

Vista Golf Remake - Technical Design Document

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Release link

//RELEASE LINK HERE

Section 1 - Introduction

This is the Technical Design Document for the project of a remake of the mobile golfing game named "Vista Golf". Inside this document you can find the features, the diagrams and the logic of this game.

Section 2 - Features

- Player
 - Movement
 - Interactions
- Interaction System
 - Interact with obstacles
 - Interaction with the hole
 - Play audio related to the event

Section 3 - Choice of Game Engine

The game engine that has been chosen is Unity.

This engine possesses different interesting features like:

- A useful system for terrain
- An intuitive editor
- Data Management
- interesting plug-in's

The reason is to improve the team's skills in this specific engine but also due to a lack of additional skills. We had chosen the 2022.3.10f version because this is the standard version adopted by the company.

Section 4 - Input

- Movement
 - [Finger Touch] in the InputZone: Stores the position on the plane of player's touch coherent with the screen
 - [Finger Drag] in the InputZone: Stores the new position on the plane of player's touch coherent with the screen continuously as long as it be dragged
- Camera
 - [Finger Drag] out of the InputZone: rotates the camera around the ball based on the delta of the finger movement on the x axis of the screen
 - [Double Finger Drag] out of the InputZone: zoom in or out the camera depending on how much the fingers get near or on how much they pull away
- Menu
 - [Touch] on the pause button: Show the pause menu
 - [Touch] on the restart button: Restarts the level
 - [Touch] on the undo button: Undo the last swing

Section 5 - Diagrams

Section 6 - Game Logic

6.1 Movement System

- Finger drag rendering: a line renderer based on two points is generated:
 - a near position to the initial player's touch with an offset based on the deadzone's radius
 - the actual position on the player's touch
- Prediction line rendering: a line renderer based on $n+2$ points is generated:
 - the actual position of the ball
 - the position at a maximum distance based on the length of the renderer setted
 - n positions of the pre-calculated collision that the ball will do

6.2 Interaction System

- Playing Audio: When you interact with a button or when the ball is being swung or bounce on an object, is triggered an event that start an audio clip contained in the AudioManager

6.2 Game System

- Winning System: When the ball triggers with the hole trigger is evoked the event that start the sink animation and after is changed the scene to the next
- Reset System: When the ball falls off the path triggers the trigger that reset it at the last idle position

Section 8 - Art Tools

8.1 2D Art

8.1.1 Photoshop

- Versions: CC 2023
- Field of using:
 - Texture
 - Walls
 - Interface
- About: Graphics Editing Program
- Reason of using:
 - Standard in the industry because its versatility in using by other tools
 - Supporting by the producter
 - Interesting plug-in's

8.1.2 Procreate

- Versions: 5.3.3
- Field of using:
 - Texturing
 - Coloring
- About: Graphics Editing Program
- Reason of using:
 - Always at hand
 - Easy to use

8.2 3D Art

8.2.1 Maya

- Versions: 2023
- Field of using:
 - Rigging and animation
 - Hard surface modeling
- About: Graphics Editing Program
- Reason of using:
 - It's an extremely powerful 3D modeling software with a lot of professional tools, especially for animating. It's often used in conjunction with other softwares such as Substance Painter or Zbrush

8.2.2 Adobe Substance 3d Painter

- Versions: 2023
- Field of using:
 - Texturing
 - Baking
- About: Graphics Editing Program
- Reason of using:
 - While still being very user friendly, it allows you to rapidly create high quality textures for a 3D asset.
 - There is a large number of premade materials that speed up the workflow