Summary (Requirements)

Table of Contents

- Brief Summary
- Terms, Notations, Acronyms

Brief Summary

In this document, we outline the requirements needed to create a game centred around the goal of giving students the foundation they need to navigate a world filled with software. This document is meant to give an understanding of the elements that will need to be included in this game to bring our idea to life. It is meant to give us, the developers, a better understanding of the goals we need to hit to create a robust piece of software that will do an effective job of solving the problem that we wish to solve. By following the guidelines in this document it will help us create a quality product capable of living up to the expectations of all stakeholders. This document is also meant to give a better understanding to stakeholders who aren't familiar with developing software and the steps we need to take to create this software. It will help keep us on track as well as assist in the next stage of development where we outline how the GUI of the software will look.

Middle school students of today have already lived a life with technology all around them. The internet has been present in their life since they were born, they were likely introduced to it and other software as soon as they were born. Many students today use software in school, using apps like Google Drive to store their school work. Very few assignments are even written by hand these days, students have to know how to use a computer and the software on it from a young age. Even after school, they'll rewind by scrolling through TikTok, watching a video on YouTube, or perhaps playing Minecraft with their friends from school. These examples illustrate how large of a role software will play in these students' life, it will be constantly present from the time they're born. If software is going to be such an important part of these students' lives, then they must learn the foundational skills needed to give them an understanding of how software is created. Coding is already becoming a part of the basic curriculum in public schools across Canada. Having a strong foundation of the skills that software engineers use every day when designing software can only be beneficial as children grow up in a world increasingly centred around tech. Software isn't going anywhere, as current middle school students graduate school and enter the professional world they do so in a world that is beginning to see artificial intelligence play a large role. The emergence of AI is only going to increase humanity's reliance on software, more job fields are going to require a base understanding of software as it becomes a larger part of all fields.

Our game is a cartesian puzzle-solving game. One where middle school and secondary school students will be challenged to put their logic and math skills to the test to solve a series of mazes. In doing so, they will be taught the basics of programming and have to put these newfound skills to the test to complete our game. The skills they learn in our game will equip the students with skills that will help them navigate a world that will only continue to see tech become an even more integral part of our lives.

Terms, Notations, Acronyms

Terms	Meaning
GUI	Graphical user interface.
Screen	A self-contained GUI area that has a unique set of buttons/ text boxes.
Menu	An overlay that can be displayed on top of any screen.
Stage	A self-contained puzzle that has a set of starting conditions, available action blocks, and objectives. Completion of earlier stages is required to access later stages.
Level	Level of difficulty. Several stages may be used to teach & test the same concept at different levels of difficulty.
Action Block	A rectangular GUI element can be chained together to make the character perform a series of actions to complete the objective of a stage.
AI	Artificial Intelligence