

Custom Project Plan

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Introduction

In this document I will outline the plan for my custom project.

Project Description

I am a big fan of turn based strategy games and am interested in learning about designing and implementing ai for these types of games. The main purpose of this program will be to demonstrate the ai from my research project.

For my custom project I will make a basic turn-based strategy game. There will be 2 teams with a small army of different units. To make this program using Unity engine in C# because I am more familiar with using them than I am with Pyglet and Python. Each unit on the team will have different properties such as if they have a mount, heavy armour, ect. As well as a small inventory with items and a set of statistics to determine the outcome of a battle. Movement will be grid based. Each unit can move a number of tiles less than or equal the size of its movement stats. A unit may also attack another unit within range. Range is based off of a range value in the weapon (eg: sword range = 1, bow range = 3, ect.) The winner of the game is the last team standing.

The program will support human input vs ai as well as ai vs ai games. It will also have options to show visual indicators of the AI's decision-making process such as arrows or highlighted spaces showing where the ai wants to go, who it wants to attack, etc.

What will I document

- Program design documents
 - o Brainstorms
 - o UMLs
 - o Pseudo code for ideas
- AI design documents
- Change logs
- Design process

While working on the program and different AI designs I will save any planning or brainstorming documents such as UML diagrams, mind maps and pseudo code. I will also keep track of the development of the project through changelogs and make sure I quickly note what I've added and how. My research report will also have documents showing the process of coming up with the designs for the different AI.

What will I present

In the interview I will show a demonstration of the program in action. In the demonstration I will also showcase the final designs of the AI I came up with in my research project by using them in the program.