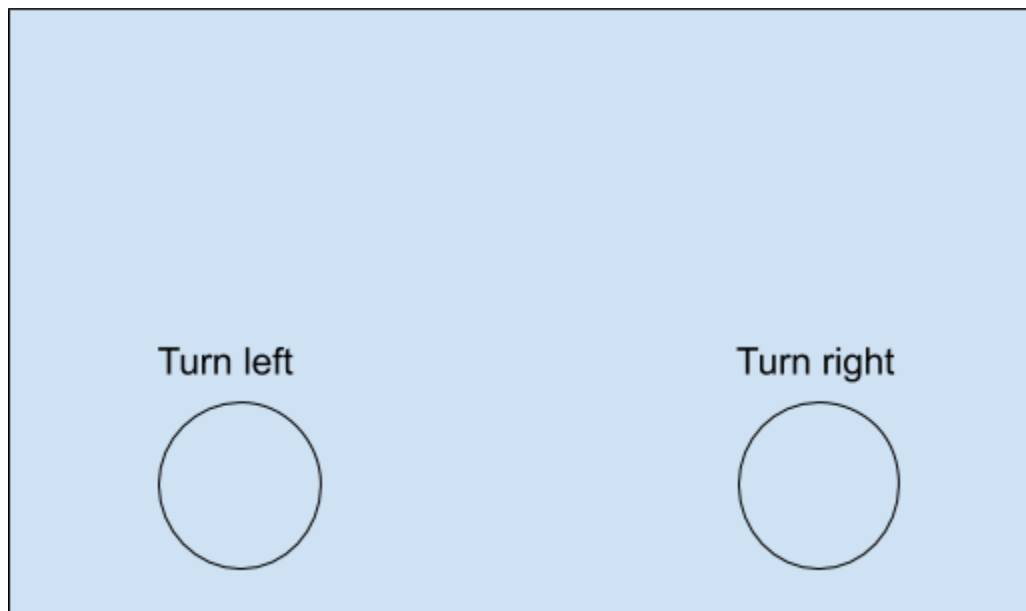
- The camera is at the top of the **game area** like it is in the sketch.

Gameplay

- The game has multiple **levels (2 or more)**.
- Each **level** has a different obstacle setup.
- In each **level**, the player drives 8 **cars** one by one.
- For each car, **entrance** and **target** points change.
- Before starting to drive time freezes, and time unfreezes when the player touches the screen.
- After the player arrives at the target, a new car spawns at a different entrance for a different target.
- Before driving a new car time resets to the beginning in the following way. All **previously driven cars** reset to their own entrance, and when the player starts driving the new car, all **previously driven cars** start as well and **previously driven cars** follow the path that they took in their turns. Example;
See video file 0001-0230.mkv in the shared folder.
- If currently driven car collides with **obstacles** or previously driven car time resets again and the player has to drive the last car with the same entrance and exit points.

Controls

- Control scheme should be like this



- There is a turn right and turn the left button. No need for UI implementation.
- There is **no brake** button. The car always presses the gas pedal automatically.

Car mechanics

- Cars always move with a specified constant speed
- Cars turn at a constant speed when inputs are pressed.

Creating levels

- A new level has to be created from the editor, without writing any code. This is important for engineers and level designers to work together.
- Level generations are not procedural. For each level, obstacles, car spawns, and exit points are arranged by game designers.

Hints

- You may implement the assignment as 2d/3d
- You do not need to polish the assets (art, SFX, etc.) but the final game should be playable and fun.
- For prototypes, basic shapes are enough for making a fun game (cubes, rectangles, cylinders, etc.)
- ***In this assignment, we are trying to measure your code writing skills, write your code clean and practice object-oriented programming.***

Delivery

- Create a GitHub repository named YourName_YourSurname_CarGame and upload your solution there and share it with us.

Have fun with the assignment!

MobGe Team.