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| Project Design Document | |  | | --- | | *02/24th/2023*  Excale | |

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| --- | --- | --- | --- |
| Project Concept | | | |
| 1 **Player Control** |  | You control a   |  | | --- | | *paddle/bar* | | in this   |  |  | | --- | --- | | *Top down* | game | |
|  | where   |  | | --- | | *Vertical axis* | | makes the player   |  | | --- | | *move vertically.* | |

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| 2 **Basic**  **Gameplay** |  | During the game,   |  |  | | --- | --- | | *A ball* | appear | | from   |  | | --- | | *The center* | |
|  | and the goal of the game is to   |  | | --- | | *get the ball past the opponent.* | | |

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| 3 **Sound**  **& Effects** |  | There will be sound effects   |  | | --- | | *when the ball hits something or a powerup is collected* | | and particle effects   |  | | --- | | *same as previous* | |
|  | [*optional*] There will also be   |  | | --- | | *background music, visual effects when the ball hits anything.* | | |

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| 4 **Gameplay**  **Mechanics** |  | As the game progresses,   |  | | --- | | *The speed of the ball Increases,* | | making it   |  | | --- | | *harder for the players to react in time* | |
|  | [*optional*] There will also be   |  | | --- | | *powerups spawning from the center that may help either player.* | | |

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| 5 **User**  **Interface** |  | The   |  | | --- | | *score* | | will   |  | | --- | | *increase* | | whenever   |  | | --- | | *the ball makes it past the opponent.* | |
|  | At the start of the game, the title   |  |  | | --- | --- | | *"Hyper Pong"* | will appear | | | and the game will end when   |  | | --- | | *one of the players reaches a certain score.* | |

|  |  |  |  |
| --- | --- | --- | --- |
| 6 **Other Features** |  | |  | | --- | | *Powerups:* ***speedboost*** *(+ paddle speed),* ***powershot*** *(+ ball speed),* ***sizeup*** *(+ paddle size),* ***sizedown*** *(- opponent size),* ***faintshot*** *(random bounce angle)* | |

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# Project Timeline

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| --- | --- | --- |
| Milestone | Description | Due |
| **#1** | |  | | --- | | * *Project / Camera set up with primitive objects for all gameplay objects* | | |  | | --- | | *3/2nd* | |
| **#2** | |  | | --- | | * *Player(s) can move the paddle and can't exit play area* | | |  | | --- | | *3/6th* | |
| **#3** | |  | | --- | | * *Ball physics (collisions, spawning)* * *Score system (ball goes past opponent)* | | |  | | --- | | *3/9th* | |
| **#4** | |  | | --- | | * *Powerup system* | | |  | | --- | | *3/13th* | |
| **#5** | |  | | --- | | * *Main menu* * *Play again feature* | | |  | | --- | | *3/16th* | |
| **Backlog** | |  | | --- | | * *Replace primitive objects with nicer assets* * *CPU opponent* | | |  | | --- | | *3/20th* | |

# Project Sketch

Powerup spawns from the center

and moves both ways

Paddle moves vertically

Ball bounces