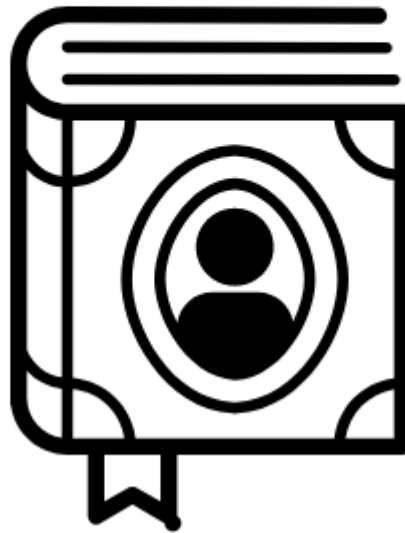


Senior Project Use Case Model

The study of the shadowed:
Thief



Void Pointer Studios

Submitted By:

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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

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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Context Diagram



Video Game Player

- | | |
|--|---|
| <ul style="list-style-type: none">• 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 | <ul style="list-style-type: none">• 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

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

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

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

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

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		

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

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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By
	N/A				

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By
	N/A				

Other Comments		
Author	Comment	Date

Frequency of Execution	
Frequency:	Minimum: Maximum: 1 Average: (OR)Fixed:
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: Once while in main menu

Timing Information							
#	At/ Between	Step(s)	Timing Unit	Minimum	Average	Maximum	Comments
1	At	03	seconds			6	Don't want to take too long to load the level.

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
1	03	Mb			20mb	SWAG of data needed to load level

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

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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 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		

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

Post-Conditions	
#	Description

Candidate Objects		
Class/Object Name	Descriptions	Possible attributes
Main Menu	A list of UI elements	
Level Menu	A list of UI elements	

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date

Frequency of Execution	
Frequency: Minimum: Maximum: Average: (OR)Fixed:	
Per: Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: Once or twice per game	

Timing Information							
#	At/ Between	Step(s)	Timing Unit	Minimum	Average	Maximum	Comments
	N/A						

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
	N/A					

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

Insertion Points in other Use Cases (Adds Only)		
Use Case Name	Use Case Number	Step Inserted After

Actors		
Actor Name	Person/System	Brief Description

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	

Exception Conditions		
<u>Exception Situations</u>	<u>Action(s) on Exception</u>	<u>Adds\Alt UC #</u>

Post-Conditions	
<u>#</u>	<u>Description</u>
01	In settings menu

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>
N/A		

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution	
Frequency:	Minimum: Maximum: Average: 3 (OR)Fixed:
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: Per Game

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A							

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A						

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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		

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

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

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed: 1		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: Per Game	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
1	At	1	Seconds			0.5	Time to close the application

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>

(Adds) Settings Menu\UC 015

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

Requirements/Feature Trace	
<u>REQ#</u>	<u>Requirements Name and / or Short Description</u>
8.c	Settings menu

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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

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

Pre-Conditions	
#	Description
01	At main menu or in game menu

Start Stimulus
Player opens settings

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	

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

Post-Conditions	
#	Description
01	Setting menu is open

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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date

Frequency of Execution					
Frequency:	Minimum:	Maximum:	Average: 3	(OR)Fixed:	
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: Per Game

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Alternate Course General Information	
Alternate Course Name\Number: Edit audio 015.1	
Description: Change audio volume for game	
Reason for Execution:	Non Exception: <input checked="" type="checkbox"/> Exception: <input type="checkbox"/>

Insertion Point
Step Inserted After
01

Pre-Conditions	
1.	Settings menu is open
2.	

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

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

Alternate Course General Information	
Alternate Course Name\Number: Exit menu 015.5	
Description: Exit settings menu	
Reason for Execution:	Non Exception: <input checked="" type="checkbox"/> Exception: <input type="checkbox"/>

Insertion Point
Step Inserted After
01

Pre-Conditions	
1.	Settings menu is open
2.	

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	Responsible Analyst : Carl Lowther
Subject Area : In-Game menu	
Description : Opens in-game menu	

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
2.h	Player opening in-game menu

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In game

Start Stimulus
Player hits the escape key

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

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

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	

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

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

Frequency of Execution	
Frequency:	Minimum: Maximum: Average: (OR)Fixed:
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: See comments

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.

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Resume Game\UC 022

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
8.b.i	Resume the game

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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	Game is paused
2	In-game menu is open

Start Stimulus
Player selects resume game

Use Case Main Course Steps			
<u>Number</u>	<u>Description</u>	<u>Adds/Alt Name/Number</u>	<u>Bus Rule#</u>
01	Close in-game menu		
02	Un pause game		

Exception Conditions		
<u>Exception Situations</u>	<u>Action(s) on Exception</u>	<u>Adds\Alt UC #</u>

Post-Conditions	
<u>#</u>	<u>Description</u>
1	The in-game menu is closed
2	The game is no longer paused

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution	
Frequency:	Minimum: Maximum: 1 Average: (OR)Fixed:
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: Per in game menu opened

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
1	Between	1,2	Seconds			0.1	Should un-pause the game and close the in-game menu quickly

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>

Open Settings Menu\UC 024

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

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In in-game 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	

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

Post-Conditions	
#	Description
1	In settings menu

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average: 3	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: Per game	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A							

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A						

Quit Level\UC 026

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

Requirements/Feature Trace	
<u>REQ#</u>	<u>Requirements Name and / or Short Description</u>
8.b.iii	Quit the current level and go back to the main menu

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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		

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

Post-Conditions	
#	Description
01	At main menu

Candidate Objects		
Class/Object Name	Descriptions	Possible attributes

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date

Frequency of Execution					
Frequency:	Minimum:	Maximum: 1	Average:	(OR)Fixed:	
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: Once per level

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N \ A						

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In in-game 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		

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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed: 1		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N \ A						

After Level Info\UC 035

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

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	Player has finished a level

Start Stimulus
The After level screen is displayed

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		

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

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	

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date

Frequency of Execution	
Frequency:	Minimum: Maximum: Average: (OR)Fixed: 1
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: Per level completed

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
1	2	kb			1	The amount to send to the sever

Go to Next Level\UC 037

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
8.d.ii	Go to the next level

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In the after level screen

Start Stimulus
Player clicks on next level

Use Case Main Course Steps			
Number	Description	Adds/Alt Name/Number	Bus Rule#
01	System displays a loading screen until level is loaded		

Exception Conditions		
<u>Exception Situations</u>	<u>Action(s) on Exception</u>	<u>Adds\Alt UC #</u>

Post-Conditions	
<u>#</u>	<u>Description</u>
01	The Level is loaded and the player can begin playing

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other:	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
1	At	03	seconds			6	Don't want to take to long to load the level.

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
1	03	Mb			20mb	SWAG of data needed to load level

Quit to Main Menu\UC 039

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
8.d.iii	Quit to main menu

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In after level screen

Start Stimulus
Player selects quit to main menu

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		

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

Post-Conditions	
#	Description
01	At main menu

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution					
Frequency:	Minimum:	Maximum: 1	Average:	(OR)Fixed:	
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: Once per after level screen

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
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

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A						

Player Looking\UC 045

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
1.a	Use the mouse to look around

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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		

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

Post-Conditions	
#	Description
01	The player is now looking somewhere else

Candidate Objects		
Class/Object Name	Descriptions	Possible attributes

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check if the player has moved their mouse	10/11/18

Frequency of Execution					
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:	
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/>	Week: <input type="checkbox"/> Month: <input type="checkbox"/>	Other: see comments		

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Player Movement\UC 046

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
1.b	

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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		

Exception Conditions		
Exception Situations	Action(s) on Exception	Adds/Alt UC #

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

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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues

#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check if the player has used the keyboard	10/11/18

Frequency of Execution					
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:	
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See comments

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

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

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
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		

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

Post-Conditions	
#	Description
01	The player has crouched

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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check if the player has used the keyboard	10/11/18

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See comments	

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

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

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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		

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

Post-Conditions	
#	Description
01	The player has jumped

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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check if the player has used the keyboard	10/11/18

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See comments	

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N \ A						

Climbing Objects\UC 049

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)

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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	

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

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

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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check if the player has used the keyboard	10/11/18

Frequency of Execution	
Frequency: Minimum: Maximum: Average: (OR)Fixed:	
Per: Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: See comments	

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

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: <input checked="" type="checkbox"/> Exception: <input type="checkbox"/>

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: <input checked="" type="checkbox"/> Exception: <input type="checkbox"/>

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: <input checked="" type="checkbox"/> Exception: <input type="checkbox"/>

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	Responsible Analyst : Carl Lowther
Subject Area : Player Interaction	
Description : Access and look through Inventory	

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

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: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See comments	

Timing Information						
#	At/ Between	Step(s)	Timing Unit	Minimum	Average	Maximum
1	At	1,2	Seconds			0.03

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check for player input	10/11/18

Frequency of Execution	
Frequency:	Minimum: Maximum: Average: (OR)Fixed:
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: See comments

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

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Picking Locks\UC 054

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
2.c.i	Picking locks

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In game
02	In reach of a lock

Start Stimulus
Player right clicks on the lock

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)		

Exception Conditions		
<u>Exception Situations</u>	<u>Action(s) on Exception</u>	<u>Adds\Alt UC #</u>

Post-Conditions	
<u>#</u>	<u>Description</u>
01	Lock is picked

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>
Carl Lowther	While in game we will constantly check for player input	10/11/18

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See Comments	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A							

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A						

Pick Safes\UC 056

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
2.c.ii	Pick safes

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In game
02	In reach of a safe

Start Stimulus
Player right clicks on the safe

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)		

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

Post-Conditions	
#	Description
01	Safe is picked

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>
Carl Lowther	While in game we will constantly check for player input	10/11/18

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See comments	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A							

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N/A						

Stealing Objects\UC 058

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

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In game
02	Within arms reach of steal able objects

Start Stimulus
The player right clicks on the object

Use Case Main Course Steps			
Number	Description	Adds/Alt Name/Number	Bus Rule#
01	Add the object to the players Inventory		

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

Post-Conditions	
#	Description
01	Object is in the players inventory
02	The object is no longer in the level or on an enemy

Candidate Objects		
Class/Object Name	Descriptions	Possible attributes

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check for player input	10/11/18

Frequency of Execution					
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:	
Per:	Hour: <input type="checkbox"/> Day: <input type="checkbox"/>	Week: <input type="checkbox"/> Month: <input type="checkbox"/>	Other: See comments		

Timing Information							
#	At/ Between	Step(s)	Timing Unit	Minimum	Average	Maximum	Comments
N/A							

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Knocking Out Enemies\UC 060

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
2.e	Knocking out enemies

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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

Use Case Main Course Steps			
Number	Description	Adds/Alt Name/Number	Bus Rule#
01	Knock an enemy out		

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

Post-Conditions	
#	Description
01	Enemy is knock out

Candidate Objects		
Class/Object Name	Descriptions	Possible attributes

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check for player input	10/11/18

Frequency of Execution					
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:	
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See comments

Timing Information							
#	At/ Between	Step(s)	Timing Unit	Minimum	Average	Maximum	Comments
N/A							

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Putting Out Light Sources\UC 062

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
2.f	Putting out light sources

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In game
02	In reach of a extinguishable light

Start Stimulus
Player right click on the light

Use Case Main Course Steps			
Number	Description	Adds/Alt Name/Number	Bus Rule#
01	Put out the light source		

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

Post-Conditions	
#	Description
01	The light is put out

Candidate Objects		
Class/Object Name	Descriptions	Possible attributes

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check for player input	10/11/18

Frequency of Execution	
Frequency: Minimum: Maximum: Average: (OR)Fixed:	
Per: Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: See comments	

Timing Information							
#	At/ Between	Step(s)	Timing Unit	Minimum	Average	Maximum	Comments
N/A							

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Using Switches\UC 064

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

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
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		

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

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

Candidate Objects		
Class/Object Name	Descriptions	Possible attributes

Assumptions					
#	Assumption	Date Raised	Raised By	Date Verified	Verified By

Issues					
#	Issue	Date Raised	Raised By	Date Verified	Verified By

Other Comments		
Author	Comment	Date
Carl Lowther	While in game we will constantly check for player input	10/11/18

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See comments	

Timing Information							
#	At/ Between	Step(s)	Timing Unit	Minimum	Average	Maximum	Comments
N/A							

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
N/A						

Enemy AIUC 065

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

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

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In game
02	While game is not paused

Start Stimulus
The beginning of the level

Use Case Main Course Steps			
<u>Number</u>	<u>Description</u>	<u>Adds/Alt Name/Number</u>	<u>Bus Rule#</u>
N/A			

Exception Conditions		
<u>Exception Situations</u>	<u>Action(s) on Exception</u>	<u>Adds\Alt UC #</u>

Post-Conditions	
<u>#</u>	<u>Description</u>
N/A	

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>
Enemy movement		
Enemy eyes		
Enemy ears		

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>
Carl Lowther	Enemy AI will always run while the game is not paused	10/11/18

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: See Comments	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
							Needs to take less then 5ms per frame

Volume Information						
#	Step #	Unit of Measure	Minimum	Average	Maximum	Comments
						TBD

Level\UC 080

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
7	The information need for a level

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	In game

Start Stimulus
Loading level

Use Case Main Course Steps			
Number	Description	Adds/Alt Name/Number	Bus Rule#
N/A			

Exception Conditions		
<u>Exception Situations</u>	<u>Action(s) on Exception</u>	<u>Adds\Alt UC #</u>

Post-Conditions	
<u>#</u>	<u>Description</u>
N/A	

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>
Carl Lowther	Will hold all the information for a level (see 7)	10/11/18

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed:		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: Once per Level load	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
N \ A							

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
						SWAG of 20MB per level

Database\UC 085

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
9.b	Hosting and accessing database

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
01	At after level screen

Start Stimulus
Loading scoreboard info

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		

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

Post-Conditions	
#	Description
01	Database connection is closed

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution						
Frequency:	Minimum:	Maximum:	Average:	(OR)Fixed: 1		
Per:	Hour: <input type="checkbox"/>	Day: <input type="checkbox"/>	Week: <input type="checkbox"/>	Month: <input type="checkbox"/>	Other: Per after level screen	

Timing Information							
<u>#</u>	<u>At/ Between</u>	<u>Step(s)</u>	<u>Timing Unit</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
1	At	1	Seconds			0.5	Shouldn't take too long to get a connection to the database

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
1	1	KB			2	To send data
1	1	KB			20	To receive data

Alternate Course General Information	
Alternate Course Name\Number:	
Description:	
Reason for Execution:	Non Exception: <input type="checkbox"/> Exception: <input type="checkbox"/>

Insertion Point
Step Inserted After

Pre-Conditions	
1.	
2.	

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

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

Requirements/Feature Trace	
REQ#	Requirements Name and / or Short Description
9.c	Hosting the game on a server

Revision History		
Author	Date	Comments
Carl Lowther	10/11/18	First Draft

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
N\A	The server always exists in this situation

Start Stimulus
Player Start to load the game

Use Case Main Course Steps			
<u>Number</u>	<u>Description</u>	<u>Adds/Alt Name/Number</u>	<u>Bus Rule#</u>
01	Connects to the sever to download the game		

Exception Conditions		
<u>Exception Situations</u>	<u>Action(s) on Exception</u>	<u>Adds\Alt UC #</u>

Post-Conditions	
<u>#</u>	<u>Description</u>
N/A	The server always exists in this situation

Candidate Objects		
<u>Class/Object Name</u>	<u>Descriptions</u>	<u>Possible attributes</u>

Assumptions					
<u>#</u>	<u>Assumption</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Issues					
<u>#</u>	<u>Issue</u>	<u>Date Raised</u>	<u>Raised By</u>	<u>Date Verified</u>	<u>Verified By</u>

Other Comments		
<u>Author</u>	<u>Comment</u>	<u>Date</u>

Frequency of Execution	
Frequency: Minimum: Maximum: Average: (OR)Fixed:1	
Per: Hour: <input type="checkbox"/> Day: <input type="checkbox"/> Week: <input type="checkbox"/> Month: <input type="checkbox"/> Other: once per game load	

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

Volume Information						
<u>#</u>	<u>Step #</u>	<u>Unit of Measure</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Comments</u>
1	1	GB			1	Don't make the game to big

Alternate Course General Information	
Alternate Course Name\Number:	
Description:	
Reason for Execution:	Non Exception: <input type="checkbox"/> Exception: <input type="checkbox"/>

Insertion Point
Step Inserted After

Pre-Conditions	
1.	
2.	

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

Post-Conditions	
1.	
2.	

CRUD Matrix

Use Case ID	Use Case Name	Class Name

Low Fidelity UI

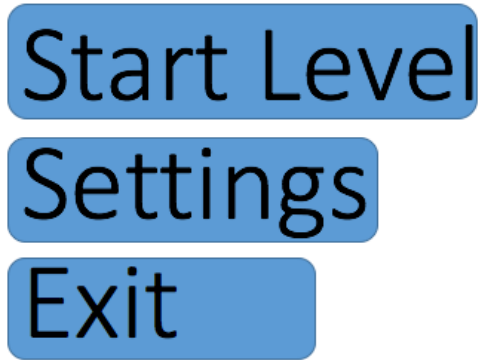


Image 1. Main Menu

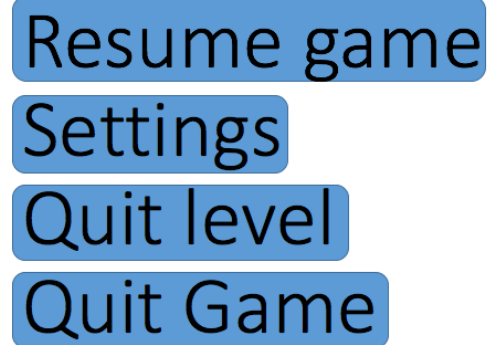


Image 2. In-Game Menu

Glossary

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

Appendices