ICS3U Summative Proposal: Ngine

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1 Objective

I hope to learn how to create dynamic and efficient code that is scaleable and optimized.

2 Description

This program will be a game engine for developers to make games on a unlimited scale. Ngine will be some base code that takes in multiple input files to create a functioning platform for further development of tilemapped games.

For example: Ngine will be able to take in a matrix file as such:

0	0	0	0	0
0	3	3	3	0
0	1	2	1	0
0	1	1	1	0
0	0	0	0	0

And make it into a map like this:

Where all but the center tile and the outer border is walk-able.

3 Development Plan

3.1 Major Steps

- Create dynamic code for importing maps images
- Create dynamic code for generating rectangles for unwalkable areas
- Create dynamic code for various NPCs
- Develop a tilemapping program to quickly develop maps
  - *Note: Currently this feature is written Visual Basic .NET, unless given ample time, it is unlikely I will re-write it in C (using Allegro).*

3.2 Core Functionality

- Allow developers to quickly generate maps with integer values representing tile images which will be loaded into the game
- Said maps will be analyzed with a search algorithm to identify unwalkable tiles and blockers will be generated

3.3 Potential Drawbacks/Additions

3.3.1 Drawbacks

- Dynamic NPC code
- Tilemapping program written with Allegro

3.3.2 Additions

- Dynamic enemies with random walking (inside predefined bounds)
- Fighting said enemies
- Write debugging algorithms to aid in development