

Progress Report

- Increment 3 -

Group #5

1) Team Members

Please write the **name** of all the team members, their **FSU IDs**, and **GitHub IDs** here.

- William Couture | wpc21 | wcouture
- Stefano Sanidas | sas19t | stefanosanidas
- Aidan McGill | amm18z | amm18z
- **Aiden Allen** | **awa22** | **awa03**
- Rafael Cardoso | rdc21c | smart00th

2) Project Title and Description

Inoculation

Inoculation is a medical themed tower defense game that takes inspiration from the Bloons Tower Defense series and the Plants vs. Zombies series. The game features an interactive menu using a moveable character to select levels or other menus. Before entering a level, a set of towers must be selected to be brought into the level. The player will use an in-level currency to purchase towers to place around the track. Within the main menu, the player will have another form of currency which can be used to unlock new towers.

3) Accomplishments and overall project status during this increment

In the final increment we spent our time polishing the features implemented in increment two and tying together the pieces into a cohesive game. In its state, Inoculation features five levels for the user to complete as well as a tower shop where the user can spend their earned money to unlock more powerful and interesting towers. Each level possesses an increasingly complex path which the enemies will traverse in an attempt to reach the patient. Additionally, each level will feature a slightly different set of enemies than each other with some enemies being faster to break through your defenses, though with less health, or greater defenses to weather the storm but with slower speed giving you more time to attack.

4) Challenges, changes in the plan and scope of the project and things that went wrong during this increment

- During the polish phase of the towers, there was some difficulty syncing the animation with the actions. Since the animations were hand drawn frame-by-frame, it did not automatically align with the actual action of the tower. To fix this a delay variable was added to the tower class in order to fine tune and sync the animation.
- We had to remove the requirement for towers to be able to be upgraded after being placed in level as we realized we would not have enough time to fully implement the feature. This functionality is still slightly present as the fifth and final tower increases the fire speed of nearby towers.

5) Team Member Contribution for this increment

- a) *the progress report, including the sections they wrote or contributed to*
- b) *the requirements and design document, including the sections they wrote or contributed to*
- c) *the implementation and testing document, including the sections they wrote or contributed to*
- d) *the source code (be detailed about which parts of the system each team member contributed to and how)*
- e) *the video or presentation*

- **William Couture**
 - Within the progress report I summarized the current state of the project at the end of the semester. Additionally, I discussed two different challenges which I faced during this final increment.
 - In the requirements and design document I updated some of the functional requirements which changed during the final increment.
 - The software and implementation document was left in its same state as the information regarding the functional and non-functional testing has stayed the same during the final increment.
 - Within the game, during this increment, I assisted in laying out the paths for multiple new levels, adding UI for the player's health and current wave, creating new enemies, and a variety of tweaks towards balancing towers and enemies.
- **Stefano Sanidas**
 - Within the progress report, I wrote my contribution for this increment.
 - In the requirements and design software document I made the Use Case Diagram, the third Sequence Diagram and wrote the Operating Environment portion.
 - In the implementation and testing document I wrote the Execution-based Functional Testing section.
 - In the video I talked about the process of choosing the genre to focus on and then further conceptualizing what the game would look like.
- **Aidan McGil**
 - This increment, I completed the following:
 - Redid/updated most of the UI so that it would be visually consistent with our retro/pixellated art direction.
 - Modified the tower placement UI to use 5 towers instead of the originally planned 6.
 - Added a button to the tower placement UI to place tower 4.
 - Wrote the code and made the prefab for Tower 5, "Jimmy", (increases the projectile speed and fire rate of other towers within its range, when placed).
 - Added a button to the tower placement UI to place tower 5.
 - Implemented a locked/unlocked system for the towers, based on whether the user had purchased the given tower from the shop. Unpurchased towers are locked in the sense that the player cannot place or use them in the levels.
 - Created an AudioManager GameObject and script to control music and sound effects.
 - Added individual background music tracks for each of our scenes, which are: IntroScene, MenuScene, ShopScene, Level1, Level2, Level3, Level4, Level5.
 - Added sound effects for placing towers, failing to place towers, the user being prompted, accepting a prompt, declining a prompt, purchasing a tower from the shop, failing to purchase a tower from the shop initiating dialogue with NPCs, enemies taking damage, enemies dying, clicking the speed up button, clicking the slow down button, clicking the exit button, the crossbow tower firing, the sanitizer tower dispensing, the soda machine tower launching soda cans, the soda cans exploding, and the bandaid gun tower firing. And possibly anything else that I forgot.
- **Aiden Allen**
 - I was responsible for implementing the working shop features
 - Purchase Tower
 - Unable To Purchase Tower

- Unable To Purchase Tower
- Tutorial Screen
- Save shop logic
- Additionally I created the first scene, that introduces the player to the game. Using a typewriter script in order to create a more dynamic game.
- I created the tutorial for the Menu Scene in order to properly introduce the player to gameplay mechanics.
- Within the levels I created the tutorial screen, as well as the screen for win/lose
- Finally I created the script/implementation for the speedup/speed down button, that decreases game speed/ increases it
- **Rafael Cardoso**
 - I wrote my part of the fifth section of the progress report by deliberating on my contributions to the project.
 - I contributed to the seventh section of the requirements and design document by expanding on what factors or aspects of this project that we must depend on in order to optimally continue working.
 - For the implementation and testing document, I worked on the first section and explained our choice of programming language, and the reason why we chose it.
 - For our project's systems, I was responsible for developing and implementing code that would present a boolean prompt as a result of triggering an invisible hitbox. Additionally, the prompt would disable player movement until an option between the two buttons underneath the prompt were clicked. All of the scene switching functionality previously developed is incorporated into the choices. I accomplished these goals by using the scene manager library, boolean code commands such as if statements, and the Unity tag reference system. I used these methods to essentially get the tagged player to run into a door, pause their movement and choose one of the boolean options. Afterwards, I would then implement code that brings up a loading screen after the user picks the "Yes" option and screen that would display to the user how much progress or time is left before the next level has been loaded up.
 - In the video, I talked about the slight changes in the scope of our project and why these changes occurred. Additionally, I also briefly mentioned what features I implemented for the level switching functionality of the game and what features I plan on adding in the next increment.

6) Plans for the next increment

N/A

7) Link to video

<https://youtu.be/8UUhofIUBcw>