Maze Game Limitations and Improvements Document

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# 1. Purpose

This document will outline the flaws in the design of the maze game and future improvements that can be made

# 2. Scope

The scope of this document is limited to an overview of the limitations in design of the “maze game”, detailing test issues found and potential improvements.

# 3. Introduction

This maze game has been my synoptic project for my apprenticeship.

With this game I have moved to a language which I have little experience in, C#.

The main programming languages used at my place of work are JavaScript, html, php. With the most dominant language being C++

To have this project work I decided to move over to C# using [https://docs.microsoft.com](https://docs.microsoft.com/) specifically for syntax purposes.

The reason I chose C# was to improve my coding knowledge of inheritance and polymorphism which I have used before in C++. I have recently for the previous 6 months before this project worked only in C++. I moved to a language for this project (C#) that is similar(to C++) however it did come with its complications when coding due to my own lack of knowledge in specific syntax to C#.

# 4. Design limitations

With the design of this maze game there is various limitations. If I was to write this again, I would change the system and make it more dynamic.

The limitations in design are for the binding of linked rooms this prevents any other maze layout from being used and is a big flaw in the system.

Other design issues such as the Inheritance hierarchy for blocks is a good part however, I should have allowed these to be linked into different objects such as room and created a passage object over a passage block.

# 5. Potential Improvements

This Maze has various areas to improve. Firstly, the main improvement as discussed in section 4 of this document would be to re-work design to have objects be more reactive and allow for more dynamic system. This could be by creating a stored configuration file that can be used to store the linked room information. If the maps are updated the linked rooms would also update allowing for rooms of various sizes.

If the future implementation of logins is needed then the menu screen can be used for this, requiring a few code changes and requests to a database / API to successfully login a user.

Improvements could be added to make the user actions more visible for example the attack action sends a small block in one direction then disappears on a wall or if hits a threat destroying it.

There could be improvements to add recursion to the system allowing a threat to chase the player based on the players movement.

Using the last 2 mentioned improvements in conjunction would make the user interaction be more like playing a game over just moving a bock to a location.