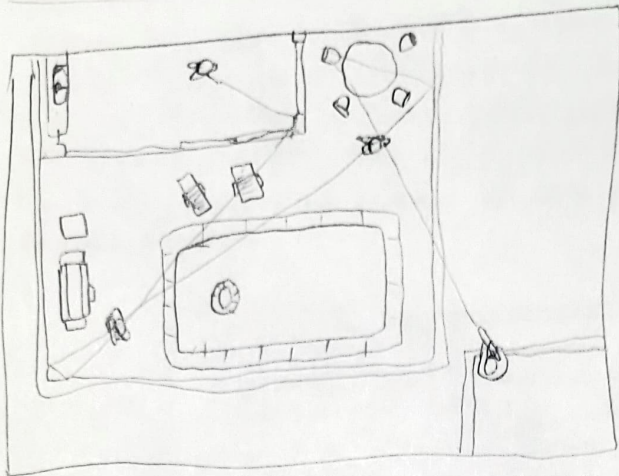
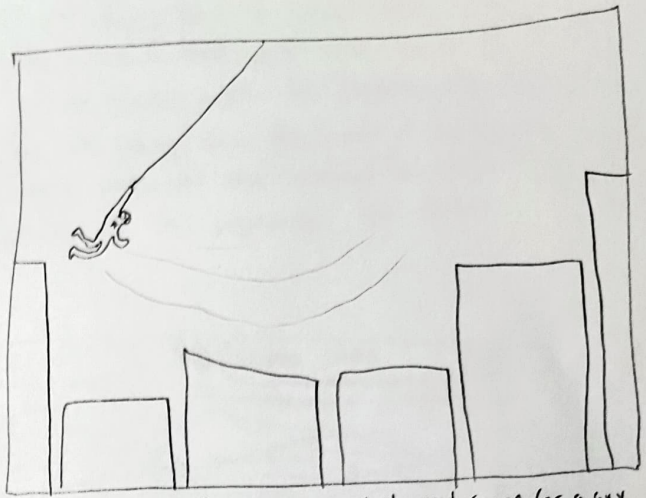


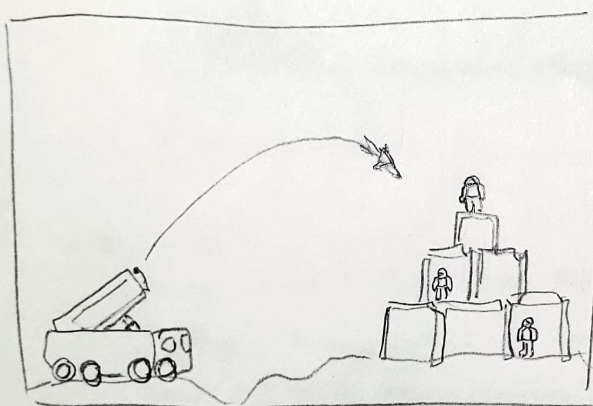
## Brainstorming



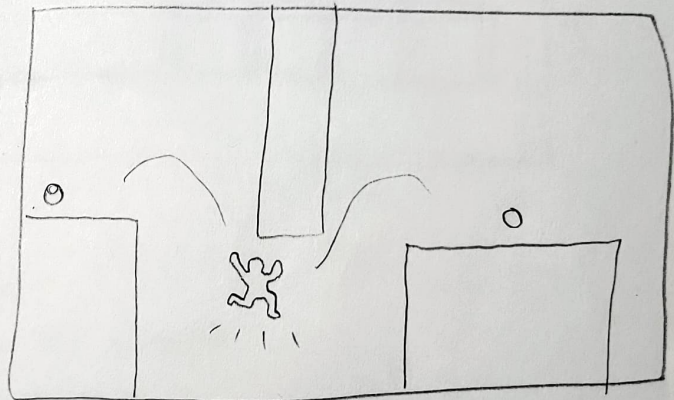
- The idea here is that you play as a sniper who has to assassinate a target without raising the alarm. You will have to bounce the bullet off of objects and walls so that you can take out the target and their guards with one shot.



- The idea is that you control Spiderman (or a guy with a grappling hook) and have to get as far as you can while swinging through the city. Clicking you can fire a web and start a swing, and you must time your swings to avoid hitting the buildings.



- The idea for this game is basically that it's angry birds with a military theme. You control a missile truck and have to launch missiles to destroy the enemy's building and take out the soldier, with a higher score granted for fewer missiles used.



- The idea for this game is to create a basic platformer, but where a key part of navigating is using a double jump. Go as far as you can and collect as many pick-ups as you can to get the highest score possible.

- I think that I will go with the Angry Birds-like one. The other options are not necessarily more complex, but the Angry Birds-like one is straightforward enough while also using physics as an integral component of gameplay, so it might be a better option. It also doesn't require multiple screens or scrolling like some of the others might need.



# Game Development Foundations - 2D Game Engine Project

- The idea for this game is to create a clone of Angry Birds in godot that uses physics and projectiles. You control a rocket artillery vehicle and will have to use its rockets to demolish a building and take out enemies placed on/in the building. Destroying more of the building will grant more points, as will taking out the enemies. The player will have 3 shots to take out as much as they can, and the projectiles, along with the building segments and enemies, will have physics, and the projectiles will follow a parabolic trajectory.



## • Mechanics

- Aiming - missile launcher follows cursor, shows
- Shooting - Pressing mouse1 or Space fires a projectile
- Ammo - 3 shots, ammo remaining visible on UI.
- Scoring - Enemies that hit the ground grant score. Might have to abandon idea of fallen building segments granting score, as I don't know exactly how I'd do that.
- Physics - Projectiles, enemies and building segments will have physics, and being able to arc the projectile to where you want to hit will be a key part of success in this game.
- Moving is not part of this game, and would probably make it too easy.

## Components: Collistion

- Ground - StaticBody2D
- Projectile - RigidBody2D
- Building - RigidBody2D
- Enemies - RigidBody2D

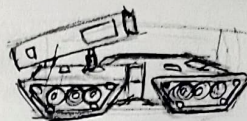
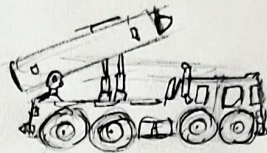
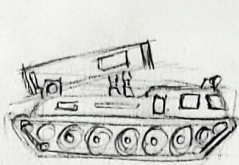
## Sprites

- User Interface
- Player Vehicle (2 parts, Vehicle and Launcher)
- Missile/Rocket
- Building Segments
- Enemies
- Ground
- Background

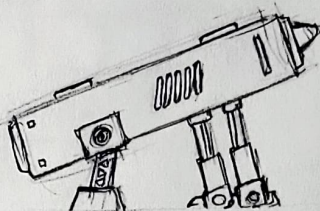
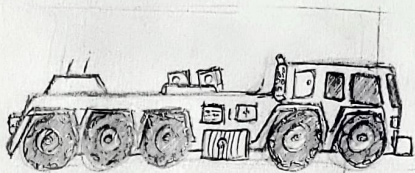


# 2D Game Engine Project - Concept Art

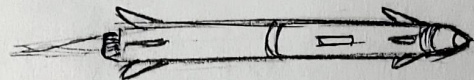
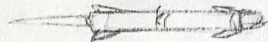
## Player Vehicle Exploration



## Final Design w/ Launcher



## Missile Design



## Final Design

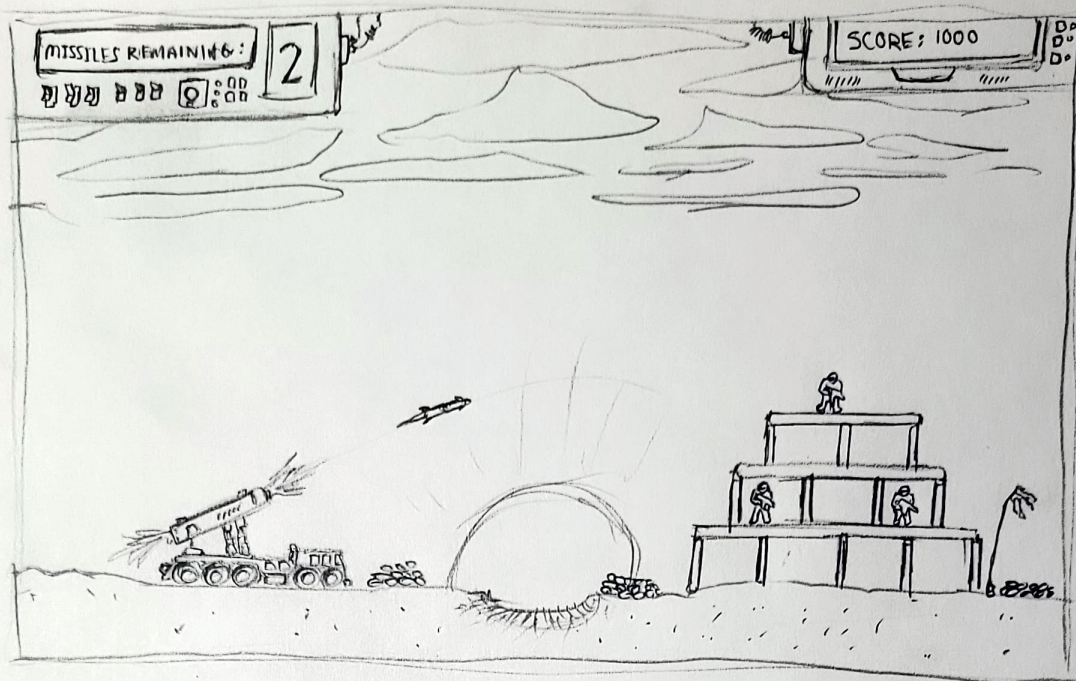
## Enemy Exploration



## Final Design







• window size  
4 1280 x 720

### Notes & Observations

- I am trying a lot of new things with this one so I'm not even sure if I'll get a lot of this working in the time I have.
- Classes:
  - Player.cs - will handle whatever else isn't handled by the other two.
  - Projectile Launcher.cs → Shoot Projectile();  
     ← will handle the launcher and aiming.
  - Projectile.cs - Handles the projectile itself.
- My projectiles keep changing size and I'm not sure how to fix it. I have set the CollisionShape2D and Rectangles to the size I need, but they keep resetting to a certain size every time the game is run.
- The ammo counter isn't really working properly, and while it shows the initial value of ammoCount, it doesn't update when ammoCount does, despite being in the process Function of Player.cs.