

C S 324E Final Project Plan

Team Triple A

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Scope:

The scope of the project is about 1.5x – 2x that of our Assignment 7 project, which we are iterating on. Currently, we have a working Space Invaders-like game where waves of enemies move down the screen and try to destroy the Earth. The player's job is to eliminate the enemies, one by one, by maneuvering the ship and firing bullets. We have a GUI which displays information such as current level, number of lives remaining, and the player's score. We also have win and lose conditions, each taking the player to the respective screen.

For the Final Project, we will have to extend on Assignment 7 and add multiple features. This includes adding another GUI system, where we plan to make a main menu screen with buttons. We will need to implement animation hierarchy, maybe something along the lines of the ship's exhaust or multiple weapon loadouts. Additionally, we plan to build a fully functional high score screen, populated through XML. Lastly, we will add music and sound effects to fully immerse the player in our game.

Intended Functionality:

The intended functionality of the project is a remake/remaster of the retro game, Space Invaders. Think alien ships near the top of the screen, the aliens trying to make their way to the bottom, and you, as the player, controlling a laser-armed ship, as Earth's last hope against the invaders. The functionality of the game includes keyboard interactivity, collision-based events, a GUI to display information, and other quality-of-life additions for polish.

Required Features:

Required features include most, if not all, the features that would make up the original Space Invaders game, with our own spin on some elements. Specifically, for the Final Project, we are looking at features such as multiple GUI systems, animation hierarchy, data input/output, and sound.

Bonus Features:

Bonus features we could add if time allows for it include more customization. This could consist of things such as game difficulty, different backgrounds, multiple skins to choose from, or full screen compatibility.

Project Challenges:

Some project challenges we may face along the way include:

- Additional GUI systems (pause/play functionality)
- Animation hierarchy for ship exhaust/ different weapons
- Adding a score screen
- Game sound
- Enemy movement AI

Work Breakdown:

The following list breaks down the classes/objects each group member is working on:

Alex: Main Menu, Sound, Data Input/Output

Albert: Animation Hierarchy

Amar: GUI