

Week 1 assignment

Game name: "Rocket League: Lite Edition"

Team Composition: Madalina Tugui, Daria Popovici, Robert Frentz, Alexandru Cazan

Type of game: vehicular football(soccer for americans) video game

Core gameplay:

As the type of game suggests, the core gameplay idea is playing a football match with cars. Every car on the field is controlled by a player. The player, through the car, can interact with the football field(driving around the field), the ball(hitting it) and with other cars(bumping). A match will have a timer of 5 minutes, 2 teams of 3 players and the game ends when the timer reaches 0:00. The winner is the team with the most goals scored(in case of 0-0 there will be a draw).

Links: - <https://www.rocketleague.com/>

- https://en.wikipedia.org/wiki/Supersonic_Acrobatic_Rocket-Powered_Battle-Cars

- <https://www.youtube.com/watch?v=riilLCDgf-s>

Week 2-3 assignment

Over the last two weeks, we worked in pairs in order to achieve the desired prototype. Daria and Alex worked mainly on the environment while Robert and Madalina worked on the car physics and camera positioning.

Alex managed to create a basic environment with a field and side walls with collisions partially restricting the action inside the walls. He also added a basic scoring system that resets the ball everytime the player score.

Daria provided the prototype with texture for the field and placed football gates in order to supply the player an objective in the game.

Madalina succeeded in creating a ball camera and a car camera. The purpose of the ball camera is to rotate towards the ball without losing sight of the player car , providing him information with both his car position and the ball position. The car camera is a pretty basic racing camera that follows the car.

Robert worked on the car physics(movement, interaction with the environment) and on the ball physics(interaction with the environment). The player, through the car, can hit the ball and score.

In the future weeks we aim to add an upper wall to fully encapsulate the action inside, to improve the car and ball physics so we have a more stable gameplay and add multiplayer.

Week 4-5 assignment

Over the last two weeks we improved cars movement, stability and rotation, created a new environment with Rocket League like elements, created some HUD elements and added Photon Networking.

Alex implemented a basic Photon connection between clients and he is now working on clients communication using RPC and Photon RaiseEvent system.

Madalina worked on the HUD, creating a small panel that provides the user with information about current score, the time that passed since the match started and small round panel suggesting remaining car boost quantity.

Daria worked on a new environment(new sidewalls, new roof etc.) with the purpose of achieving a Rocket League user experience.

Robert worked on smoothening cars rotation and movement with an increase precision based on user input. Currently working on cars jumping action and air rotation.

In the future weeks we aim to finish designing the environment, add the possibility of car double jumping and boosting, finish the HUD elements and start working on the overall game GUI.

Week 6-7 assignment

In those weeks, we finished designing the GUI for our game, established player and game elements communications and synchronization using Photon and we added boost functionality for cars.

Alex synchronized cars and ball movement using PhotonViews for all players. Also worked on reducing the latency.

Madalina continued her work on the HUD elements and integrated the networking part with the UI part.

Robert added the boost functionality and worked on the game elements colliders.

Daria worked on creating boost pads models and place them around the field in order to provide the player with a small or big boost recharge.

In the future weeks we aim to define the 1vs1 and 2vs2 game modes, synchronize more aspects of the game between clients(boost collecting, movement) and add players names above the car for easier player identification.

Week 9-10 assignment

During those weeks of work we focused on creating the 1vs1 and 2vs2 modes and providing specific parameters for car depending on the assigned team.

Alex worked on the networking logic for creating/joining a 1vs1 game or a 2vs2 game using Photon room system. He also worked on improving the latency.

Daria finished the design for the small/big boost pads model and place them in different spots on the field.

Madalina redesigned the HUD elements for a better user experience.

Robert designed team-based car colors and implemented a player identification in the game based on a given number by the server.