WSOA3003A

Game Design 3A

Reflection Analysis & Updated Project Plan

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Presentation Group 9

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Reflection Analysis for Exam Game – “ET Escape”

Intent

The main intent when creating the game concept were to make a physics-based puzzle game where the player must knock the first ball into a pocket by using a second ball. Using this concepts the group decided to adopt the ideas similar to the game of Pool/Billiards, whereas its required the player to use the second ball to knock the first ball into the target/hole. With the use of multiple balls, one being the “normal ball” and the others being a variation of different “ability balls”. The original intention for the player was to hit/shoot normal ball only once, at the beginning of each level and then use the “ability ball” to knock the normal ball into its target. While the ability ball may be used multiple times, they will possess a limited amount of moves, creating a balance where players must strategically use the “ability balls” wisely and hit the normal ball into the target.

The main concept behind the “Ability ball” was to have a singular ball, separate from the player, which possessed a set of abilities in which the player must utilise to overcome the obstacles within a level. Each ability is vastly different from one another yet is required to pass the level. The intended method in which the group aimed to introduce the “ability balls” were to start the player off with the normal ball in the first level, however every level after that introduced a new ball. This allowed for a sense of progression as the player is introduced to a new ability every level and also allows for new level variety as well as an increase in level difficulty.

Each level possesses a unique set of obstacles such as platforms other interactable game objects that form a puzzle in which the player must solve using the normal ball as well as the ability ball’s mechanics. The intention for the first level was to have the player position the ability ball and use it to knock in the normal ball into the target/hole, with ability balls being saved for later levels. The number of levels to be created, should be three minimal.

Process

The first approach towards the creation of the game were to create the shooting mechanic in which players used to shoot balls within the game. The first idea that originated were to use the “Drag and Shoot” mechanic which were utilised in many popular games such as Rovio Entertainment’s Angry Birds (2009), where the player must click and drag the ball back, showing a line renderer for where the player can aim. When released, the ball will shoot in the direction of where the ball was aimed. Using this as a basis, the first attempt to implement this mechanic was both as success and a failure. Using a video tutorial online, the mechanic was successfully implemented into the game, however the first challenge that arose was that the mechanic worked yet the line renderer did not. Attempting to overcome this challenge, the code was changed and reordered however the line renderer never worked therefore there needed to be another approach towards creating a “Drag and Shoot” mechanic.

The second attempt to implement a successful “Drag and Shoot” mechanic led me to a video tutorial series online, in which the creator of the video utilised similar methods in creating their game. Out of the ten videos of the series, only four was used to aid me in the creation of this “Drag and Shoot” mechanic. Using this tutorial, it allowed me to create a working “Drag and Shoot” mechanic as well as the option to create custom line renderers for each ball

ability, therefore allowing for a form of communication design as players can literally see the change in ball shots.

Using this version of the mechanic creation, the next challenge that arose was the implementation of ball physics. Unlike other games, the Rigidbody that this game object possessed did not allow for Unity's ball physics therefore if a ball had to collide with one another, there was no collision. This was a major setback in the development process as it opposes the original intent for a puzzle game, as players cannot use the balls to knock each other into the target. The attempt to change the Rigidbody of the ball, from kinematic back to dynamic was a failure, and neither did any positive result occur when changing the ball into static state. The next idea originated when I revisited the tutorial videos, in order to see if there could be any viable change in the code. There was a certain section of code in which allowed the player to bounce off walls. Using this section of code, it was recreated to suit collisions between balls, however regular ball physics did not work if the ball was not actively used within a scene. Therefore if a player had to shoot the normal ball to collide with the ability ball, the normal ball would bounce off yet the ability ball will stay static. Due to the lack of time left for the development of this game, the decision were to change how the game plays in order to account for the new ball physics. The game split each ball type into its own game object, therefore there are separate balls for different abilities whereas as the original intent were to have multiple abilities within a singular ball. Due to this massive change, players must now use the normal ball, for a limited number of times, and shoot it into the target. Similar to my original intent, it requires the player to bounce and ricochet off the walls into the target, while the ability balls are used to solve environmental puzzles and create a path that allows the normal ball a "safe passage" towards the target.

The next step was to implement a variety of ability balls within the game and it's levels. The decision was to script all of the ball abilities in to one game object, to test of they work first before assigning each ability to each ball type. After an evaluation of the various ball ability ideas featured within the Group Project Plan, three main abilities were selected for this game. The evaluation of each ability were based on the difficulty of coding skills required to incorporate that ability, seeing if it would affect the current game state and which ball and their mechanics allowed for interesting level designs as well as various features of communication data and aesthetics. Selecting from the list of ideas in which our group created, there were three chosen which were the normal ball, the multi-directional ball and the destructional ball. The normal ball can be shot a limited number of times and can ricochet off walls, it is also the main ball that needs to be shot into the target. The Multi-directional ball can stick to any surface yet does not bounce. This allows for strategic shots where the player knows they will land, which presents an interesting dynamic towards gameplay. The last ball was the Destructional ball, this allows players to destroy a certain type of obstacle in their path yet also allows for interesting level designs as well as a good form of communication design.

Using these balls, a single level with a simple puzzle was created to play test the "feel" of each ball, Using the Discord as the main platform, feedback was live as well as allowed me to see how players think when approaching the level and its game mechanics. Feedback was also received by family members as well. Using the feedback from the first test level, players felt that all the balls were the same. Despite each ball having different abilities and designs, they all felt the same in terms of speed, renderers and the "weight" of each ball. Reviewing

this feedback, it was decided to use the ideas of the Project Plan's Communication and Data Designs. Through multiple playthroughs, each ball possessed their own custom "weight", line renderers and speed variables. This helped players to feel the difference between each ball without visually and/or directly informing them. After reworking the feel of each ball variant, the next step were to create a set of levels for the game.

For level development, each level design as well as obstacle featured within the Group Project Plan was evaluated. When evaluating, there was a constant indecisive state as to which level to utilise therefore the decision was to select which designs and ideas that aided my ball mechanics and create unique level designs, which showcased the best design elements. For the first level, similar to the designs present in the Project Plan, the main intent was to allow players to get a "feel" of how the normal ball works as well as it's mechanics of bouncing off surfaces This level was successful in playtests as players easily managed to identify how the game works and how the ball would react in in its environment.

The second level's main intention were to introduce the ability ball to the player and force them into using the ability ball rather than the player just using the normal ball to complete the level. The idea present in every level design featured within the Project Plan, was that a certain obstacle was present that the normal ball could not affect therefore the ability ball must be used to solve this environmental puzzle and allow the player to shoot the normal ball into the target. Using the idea of a "breakable wall" and the destructible ball, the player would be introduced to the new ability ball by requiring them to use this ball first and clear the way for the normal ball. To showcase the difference in wall types, walls were different colours to indicate to the player that they must use the destructible ball to destroy them. Upon playtesting of this level, it was discovered that players did not know that they must use the destructible ball to destroy breakable walls, therefore the communication design was not well executed as players saw it as a base wall.

Due to this major disadvantage, I began to see how I could visually change the appearance of each wall type, to clearly indicate the difference amongst players. While speaking to other group members about the project, Tenisha mentioned that she included a minor narrative within her game for aesthetic purposes. The idea of changing the appearance of game objects had then evolved. This lead me to create a "Space" aesthetic where every game object has a unique design that's easily recognisable to the player rather than just having different colours.

Each ball type was given a unique redesign and name, that lends well to its mechanics. The normal ball was now known as the UFO, players would see this as the main character as the narrative states that players must help the alien escape into the "portal". Targets were redesigned into portals, this also allowed players to easily identify where the target is as well was justifying the mechanic in which normal ball must enter the target to win the level. The multi-directional ball was redesigned as the "Omni Ball", stating to players that they can stick to surfaces in an omni-direction. The Destructible ball was redesigned as the "Blaze Ball" with a mini sun serving as its design. In relation to the "blaze ball", the breakable walls were redesigned as Police-crafts, where the player can easily identify the type of game object yet not confuse them with the normal walls which were designed as asteroid belts. This also allowed for the merger of "Dead Zones" and "Breakable Walls", as if the UFO were to collide with the Police-craft, the level is lost. This provided a good sense of game balance and difficulty.

Using this new design, players could easily identify different game objects and knew which mechanic would interact with them however in the design of the third and final level, players still felt that colour coded walls were not needed. For the third level, players were to deactivate colour coded walls in a specific order to allow the player to progress and complete the level. After playtesting, the feedback forced me to redesign the same level. Revisiting my massive change with overall design an aesthetic of the game, the colour coded walls, also known as the "colour asteroid belts" were changed into force fields. This allowed for players to identify between walls and the force fields as well as to help players easily identify the sequence in which the fields must be deactivated to complete the level.

The final stages of development were focused on User Interface, menu implementation and fixing bug errors within the game. Using the ideas present within the Project Plan, the idea to create a simplistic yet informative User Interface was the main goal. When approaching this development stage, it was decided to use little-to-no text for the Player User Interface. This was achieved through the use of easily recognisable symbols in which the player could just see and identify game data instantly. The player had a main User Interface hub, where the different ball designs were present if the ball was active. The dots on the side represented the number of moves/abilities that the ball currently has. Upon further play testing, it was realised that players did not know which ball was in their possession, therefore the idea to incorporate the game's controls into the User Interface allowed me to create small arrow indicators. These Indicators allowed for players to identify the control scheme yet also know the ball variants available in the current level.

The last and final implementations to the game were particle effects and "Screen Shake", this provided further communication design to the game as well as served the feel of the mechanics, such as the two features being utilised every time the "blaze ball" destroys a Police-craft. The "Screen Shake" worked successfully in the first level, although was not successful in the second and third. When creating this feature, it requires the camera to be selected in the inspector yet in the second and third levels, it prevented me from doing so. It was then identified that despite me using the prefabs in every level, the trigger state used to activate the animations did not exist in each level, therefore it had to be recreated in each level then the camera could be reassigned again.

Reflection

The game, "ET Escape", is considered as a success for the final submission. The game still maintains three main levels for the play with each new level presenting a new ball variant, design and increase in difficulty. Despite the normal ball and ability ball mechanics being altered, the main game concept is still majorly similar to the project plan. There are massive changes yet despite the lack of time allocated towards the exam submission date as well the numerous setbacks encountered, the game can still be linked to the project plan. There were a few errors that I have encountered either in development and/or play testing that could have been prevented if there were more time allocated. Some of these errors that I have not been able to overcome were the implementation of a "pause menu". The script for the option has been coded however due to time constraints and fixing major game errors, there was not enough time to implement the feature within the game. The other main challenge that arose was the original intent of level design did not meet the requirements of the Project Plan. Levels successfully forced players to use the different ball types, allowing for a sense of

progression and level difficulty however the players were still left wondering which buttons to use despite the User Interface implemented as well as forcing players to “explore each level”. This was a major setback. The main focus in playtesting were fixing game errors and bugs, and to see if the player could identify game objects rather than checking to see if players could identify the objective of each level. If identified earlier on, the levels would have incorporated mini tutorials at the beginning of each level rather than utilising a “How To Play” menu in which players read al of the game’s mechanics, rules and interactable objects. Another implementation should have been a score system that awards the players based on how many moves per level, however due to time constraints I was not able to implement this in time. Despite these changes and setbacks, the game is till considered to be an overall success as it is a Top-down, single player that uses ball mechanics to solve environmental puzzles.

These were the main changes present in the final game as compared to the original concepts featured in the project plan:

Original Project Plan	Final Game
Singular Ability Ball.	Multiple balls present within the level.
First ball must be used in every level.	Any ball variant can be swapped whenever the player feels like.
Players must use the ability ball to shoot the normal ball into the target.	Players must shoot the normal ball into the target.
The normal ball can only be used once.	The normal ball and ability balls can be used multiple times depending how many abilities/moves are available.
Each level to introduce the mechanic to the player.	Creating a “How To Play” menu that informs the player about rules, mechanics and interactables.
Ball Designs and simple environmental designs.	Space Aesthetic with unique ball and space-themed levels.
Breakable walls and Dead Zones serving different purposes as separate game objects.	Merging both into the singular “Police-craft” game object.
A sort of score system.	No score system present.
Using the ability balls to move the normal ball.	A mechanic of ricocheting off surfaces regardless of ball type.
Balls bounce off each other similar to billiards,	Balls bouncing off similar to walls, where the other ball remains static.
Colour Coded Walls and Force Fields being separate objects.	Merging both to create Colour Coded Force Fields.
User Interface with Minimal Text	User Interface with no text and only symbols.

Annexure A: The Original Game Design Document used to create the Project Plan.

Game Design Document
Group 9

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1. Overview

This project details a game concept which is a physics based puzzle game. The game requires the player to knock the first ball into a pocket by using a second ball. The game will set out similarly to a game of billiards as the player must use a second ball to collide with the first ball in order to knock the first ball into the pocket. For the sake of this document, the first ball which must make its way to the pocket will be referred to as the target ball, and the second ball which must be used to knock it in will be referred to as the ability ball. The target ball may only be hit one time by the player, at the beginning of the level. This is to establish the initial position of the target ball before it reaches its goal. The ability ball may be hit multiple times but within a limited number of attempts relative to the level the player is in the process of completing. The ability ball will have a set of abilities which the player must use to overcome the set of obstacles laid out before them in the level. Each level is a unique course with a different set of obstacles that form a puzzle which the player must solve using the ability ball's mechanics. The level will conclude once the player has successfully set up the ability ball and used it to knock in the target ball.

2. System of Mechanics

The primary gameplay loop will entail the player operating a controller which hits the objective and ability ball with an impulsive force. The player will control. The player will use this controller to initially position the target ball with a single hit. After the first hit, the player must hit the second ability ball to knock the target ball into the pocket within a limited number of attempts which would be specific to the implementation of each individual level.

In the current version of the concept the player views the entirety of the course from a top down camera perspective, but this may vary with the implementation of different levels of verticality.

Varying ability ball mechanics are intended to be implemented to work together with different physical forces and environmental objects in order to create obstacles which the player must overcome. These ability mechanics will include things like being able to travel through specific walls or being able to control certain collisions. Other mechanics may be implemented to work within the environment of different levels.

Ability ball Mechanics:

Figure 11 and figure 12 in the appendix show concept and technical art for the ability ball. The figures indicate design, aim indicator, and collision interaction.

Ideas regarding potential mechanics include;

- A ball that can be hit without any special mechanics (similarly to how the player hits the target ball in the initial stage of the game)

- Ball that sticks to the surface on first collision and allows the player to aim the angle of reflection.
- A ball which can phase through the first wall it collides with and bounces off every wall after that.
- Ball which the player may use to hit curve shots.
- Ball which is capable of destroying certain walls.

3. Communication Design

Varying platforms which have different physical properties should be obvious to the player in how they behave. For instance, if there is a bouncy surface for the balls to interact with or a gravitational field, this should also be indicated in some way, such as using colour, sprites or animation to represent the different reactions those platforms will emit once a ball collides with it.

The different abilities which the ability ball employs should be communicated to the player in as many different ways as possible. These mechanics should be indicated through color coordination as well as other potential visual cues which may indicate the outcome where possible. Since the player will be limited to how many times they may use each of the different abilities, some form of numerical indicator should be implemented to communicate this to the player. The feedback design should be explicit enough to ensure that the player is able to easily remember the response they get from applying any of the implemented ability mechanics after using each one.

Figure 13 and figure 14 in the appendix show concept art for the in-game UI overlay.

4. Data Design

The data design should aim to balance the game and give the developers control of the variables regarding the physical properties of the hit mechanics as well as the environmental objects. This should allow the tuning of the physical responses which the player will experience when exercising the system of mechanics. The tuning of said variables will be done iteratively through a series of playtesting in order to achieve an ideal game feel.

Types of data to have control over:

- Max power of ball hit.
- Friction value of ground and ball
- How many shots is the player allowed per level
- Bounciness of walls and ball
- Size of target pocket
- Size of balls
- Weight and feel of the balls

The game will keep a record of how many times the player has hit the ability ball during each individual stage. This data can be used to indicate to the player how efficiently they were able to complete the stage. Each stage may also place limits on this data in order to create different levels of challenge.

5. Level Design

The ability mechanics which the ability ball employs should be specifically designed to work within the environments provided by the various stages. For instance, if the player is presented with the ability to travel through walls, they should be presented with the opportunity to do so in the given level. Some levels may put focus on individual ability mechanics in order to familiarize the player with how said mechanics function early on in the experience. Stages which attempt a higher level of

difficulty should employ a combination of the different ability mechanics with an increasing number of moves required to solve the puzzle. Levels may differ in design but should all come back to the goal of having the player knock the first ball into a goal region with the second ball.

The order in which the player progresses through the various stages should be situated in such a way so that the game uses early levels to show the player how the basic mechanics work. Later stages would then use the principles which the player learnt earlier on to create more complex puzzles. The intention would be to create a difficulty curve which sees a gradual increase in complexity in puzzles.

Each level has a set of micro goals, the design of each level should fulfill these goals in order to ensure the macro level structure of the game is a well curated experience, that offers the player a fun experience with a good game flow and difficulty level. The first levels should be an introduction to the core system and gameplay loop, and offer a space for the player to explore and get a feel for the shooting mechanic and power levels. The use of many game objects will help increase the level of conceptual and complex difficulty. The concept sketches in the appendix theoretically achieve similar micro goals to each other.

Concept art regarding different elements of level design found in the Appendix showing concepts such as the Dead Zone and establishing the game pieces (Figures 1 - 3), ball abilities and emphasis on the movement of walls and balls (Figures 7 - 10), and interesting level designs incorporating puzzle elements and wall switches (Figures 4 - 6).

Environment Objects:

- Static wall
- Breakable wall
- Moving wall
- Pairs of Teleport pads
- Wall switches which open doors within the level
- Force fields
- Deadzone

6. Game Design Intent

The intent of the primary gameplay loop is to provide the player with a puzzle which they must solve by using the system of mechanics presented to them in order to complete each stage. Since the game is physics based, solving each puzzle will not only require the player to figure out the sequence of actions they must perform but also time their shots correctly and estimate the power and direction necessary to achieve the desired outcome. Different mechanics and level designs intend to create a system where the player must use their understanding of the environment and their own capabilities to solve the level put before them. The top down perspective is intended to give the player a full view of the level which would allow them to plan out the sequence of moves required to solve the puzzle.

Level Concept Variations

Designs and descriptions by Tenisha Moodley

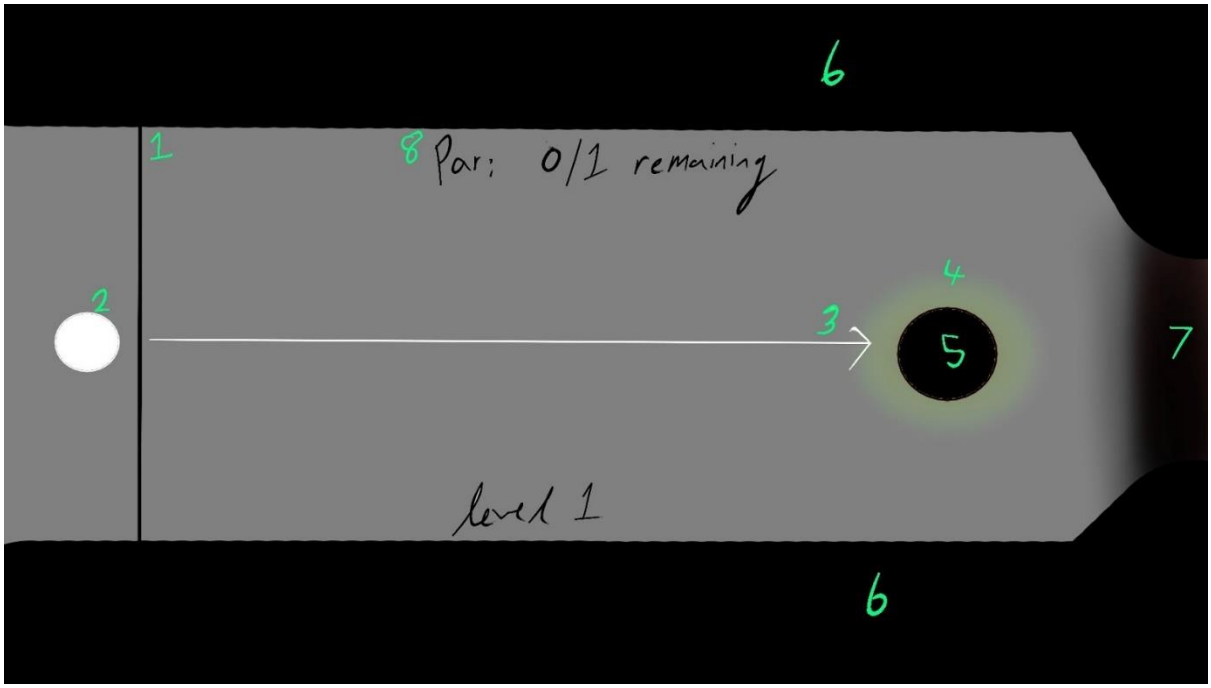

Figure 1 Image showing Concept Design for Level 1

1: The Startup line where the objective (white) ball and the ability ball start from on their first hit. In this level, the right side of the startup line is a solid wall that the balls cannot pass through.
2: The White Ball, like in Billiards and PuttPutt games, this ball is the 'main ball'. In this game, the white ball is the reverse of the white ball in a Billiards game, and therefore has the similar abilities to that of the ball in PuttPutt. The player has to sink the white ball into the hole at number 5.
3: The Action line representing the white ball's trajectory from how the player hit it.
4: The Pull Zone. This zone surrounds the sink hole and acts like an atmosphere to the hole, providing a weak gravitational pull towards the hole. It's not very strong, so the ball can bypass it if hit too hard.
5: The Goal Zone where the player is aiming to get the white ball.
6: The Walls. These walls are just solid walls that the ball bounces off, and provides constraints for the level.
7: The Dead Zone. A place where the ability balls can't go, but the white ball can. If the white ball enters this area then the level is lost automatically.
8: The Par score: This is the number of hits the player is allowed before they've failed the game. A hit refers to the successful drag and shoot motion of any of the balls found in that level. (Does this count the beginning two shots from the startup line?)

Intended player experience: This level is designed to introduce the main game pieces and mechanics to the player. It should be simple, quick and easy but still be descriptive enough to the player.

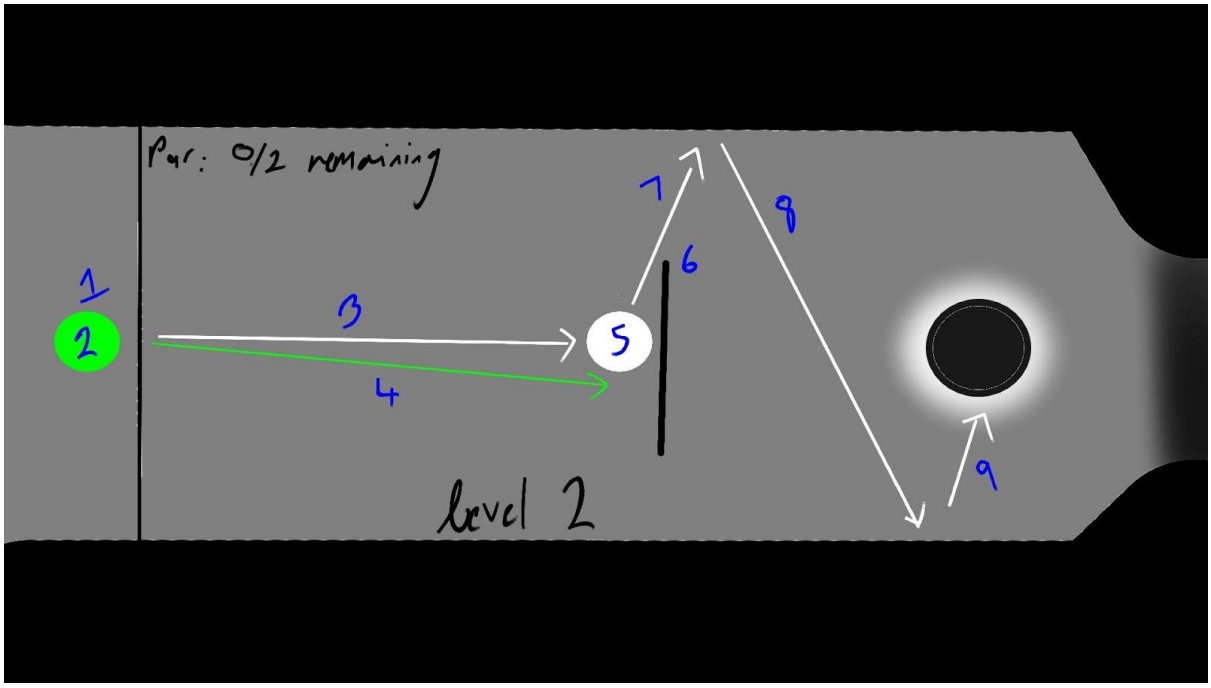

Figure 2 Image showing Concept Design for Level 2

1: The Objective Ball (white ball) and Ability Ball (different coloured ball) Startup Position. The Objective ball appears and the player is required to pull and shoot it. After it has been shot, the Ability ball appears in the same position but being whatever colour it is.
2: The Ability Ball. This Ball only has the ability of being a normal ball.
3: The Action line representing the trajectory of the Objective ball took on its first shot.
4: The Action line showing the ability balls trajectory line. The Ability ball only has one shot, so it would either disappear or become uninteractive after this shot.
5: The Objective ball once stopped moving after colliding with the solid wall at number 6.
6: The solid wall obstacle.
7,8 and 9: The Action lines representing the bounces that the Objective ball could possibly look like after being hit by the Ability ball at that angle, which don't count in the par.

Intended player experience: Another short and quick level that introduces the appearance of Ability balls, and obstacles. The player can use the Objective ball to get to the goal by just using the Objective ball if they are willing to get the par in 1 shot rather than two and therefore gain more points.

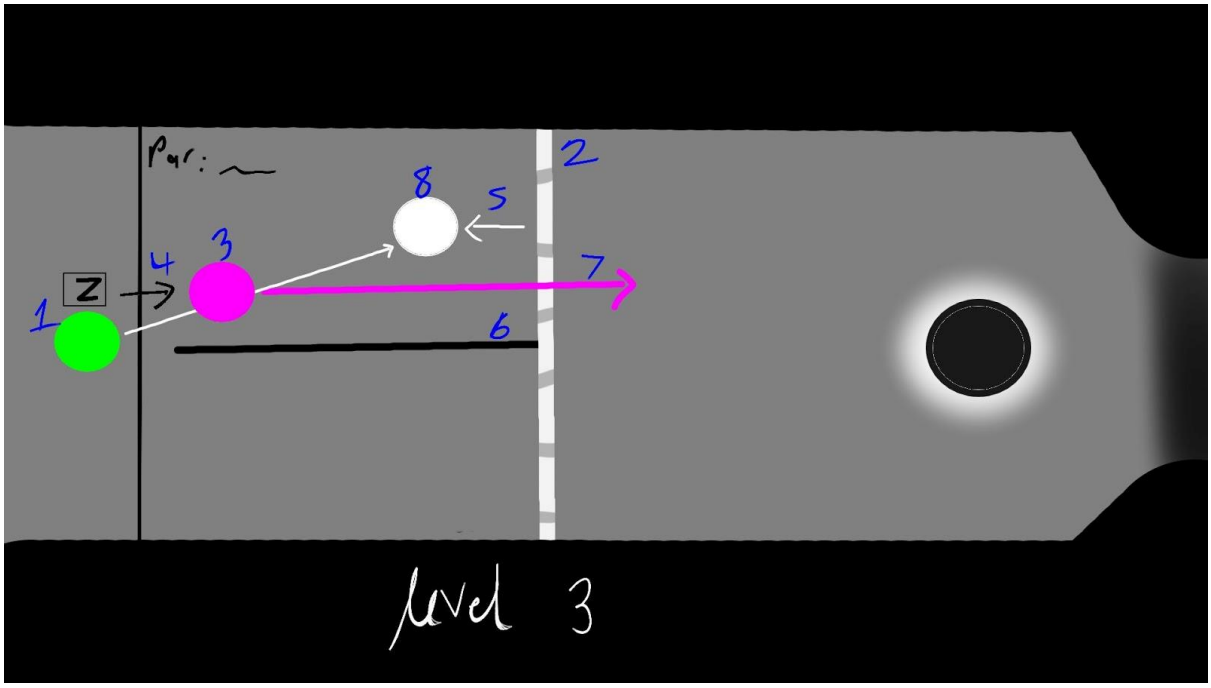

Figure 3 Image showing Concept Design for Level 3

1: Ability Ball 1 - The Normal Ability Ball
2: The Breakable Wall - Can only be broken by the Wall Breaking Ability Ball
3: The Wall Breaking ability ball, all ability ball mechanics can only be used once
4: The Action of pressing the Z Key in order to switch between Ability ball's abilities, since there is one Ability ball which has numerous abilities but only one ability can be used at a time.
5: The action line showing the Objective ball bouncing off the breakable wall
6: The solid wall is placed here to encourage the player to not only shoot forward
7: The action line showing the wall breaking ability ball being used to smash through the wall
8: The Objective ball

Intended player experience: This level introduces the multiple ability ball mechanics mechanic by not only allowing the player to now interact with the Ability ball more than just dragging and shooting it, but also by using a key to switch between the Ability ball mechanics. It also emphasizes the introduction of more Ability ball mechanics, by introducing a complimentary game obstacle which can only be bypassed by using the newly introduced Ability ball mechanic. Furthermore, it also introduces the increase of level difficulty through each level.

Level Concept Variations Volume 2

Designs and descriptions by Ashish Juggpall

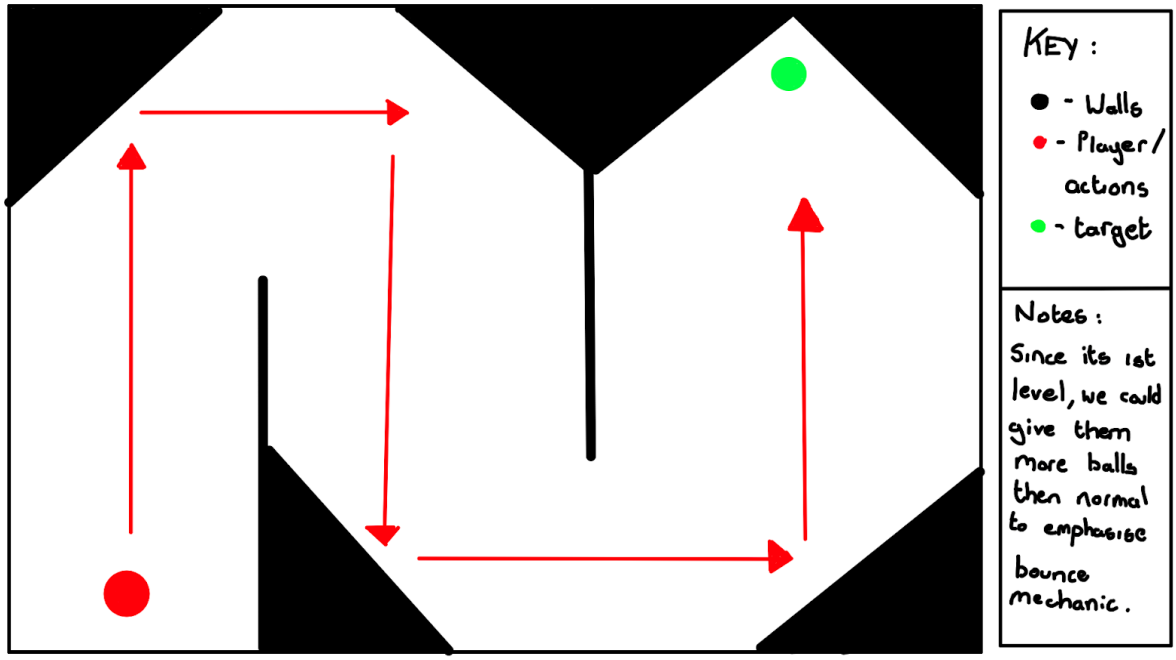

Figure 4 showing level design concepts for Level 1.

For the first level concept, the intent is for the player to identify the main ball mechanic as well as create an emphasis on the ball bouncing off walls, richoteting towards the target. The limit of ball bounces are increased to allow the player a limited amount of freedom to learn the mechanics of the game.

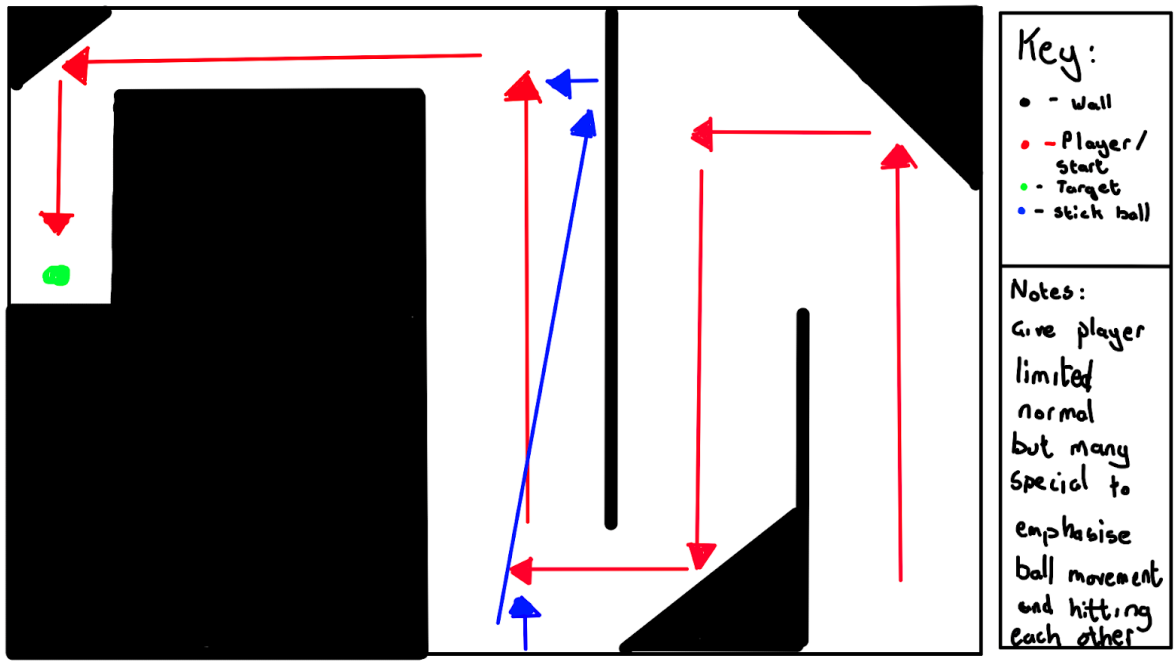

Figure 5 showing level design concepts for Level 2.

For the second level concept, there is also a new ability ball introduced, with the level designed to incorporate the new ball's abilities. There is still an emphasis on the ball bouncing off walls, however there is now a limit of how many bounces are allowed per ball type. This presents an increased difficulty as well as allows players to strategically plan how to play the level, forcing players to use both ball variants to achieve the level objective.

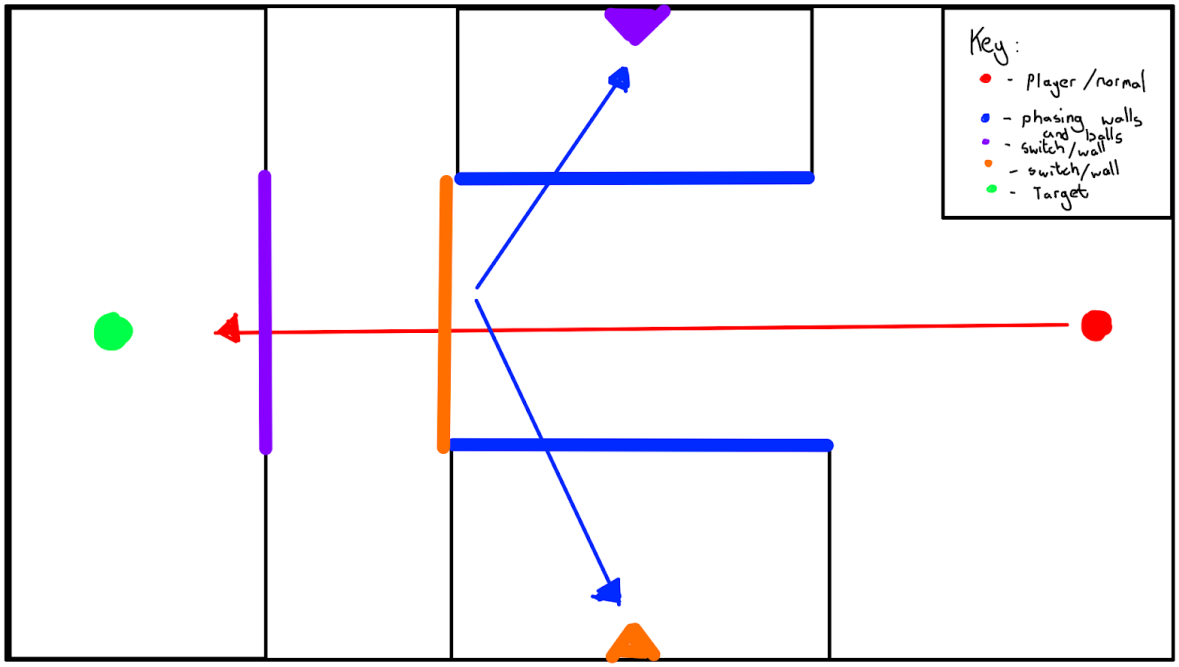

Figure 6 showing level design concepts for Level 3.

The third level concept's main intention was to create an emphasis on puzzle-based gameplay. The player must complete the series of puzzles in a specific order to complete the level. The player must use the ability ball with phasing abilities to phase through walls and deactivate the different colour-coded walls in a specific sequence in order to achieve the objective of the game.

Level Concept Variations Volume 3
Designs and descriptions by James Theron

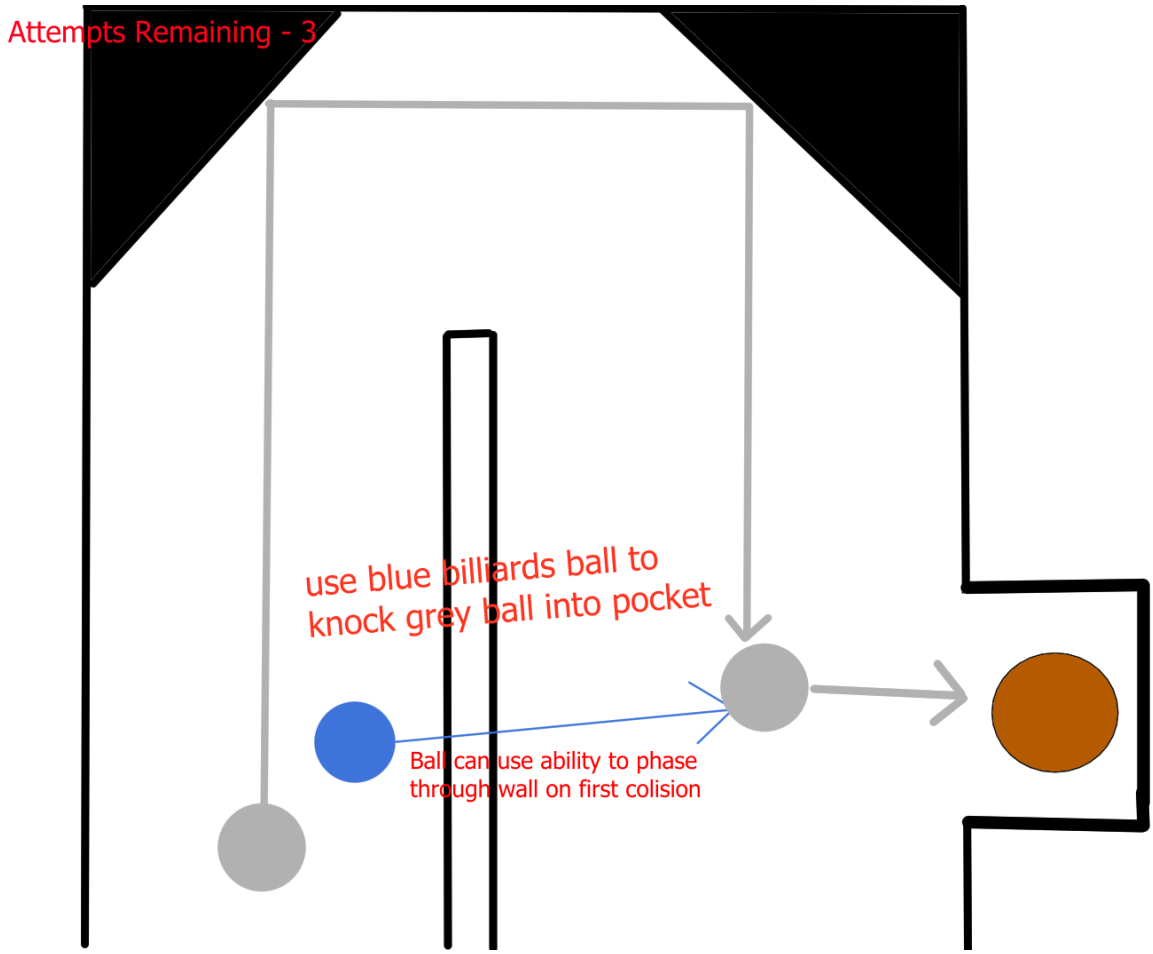

Figure 7: An early level depicting the phase ability

This initial level would be implemented for the sake of illustrating to the player the ability ball's ability to phase through certain walls. The grey circle represents the target ball, the blue circle represents the ability ball with the phase ability and the orange circle would be the pocket. The player must set up the target ball by hitting it in such a way that it reflects off of the angled surfaces and lands just in front of the pocket as illustrated by the grey arrows. The player must then use the ability ball to phase through the wall and knock in the target ball as shown by the blue arrows in the sketch. This particular course would likely give the player 3 opportunities to complete the stage.

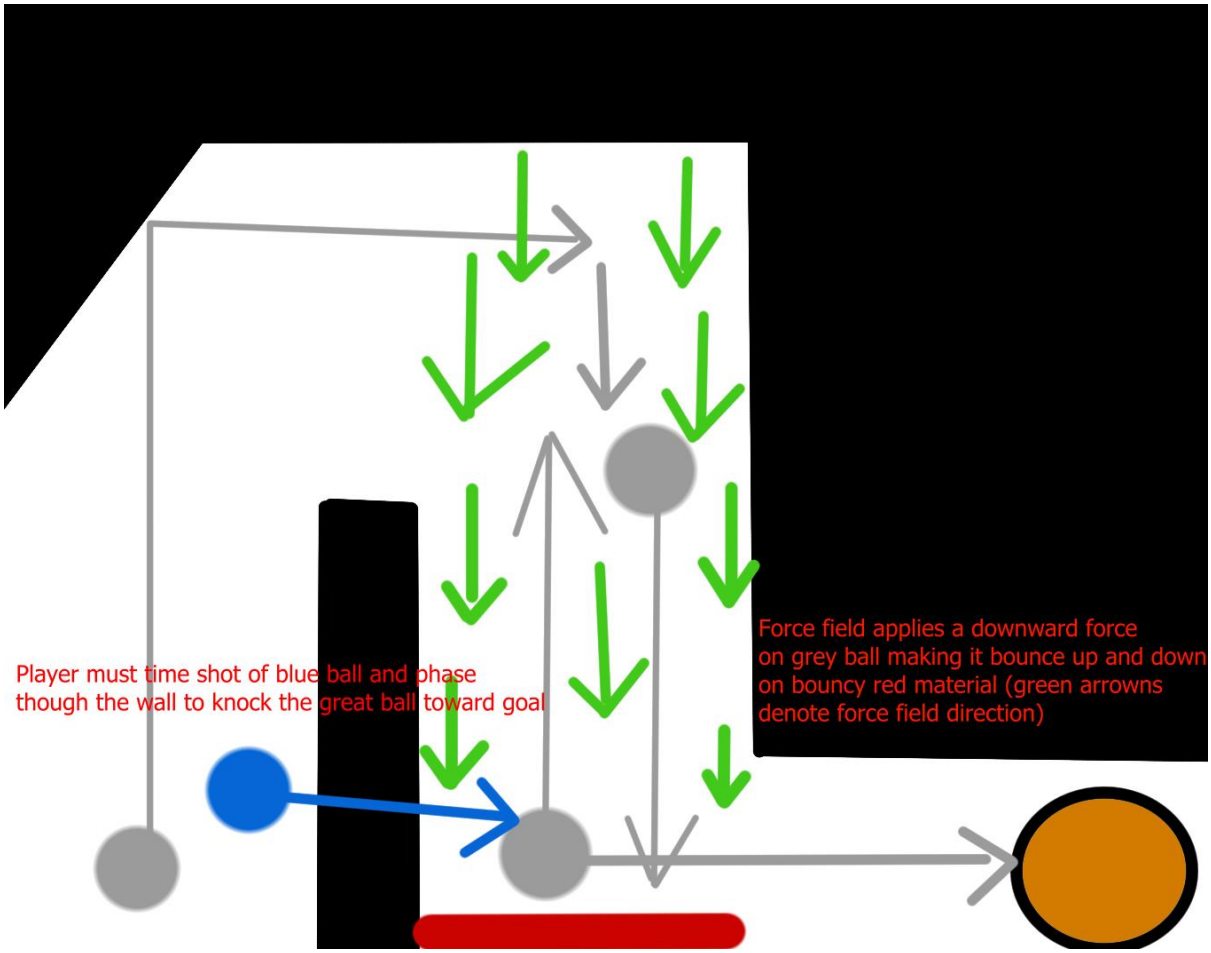

Figure 8: A level depicting the use of the phase ability and force field

Similar to the previous sketch, this course requires the player to use the phase ability of the ability ball to travel through a wall and knock the target ball into the pocket. In this instance, the green arrows show the presence of a force field which would pull the target ball in a downward direction. The force field coupled with the red bouncy material would initially cause the target ball to bounce up and down continually. The player must correctly time their shot with the ability ball in order to make the connection with the target ball and knock it in.

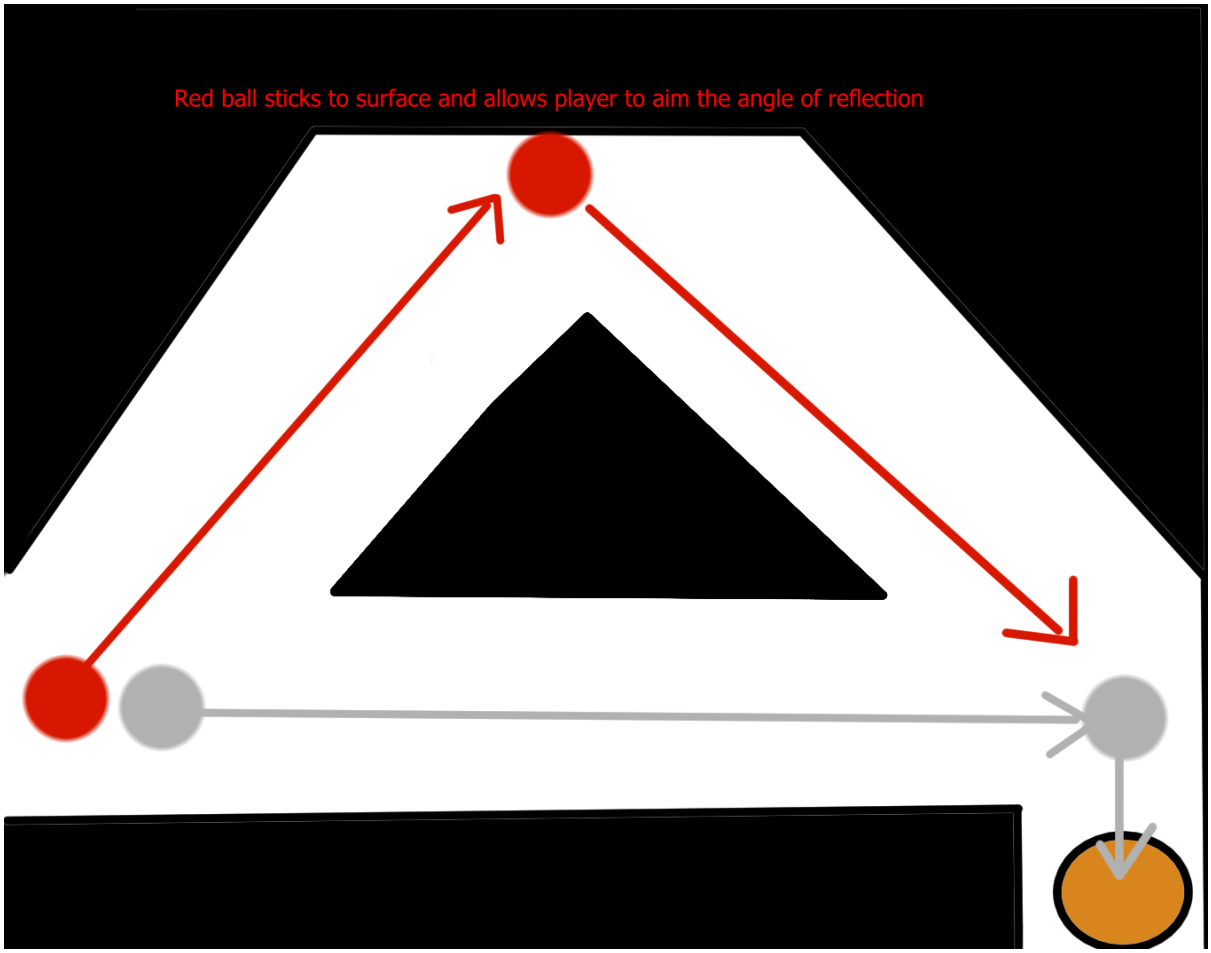

Figure 9: An early level depicting the sticky ability.

This stage is intended to illustrate to the player the ability ball's sticking ability. Th must first set the target ball by simply hitting it to line up with the pocket as shown by the first grey arrow. Since the player would potentially be limited to a single shot with the ability ball, they must use its ability to stick to the surface at the top of the level as shown in the sketch. This would allow the player to aim the angle of the reflection towards the target ball and knock it into the pocket in a single shot.

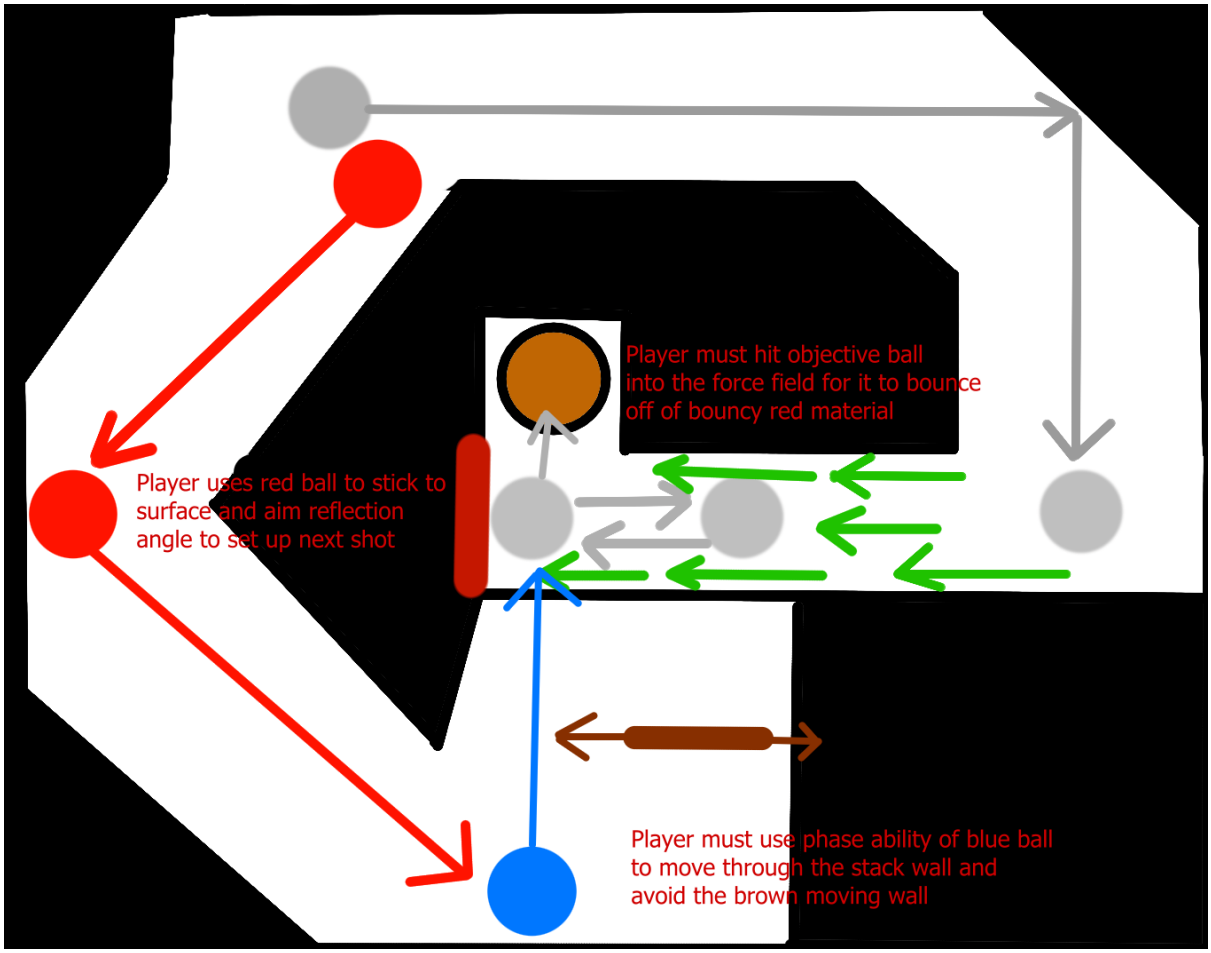

Figure 10: A more complex level requiring both the sticky ability and the phase ability

Figure 10 depicts a level of increased complexity which requires the player to use both the ability ball mechanics illustrated in earlier levels. Again, the player would hit the objective ball off of the reflective surface and into the force field causing it to bounce up and down off of the red bouncy material. The player would then proceed to use the sticky ability mechanic to position the ability ball as shown by the red arrows. The player would then have to use the phase ability to move through the static wall and knock in the objective ball into the pocket. The final shot needs to avoid the moving brown wall and be timed in such a way to hit the objective ball in the right moment during it's bouncing motion.

Game Object and User Interface Concept Variations

Designs and descriptions by Ashish Juggpall

Ability Ball Concepts

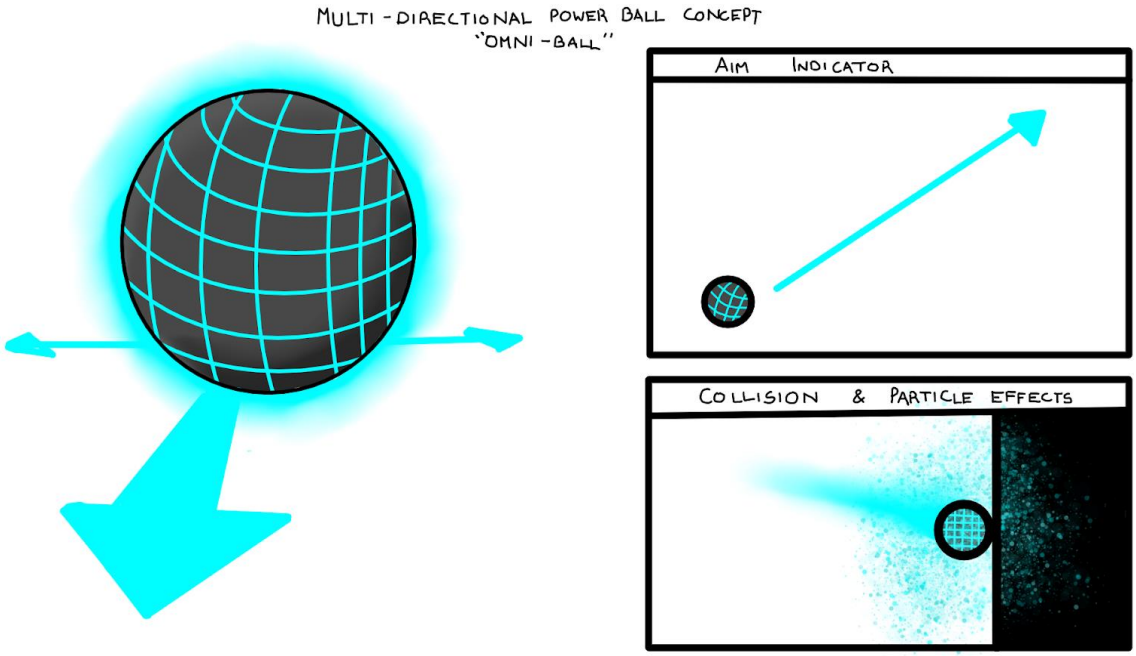

Figure 11 Image showing Omni-Ball Concept Art and ability

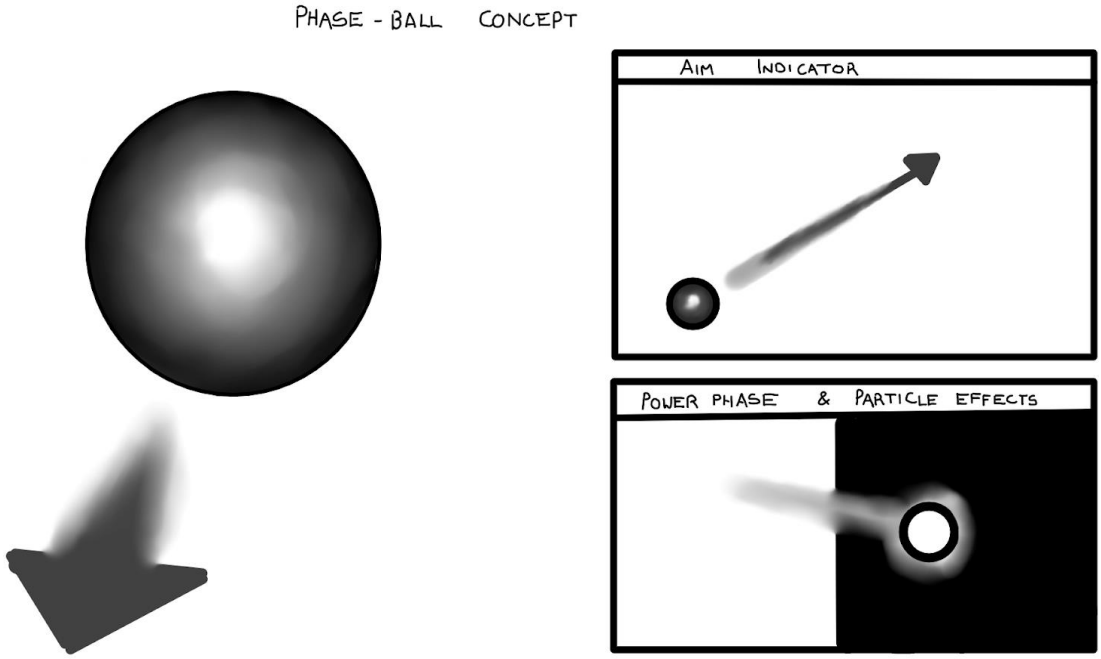

Figure 12 Image showing Phase Ball Concept Art and ability

User Interface Concepts

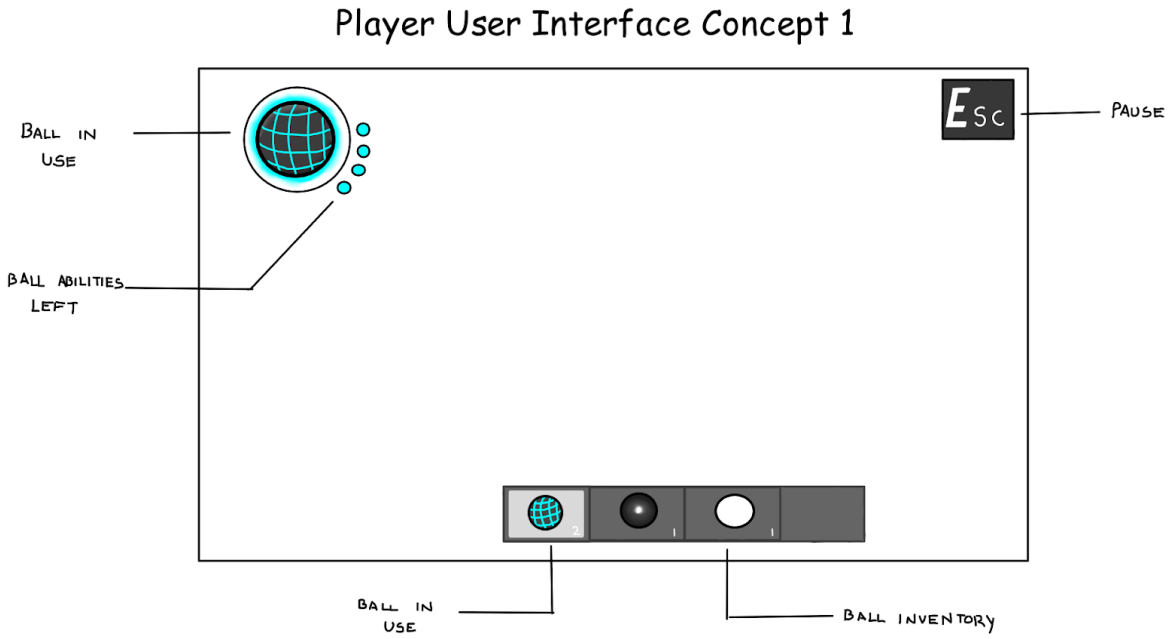

Figure 13 Image showing User Interface Concept Art that we most favour

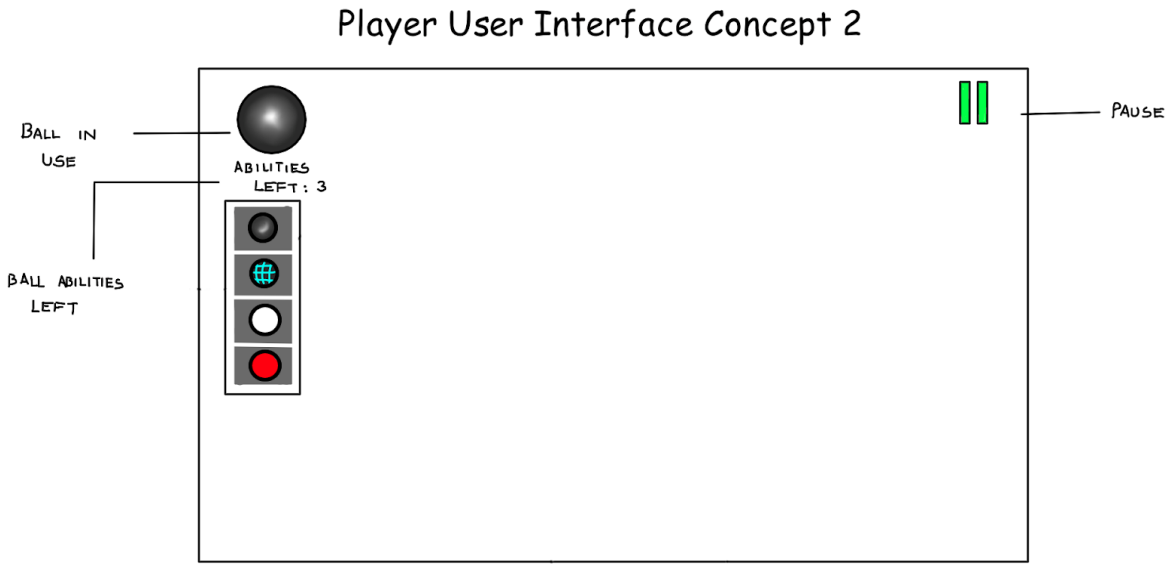

Figure 14 Image showing User Interface Concept Art that we least favoured but still acknowledge