**AT01 Production Diary**

**1.1.1 Depth First Search Algorithm Research**

**Algorithm Summary**

It searches the first node out of the connected unvisited nodes to the current node. (Need More info. A step-through or dot-point explanation of how it works. Put pseudocode here if I have any.)

**DFS Terminology Definitions**

**Pathfinding:**

To find a path to a location.

**Tree:**

Tree is a data structure so in other words, it is a tree diagram.

**Parent:**

A parent means the node that connects to other nodes.

**Child:**

A child means the node that is connected to a parent node.

**1.1.3 AI Behaviour Chart**

*Insert your behaviour chart for the AI here.*

If at root node

Player Caught

Move to Node

Find New Node using DFS algorithm

Restart game

If touching player

If found player node

If at node

**1.1.4 AI Design Reflection**

The AI follows the DFS path finding algorithm. (Look at the Cover Sheet Section 1 Part 1-4)

**1.2.1 Planned HCI Device Integration Summary**

Keyboard, Mouse, Xbox Controller d-pad, & Xbox Controller joystick.

**1.2.2 C# Event System Summary**

It is to handle methods within the event. (Describe how events work in C#) (A diagram or chart of how different classes are linked & how they use events)

**1.2.2 Unity GUI Library Review**

uGUI (Unity UI) is an in-game UI & IMGUI (Immediate Mode GUI) is for the Unity editor.

uGUI is for Technical Artists because it is an object-based UI system.

IMGUI is for Programmers as its main focus.

Reference: https://docs.unity3d.com/Manual/UI-system-compare.html

**1.2.3 UI Widget Example Overviews**

The UI widget for this game is for showing what direction you are trying to go & another way for the player to control their movement. (search for relevant widget designs & how they have been implemented)

**1.2.4 UI Widget Paper Prototype**

*Insert the paper prototypes for the required UI widget here.*

The Widget works with all HCI devices mentioned in 1.2.1

This is the UI widget in its neutral state.

This is the widget if it gets an input & can move in that direction.

This is the widget if it gets an input & can’t move in that direction

**2.1.1/2.2.2 Testing Log**

*Please add rows as required.*

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case Description | Expected Results | Actual Results | Success? |
| Pressing W or up arrow makes the player move up if a node is up & makes the up widget change colour to represent if it can or not. | The up-widget changes colour & player moves if a node is above. | The up-widget changes colour & player moves if a node is above. | True |
| Pressing S or down arrow makes the player move down if a node is down & makes the down widget change colour to represent if it can or not. | The down-widget changes colour & player moves if a node is below. | The down-widget changes colour & player moves if a node is below. | True |
| Pressing D or right arrow makes the player move right if a node is right & makes the right widget change colour to represent if it can or not. | The right-widget changes colour & player moves if a node is to the right. | The right-widget changes colour & player moves if a node is to the right. | True |
| Pressing A or left arrow makes the player move left if a node is left & makes the left widget change colour to represent if it can or not. | The left-widget changes colour & player moves if a node is to the left. | The left-widget changes colour & player moves if a node is to the left. | True |
| Moving the joystick up or pressing up on the d-pad makes the player move up if a node is up & makes the up widget change colour to represent if it can or not. | The up-widget changes colour & player moves if a node is above. | The up-widget changes colour & player moves if a node is above. | True |
| Moving the joystick down or pressing down on the d-pad makes the player move up if a node is down & makes the down widget change colour to represent if it can or not. | The down-widget changes colour & player moves if a node is below. | The down-widget changes colour & player moves if a node is below. | True |
| Moving the joystick right or pressing right on the d-pad makes the player move right if a node is right & makes the right widget change colour to represent if it can or not. | The right-widget changes colour & player moves if a node is to the right. | The right-widget changes colour & player moves if a node is to the right. | True |
| Moving the joystick left or pressing left on the d-pad makes the player move up if a node is left & makes the left widget change colour to represent if it can or not. | The left-widget changes colour & player moves if a node is to the left. | The left-widget changes colour & player moves if a node is to the left. | True |

**3.1 Final Checks**

|  |  |
| --- | --- |
| **Final Checks** | **Confirmed** |
| * AI pathfinding (using the DFS algorithm) has been successfully integrated | ✔ |
| * Game over conditions have been successfully implemented | ✔ |
| * Appropriately compatible with Google Chrome web browser | ✔ |
| * Appropriately compatible with Mozilla Firefox web browser | ✔ |
| * Appropriately compatible with Windows | ✔ |
| * UI widget responds to relevant keyboard inputs | ✔ |
| * UI widget responds to relevant mouse inputs | ✔ |
| * UI widget responds to relevant controller inputs | ✔ |
| * UI set to scale with a Full HD resolution (1920x1080) | ✔ |

**3.1 AI Evaluation**

The AI works like it is supposed to (& a bit better).

**3.2 Required Amendments**

None.

**3.3 Final Client Sign-Off**

*Insert a screenshot of your email communications with the client, providing evidence of their endorsement to finish the production of the project.*

A picture containing calendar

Description automatically generatedText, letter

Description automatically generated

Where the game is: <https://stampard0.itch.io/at01-by-stampard>

Password to access: AT1Richard

Repository: [GitHub - Stampard0/3D-Game-Dev](https://github.com/Stampard0/3D-Game-Dev)