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| **Project Design Document** | |  | | --- | | *08/19/2024*  Alvin | |

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| **Project Concept** | | | |
| **1** **Player Control** |  | You control a   |  | | --- | | *Ball (Player)* | | in this   |  |  | | --- | --- | | *third-person view 3D* | game | |
|  | where   |  | | --- | | *Keyboard* | | makes the player   |  | | --- | | *roll around and jump* | |

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| **2** **Basic**  **Gameplay** |  | During the game,   |  |  | | --- | --- | | *obstacles and power ups and a balloon* | appear | | from   |  | | --- | | *the beginning of a game (usually on the ground, but can also be from walls. Balloon drops down from above* | |
|  | and the goal of the game is to   |  | | --- | | *Keep the balloon from touching the ground* | | |

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| **3** **Sound**  **& Effects** |  | There will be sound effects   |  | | --- | | *when either player touches the balloon, when you touch/use a power up, when balloon touches the ground* | | and particle effects   |  | | --- | | *When balloon touches the ground (pops), when* | |
|  | [*optional*] There will also be   |  | | --- | | *background music, and there will be a “time is almost up” ticking sound when there’s 5 seconds left. There will also be a whistle when the time is officially up.* | | |

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| **4** **Gameplay**  **Mechanics** |  | As the game progresses,   |  | | --- | | *The time will decrease. Power ups will appear…* | | making it   |  | | --- | | *…easier for you to get to the balloon, or affect the balloon;s trajectory to make it harder for the opponent.* | |
|  | [*optional*] There will also be   |  | | --- | | *Obstacles that prevent you from getting to the ball, and certain items that will affect the balloon’s trajectory (i.e. hair dryer that blows balloon away)* | | |

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| **5** **User**  **Interface** |  | The   |  | | --- | | *score* | | will   |  | | --- | | *change* | | whenever   |  | | --- | | *the balloon touches the ground* | |
|  | At the start of the game, the title   |  |  | | --- | --- | | *“Balloon Keep Up Championships”* | will appear | | | and the game will end when   |  | | --- | | *The player exits the main menu (one game will end when the time is up, whoever has the most “ground touches” wins)* | |

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| **6** **Other Features** |  | |  | | --- | | *If balloon is not projected upwards (i.e. hit at a horizontal or even downward angle, you forfeit the point)* | |

# **Project Timeline**

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| --- | --- | --- |
| **Milestone** | **Description** | **Due** |
| **#1** | |  | | --- | | *Set up main elements of the game (balloon, characters, assets, white box obstacles, etc.), introduce basic gameplay (i.e. player control) with colliders and rigid bodies.* | | |  | | --- | | *08/24/24* | |
| **#2** | |  | | --- | | *Include sound and effects for game at appropriate points (i.e. sound effects when the player hits the balloon, background music, etc.)* | | |  | | --- | | *08/25/24* | |
| **#3** | |  | | --- | | *Add in more advanced gameplay mechanics – Timer mechanism to stop the game when time is up, scoring system (all shown through console at first)*  *Add a basic UI to the game (main menu, UI to show time, score, volume control, instructions, controls [basically just text showing controls] etc.)* | | |  | | --- | | *08/26/24* | |
| **#4** | |  | | --- | | *Add power ups and more advanced obstacles, spice up the UI so it’s a little more attractive in the menu* | | |  | | --- | | *08/28/24* | |
| **#5** | |  | | --- | | *Troubleshoot, debug, profile code, test, and incorporate feedback* | | |  | | --- | | *08/31/24* | |
| **Backlog** | |  | | --- | | *Could implement saving and loading*  *Add achievements, different skins, online multiplayer (rooms), tournament with an AI (will need to implement an AI character with different difficulties and adjust menu options)* | | |  | | --- | | *09/07/24* | |

# **Project Sketch**

Advanced Obstacle



Obstacle



0:43

Power up

Player 2

Player 1

Balloon

Power up

