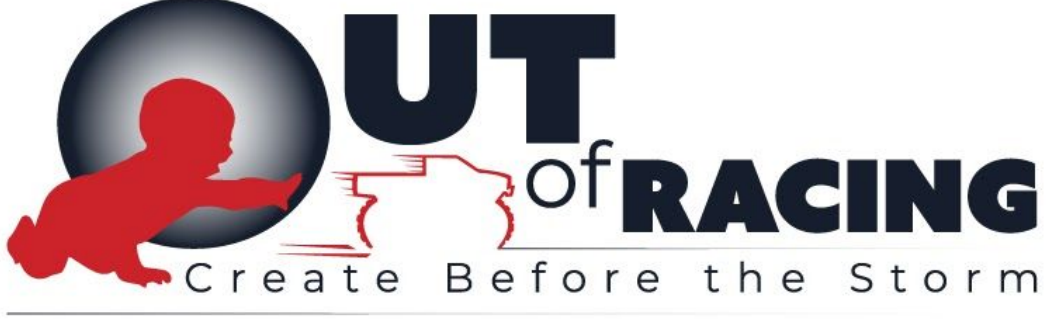


Out Of Racing Design Document



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Introduction

Out of Racing is a **Player Controlled Design game with acrobatic solo racing against environmental obstacles**. This 3D game offers players both the excitement of designing their own tracks and racing in the same tracks that they had designed. The game captures **the balance between simple physics and natural conditions** to provide challenging **design requirements** for the players who must complete the challenge to level up and earn better gear.

Story

Out of Racing exhibits a **child's world**. As a little **toy** of a monster truck, you experience how big and dangerous real world can be. Will you play peacefully, or break your truck and want a new one from your daddy?

Gameplay

Out of Racing offers players two separate parts in the game which is completely different than other Racing Games. Firstly, Players start on the designing part where they can travel around the constructed level by walking or like a ghost. They are able to see what kind of track they will face and of course the challenge which is impossible to perform without the player additions to the track. At this point, players start adding their own parts to create a better one. They have **a limited amount of additions and time** for each design level so make it smart, make it fast! **Less addition they make, the more points they win** at the end of each track.

Secondly, of course the racing. Players go into their vehicles and try to complete the challenge. There is an extra future here. They need to be prepared for the incoming surprises of the constructed level as well. These obstacles are invisible at the design level to add some excitement and luck into the racing part.

Conclusion

In Out of Racing, The players' main source of conflict is their own imagination and **obstacles that are prepared for the racing part of the game**. This is a solo race against environmental challenges and the goal is to complete the given challenge with a newly designed track. Also remember that there is a time limit for each part. Both designing and racing must be completed in the given time interval to see the finish line. The game aims to awaken the players' creative side while having a lot of fun. It tries to give both brain exercises and the rush that comes with racing in their own design with some extra surprises

which will make the player on their toes during the race. Out of Racing has an exciting tone throughout the game

Game Mechanics

Out of Racing is a two-part game and some parts like cameras and movement have different mechanics in the “Design Part” and “Racing Part” That’s why Game Mechanics will be explained in two different parts.

Game Mechanics of Design Part

In this part, players start on foot. The main mechanics they can use is moving around. When saying moving around, it is not only the control of the main camera of the game; but also walking mechanics.

Basic Movement Mechanics

Player can move the camera and go anywhere in the design level by using Movement Keys and rotate the camera with the controller

Going Forward

- Pressing and Holding the Forward Key will make the character go forward. As soon as the Key is released, the character will stop.

Going Backwards

- Pressing and Holding the Backward Key will make the character go backwards but slower than forward motion. As soon as the key is released, character will stop

Going Left

- Pressing and Holding the Left Key will make the character walk left to side without changing the face direction.

Going Right

- Pressing and Holding the Right Key will make the character walk right to side without changing the face direction.

Turning Left/Right

- Change the controller axis in the X direction (For PC, X direction is the Mouse going Left Or Right)

Looking Up/Down

- Change the controller axis in the Y direction (For PC, Y direction is the Mouse going Forward and Backward)

Notes About Movement Restrictions

- Holding both Forward and Backward Key at the same time will not trigger any action since they cancel each other.
- As stated, Going Left or Right does not change the characters face direction. If the players want to see what is on their left or right then they need to turn.

Secondary Movement Keys

The second mechanic that players can use in the design level is choosing.

Choosing An Actor

- The player can only choose an actor that they added to the current level. Any actor that is added by the player can be chosen by using “Effect Key” when the actor is aimed with the screen cursor.

Any other point or actor will be stationary during the design level. They cannot be moved/destroyed or replaced.

Game Mechanics of the Racing Part

Basic Movement Mechanics

Players can move the truck by using movement keys.

Going Forward

- Truck must be either at a stop position or already going forward. If it is going in a backward direction then the truck can be slowed down then stopped by pressing and holding the forward key. After starting forward motion, the forward key must be kept pressed in order to gain velocity.

Going Backwards

- Truck must be either at a stop position or already going in the backward direction. If it is going forward then the truck can be slowed down then stopped by pressing and holding the backward key. After starting backward motion, the backward key must be kept pressed in order to gain velocity.

For the forward and backward motions, when none of the keys are pressed, the truck will move according to the natural forces and the instantaneous velocity at the point they keys are released. For example, if the truck is on an inclined surface and going up then it will slow down and if it is enough to pass the friction of the surface, it will start moving down.

Turning Left

- Truck must be moving and the left key must be pressed and the truck will continue to go more left as long as the left key is kept pressed. As soon as the key is released the truck will continue going forward with the new direction vector.

Turning Right

- Truck must be moving and the right key must be pressed and the truck will continue to go more right as long as the right key is kept pressed. As soon as the key is released the truck will continue going forward with the new direction vector.

Notes About Movement Restrictions

- Holding both the forward and backward key at the same time will not trigger any action since they cancel each other.
- Front wheels are used for rotation of the truck. When the wheels are not touching the ground it is not possible to control the truck. There are a few cases where this can happen.
 - First, the player may choose to go on an incline fast enough.
 - Second the player may fall from a cliff.
 - Third, Player may lose control and the truck can be overturned.
 - Fourth, The truck can hit something or something can hit the truck and the truck can be overturned.
- Rear wheels are used to generate velocity with forward and backward keys. If the wheels are not touching the ground it is not possible to gain velocity. There are a few cases where this can happen.
 - First, the player may choose to go on an incline fast enough.
 - Second the player may fall from a cliff.
 - Third, Player may lose control and the truck can be overturned.
 - Fourth, The truck can hit something or something can hit the truck and the truck can be overturned.

- The effectiveness of gaining velocity or turning Movements is decided according to the environment. It is decided according to the level of friction between the tires and the ground.
 - When the ground is icy then friction is lost and control of the turning and slowing is lost.
 - When the ground is muddy, it is harder to gain velocity.
 - When the ground is water for the entire wheel height then gaining velocity and turning is lost.

Camera View

- Players can change the camera point of view by using the controller. There are 2 different angles that can be used during racing and the controller can be used to switch between the views.

Surrogate

Physical Model of Surrogate

Virtual avatar -toy of monster truck- that player controls, reacts to the world in a **realistic model** rather than simplistic physics model. Its velocity **increases slowly** such as a real vehicle. It may skid in dusty or oily areas. While climbing uphill, her mass is also its opponent. Responsiveness of surrogate is slowly increasing in response to commands such as using real vehicles. Simple physics effects of Unreal Engine are applied to character while it is interacting with objects: it stops when hitting an object and it may bump a bit according to the physics engine.

Realistic monster truck model is applied to the surrogate, which means -in programming area- we deal with the vehicle's tires and engine system; instead of simply changing its world position.

Starting New Game

At the start of the first level, the game will show the player's movement mechanics with simple directives. Secondly, the effect key will be introduced and In-Game GUI will be activated to start the addition. After the player follows these instructions, they will finally be directed to Let's Race Button to start the racing part.

At the racing part, player will be introduced with the new movement keys and switching camera mechanics and then will be free to race in the level.

After the tutorial, If the player finishes the level then they will be sent to the second level. If they fail, they will be sent to design level with their latest changes.

Puzzles

This section is entirely covered in the first part of the game: design part. During the design part the players check the environment and find a way to modify the level in a way that makes it possible to finish the race. Puzzles include cliffs, water, climbing, going down and jumping. The tools that are used to solve the puzzles are given in the Game Elements section of this document.

In-Game GUI

As in the Player Mechanics, this part will be examined in two parts.

In-Game GUI of Design Part

During the design part, there is an interface that holds the buttons that can be used for the level. This part is under the influence of the controller which is activated after choosing a reference point or pre-added actor by using “effect key” as described in the Player Mechanics.

Actor Menu

- This menu holds the actors that can be added to the level. It will be activated just after using “effect key” as described in the Player Mechanics.

Current Balance

- Current Balance is the amount of credits that player currently has to manipulate the level. Every actor in the Actor Menu has a credit value to be added to the level and no changes can be made if there is not enough credit.

Add Button

- This button is used to add the chosen part to the chosen reference point. It can only be activated after choosing a reference point and then choosing an actor from the menu. After the Add button is clicked the amount of the credit that actor costs will be reduced from the current balance. If balance is not enough, then it will highlight the balance and does not change the level.

Delete Button

- This Button is used to delete the chosen part. It can only be activated after choosing the pre-added part. After the delete button is clicked the amount of the credit that

actor costs will be added to the current balance and the actor will be replaced back by a reference point. When a reference point is chosen Delete Button is disabled.

Let's Race Button

- This button is used to check if the level is ready for racing and if it is ready then starts the racing part.

Timer

- Timer is a countdown that shows the allowed amount of time that a player can stay in the design level before the racing starts. If a reference point is not chosen until the time is up then it will be assigned randomly.

In-Game GUI of Racing Part

In the racing part, It is free of In-Game GUI except at times just like in the Design Part.

Timer

- Timer is a countdown that shows the allowed amount of time that player needs to finish the race and the given challenge.

Battery Level

- In the racing part of the game, the player can go to the girl holding the remote control to gain charge for the battery of the truck.

Artificial Intelligence

In the game there is one NPC that tries to catch the truck. The character is called "Baby" and its main mechanic is to follow the truck. When the baby is in close range of the truck, she takes the truck into her hand and the game is over.

Game Elements

Characters

Game has two characters. First character is a baby. Second character is a child girl.

Baby

- This baby will come closer to you during the game. And tries to catch the RC truck. If the baby catches the truck, the game restarts from the last Level.

Girl

- Our main avatar is the vehicle but in the story the girl that holds an RC controller is the hidden avatar of the game and the player is actually the Girl. We can drive our truck to our Girl Avatar to charge a battery.

Items

Small Ramp

- Green-black striped small ramp which can be bought.

Big Ramp

- Green-black striped big ramp which can be bought.

Road

- Flat road piece which can be bought.

Big Loop

- Big loop object which can be bought.

Story Overview

Forget the races you know. Create Before the Storm!. Time to wake the child inside you. You have a toy car and a house garden just like in your dreams. You have two challenges. Create and compete. First of all let's start placing the objects in your garden in ghost mode. You can position the starting point anywhere, you can put the objects with the specifying sizes and with specified points by the developer throughout the garden. But you should never forget that you have a limited amount of additions and time for each design of level. By this way you could find out your best style for the race.

Game Progression

The main map has been divided into 4 main levels which focuses on particular areas of a backyard and every level has 3 stages that require the player to collect a bear in order to proceed to the next level.

Level 1

This level has the theme of a garden. Players try to overcome various objects with different heights to collect bears that spawn near the house.

Level 2

This level has the theme of a playground. Players try to collect bears that are placed accordingly in order to create a more challenging track compared to Level1.

Level 3

This level has the theme of a fireplace. Players try to collect bears splitted in the area that is filled with a firepit and beanbags.

Level 4

This level has the theme of a maze. Players try to collect bears splitted inside the maze which contains a subtle clue that indicates the way out.

System Menus

There are three menus that are planned to be created: "Main Menu", "Customize Truck Menu", "Select Level Menu".

Main Menu

Buttons

Play Button

- Directs the player to the loading screen.

Customize Truck Button

- Directs the player to the Customize Truck Menu.

Select Level Button

- Directs the player to the Select Level Menu.

Quit Button

- Closes the game

Customize Truck Menu

Buttons

Red Button

- Makes truck red.

Green Button

- Makes truck green.

Blue Button

- Makes truck blue.

Back Button

- Go back to the main menu.

Select Level Menu

Buttons

Level Buttons

- There are 12 buttons in this menu. Every button sets the level and stage of the game. Then directs the player to the loading screen.

Back Button

- Go back to the main menu.

Style

- Red-black colors are used, which are suitable with Out Of Racing's logo.