Mini Project

(Based on Game Development)

KART KRASH

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Introduction

This project is all about developing a game with vehicle physics, game mechanics, AI, and networking for multiplayer kart racing experiences. I have tried to dive into the world of game development with the help of unity software. With the help of this project, I tried to learn how we can show mechanics and coding working together in an exciting way. I also got the chance to apply real world physics and overall, this project help me to polish my skills.

Build a Multiplayer Kart Racing Game from Scratch in Unity **will use Unity 2019 and Photon networking tools to take you step-by-step through the setup and development of your own go-kart experience.**

The kart racing genre goes back to the 1980s, though it was popularised by Super Mario Kart (1992) and Crash Team Racing (1999). The genre mixes racing and arcade type mechanics with well-known fictional characters and funky tracks littered with pickups and obstacles. Creating such a game combines the skills of networking, artificial intelligence, interface design, special effects and audio.

EXISTING SYSTEM

Diddy Kong Racing (1997).

Mario Kart 8 Deluxe (2017).

Crash Team Racing (1999).

Mario Kart 64 (1997).

Sonic & All-Stars Racing Transformed (2012).

Mario Kart: Double Dash (2003).

Super Mario Kart (1992).

Star Wars: Super Bombad Racing (2001).

These are some existing Kart racing games.

USE OF PROJECT

A racing game is a video game genre which involves competing in races. The object of the game is to be the first racer to compete in a arena in the shortest time. They may be based on anything from real-world racing leagues to entirely fantastical settings, and feature any type of land, air, or sea vehicles.

Do racing games help your brain?

Racing games have been shown over the years to give a powerful brain boost, which includes a better memory. It allows you to store memories by merging reality with fiction. This especially works in the 3D games, following a study done by the University of California at Irvine.

And most above all objective of this project is to explore new domains and polishing my skills.

FUNCTIONAL SPECIFICATIONS

- Car physics and controllers built from the ground up with Unity's wheel colliders and rigid bodies.
- AI driven cars with waypoint navigation, smart acceleration & braking and avoidance behaviours.
- Racetrack Mini-maps with Player positions, rear view cameras and leaderboards.
- Networking with Photon including setting up a master server, remote procedure calls and networked object instantiation.
- Character selection for vehicle types and player names; and
- Graphical User Interfaces.

SOFTWARE SPECIFICATION

Technology Implemented: UNITY SOFTWARE

Language used: C#, java script/unity script

HARDWARE REQUIREMENTS

Just a normal PC with minimum requirements will be able to run this game.

FUTURE SCOPE

The racing game genre is the genre of video games, either in the first-person or third-person perspective, in which the player partakes in a racing competition with any type of land, water, air or space vehicles. They may be based on anything from real-world racing leagues to entirely fantastical settings.

The world leading players in the racing games market are Turn 10 Studios (Microsoft), Codemasters, Electronic Arts Inc., Ubisoft, THQ Nordic, Gameloft, Milestone, Criterion, NaturalMotion, Slightly Mad Studios, iRacing, Creative Mobile, Bongfish, Fingersoft, Aquiris Game Studio, Vector Unit and so on. These top companies currently account for more than 62% of the total market share and are expected to retain their dominating hold over the market during the forecast period. As consumer interest increases, this market will attract other major companies which want to extend their brand equity.