# 6 Testing Chapter

This Chapter will discuss why it is necessary to test, the tests that were carried out, and the feedback from them.

## 6.1 Usability Testing

The usability testing in this project was done on 4 different people with varying degrees of experience with gaming.

## 6.2 The Objective of Testing

Testing helps the creator of the game discover what they had not thought to include. There are too many things to keep in mind when creating a game and there will always be human error. The reason testing is done is to make sure the majority of bugs are figured out before release. The creator of the game can easily tweak some values depending on how the feedback goes. For example, if an enemy is too hard to kill, the health points of the enemy can be reduced.

## 6.3 The Tasks

The participants were given two tasks to complete while they achieved the main objective of the levels:

* Explore the world.
* Try to get out of bounds.

## 6.4 The Results of Testing

The First Test.

This participant has a lot of experience with gaming. They suggested that the attack range be increased as it was hard to attack the enemies without being in the enemy attack range. This was fixed immediately. They also suggested that there was a knockback on the player attack so that it would make it easier to fight them. There was not enough time to implement this. There is a knock back when the player or enemy collide. They liked the movement of the character. They did not know there was a dash ability. This can be added as an NPC that explains how to use the dash ability. However, there was not enough time to add this. This participant managed to get out of bounds. This was fixed by making a kill box under the areas that the player can fall from.

The Second Test

This participant had some gaming experience. They did not know how to attack or dash. This could be explained by one of the NPCs in the starting area. However, there was no time to implement this. They struggled with fighting the enemies but only died twice. They did not manage to get out of bounds.

The Third Test

This participant had some gaming experience. They figured out which button was the attack button by pressing most of the buttons on the keyboard and in the process figured out they can dash as well. This participant realised you can sometimes dash through walls if you are at a specific distance. This bug was known and can not be fixed within the time constraints of the project.

The Fourth Test

This participant had little to no experience gaming. They first used the arrow keys (Up, Down, Left, Right) to move around which was different to all the other participants who used the WASD keys. They didn’t know how to interact with the NPCs and needed instruction. They didn’t know how to attack either and were given some assistance.

## 6.6 Feature Testing

This section covers the tests that were performed on different features to ensure they work correctly.

Main Menu testing.

|  |  |  |  |
| --- | --- | --- | --- |
| Test | Expected Output | Actual Output | Status |
| Main Menu – Play Game button | Starts level 1  Click Sound is played. | Starts level 1.  Click sounds is played.  No background sound | Working  Fixed |
| Main Menu – Settings Button | Show Settings Menu  Click Sound is played | Show Settings Menu  Click Sound is played | Working |
| Main menu – Settings Menu -  Video Button | Show Video Settings Menu | Show Video Settings Menu | Working |
| Main Menu – Video Menu -  Resolution Dropdown | Shows resolutions in dropdown.  Click Sound is played when selecting option | Shows some resolution values dropdown.  when selecting option | Not Working Correctly.  Working in Game Pause Menu though |
| Main Menu – Video Menu -  Quality Dropdown | Shows different Qualities in dropdown.  Change the quality.  Click Sound when selected. | Shows different Qualities in dropdown.  Change the quality.  Click Sound when selected. | Working |
| Main Menu – Settings menu -  Audio Button | Shows Audio Menu  Click Sound | Shows Audio Menu  Click sound. | Working |
| Main Menu – Audio Menu – Master Volume Slider | Moving slider changes the volume of all sounds. | Moving slider changes the volume of all sounds. | Working |
| Main Menu – Audio Menu – SFX Slider | Moving slider changes the volume of SFX sounds. | Moving slider changes the volume of all sounds. | Working |
| Main Menu – Audio Menu – Background Music Slider | Moving slider changes the volume of Background Music. | Moving slider changes the volume of Background Music. | Working |
| Audio Menu – Back Button | Shows Settings Menu  Click Sound | Shows Settings Menu  Click Sound | Working |
| Video Menu – Back Button | Shows Settings Menu  Click Sound | Shows Settings Menu  Click Sound | Working |
| Settings Menu – Back Button | Shows Main Menu  Click Sound | Shows Main Menu  Click Sound | Working |
| Main Menu – Quit Button | Quits Application | Quits Application | Working |

Player Input keyboard testing.

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| --- | --- | --- | --- |
| Test | Expected Output | Actual Output | Status |
| Player Jump | The Player jumps,  Sound Effect is played.  The Animation is played | The Player jumps,  Sound Effect is played.  The Animation is played | Working |
| Player WASD Or Arrow Keys Movement | A and D move the player Left and Right.  The Run Animation is played.  The Run Sound is played | A and D move the player Left and Right.  The Run Animation is played.  The Run Sound is played. Holding W or S will play the run sound.  Also holding W or S while using A or D will half your normal running speed. | Working |
| Player Interact E | If the player can interact. The dialogue will show. | If the player can interact. The dialogue will show. | Working  If the player presses interact too fast, it can make the typing effect type over itself. |
| Player Attack J | The player will hit enemies in the attack range.  The attack animation is played. | The player will hit enemies in the attack range.  The attack animation is played. | Working |
| Player Dash K | The player will dash.  The dash animation will play. | The player will dash.  The dash animation will play. | Working  Can go through walls if the player is standing a certain distance away. |
| Pause Button ESC | The game will be paused | The game will be paused | Working |

In Game Pause Menu Testing

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| --- | --- | --- | --- |
| Test | Expected Output | Actual Output | Status |
| Pause Button ESC | Resumes the game | Resumes the game | Working  Does not reset the Pause menu. Eg if the settings menu is open, and the ESC button is pressed it will open the Settings menu when the ESC button is pressed again. |
| Resume Game Button | Resumes the game | Resumes the game | Working |
| Settings Button | Shows Settings Menu | Shows Settings Menu | Working |
| Settings Menu – Video Button | Shows Video Menu | Shows Video Menu | Working |
| Settings Menu – Audio Button | Shows Audio Menu | Shows Audio Menu | Working |
| Settings Menu – Back Button | Shows Pause Menu | Shows Pause Menu | Working |
| Audio Menu – Master Volume Slider | Changes the master volume | Changes the master volume | Working |
| Audio Menu – Background Music Slider | Changes the Background music volume | Changes the Background music volume | Working |
| Audio Menu – SFX Slider | Changes the SFX volume | Changes the SFX volume | Working |
| Audio Menu – Back Button | Shows Settings Menu | Shows Settings Menu | Working |
| Video Menu – Back Button | Shows Settings Menu | Shows Settings Menu | Working |
| Video Menu – Quality Dropdown | Changes the quality | Changes the quality | Working |
| Video Menu – Resolution Dropdown | Shows all available resolutions.  Changes the resolution | Shows all available resolutions.  Changes the resolution | Working |
| Quit Button | Goes back to the Main Menu | Goes back to the Main Menu | Working  When pressing play the first scene will be paused. To fix it just pause and un-pause. |

Player Death Menu

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| --- | --- | --- | --- |
| Test | Expected Output | Actual Output | Status |
| The player dies | Show the Death Menu | Show the Death Menu | Working |
| Death Menu – Restart Button | Restarts scene | Restarts scene | Working  Scene 2 (the crystal Village 2) Will restart without background music. |
| Death Menu – Menu Button | Go to Main Menu | Go to Main Menu | Working |