Serenity Garden TD

# Project Description

You have a physical base that is attacked by a lot of enemies. You need to build and upgrade turrets strategically so that they don’t destroy your base. If an enemy meets a turret in it’s path, it will attack that turret until it is destroyed. After the turret is destroyed, the enemy continues it’s path, and if it reaches the base, it starts attacking it until it is destroyed.

The key point of this game is that you can’t build turrets everywhere, you have a couple of possible locations (which will be specified by a hexagonal grid) and you can place turrets only in these places.

You also have a commander on the scene, which can move to any location you want to, he attacks surrounding enemies automatically and won’t be damaged by enemies. This commander can enter inside turrets and give them special traits.

The game also has a co-op mode, in which 2 players can fight a difficult boss. More on this in the gameplay section.

# Characters/Turrets

## Turrets

* BaseTurret
  + Can shoot any enemy type
  + Medium fire
  + Medium damage
  + High hp
  + Medium range
* Machine gun
  + Rapid fire
  + Low damage
  + Low hp
  + Works on both ground enemies and flying enemies
  + Medium range
* Electric fence
  + High hp (basically the shield for the other turret types)
  + Damages enemies that come in contact with it
  + Doesn’t work on flying enemies or on ranged enemies, but they stop to attack the fence if they meet it in the path
  + No range
* Vulkan
  + anti-air turret
  + high damage, but it can only attack flying enemies
  + low hp
  + high range
* Flamethrower (previously machine cannon)
  + High damage
  + Low fire rate
  + Medium hp
  + Prioritizes melee enemies
  + Low range
* Laser (previously railgun)
  + High damage
  + Low fire rate
  + Medium hp
  + Prioritizes ranged enemies
  + High range
* Excavator
  + It can farm resources in certain fixed locations, which will give you more money
  + Can’t attack, so other turrets need to protect it
  + Medium hp

## Enemies

For each enemy type, there will be 3 variations, each more powerful than the other.

Enemies will move on the shortest path from their current location to the base. They have a set range and if a turret enters their range, they will attack the turret.

* Melee
* Ranged
* Flying
  + It also stops to destroy turrets.
* Ambushers
  + They don’t stop to attack turrets and move straight towards the base. If they aren’t destroyed until they reach the base, then they will damage it.

## Raid bosses

* Necromancer-like boss
  + Passive
    - From time to time he teleports to new location
  + Attack patterns
    - Directional slash
      * Picks a direction and shoots long range slash that passes through turrets and damages them
    - Summon
      * Summons a couple of enemies at the current location which will attack all turrets that are close
    - Assasination
      * Teleport behind a base and deal a lot of damage to it
    - Normal attack
      * Pick a turret and attacks it
* Fire demon
  + In the center of the map
  + Bases are on opposite sides
  + Passive
    - The lower the health the more damage he gives
  + Attack patterns
    - 360 degrees swipe attack
      * If you build electric fences, all turrets behind it will not take damage or will take reduced damage
    - Time based attack
      * Will pick a player base and charge an attack
      * If you give him enough damage in the back in that short amount of time he will get stunned. Otherwise, he will deal a lot of damage to the player base (1/3 damage)
    - Turret Destroyer
      * Will pick a couple of turrets randomly on the map and will destroy them
    - Normal attack
      * Attack single turret with normal damage
* Corrosive boss
  + Will be at the front of the map
  + Bases are close to one another
  + Passive
    - All turrets will constantly take damage
  + Attack patterns
    - Acid puke
      * Will splash acid in a wide area, giving a lot of poison damage for a short while (15 sec or something) can damage base
    - Body disperse
      * Will separate it’s body in 4 parts which will spawn randomly on the map
      * The body parts will slowly move towards it’s initial position and when all of the get there he will recover health
      * You need to destroy them as quickly as possible
    - Normal attack
      * Will pick a turret and attack it

## Characters

### Commander

The player of the story. It is a controllable character in the stages and may even have some dialogues

Story fact: was a test subject for how to create super-humans. After those experiments he gained the power of completely erasing his presence. If he wants to, no one can notice him. This is why he is the sole unit that can go outside and fight enemies face to face.

More information in the game mechanics -> commander section

Lieutenant

Your right-hand man. He/she will present the tutorial, give you tips, and if the game will have an actual story (with dialogues), he/she will play a big part in that.

# Story

Your planet is overly-populated and the pollution levels have reached very dangerous levels. It’s already past the point of no return, the entire planet will die in a couple of decades and humanity with it if nothing else is done. For the purpose of saving humanity, a special battalion was formed which has the sole purpose of exploring planets and find the ones suitable for human life.

But the universe is very dangerous. Some planets have very aggressive alien life, others have by-products of failed cybernetic experiments. The player is the highest ranked commander of the battalion tasked with protecting the researchers from all threats.

The game in the first phase will be on a single planet that may or may not be habitable, but which has a lot of dangerous enemies. As an additional feature, the game may also have multiple planets, which will increase the stages of the game exponentially.

Earth sends resources from time to time, but only a limited number of resources can be sent at once and it takes a while for them to arrive, so you can’t depend on them in the middle of a fight.

# Theme

Sci-fi universe exploration and strategic planning.

# Gameplay

## Game Mechanics

### Grid system

The game uses a hexagonal grid system (because it looks better). It should be easy to customize which grids can be used in which map.

### Turret system

Turrets can only be placed on available grids in the specific map. Once placed you can’t move them, the only way to move them would be to destroy it (receiving some money from it) and place it again. They can be upgraded, but upgrades are unlocked at certain stages. All turrets have the properties: attack speed, damage, hp, range, attack type (enum that will specify what type of attack it can do: melee, ranged, air only, ground only).

If a turret’s hp reaches 0 it will be destroyed. If you select a turret you have the following options: upgrade (if available), sell, repair. When a turret is under repairs, it will not attack.

### Commander character

You can select where he should move to, but it will take some time to reach the destination, time in which he will not attack any enemies, and you can change destination only after he reached the previous destination

Medium range, medium fire-rate. Can shoot both ground and air.

If you select to place him on a turret, he will enter the turret and improve it’s efficiency by a lot, even giving the turret some special traits:

* Machine gun
  + Shoots faster, does more damage, higher range
* Electric fence
  + Deals more damage, attacks faster, more hp
* Vulkan
  + Higher speed, more damage, larger range
* Flamethrower
  + Higher speed, more damage, larger range
* Laser (previous: railgun)
  + Higher speed, more damage, larger range
* Excavator
  + Gives more money faster, more hp, gives more money each time
* Player Base
  + More hp, shoots faster, more damage

### Enemy waves

Each stage will have a couple of waves. Between waves there is a cooldown period, but you can skip this and receive some money.

### Game stages

Each stage will have a star ranking, with a maximum of 3 stars. Each star earned gives bonus money. You can replay a stage but if you get the same star ranking or lower than previously, you will only get the base money value, which will be calculated based on how much hp the base has left, how many enemies were killed, and a few other criteria.

### Lock-on system

If you tap/click on an enemy, turrets will focus that enemy (but only ones that can actually hit it).

### Shop system

Between stages you can access a shop, where you can buy permanent upgrades. It will have 2 sections:

* General upgrades
  + Increase hp for all turrets
  + Increase starting money
  + Increase recovery rate
* Turret upgrades
  + For each turret there will be 3 upgrades
    - Machine gun
      * More damage, range, lower costs
    - Electric fence
      * More hp, more damage, lower costs
    - Vulkan
      * More damage, range, faster fire-rate
    - Machine cannon
      * More damage, more range, faster fire-rate
    - Railgun
      * More damage, more range, faster fire-rate
    - Excavator
      * More money, faster cooldown, buy upgrades for it

Each upgrade will have multiple levels, each level costing more and more money.

### Raid system

2 players are protecting a single base. Somewhere on the screen (preferably in the center) there is a huge monster, that will attack turrets and from time to time attack the base. The raid may even have a quick time event system, in which you can interrupt it’s attack if you do certain things (maybe moving the commanders to certain positions, attacking certain body parts with high damage, etc).

Both players can place turrets, upgrade them, and one player can place it’s turret on top of the other one’s turret, which will upgrade it even further. This combined turret can be upgraded by both players (each player can upgrade it 3 times). The effects of the upgrade will stack and maybe there will be a multiplier that is added when combining turrets (to make it worthwhile). The textures of the turrets will turn to gold bit-by-bit as they are upgraded further and further.

Both players have their commander characters, but they can’t enter the same turret at the same time, and they can’t enter a combined turret.

For lock-on, only the turrets of the player who set the lock-on will focus the target.

In the beginning there will be 3 raids, each having different difficulties, and those difficulties will be unlocked by completing the story/campaign. When you select a raid, you will be taken to a lobby, where it will search for other players that also wants to play that raid. If it finds a player, it will create the server on one of the player’s device and start the raid. At the end both players will be given the same rewards (a lot of money and star rankings), they will both disconnect from the server and get back to the raid selection screen.

## Progression & Challenge

The game will be fairly difficult, you really need to think where to place which turrets, which ones to upgrade, whether or not you can survive if you skip the time period between waves. And you should barely able to win the game if you get 3 stars at every stage.

## Farming & replaying levels

The only way to farm is to replay levels, earn 3-star rankings on every level, and after that replay them only for the base reward. Other ways to get money would be through ads.

## Losing

When you lose you get the money earned up until that point (with 0 star-ranking)

# Art Style

Turrets will look very high tech.

Commander and lieutenant will look like they are part of a sci-fi military.

Enemies will look differently based on their type. In the first phase of the project (where you are on a single planet) they will all look similar, but if I implement multiple planets, then enemies will need to have different designs.

In the first phase, enemies will also look high-tech, but more alien than the design of the turrets. In the second phase of the project, some of them will become creature-like.

* PlayerBase
* MachineGun
  + Mounted minigun-mounted turret
* MachineCannon
  + flamethrower
* ElectricFence
* Vulkan
  + Long barrel sniper
* Railgun
  + laser
* Excavator

# Music and Sounds

This part will be the last feature to add to the game and because of that I can’t give a clear definition of it. It just needs to be sci-fi, sometimes eerie and sometimes intense (at critical moments).

# Technical Description

The game will be developed in unity (preferably, because otherwise I can’t finish it in a year). It will have both a windows and an android build. It should be able to support even lower-end android phones.

# Marketing & funding

This project is for my computer science license and because of that, at the moment I don’t know whether or not I have publishing rights. If I have publishing rights, then the game will be distributed on steam for 1-3 euros (or free and have reward ads like on android) and on android it will be free but have some ads (rewarding adds, not compulsory ones).

The game may also have in-app purchases, but I haven’t decided on the details of this yet.

# Demographics

All ages

# Additional Ideas

* EMP enemies (they can freeze turrets)
* Laser turret
  + Hits adjacent enemies to the first one hit
* Special abilities:
  + An energy system that recovers during the fight
  + Each ability used, takes some of the energy away.
  + Emp, shield, bomb, full recover
  + The effect o the special abilities can be upgraded in the shop