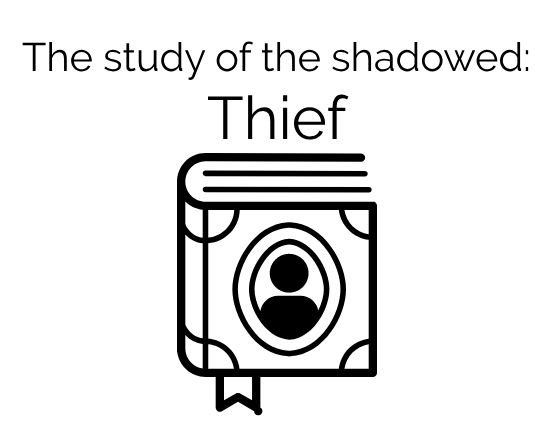
**Senior Project Use Case Model**



Void Pointer Studios

**Submitted By:**

*Carl Lowther*

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**Submitted To:**

*Calvin Caldwell*

10/11/2018

Version 1

# Signatory Page

Document accepted by:

**Calvin Caldwell**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature Date

Document submitted by:

**Carl Lowther**

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Signature Date

# Revision History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Company** | **Comments** |
| 0.5 | 5/20/18 | Carl Lowther | Void Pointer Studios | First Draft |
| 1 | 6/6/18 | Carl Lowther | Void Pointer Studios | Logo, H/S platform |
| 1.1 | 10/11/18 | Carl Lowther | Void Pointer Studios | Updated to correct email, Added functional requirements for menus |

# 

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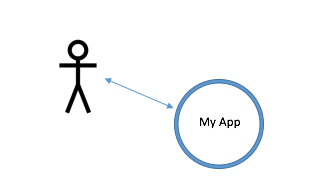
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# Context Diagram

****

**Video Game Player**

* Edit settings
* Choose a level
* Quit game
* Access in game menu
* Close in game menu
* Exit Level
* Edit setting in game
* Look around
* Walk
* Slow walk
* Run
* Crouch
* Jump
* Climbing ladders, ropes, and chest high objects
* Open doors
* Pick locks
* Opening combination locks
* Picking up objects
* Steal objects off of enemies
* Look through inventory
* Use Items in inventory
* Knock out enemies
* Putting out lights
* Use buttons and switches
* Finish Level
* Lose level
* View score after level
* Exit to main menu
* Continue to next level

# Use Case Catalog

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | **Description** |
| 005 | Play First Level | Video game player starts the game |
| 006 | Main Menu Interaction | Go back to the main menu from the level select menu |
| 010 | Main Menu Settings | Allow the player to change settings from the main menu |
| 011 | Quit Game | Quit the game from the main menu |
| 015 | (Adds) Settings Menu | Allow the player to change settings |
| 020 | In-Game Menu | Opens the in-game menu |
| 022 | Resume Game | Resumes the game |
| 024 | Open Setting Menu | Allow the player to change setting from in-game menu |
| 026 | Quit Level | Quits the level |
| 028 | Quit Game from Level | Quits the game from the level |
| 035 | After Level Info | Shows the player progress info after the level is finished |
| 037 | Go to Next Level | Load the next level |
| 039 | Quit to Main Menu | Quits from the after level screen to the main menu |
| 045 | Player Looking | Allows the player to look around in a 3D world |
| 046 | Player Movement | Uses keyboard input to walk around |
| 047 | Player Crouching | Allows the player to crouch, making them smaller |
| 048 | Player Jumping | Allows the player to jump in-game |
| 049 | Climbing Objects | Allows the player to climb objects |
| 050 | Player Inventory | Access and look through inventory |
| 052 | Opening Doors | Allows player to open doors |
| 054 | Picking Locks | Allows player to pick locks |
| 056 | Pick Safes | Allows player to pick safes |
| 058 | Stealing Objects | Stealing objects in the level or off of enemies |
| 060 | Knocking Out Enemies | Allows the player to knock out enemies |
| 062 | Putting Out Light Sources | Allows the player to put out light sources |
| 064 | Using Switches | Allows the user to use switches to toggle objects in the level |
| 065 | Enemy AI | Algorithms for how the enemies should behave |
| 080 | Level | The information need for a level |
| 085 | Database | Hosting and accessing database |
| 090 | Hosting the Game | Allows access to the game off of the cloud |

# Actor Catalog

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Description** |
| Player | Person | The player who is interacting with the video game. |

# Features Verification Matrix

|  |  |  |
| --- | --- | --- |
| **Features #’s** | **Use Case ID** | **Use Case Name** |
| 1.A | 045 | Player Looking |
| 1.B | 046 | Player Movement |
| 1.C | 047 | Player Crouching |
| 1.D | 048 | Player Jumping |
| 1.E | 049 | Climbing Objects |
| 2.A | 050 | Player Inventory |
| 2.B | 052 | Opening Doors |
| 2.C.i | 054 | Picking Locks |
| 2.C.ii | 056 | Picking Safes |
| 2.D | 058 | Stealing Objects |
| 2.E | 060 | Knocking Out Enemies |
| 2.F | 062 | Putting Out Light Sources |
| 2.G | 064 | Using Switches |
| 2.H | 020 | In-Game Menu |
| 3 | 065 | Enemy AI |
| 4 | 065 | Enemy AI |
| 5 | 065 | Enemy AI |
| 6 | 065 | Enemy AI |
| 7 | 080 | Level |
| 8.A.i.1 | 005 | Play First Level |
| 8.A.i.2 | 006 | Back to Main Menu |
| 8.A.ii | 010 | Main Menu Settings |
| 8.A.iii | 011 | Quit Game |
| 8.B.i | 022 | Resume Game |
| 8.B.ii | 024 | Open Settings Menu |
| 8.B.iii | 026 | Quit Level |
| 8.B.iv | 028 | Quit Game from Level |
| 8.C | 015 | (Adds) Settings Menu |
| 8.D.i | 035 | After Level Info |
| 8.D.ii | 037 | Go to Next Level |
| 8.D.iii | 039 | Quit to Main Menu |
| 9.A | 035 | After Level Info |
| 9.B | 085 | Database |
| 9.C | 090 | Hosting the Game |

# Use Case Specifications (Use Case\Number)

## Play First Level\UC 005

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number: Play first level UC 005  Subject Area: Main Menu Interaction  Description: Video game player starts the game | Responsible Analyst: Carl Lowther |

|  |  |
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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.a.i.1 | To allow the player to start the game |
|  |  |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/7/18 | First Draft |
| Carl Lowther | 10/11/18 | Added timing and volume information |
|  |  |  |
|  |  |  |

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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
| N/A |  |  |
|  |  |  |

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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | System displays the main menu |

|  |
| --- |
| Start Stimulus |
| Player selects start game |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | System displays level select menu |  |  |
| 02 | Player selects level |  |  |
| 03 | System displays a loading screen until level is loaded |  |  |

|  |  |  |
| --- | --- | --- |
| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
| N/A |  |  |

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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The Level is loaded and the player can begin playing |
|  |  |

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| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **Attributes** |
| Main Menu | A list of UI elements |  |
| Level Menu | A list of UI elements |  |

|  |  |  |  |  |  |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
|  | N/A |  |  |  |  |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
|  | N/A |  |  |  |  |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: 1 Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Once while in main menu |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 03 | seconds |  |  | 6 | Don’t want to take to long to load the level. |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | 03 | Mb |  |  | 20mb | SWAG of data needed to load level |
|  |  |  |  |  |  |  |
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## Back to Main Menu\UC 006

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Back to main menu UC 006  Subject Area : Main Menu Interaction  Description : Go back to main menu from level select menu | Responsible Analyst : Carl Lowther |

|  |  |
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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.a.i.2 | Go back to main menu from level select menu |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 1 | System displays the main menu |

|  |
| --- |
| **Start Stimulus** |
| Player selects start game |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | System displays level select Menu |  |  |
| 02 | Player selects Go back to main menu |  |  |
| 03 | System displays the main menu |  |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
| n\a |  |  |

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| **Post-Conditions** | |
| **#** | **Description** |
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| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| Main Menu | A list of UI elements |  |
| Level Menu | A list of UI elements |  |

|  |  |  |  |  |  |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| Frequency: Minimum: Maximum: Average: (OR)Fixed:  Per: Hour:  Day:  Week:  Month:  Other: Once or twice per game |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
|  | N\A |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
|  | N\A |  |  |  |  |  |
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## Main Menu Settings\UC 010

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Main menu settings UC 010  Subject Area : Main Menu Interaction  Description : Allow the player to change setting from main menu | Responsible Analyst : Carl Lowther |

|  |  |
| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.a.ii | Go to settings |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | System displays the main menu |

|  |
| --- |
| **Start Stimulus** |
| Player selects settings |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Open settings Menu | Settings menu UC 015 |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | In settings menu |
|  |  |

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| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| N\A |  |  |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: 3 (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Per Game |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Quit Game\UC 011

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Quit Game UC 011  Subject Area : Main menu  Description : Quit the game from the main menu | Responsible Analyst : Carl Lowther |

|  |  |
| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.a.iii | Quit the game |
|  |  |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
|  |  |  |
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| --- | --- | --- |
| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
|  |  |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
|  |  |  |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 1 | System displays the main menu |

|  |
| --- |
| **Start Stimulus** |
| Player Selects quit game |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Shut down the game |  |  |
|  |  |  |  |
|  |  |  |  |

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| --- | --- | --- |
| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

|  |  |
| --- | --- |
| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The game is no longer running |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
|  |  |  |
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| --- | --- | --- | --- | --- | --- |
| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- | --- | --- | --- |
| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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|  |  |  |

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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed: 1  **Per:** Hour:Day:  Week:  Month:  Other: Per Game |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 1 | Seconds |  |  | 0.5 | Time to close the application |
|  |  |  |  |  |  |  |  |
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| --- | --- | --- | --- | --- | --- | --- |
| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
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## (Adds) Settings Menu\UC 015

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| **General Information** | |
| Use Case Name\Number : (Adds) Settings Menu UC 015  Subject Area : Settings menu  Description : Allow the player to change settings | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.c | Settings menu |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
| **Main menu settings** | 010 | 1 |
| **In-game Menu** | 024 | 1 |

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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | At main menu or in game menu |

|  |
| --- |
| **Start Stimulus** |
| Player opens settings |

|  |  |  |  |
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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Show main menu |  |  |
| 02 | Edit audio | 015.1 |  |
| 03 | Exit settings | 015.5 |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | Setting menu is open |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| Settings menu | A list of UI objects |  |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: 3 (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Per Game |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 2 | Seconds |  |  | 0.05 | Changing the volume should not take to long |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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| **Alternate Course General Information** |
| Alternate Course Name\Number: Edit audio 015.1  Description: Change audio volume for game  Reason for Execution: Non Exception:  Exception: |

|  |
| --- |
| **Insertion Point** |
| Step Inserted After |
| **01** |

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| **Pre-Conditions** | |
| 1. | Settings menu is open |
| 2. |  |

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| --- | --- | --- | --- |
| **Alternate Course Steps** | | | |
| **#** | **Step Description** | **Adds Use Case #** | **Business Rule(s)#** |
| 1. | Player changes volume |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

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| --- | --- |
| **Post-Conditions** | |
| 1. | Settings menu is still open |
| 2. |  |

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| --- |
| **Alternate Course General Information** |
| Alternate Course Name\Number: Exit menu 015.5  Description: Exit settings menu  Reason for Execution: Non Exception:  Exception: |

|  |
| --- |
| **Insertion Point** |
| Step Inserted After |
| **01** |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| 1. | Settings menu is open |
| 2. |  |

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| --- | --- | --- | --- |
| **Alternate Course Steps** | | | |
| **#** | **Step Description** | **Adds Use Case #** | **Business Rule(s)#** |
| 1. | Player exits menu |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

|  |  |
| --- | --- |
| **Post-Conditions** | |
| 1. | Settings menu is closed |
| 2. |  |

## In-Game Menu\UC 020

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : In-Game Menu UC 020  Subject Area : In-Game menu  Description : Opens in-game menu | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.h | Player opening in-game menu |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| Player hits the escape key |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Pauses game |  |  |
| 02 | System displays in-game menu |  |  |
|  |  |  |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | In-game menu is open |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| In-game menu | A list of UI elements |  |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | The in-game menu will be accessed when the player needs to pause the game, edit settings or quit the game or level. | 10/11/18 |
|  |  |  |

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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | Between | 1,2 | Seconds |  |  | 0.1 | Should pause the game and bring up the in-game menu quickly. |
|  |  |  |  |  |  |  |  |

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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Resume Game\UC 022

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| **General Information** | |
| Use Case Name\Number : Resume Game UC 022  Subject Area : In-game menu  Description : Resume the game | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.b.i | Resume the game |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 1 | Game is paused |
| 2 | In-game menu is open |

|  |
| --- |
| **Start Stimulus** |
| Player selects resume game |

|  |  |  |  |
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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Close in-game menu |  |  |
| 02 | Un pause game |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 1 | The in-game menu is closed |
| 2 | The game is no longer paused |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: 1 Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Per in game menu opened |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | Between | 1,2 | Seconds |  |  | 0.1 | Should un-pause the game and close the in-game menu quickly |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
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## Open Settings Menu\UC 024

|  |  |
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| **General Information** | |
| Use Case Name\Number : Open Setting menu UC 024  Subject Area : In-game menu  Description : Allow the player to change setting from in-game menu | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.b.ii | Go to settings |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In in-game menu |

|  |
| --- |
| **Start Stimulus** |
| Player selects settings |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Open settings menu | Settings menu UC 015 |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 1 | In settings menu |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: 3 (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Per game |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Quit Level\UC 026

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| --- | --- |
| **General Information** | |
| Use Case Name\Number : Quit Level UC 026  Subject Area : In-game  Description : Quit Level | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.b.iii | Quit the current level and go back to the main menu |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In in-game level |

|  |
| --- |
| **Start Stimulus** |
| Player selects Quit level |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Close in-game menu |  |  |
| 02 | Close level |  |  |
| 03 | Open main menu |  |  |
| 04 | System displays main menu |  |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | At main menu |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: 1 Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Once per level |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | Between | 2,3 | Seconds |  |  | 0.5 | Shouldn’t take to long to close level |
| 2 | At | 4 | Seconds |  |  | 0.1 | Shouldn’t take to long to open the main menu |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Quit Game from Level\UC 028

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Quit Game from Level UC 028  Subject Area : In-Game menu  Description : Quit Game from Level | Responsible Analyst : Carl Lowther |

|  |  |
| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.b.iv | Quit Game from Level |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| # | Description |
| 01 | In in-game menu |

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| --- |
| **Start Stimulus** |
| Player selects quit game |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Shut down the game |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The game is no longer running |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed: 1  **Per:** Hour:Day:  Week:  Month:  Other: Per game |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 1 | Seconds |  |  | 0.5 | Time to close the application |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## After Level Info\UC 035

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| **General Information** | |
| Use Case Name\Number : After Level Info UC 035  Subject Area : After Level Screen  Description : Shows the player progress info after the level is finished | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.d.i | Show the after level info |
| 9.a | Show the after level info and allow the user to save his score to the cloud |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
|  |  |  |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| Use Case Name | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | Player has finished a level |

|  |
| --- |
| **Start Stimulus** |
| The After level screen is displayed |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | The system displays the score that the player got during the level |  |  |
| 02 | Allow user to upload his score to the sever |  |  |
|  |  |  |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | After Level screen is open |
| 02 | The player can see their score |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| After screen level | A list of UI elements |  |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed: 1  **Per:** Hour:Day:  Week:  Month:  Other: Per level completed |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 1 | Seconds |  |  | 0.08 | Shouldn’t take to long to show the users score |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | 2 | kb |  |  | 1 | The amount to send to the sever |
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## Go to Next Level\UC 037

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| **General Information** | |
| Use Case Name\Number : Go To Next Level UC 037  Subject Area : After level screen  Description : Load the next level | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.d.ii | Go to the next level |
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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In the after level screen |

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| --- |
| **Start Stimulus** |
| Player clicks on next level |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | System displays a loading screen until level is loaded |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The Level is loaded and the player can begin playing |
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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 03 | seconds |  |  | 6 | Don’t want to take to long to load the level. |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | 03 | Mb |  |  | 20mb | SWAG of data needed to load level |
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## Quit to Main Menu\UC 039

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| **General Information** | |
| Use Case Name\Number : Quit to Main Menu UC 039  Subject Area : After level screen  Description : Quit from after level screen to the main menu | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 8.d.iii | Quit to main menu |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| Use Case Name | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| --- | --- |
| **Pre-Conditions** | |
| # | Description |
| 01 | In after level screen |

|  |
| --- |
| **Start Stimulus** |
| Player selects quit to main menu |

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| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Close after level screen |  |  |
| 02 | Open main menu |  |  |
| 03 | System displays main menu |  |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | At main menu |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: 1 Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Once per after level screen |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | Between | 1,2 | Seconds |  |  | 0.5 | Shouldn’t take to long to close after level screen |
| 2 | At | 3 | Seconds |  |  | 0.1 | Shouldn’t take to long to open the main menu |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Player Looking\UC 045

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| **General Information** | |
| Use Case Name\Number : Player Looking UC 045  Subject Area : Player Movement  Description : Allowing the player to look around in a 3D world | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 1.a | Use the mouse to look around |
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|  |  |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| Player wants to look around |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Take input from mouse to look around |  |  |
|  |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The player is now looking somewhere else |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check if the player has moved their mouse | 10/11/18 |
|  |  |  |

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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: see comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 01 | seconds |  |  | 0.016 | Player should be moved as quickly as possible |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Player Movement\UC 046

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| **General Information** | |
| Use Case Name\Number : Player Movement UC 046  Subject Area : Player Movement  Description : Using keyboard input to walk around | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 1.b |  |
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| --- | --- | --- |
| **Revision History** | | |
| Author | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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|  |  |  |

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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| Player wants to move |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Read keyboard input to move the player |  |  |
|  |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The player is now in a new location |
|  |  |

|  |  |  |
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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible attributes** |
| Player Movement |  | Velocity, Velocity direction, Is on the ground, speed |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check if the player has used the keyboard | 10/11/18 |
|  |  |  |

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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 01 | seconds |  |  | 0.016 | Player should be moved as quickly as possible |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Player Crouching\UC 047

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Player Crouching UC 047  Subject Area : Player Movement  Description : Allows the player to crouch, making them smaller | Responsible Analyst : Carl Lowther |

|  |  |
| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 1.c | Allows the player to crouch |
|  |  |
|  |  |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
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|  |  |
| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| Player wants to crouch |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Read keyboard input to have the player crouch |  |  |
|  |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The player has crouched |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| Player Movement |  | Crouch amount, is crouched |
|  |  |  |

|  |  |  |  |  |  |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check if the player has used the keyboard | 10/11/18 |
|  |  |  |

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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 01 | seconds |  |  | 0.016 | Player should be moved as quickly as possible |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Player Jumping\UC 048

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Player jumping UC 048  Subject Area : Player Movement  Description : Allows the play to jump in game | Responsible Analyst : Carl Lowther |

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| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 1.d |  |
|  |  |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
|  |  |  |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
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|  |  |
| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| Player wants to jump |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Read keyboard input to have the player jump |  |  |
|  |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The player has jumped |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| Player Movement |  | Jump amount, Is on the ground |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check if the player has used the keyboard | 10/11/18 |
|  |  |  |

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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 01 | seconds |  |  | 0.016 | Player should be moved as quickly as possible |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Climbing Objects\UC 049

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| **General Information** | |
| Use Case Name\Number : Climbing objects UC 049  Subject Area : Player Movement  Description : Allows the player to climb objects | Responsible Analyst : Carl Lowther |

|  |  |
| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 1.e | climbing ladders, ropes, and chest high objects (walls, fences, windows) |
|  |  |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In Game |
| 02 | Next to a climbable object |

|  |
| --- |
| **Start Stimulus** |
| Player right clicking on a climbable object |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Climb Ladders and ropes | 049.1 |  |
| 02 | Climbing over objects | 049.2 |  |
| 03 | Jump off of objects | 049.3 |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The player is now in a new location |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| Player Movement |  | Is climbing |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check if the player has used the keyboard | 10/11/18 |
|  |  |  |

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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 1,2,3 | seconds |  |  | 0.016 | Player should be moved as quickly as possible |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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| **Alternate Course General Information** |
| Alternate Course Name\Number: Climb Ladders and ropes UC 049.1  Description: Allows the player to Climb Ladders and ropes  Reason for Execution: Non Exception:  Exception: |

|  |
| --- |
| **Insertion Point** |
| Step Inserted After |
| 01 |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| 1. | Player is right clicking on a ladder or rope |
| 2. |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Alternate Course Steps** | | | |
| **#** | **Step Description** | **Adds Use Case #** | **Business Rule(s)#** |
| 1. | Read keyboard input to move up or down |  |  |
| 2. | Move the player |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

|  |  |
| --- | --- |
| **Post-Conditions** | |
| 1. | Player has moved |
| 2. |  |

|  |
| --- |
| **Alternate Course General Information** |
| Alternate Course Name\Number: Climbing over objects UC 049.2  Description: Allows the player to climb over objects  Reason for Execution: Non Exception:  Exception: |

|  |
| --- |
| **Insertion Point** |
| Step Inserted After |
| 01 |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| 1. | Player is right clicking on object to climb over |
| 2. |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Alternate Course Steps** | | | |
| **#** | **Step Description** | **Adds Use Case #** | **Business Rule(s)#** |
| 1. | Move the player |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

|  |  |
| --- | --- |
| **Post-Conditions** | |
| 1. | Player has moved |
| 2. |  |

|  |
| --- |
| **Alternate Course General Information** |
| Alternate Course Name\Number: Jump off of objects UC 049.3  Description: Allows the player to jump off of an object that the player is climbing  Reason for Execution: Non Exception:  Exception: |

|  |
| --- |
| **Insertion Point** |
| Step Inserted After |
| 01 |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| 1. | Player is climbing an object |
| 2. |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Alternate Course Steps** | | | |
| **#** | **Step Description** | **Adds Use Case #** | **Business Rule(s)#** |
| 1. | Read keyboard input to jump off the object |  |  |
| 2. | Move the player |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

|  |  |
| --- | --- |
| Post-Conditions | |
| 1. | Player has moved |
| 2. |  |

## Player Inventory\UC 050

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Player inventory UC 050  Subject Area : Player Interaction  Description : Access and look through Inventory | Responsible Analyst : Carl Lowther |

|  |  |
| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.a | Player inventory |
|  |  |
|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
|  |  |  |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| Player accesses there inventory |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Reads input to look through inventory |  |  |
| 02 | Reads input to toggle inventory |  |  |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

|  |  |
| --- | --- |
| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The inventory will be closed |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| Inventory |  | List of objects, current position in inventory, is open |
|  |  |  |

|  |  |  |  |  |  |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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|  |  |  |
| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input from the keyboard | 10/11/18 |
|  |  |  |

|  |
| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 1,2 | Seconds |  |  | 0.03 | Inventory should be quick to load and look though |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | 1,2 | kb |  | 2 |  | Per object |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

## Opening Doors\UC 052

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Opening doors UC 052  Subject Area : Player interaction  Description : Allows player to open doors | Responsible Analyst : Carl Lowther |

|  |  |
| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.b | Opening doors |
|  |  |
|  |  |
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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| --- | --- | --- |
| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
|  |  |  |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| With in arms reach of a door |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Read input from player to open or close door |  |  |
|  |  |  |  |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

|  |  |
| --- | --- |
| **Post-Conditions** | |
| **#** | **Description** |
| 01 | Toggle door position |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
|  |  |  |
|  |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input | 10/11/18 |
|  |  |  |

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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 01 | seconds |  |  | 0.016 | Door should begin moving as quickly as possible |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Picking Locks\UC 054

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| **General Information** | |
| Use Case Name\Number : Picking Locks UC 054  Subject Area : Player Interaction  Description : Allows player to pick locks | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.c.i | Picking locks |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |
| 02 | In reach of a lock |

|  |
| --- |
| **Start Stimulus** |
| Player right clicks on the lock |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Read keyboard input from player to pick the lock  (See 2.c.i) |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | Lock is picked |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input | 10/11/18 |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See Comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Pick Safes\UC 056

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| General Information | |
| Use Case Name\Number : Pick safes UC 056  Subject Area : Player Interaction  Description : Allows player to pick safe | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.c.ii | Pick safes |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |
| 02 | In reach of a safe |

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| **Start Stimulus** |
| Player right clicks on the safe |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Read keyboard input from player to pick the lock  (See 2.c.ii) |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | Safe is picked |
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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input | 10/11/18 |
|  |  |  |

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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
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## Stealing Objects\UC 058

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| **General Information** | |
| Use Case Name\Number : Stealing objects UC 058  Subject Area : Player Interaction  Description : Stealing objects in the level or off of enemies | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.d | stealing gold, keys, important items, valuable objects (e.g. jewels, rings, necklaces, vases, small statues) in the level and off of enemies |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |
| 02 | Within arms reach of steal able objects |

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| **Start Stimulus** |
| The player right clicks on the object |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Add the object to the players Inventory |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | Object is in the players inventory |
| 02 | The object is no longer in the level or on an enemy |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input | 10/11/18 |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
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## Knocking Out Enemies\UC 060

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| **General Information** | |
| Use Case Name\Number : Knocking out enemies UC 060  Subject Area : Player Interaction  Description : Allows the player to knock out enemies | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.e | Knocking out enemies |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |
| 02 | In arms reach to an enemy |
| 03 | The enemy is not in an alerted state |

|  |
| --- |
| **Start Stimulus** |
| Player left click on enemy |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Knock an enemy out |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | Enemy is knock out |
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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input | 10/11/18 |
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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
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## Putting Out Light Sources\UC 062

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| **General Information** | |
| Use Case Name\Number : Putting out light sources UC 062  Subject Area : Player Interaction  Description : Allows the player to put out light sources | Responsible Analyst : Carl Lowther |

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| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.f | Putting out light sources |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |
| 02 | In reach of a extinguishable light |

|  |
| --- |
| **Start Stimulus** |
| Player right click on the light |

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| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Put out the light source |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The light is put out |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input | 10/11/18 |
|  |  |  |

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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Using Switches\UC 064

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| **General Information** | |
| Use Case Name\Number : Using switches UC 064  Subject Area : Player Interaction  Description : Allows the user to use switches to toggle objects in the level | Responsible Analyst : Carl Lowther |

|  |  |
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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 2.g | Use switches |
|  |  |
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|  |  |

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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
|  |  |  |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
|  |  |  |

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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |
| 02 | In reach of switch |

|  |
| --- |
| **Start Stimulus** |
| Player right clicks on the switch |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | The switch will activate or toggle something in a level |  |  |
|  |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | The switch will have activated or toggled something in a level |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | While in game we will constantly check for player input | 10/11/18 |
|  |  |  |

|  |
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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |
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## Enemy AI\UC 065

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| --- | --- |
| **General Information** | |
| Use Case Name\Number : Enemy AI UC 065  Subject Area : Enemy AI  Description : Algorithms for how the enemies should behave | Responsible Analyst : Carl Lowther |

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| --- | --- |
| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 3. | Enemy Movement, Navigation, and Interaction |
| 4. | Shadow Detection |
| 5. | Sound Detection |
| 6. | Enemy Detection |

|  |  |  |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |
| 02 | While game is not paused |

|  |
| --- |
| **Start Stimulus** |
| The beginning of the level |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| N\A |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| N\A |  |
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| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
| Enemy movement |  |  |
| Enemy eyes |  |  |
| Enemy ears |  |  |

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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | Enemy AI will always run while the game is not paused | 10/11/18 |
|  |  |  |

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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: See Comments |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
|  |  |  |  |  |  |  | Needs to take less then 5ms per frame |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
|  |  |  |  |  |  | TBD |
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## Level\UC 080

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| **General Information** | |
| Use Case Name\Number : Level UC 080  Subject Area : Levels  Description : The information need for a level | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 7 | The information need for a level |
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| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
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| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | In game |

|  |
| --- |
| **Start Stimulus** |
| Loading level |

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| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| N\A |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| Post-Conditions | |
| **#** | **Description** |
| N\A |  |
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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- |
| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
| Carl Lowther | Will hold all the information for a level (see 7) | 10/11/18 |
|  |  |  |

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| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed:  **Per:** Hour:Day:  Week:  Month:  Other: Once per Level load |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| N\A |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
|  |  |  |  |  |  | SWAG of 20MB per level |
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## Database\UC 085

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| --- | --- |
| **General Information** | |
| Use Case Name\Number : Database UC 085  Subject Area : Server  Description : Hosting and accessing database | Responsible Analyst : Carl Lowther |

|  |  |
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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 9.b | Hosting and accessing database |
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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
|  |  |  |

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| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| 01 | At after level screen |

|  |
| --- |
| **Start Stimulus** |
| Loading scoreboard info |

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| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Connecting to the data to send and receive data |  |  |
| 02 | Close connection when done |  |  |
|  |  |  |  |

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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
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| **Post-Conditions** | |
| **#** | **Description** |
| 01 | Database connection is closed |
|  |  |

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| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
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| --- |
| **Frequency of Execution** |
| **Frequency:**  Minimum: Maximum: Average: (OR)Fixed: 1  **Per:** Hour:Day:  Week:  Month:  Other: Per after level screen |

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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 1 | Seconds |  |  | 0.5 | Shouldn’t take to long to get a connection to the database |
|  |  |  |  |  |  |  |  |
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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | 1 | KB |  |  | 2 | To send data |
| 1 | 1 | KB |  |  | 20 | To receive data |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

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| --- |
| **Alternate Course General Information** |
| Alternate Course Name\Number:  Description:  Reason for Execution: Non Exception:  Exception: |

|  |
| --- |
| **Insertion Point** |
| Step Inserted After |
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| --- | --- |
| **Pre-Conditions** | |
| 1. |  |
| 2. |  |

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| --- | --- | --- | --- |
| **Alternate Course Steps** | | | |
| **#** | **Step Description** | **Adds Use Case #** | **Business Rule(s)#** |
| 1. |  |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

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| --- | --- |
| **Post-Conditions** | |
| 1. |  |
| 2. |  |

## Hosting the Game\UC 090

|  |  |
| --- | --- |
| **General Information** | |
| Use Case Name\Number : Hosting the game UC 090  Subject Area : Servers  Description : Allows access to the game off of the cloud | Responsible Analyst : Carl Lowther |

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| **Requirements/Feature Trace** | |
| **REQ#** | **Requirements Name and / or Short Description** |
| 9.c | Hosting the game on a server |
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|  |  |
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| --- | --- | --- |
| **Revision History** | | |
| **Author** | **Date** | **Comments** |
| Carl Lowther | 10/11/18 | First Draft |
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| **Insertion Points in other Use Cases (Adds Only)** | | |
| **Use Case Name** | **Use Case Number** | **Step Inserted After** |
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| --- | --- | --- |
| **Actors** | | |
| **Actor Name** | **Person/System** | **Brief Description** |
| Player | P | The player that’s interacting with the video game. |
|  |  |  |
|  |  |  |

|  |  |
| --- | --- |
| **Pre-Conditions** | |
| **#** | **Description** |
| N\A | The server always exists in this situation |

|  |
| --- |
| **Start Stimulus** |
| Player Start to load the game |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Main Course Steps** | | | |
| **Number** | **Description** | **Adds/Alt Name/Number** | **Bus Rule#** |
| 01 | Connects to the sever to download the game |  |  |
|  |  |  |  |
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| **Exception Conditions** | | |
| **Exception Situations** | **Action(s) on Exception** | **Adds\Alt UC #** |
|  |  |  |

|  |  |
| --- | --- |
| **Post-Conditions** | |
| **#** | **Description** |
| N\A | The server always exists in this situation |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Candidate Objects** | | |
| **Class/Object Name** | **Descriptions** | **Possible**  **attributes** |
|  |  |  |
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| **Assumptions** | | | | | |
| **#** | **Assumption** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| --- | --- | --- | --- | --- | --- |
| **Issues** | | | | | |
| **#** | **Issue** | **Date**  **Raised** | **Raised**  **By** | **Date**  **Verified** | **Verified By** |
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| **Other Comments** | | |
| **Author** | **Comment** | **Date** |
|  |  |  |
|  |  |  |

|  |
| --- |
| **Frequency of Execution** |
| Frequency: Minimum: Maximum: Average: (OR)Fixed:1  Per: Hour:  Day:  Week:  Month:  Other: once per game load |

|  |  |  |  |  |  |  |  |
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| **Timing Information** | | | | | | | |
| **#** | **At/**  **Between** | **Step(s)** | **Timing**  **Unit** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | At | 1 | Seconds |  |  | 10 | To download the game |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

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| **Volume Information** | | | | | | |
| **#** | **Step #** | **Unit of**  **Measure** | **Minimum** | **Average** | **Maximum** | **Comments** |
| 1 | 1 | GB |  |  | 1 | Don’t make the game to big |
|  |  |  |  |  |  |  |
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| --- |
| **Alternate Course General Information** |
| Alternate Course Name\Number:  Description:  Reason for Execution: Non Exception:  Exception: |

|  |
| --- |
| **Insertion Point** |
| Step Inserted After |
|  |

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| --- | --- |
| **Pre-Conditions** | |
| 1. |  |
| 2. |  |

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| --- | --- | --- | --- |
| **Alternate Course Steps** | | | |
| **#** | **Step Description** | **Adds Use Case #** | **Business Rule(s)#** |
| 1. |  |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

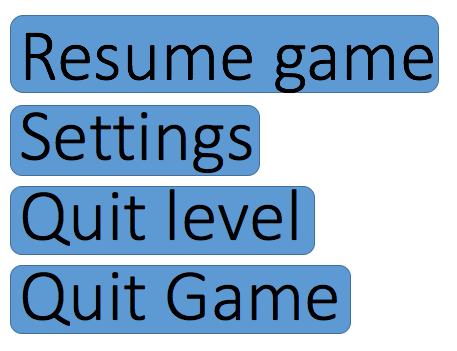
|  |  |
| --- | --- |
| **Post-Conditions** | |
| 1. |  |
| 2. |  |

# CRUD Matrix

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| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | **Class Name** |
|  |  |  |
|  |  |  |
|  |  |  |

# 

# Low Fidelity UI



**Image 1. Main Menu Image 2. In-Game Menu**

# Glossary

This shall be added as the development will continue, and shall by updated in response to requests and needs of the intended audience of this document.

# Appendices