Progress Report

- Increment 2 -

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

During this second increment we were able to create a rough prototype of our game. The game currently consists of one example level which features a set of three towers. Each tower has been implemented with a slightly different attack style with a classic turret crossbow tower, a bomb shooting soda cannon, and a path sanitizing tower. In its current state the user is able to place down towers (for a specified amount of level currency) throughout the level and initiate each new wave until all waves are complete. Defeating levels provides more level currency which allows the player to place down more towers. Additionally, we have implemented the framework for the tower shop where further towers can be purchased after earning currency with the completion of levels.

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

- During the tower implementation process we found it rather difficult to be able to implement a large number of towers in the time given so we decided to remove the tower selection process when entering levels. This was decided since there was only going to be a small number of towers implemented in the end so there was no need for tower selection.
- While working different aspects within the same scene we encountered merge conflicts. These were able to be resolved rather easily since the changes being added were just additional sprites which were later added back on the main branch.

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 cont:ributed to and **how**)*
*e) the **video or presentation***

- **William Couture**
    - In the progress report I discussed the accomplishments we had during this increment, discussed what we plan to achieve during the next increment and updated some of the challenges which we faced during this increment.
    - Within the requirements and design document I updated the functional requirements changing the pre-level tower selection requirement to a low priority only to be implemented if time permits and we have a sufficient number of towers to select from.
    - Within the implementation and testing document I discussed the testing process during the tower implementation.
    - Within the project itself I was responsible for implementing the base tower behavior script as well as the three distinct attack actions currently in the prototype. For each new class created in the implementation of the system, a new UML diagram was created showing proper relationships between classes.
- **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**
    - I was responsible for implementing the in-level tower selection and placement UI and all that entailed. This included:
        - Creating the UI art assets (consistent dimensions, visually cohesive color palette, on-screen placement, etc)
        - Buttons that instantiate tower prefabs on left mouse button click.
        - Button shading gradients to visually signify status (mouse hover over), being pressed (LMB held down), actively pressed (LMB released, tower waiting to be placed), default (no gradient, none of the other cases)
        - Towers/prefabs following mouse cursor while waiting to be placed.
        - Towers not firing upon enemies or generally being active while waiting to be placed.
        - Pressing left mouse button again to place tower upon level floor.
        - Currency checking to make sure user has enough currency to place down tower.
        - Deleting instantiated waiting-to-be-placed tower upon left mouse button click if user doesn't have enough currency for the given tower.
        - In level currency system where currency is deducted upon successfully placing a tower, and currency is gained upon killing an enemy.
        - Level currency counter so that player can know how much they have.
        - Price 'tags' for towers.
    - I contributed to the "Accomplishments and overall project status during this increment" section of the Progress Report document.
    - I implemented data persistence across scenes in general, but most specifically for the level currency and the menu currency.
    - For the Software Requirements and Design document, I updated the UML Class Diagram to reflect all the new code that I wrote.
    - I contributed to the Software Implementation and Testing document
    - I edited together our video for this increment.

- **Aiden Allen**
    - I was responsible for designing and implementing the player movement system. This task included designing the player body, as well as the script to transform the players position.
    - I designed assets such as the bed, a temporary character, a bus, as well as a tv animation for the lobby screen.
    - Additionally I designed a debugging overlay in order to complete both functional and non functional testing requirements.
    - Within the progress report I expressed my contributions to this project, as well as assisted in the creation of the video.
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- **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

For the next increment we plan to implement additional towers as well as using the framework laid out to construct multiple other levels. Additionally, we plan to add additional enemies and enemy types to the game as there is currently a single enemy. Finally, we plan to further polish the animations and sprites throughout the game.

7) Link to video

https://youtu.be/ac5l6PFwYVM