**University of Brighton   
Computer Games**

**CI411 - Introduction to Game Programming 2022-23  
Coursework 2: C++ SDL Game**

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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 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)*

# 1. Introduction

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

# 2 Game Design

* Introduce this section
* What type of game has been made and what is it called?
* What is it similar to?
* Include a screen shot of the game

|  |  |
| --- | --- |
| SDL Game Developed | Game Influence |
| A picture containing scatter chart  Description automatically generated  Fig 1. Screen Shot of David’s Game | Fig 2. Screen shot of Asteroids Deluxe, Atari 1980 https://www.giantbomb.com/asteroids-deluxe |

## 2.1 Type and Style of Game / Genre

* Describe the genre of the game
* Describe the key genre conventions using a reference
* Describe the Visual style – gothic cartoon, abstract Fantasy, sci-fi, etc

## 2.2 Screen Layout and Format

* Describe the screen format, resolution and aspect ratio
* Are you using all or part of the screen as a board /play area?
* The view Top down, side, isometric
* fixed, 1 or 2 axis scrolling, Tiled etc
* Include sketch / diagram or screen grab where appropriate

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## 2.3 Control System

* Describe the Method of control (mouse, KB, Trackball, buttons, joystick, pad)
* Map of Controls

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| Control |  |  |  |  |  |  |  |  |
| Action |  |  |  |  |  |  |  |  |

## 2.4 Gameplay & Core Rules

* Intended Style of gameplay
* Goals, Win & Lose states
* Key Gameplay actions
* Objectives, Progression, challenges

## 2.5 Level Designs

* Level plans of each level / phase
* Key Game Objects on Screen
* GUI: information - Score, health, lives, progress, location, goals
* Include sketches / diagrams or screen grabs

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*Screen plan of XX*

# 3. Implementation

Introduce this section

How was the game made

What Technology was used

## 3.1 Game Objects Diagram

Diagram

Description automatically generated

Figure 3 Sample Object Diagram

## 3.2 Program Structure

* How is the program structured?
* CPP Files and Headers
* Key functions
* Program flow
* Game Loop

|  |  |
| --- | --- |
| Fig X XXXX | Fig x XXXXXX |

## 3.3 Player Controlled Objects / Character

* Control Method
* PC Key States and Variables
* Functionality and actions
* Important Code snippets

## 

## 3.4 NPCs

* Overview of NPCs
* Key States
* Key functionality / behaviours
* Important Code snippets

## 3.4 Objects

* Overview of important objects
* Key States / functionality
* Important Code snippets

## 3.5 Interface

* Key functionality
* Screen Grabs /Diagram
* Important Code snippets

## 3.6 Game Management

* Win / lose states
* Progress / Objectives
* What is being managed
* Replay-ability
* Important Code snippets

Anything else you Feel you should mention

# 4. Testing, Problems & Solutions

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

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| --- | --- | --- | --- |
| **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* * *Bugs* * *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* |
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# 5. Critical Review

* identify three reasons why the design and implementation of the game are good.
* Further identify three reasons where the implementation could be improved and a summary of how the improvements could be made.
* What could you have done better
* How would you improve the gameplay
* What have we learnt from this process

# 6. 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 |
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# 

# Appendices

## How to play / game Walkthrough

Use screen grabs if they help

Make sure we know how to complete the game!