Sprint 1 Artifacts

Get Godot Setup and Installed

Install the Godot game engine

- Downloadable from godotengine.org
- It is a free to use game engine that provides all the necessary features for the kind of game we are aiming to make
    - Features a 2D game engine with many built in starter tools to create a solid foundation of a game (i.e. default player movement scripts)
    - Is lightweight, and thus capable of running on lesser hardware, which will allow our team to collaborate no matter the machine being developed on

Familiarize With Godot

Become familiar with Godot, take basic tutorials etc.

- To be able to contribute to this project it is essential you understand the fundamentals of how Godot operates.
    - Must know how to navigate the Scene and Node system
    - Useful tutorials can be found on youtube, here is one that may be helpful.
    - May be useful to familiarize with GDScript (Godot's built in scripting language)

Create the GODOT Project and Upload to Github

Create a new game project in GODOT and upload it to Github so that it can be edited by other members of the group

- The process of making a project should be familiar after having watched the tutorial previously.
- The game will be made editable by finding the project folder after it is created, and uploading it to the github.
    - Note: be careful with merge conflicts when making changes! Always contact other team members to communicate what you are doing so as to not cause issues.

Create Spaceship Movement

Create a spaceship that can accelerate and follows basic physics equations

- When the forward button is pressed, the spaceship begins to move forward.
    - This is done by increasing a velocity and having the player move the velocity, so even if the player isn't actively pressing forward, they will keep moving if they have positive velocity.

- When left or right is applied, then the player turns
    - This is done by changing the rotational velocity, so the player will keep turning until a negative rotation is applied.

Create Environment

Create asteroids and other objects

- imported into the game in an arbitrary location
    - Can just sit there until the player crashed into it

Collision Detections Between Asteroid and Rocket

Detect when the asteroid hits the player (player then dies)

- Add area 2ds as child nodes to the characters of the pre-existing characters
- Within the player, check if its area enters any other areas,
    - If it does, then end the program (player loses)

Create visuals for spaceship

Create the visuals for the player

- The spaceship should follow the general pixel art style we have decided on as a team.
- There must be multiple sprites:
    - Idle ship
    - Ship while the thrust is active
        - Requires more than one frame so an animation can actually be created

Create visuals for asteroids

Create the visuals for the asteroids that will act as obstacles for the player to avoid.

- The asteroid should follow the general pixel art style we have decided on as a team
- A variety of asteroids should be created as to be able to provide variety of obstacles so that the environment design doesn't look too homogenous

Create the Architecture Document

Create the initial architecture document based off of Sprint 1

- List the team number and the names of all the members
- Name of the project
- The synopsis of the game (what is the goal?)
- Development Setup:
    - Talk about what game engine we are using, and why we chose it
- Mention the features we have discussed about adding:
    - Such as: physics based ship control, and functionally work in zero gravity with little to no drag

- 3 UML Diagrams
    - Spaceship movement
    - General game flow
    - How the game interacts with the engine
- Different stages of gameplay / game progression