**University of Brighton   
Computer Games**

**CI516 – Game AI 2023 - 24  
Coursework 2: Report**

**Module Leader: David Dorrington**

**Student:  
Date:**

*This is a template that you can use for CW2; you do not have to follow the suggestions strictly, but make sure you include all information necessary according to the Assignment!*

*Delete / Replace all yellow highlighted sections!*

*General Advice*

*Write only in the third person*

*Use formal language – Do not write as you speak*

*You will need to have references from at least 3 sources*

*Do not write unsupported stereotypical generalisations – try and back them up with references*

*If you are making assumptions – State them clearly*

*This is a report not an essay – you will need to introduce and contextualise each section but in a report bullet points can be very useful to list your key points*

*Make the information as easy to read as possible*

*Read what you have written – Get someone else to proof read it*

*Make sure you understand the “logic” of the way that you present the information and ideas.*

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*This is auto generated - Right click to update (Update Field)*

# Introduction

Overview of what this document is and what will be covered by which sections.

## 

## Summary of idea

Briefly describe

* What the level is representing and the theme
* the goals and gameplay
* the AI elements demonstrated
* Include a screen grab of your game running

# AI Techniques Used

* Describe at least 3 AI techniques you have attempted to implement
* Use a source with a reference for each
* Give an overview of each of the AI techniques
* Use diagrams to help explain the technique (You can reference diagrams you have taken from a source)
* Describe what you are using the technique for in your prototype

## Technique 1 - XXXXX

## Technique 2 - XXXXX

## Technique 3- XXXXX

## Technique 4- XXXXX

# AI Prototype overview

## Level Map

Include level maps indicating key object placement, markers, and paths where appropriate.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Legend   |  |  | | --- | --- | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |  |

## Team & Unit Classes

Describe the Team classes and unit classes that have been created

Use appropriate diagrams to show the planned behaviours (trees / state diagrams etc)

|  |  |
| --- | --- |
| Table  Description automatically generated | Diagram, schematic  Description automatically generated |
| Unit Class XX Object | Unit Class XX State diagram |

## Items / Objects

Briefly describe the interactable items or object

Use diagrams where appropriate.

# Implementation

Describe the important technical implementation details and how you approached them.

Discuss implementation choices that were made during the development and changes to the design based on testing.

Include developed C# snippets of functions you have created, where appropriate, and clearly describe their purpose.

## Program Objects Diagram

Include an overview of the program structure with main objects and how they connect

Diagram, schematic

Description automatically generated

Figure 3 Sample Object Diagram – See Appendix B for more detail

# Testing, Problems & Solutions

* Problems that were encountered
* Solutions that were found, implemented, not implemented, not found

|  |  |  |  |
| --- | --- | --- | --- |
| **Priority** | **Problem** | **Solution** | **Implemented** |
| *Low/Med High* | *Nature of the problem e.g.:*   * *Images not correct (transparency, jagged)* * *Collision not working* * *Score won’t reset* * *Sounds plays at wrong moment* * *NPCs get stuck* * *Bullets pass through walls* * *Too Simple / Too difficult* | *What could be done to rectify the problem if known.  State if you do not know how to fix the problem* | *Solution has been implemented within timescale*  *Could not have been applied in current timescale*  *Need to research problem* |
|  |  |  |  |
|  |  |  |  |

# Critical Review

* identify three reasons why the design and implementation of the AI Prototype are good.
* identify three reasons where the implementation could be improved and a summary of how the improvements could be made.
* (What did not go as well as it could have, What could you have done better, How would you improve the Prototype)

# Conclusion

* what are the main take-away messages
* what are the key concepts that you learned during the development.

# Bibliography and References

Books articles and Images

## Graphical Assets

|  |  |  |  |
| --- | --- | --- | --- |
| **Image** | **name** | **Used for** | **Sourced from** |
|  | PC run | PC | www.tileset.com |
|  | NPC\_smile | NPC1 NPC2, NPC3 | Drawn by Author in flash |
| A picture containing blur  Description automatically generated | BG\_Swirl | Level 1 background | www.abm-enterprises.net/fractals/  rainbowswirlwallpaper.html |
| A picture containing building, building material, brick, stone  Description automatically generated | stones | Tiled for maze textures | StencylWorks |

## Audio Assets

|  |  |  |
| --- | --- | --- |
| **Sound** | **Used for** | **File & Source** |
| Background Music | Level 1 background | Littlest\_hobo.wav  www.soundforce.net |
| Arrow whoosh | PC Attack | Arrow.wav  Author Recorded in Audacity |
| Pig squeel | PC hit | Squeee.wav www.soundforce.net |
|  |  |  |
|  |  |  |

# Appendices

## How to play / game Walkthrough

## Controls

Use screen grabs if they help

Make sure we know how to complete the game