Research Project - Tasks & Issues

As of Feb 27th 2019

Finish by April 9th

**GOAL**

Create a First Person Time Trial/Platformer that recreates the pilot movement of Titanfall 2 with the game engine Unity 3D. End release goal is a 5 level demo that a player can Walk, Run, Double Jump, Crouch, Slide, Wall Run, and Wall Jump through with obstacles that can get in the way or kill the player. There will be things that can’t be recreated, such as Clamber (Edge detection that player can latch onto and pick themselves up over and onto).

**TASKS**

**PLAYER**

* **Movement**

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| --- | --- | --- |
| **TASK** | **Status** | **Issues** |
| **Walk** | Implemented + Not Final | If player is on a slanted surface detected as ground, the player will need to stay attached to that surface while they move.  May need to change how fast a player moves. |
| **Sprint** | Implemented + Not Final | Same as Walk |
| **Jump** | **Implemented + Finished** |  |
| **Double Jump** | **Implemented + Finished** |  |
| **Crouch** | Implemented + Not Final | Scale down the player character while making it so, if the player is on Ground, the player stays on Ground and is never detected to be off the Ground. |
| **Slide** | Implemented + Not Final | Jump, Crouch, Land and then Slide issue when Player isn’t moving  Character does not slide when xz magnitude is at proper value for sliding while crouched and player not moving at the moment of landing on the ground.  Needs to be able to slide when xz mag value is reached when crouching and on the ground whenever these happen.  Works when player is still moving, fails only when player is not moving. |
| **Wall Jump** | Implemented + Not Final | Have so Wall Jump increases movement speed if jumped within certain time frame upon contact with a wall.  Am able to maintain current player movement when jumping off of wall. |
| **Wall Run** | Implemented + Not Final | Detach player from wall when player is moving away from wall.  Wall running on curved surfaces.  Needs Movement Speed for Wall Run. Will need to adjust Crouch, Walk, and Sprint Speeds accordingly. |

* **Collision**

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| --- | --- | --- |
| **TASK** | **Status** | **Issues** |
| **Detect Ground** | Implemented + Not Final | Slanted/Sloped surfaces need to be able to be detected as ground (How much of a slope to cause that will need to be tested) |
| **Detect Wall** | Implemented + Not Final | Need to make it so onWall isn’t true at the same time onGround is true.  Ground detection needs to be prioritized over Wall detection. |
| **Detect Kill Object** | Not Started | Simple way to implement this is to have the object that can kill be tagged as such and using the tag of an object collided with to determine if this event has happened |

* **Death**

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| --- | --- | --- |
| **TASK** | **Status** | **Issues** |
| **Die** | Not Started | Notify death  Should the player be given the option to respawn or just automatically do it. |
| **Respawn** | Not Started | Should happen if the player dies or restarts a level. |

* **HUD**

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| **TASK** | **Status** | **Issues** |
| **Player Status** | Not Started | Have it represent Movement (Walk, Crouch, Run, Jump, Wall Run, Slide) and Death |
| **Timer** | Not Started | Hours:Mins:Secs |
| **Pause Screen** | Not Started | Pause has to stop everything where it is and unpausing has to resume their pre-pause actions |
| **Level Results** | Not Started | Has to display Level Name, # of Deaths, # of Restarts, and Time Taken  Appears when goal reached.  Gives option to Replay the Level or go back to Level Select. |
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**OBJECTS/NON-PLAYER MODELS AND ASSETS IN A SCENE**

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| **TASK** | **Status** | **Issues** |
| **Block** | Implemented + Not Final | Texture |
| **Wall** | Implemented + Not Final | Texture |
| **Path** | Implemented + Not Final | Texture |
| **Cylinder** | Implemented + Not Final | Be sure player stays on when wall running.  Texture |
| **Platform** | Implemented + Not Final | Texture |
| **Pyramid** | Not Started | Be sure Player can Wall Run/Jump on and off of if Slant/Slope of it can allow (Determine what slope or slant would be best to cause wall detection) |
| **Pit** | Not Started | Texture |
| **Goal** | Not Started | Texture |
| **Kill Wall** | Not Started | Texture |
| **Kill Pit** | Not Started | Texture |
| **Kill Floor** | Not Started | Texture |
| **Kill Sphere** | Not Started | Texture |
| **Respawn Points** | Not Started |  |
| **Start Points** | Not Started |  |

**SCENES**

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| **TASK** | **Status** | **Issues** |
| **Title** | Not Started | Main Menu for Navigation |
| **Level Select** | Not Started | Display All Levels Created |
| **Credits** | Not Started | Profesor, Yourself, and All Software and External Assets Used |
| **Levels(1-5)** | See Levels Table | See Levels Table |
| **Test Level** | Implemented - Not Final |  |
|  |  |  |

**LEVELS**

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| --- | --- | --- | --- |
| **TASK** | **Description** | **Status** | **Issues** |
| **Level 1** | Basic Level, Can’t Die, Single Path, Double Jump, Wall Run, Wall Jump | Not Started | Have Respawn Points/Restart Points |
| **Level 2** | Same as before, Add Obstacles, Pit Fall | Not Started | Have Respawn Points/Restart Points |
| **Level 3** | Same as before but Pit Fall kills and causes player respawn, Add Multiple Paths | Not Started | Have Respawn Points/Restart Points |
| **Level 4** | Same as Before, Add Kill Platforms and Walls | Not Started | Have Respawn Points/Restart Points |
| **Level 5** | Same as Before, but only 1 Platform to start from and 1 to end on, Kill Floor | Not Started | Have Respawn Points/Restart Points |

**SOUND**

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| **TASK** | **Status** | **Issues** |
| **Walk** | Not Started |  |
| **Run** | Not Started |  |
| **Slide** | Not Started |  |
| **Jump** | Not Started |  |
| **Wall Run** | Not Started |  |
| **Land** | Not Started |  |