

SPACE BALL



Game Design Document

Virtual and Extended Realities Assessment

Change Log

06/06/23	v1	Initial draft
10/06/23	v2	Added Front Page Image, Updated Overview (General Overview - added theme and updated target audience, added a second Elevator Pitch, updated Game and Setting Overview), Update Gameplay (reworded Core Mechanics and added Picking Up and Targets, Updated Interface), Updated Target Audience.
27/06/23	v3	Stylised and finalised document with correct information.

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Who is your main target audience?

What are they into?

What other games do they love, and why?

How does your game appeal to their needs and desires?

Overview

Genre	Simulation, arcade
Platform	Oculus Quest 2 (VR)
Point of View	1st person (VR)
Theme / Mood	Space, Arcade Sports
Target Audience	Teenagers and Young Adults

Elevator Pitch

Test your basketball skills against the galaxy in an interstellar VR experience.

Game Overview

Space Ball will be a VR Experience where you are throwing balls around a circular platform at various space themed targets. These targets will be partially or fully obstructed from view by obstacles, and the player's goal is to hit as many targets as possible before the time runs out.

Setting Overview

Space Ball will be set in a circular space themed arena which the player can teleport around. immersing the player in the space theme.

Gameplay

Core Mechanics

Teleportation

The player will be able to change their position in the arena, teleporting around the room by aiming the controllers at the playspace and pressing either joystick up on their controllers. This will allow the player to gain different angles when trying to hit the targets.

Teleportation is being used to try and prevent the player getting motion sickness.

Picking Up

The player will be able to pick up balls in the arena by pressing and holding the Primary button on their controllers when they are close enough to the ball. This will allow them to carry the ball and throw if they choose to do so. To hold the ball, the player must hold the Grip button, to emulate the feeling of holding an object.

Throwing

The players will be able to throw a held ball by moving the controller holding the ball in a throwing/shooting motion and releasing the Grip button. The player will be trying to throw the balls at targets to score points. The player must learn when precisely to release the ball through experience and playing more to expand their skills.

Targets

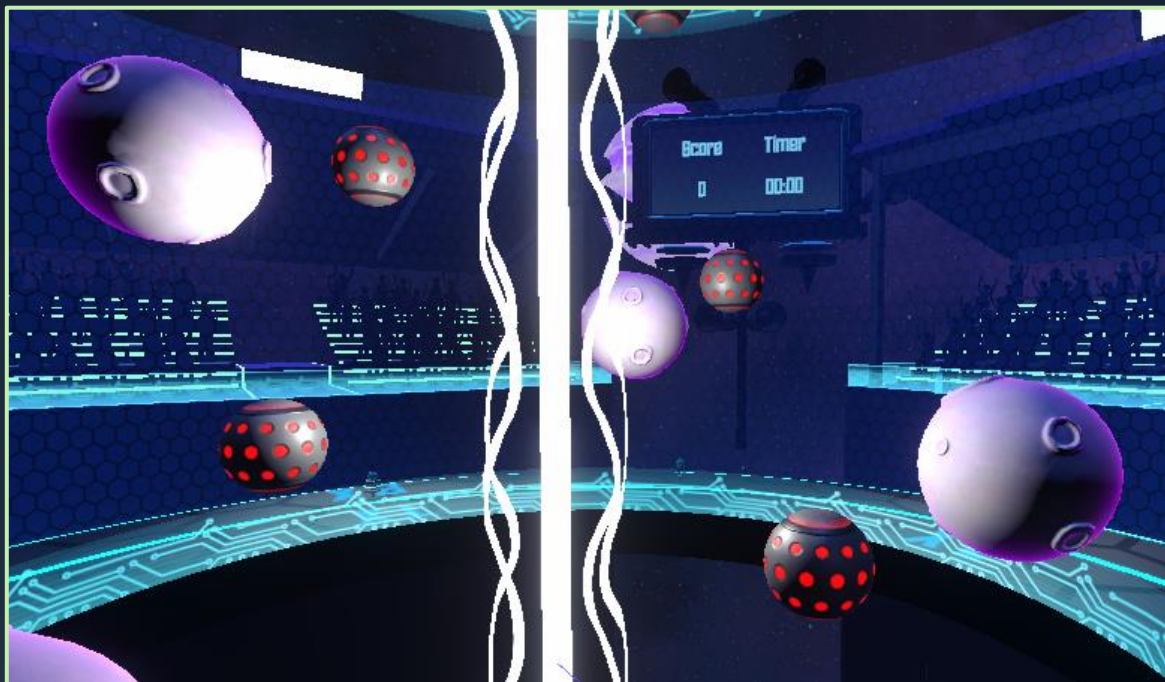
Targets will be scattered throughout the play area. These targets will be what the players are aiming for when throwing the balls. The targets rotate around a central pillar, adding a new and more difficult element to throw a ball at a moving target. Some targets are higher and more difficult to hit than others, which reward the player with more points.

Scoring Points

When the player successfully hits a target with their thrown ball, their score will increase by a varying number of points. This value is determined by which ball the player hits, and where the player is standing at the time of throwing. The arena has a 2x multiplier area, which rewards the player with more points if they are successful in hitting a target while they are standing in that area.

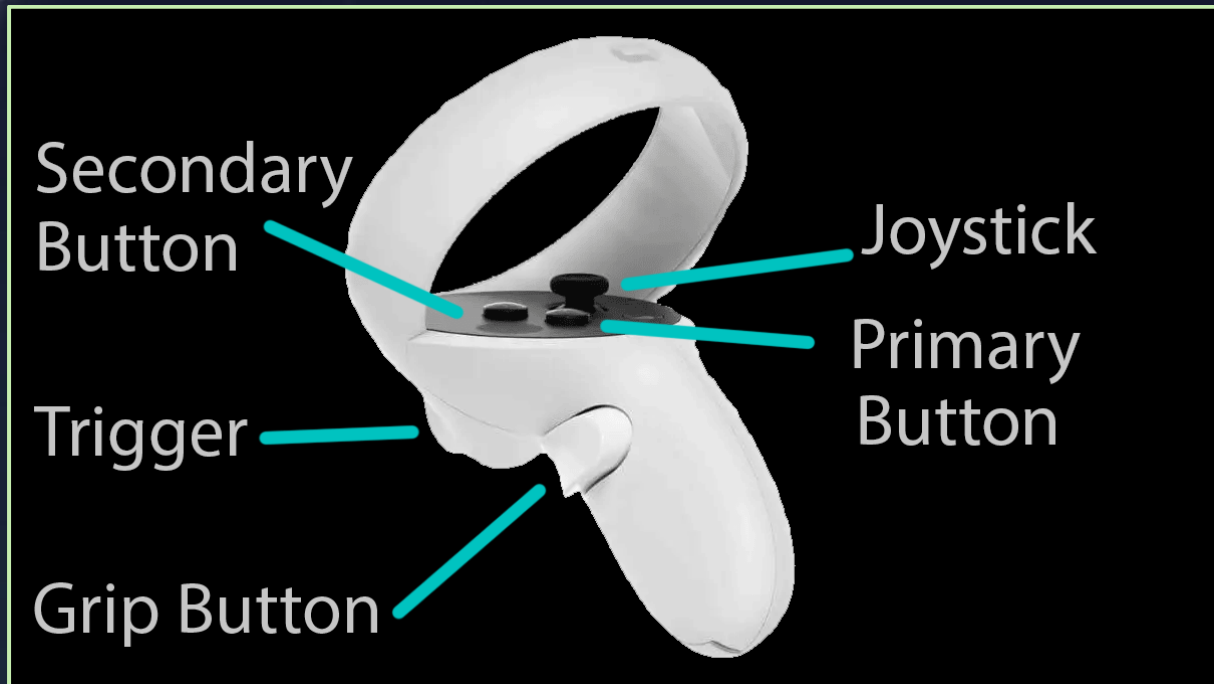
Obstacles

Players must manoeuvre around static obstacles in order to successfully hit the moving targets with their thrown ball. Players are also able to bounce their ball off obstacles in order to get their ball to hit the target, adding an extra challenge.

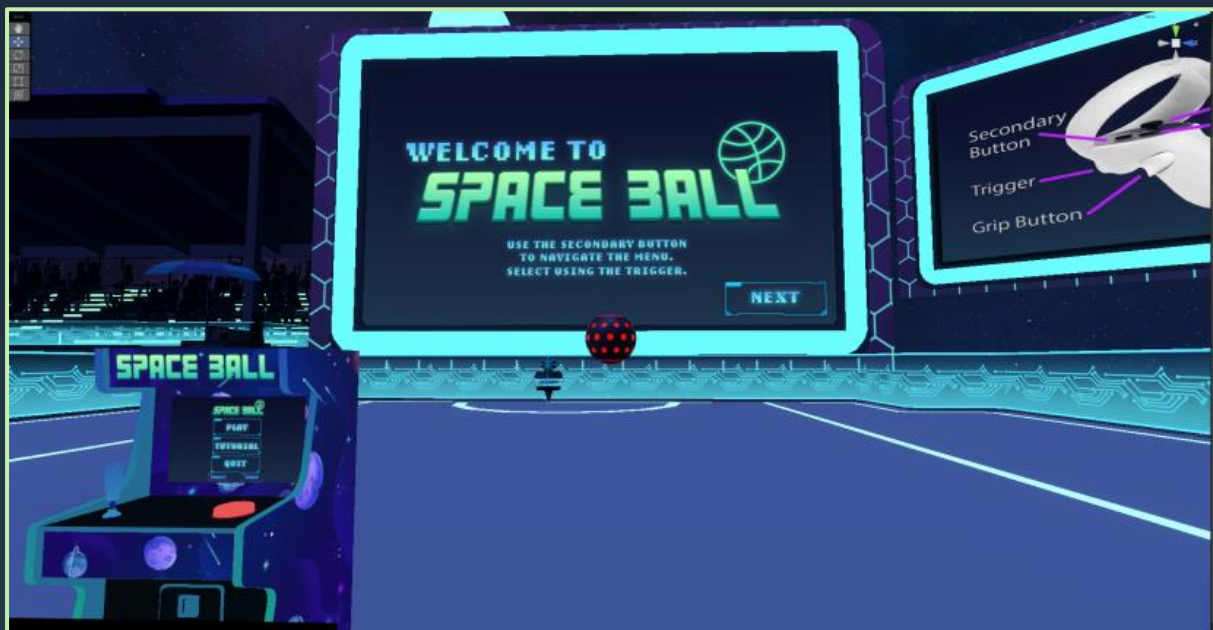


The final arena has the obstacles as asteroids floating over a black hole.

Controls



The joystick is used to rotate the player's view and help them teleport around the map. The secondary button is used to help navigate menus. The primary button is used to pick up balls from a distance, while the grip button is used to hold the balls.

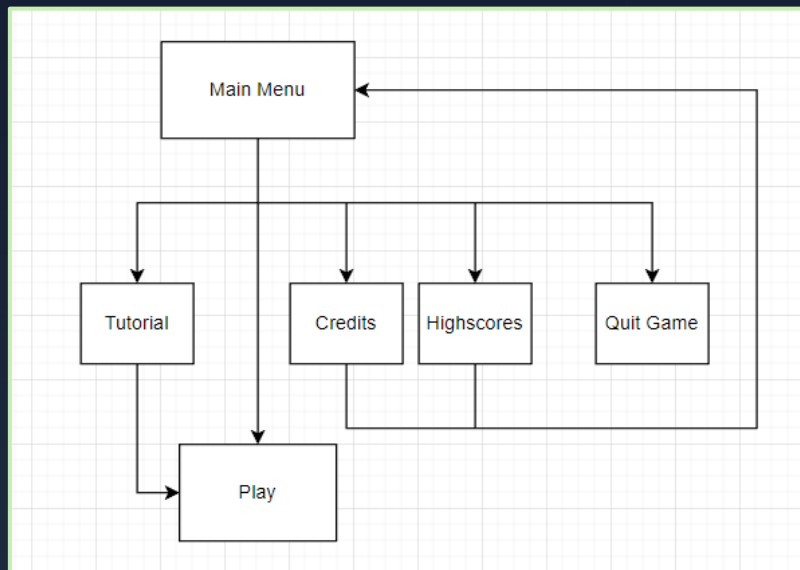


The tutorial area shows the player the controls and how to play.

InterFace

Title Screen/Main Menu

The Title Screen and Main Menu will allow the player to decide how they wish to approach the game.



Concept

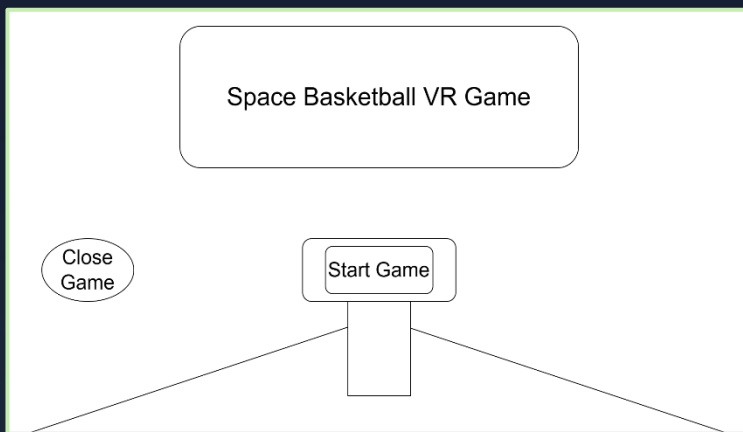
As the genre of the game is arcade, our concept is to have a full arcade machine that you can interact with in VR to start the game. Arcade Basketball is such a well known idea, and bringing the original into the brand new space-themed VR counterpart would give the player a sense of nostalgia.



Functional Requirement

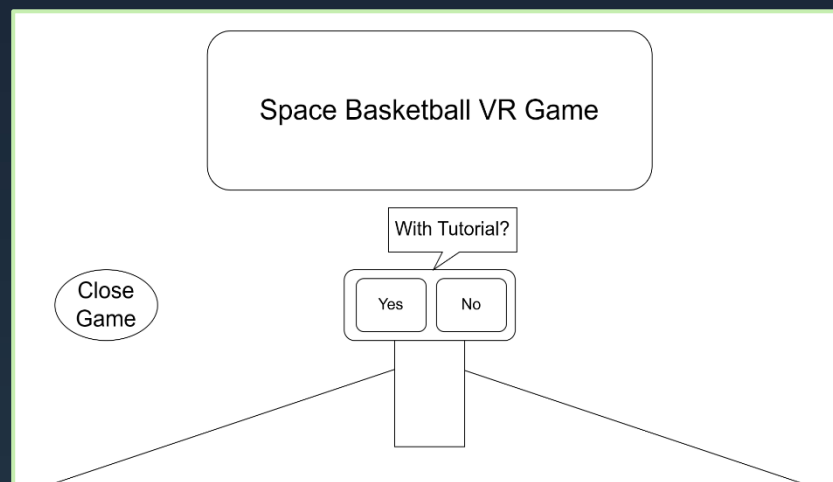
- To allow the player to start the tutorial.
- To allow the player to start the game.
- To allow the player to close the game.
- To allow the player to look at their scores.
- To allow the player to watch the game's credits.

Mock-ups



Mockup of initial Main Menu Screen when the game is loaded

Mockup of Main Menu Screen when Start Game is selected



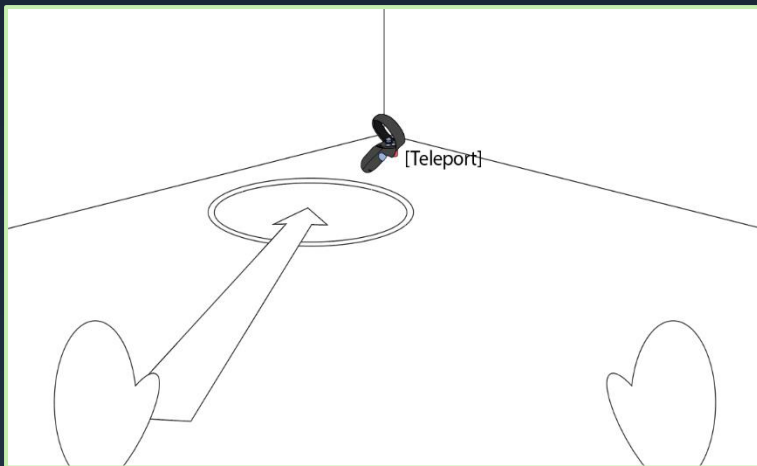
HUD/In-Game UI

Unlike other platforms, there will be little to no in-game UI on a canvas. Important game information such as Game Clocks/Timers, Player score, Balls/Attempts remaining, will be shown to the player on an in-game game object such as a scoreboard, which will be viewable to the player. The location that the player is aiming their teleportation at will be shown to the player with guidelines extending from their controllers.

Functional Requirement

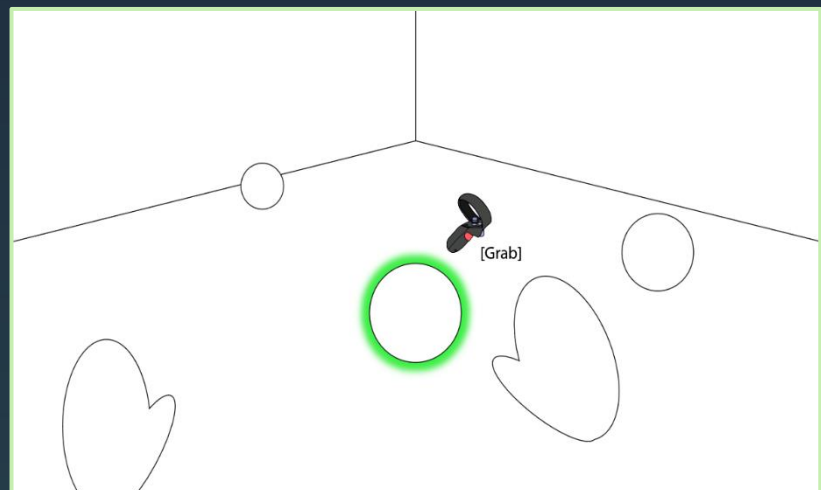
- To inform the player where they are teleporting to.
- To inform the player of their current score.
- To inform the player if they can pick up a ball.
- To inform the player of the time remaining. (if timed)
- To inform the player of the targets remaining. (if

Mock-ups



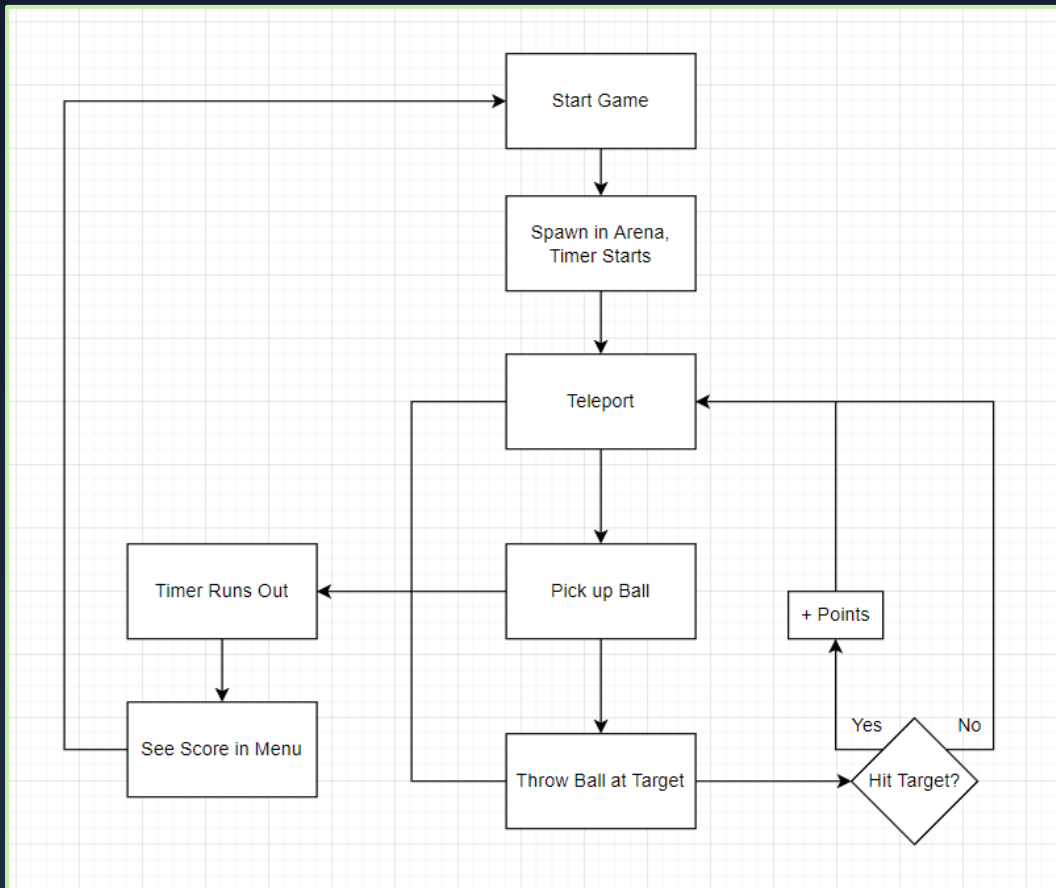
Player is shown an arrow and a circle of where they are teleporting to, and a prompt showing which button they should press to achieve this.

Player is shown the button to press to grab, and also utilises player feedback to show which object they are grabbing.



Game Loops

Level + Game Loop



Session Loop

Ideally, a few rounds.

Exit Points

After a round you will have the option to quit from the main menu.

Art Influences



Futuristic Space Basketball Court by Zippy Lee



Fall Guys - Sci Fi Levels



Kingdom Hearts 2: Space Paranoids

Target Audience

Who is your main target audience?

The main target audience for Space Ball is Teenagers and Young Adults who have an interest in simple VR games or an interest in space themed games. These users will likely be more familiar with and more interested in VR games than their older counterparts.

What are they into?

People who like Space Ball would enjoy Arcade games, beating their high scores, solving simple puzzles, and would enjoy games with an Interstellar Theme.

What other games do they love, and why?

Other games this target audience may have are Arcade games and Target shooting games such as Arcade Basketball Hoops, Skee-ball, or Shooting Gallery.

How does your game appeal to their needs and desires?

Tossing things around and solving puzzles combines all of their needs into one!