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| Project Design Document | |  | | --- | | *01/10/2023*  Stephen Rock | |

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| Project Concept | | | |
| 1 **Player Control** |  | You control a   |  | | --- | | *Cyborg* | | in this   |  |  | | --- | --- | | *Side View* | game | |
|  | where   |  | | --- | | *Controller Input* | | makes the player   |  | | --- | | *Run, Jump and Shoot* | |

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| 2 **Basic**  **Gameplay** |  | During the game,   |  |  | | --- | --- | | *Enemies(Robots) and obstacles* | appear | | from   |  | | --- | | *Right side of screen* | |
|  | and the goal of the game is to   |  | | --- | | *Score as many points as possible by shooting robots and surviving as the time increases during playthrough before losing 3 lives* | | |

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| 3 **Sound**  **& Effects** |  | There will be sound effects   |  | | --- | | *Explosions, lasers and jumping sound effects.* | | and particle effects   |  | | --- | | *Explosions from destroyed robots and player.* | |
|  | [*optional*] There will also be   |  | | --- | | *Sound effect when collecting a health item.* | | |

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| 4 **Gameplay**  **Mechanics** |  | As the game progresses,   |  | | --- | | *More enemies spawn* | | making it   |  | | --- | | *More challenging to avoid projectiles* | |
|  | [*optional*] There will also be   |  | | --- | | *Platforms to jump on and health items to collect* | | |

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| 5 **User**  **Interface** |  | The   |  | | --- | | *Score* | | will   |  | | --- | | *Increase* | | whenever   |  | | --- | | *Enemies are killed/duration of game increases* | |
|  | At the start of the game, the title   |  |  | | --- | --- | | *Cmd. Run* | will appear | | | and the game will end when   |  | | --- | | *Player loses 3 lives and hit by enemies and obstacles.* | |

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| 6 **Other Features** |  | |  | | --- | | *Camera is always focused on the cyborg in a side view.*  *Cyborg can run across the x axis of the screen but will be bound to the play area.* | |

# **MVP Details**

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| **Essential Features** | * The level loads. The cyborg can run, jump and shoot. * Cyborg collides with the enviornment. * Cyborg cannot run out of screen. * Robots enter into screen and shoot at cyborg * Cyborgs bullets can collide and damage robots * Robots bullets collide with cyborg and loses a life. * Robots spawn on platforms can walk off. * Score and lives update in UI. * Music and sound effects play when appropriate. * Animations for cyborg (idle, run, jump, shoot) and enemies (walk, shoot) |  |
| **B- Level Features** | * *Animation when cyborg gets hit and dies.* * *An airborne enemy type that flys into screen and shoots from above.* * *A title screen and menu with options to adjust settings (volume, screen size)* * *Leaderboard* |  |
| **A- Level Features** | * Special powerbar that when filled and triggered through a button input kills all enemies on screen. * Timed powerup items (Invincibility for 10 seconds) * UI updates the amount of robots you’ve destroyed. * Animation for lives and cyborg using special. * Different coloured robots with different level of toughness |  |

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# Project Timeline

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| Milestone | Description | Due |
| **#1** | |  | | --- | | * *Project and Camera is set up with basic objects for gameplay.* * *Player can move in all directions and cannot leave the play area.* * *Player can shoot in all directions.* * *Player can jump.* | | |  | | --- | | *10/10* | |
| **#2** | |  | | --- | | * *Enemies randomly spawn into play area from right side of screen.* * *Platforms randomly appear from side of screen.* * *Health item randomly appears from right side of screen.* | | |  | | --- | | *15/10* | |
| **#3** | |  | | --- | | * *When cyborg collides with robots, the cyborg loses a life.* * *When Cyborg collides with objects, the cyborg loses a life.* * *When cyborg collides with health item, a life is regained.* * *Health and game over mechanic is programmed.* | | |  | | --- | | *21/10* | |
| **#4** | |  | | --- | | * *Basic Objects are replaced with 3d artwork* * *Cyborg and enemies are given 3d artwork.* * *Scene platforms and 3d assets are applied.* * *Scrolling background is placed.* | | |  | | --- | | *01/11* | |
| **#5** | |  | | --- | | * *Particle and sound effects are applied to whenever cyborg makes contact with enemies, objectsand health items.* * *Particle and sound effects are applied when cyborg shoots and hits a robot.* | | |  | | --- | | *11/11* | |
| **#6** | * *Main menu is applied to the game.* * *Leaderboard is made.* * *Animations are applied (Idle, run, jump, shoot, hit)* | *25/11* |
| **Backlog** | |  | | --- | |  | | |  | | --- | | *mm/dd* | |

# Project Sketch

