

# Project S.O.S.

## Game Design Document



### Team Akakage:

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[Project S.O.S by Akakage \(itch.io\)](https://itch.io/project-sos)

# Game Overview

## Genre

- Sci-Fi (space setting)
- Action
- Shooter
- 2D Vertical Scroller

## Platform & Players

- Made on GDevelop
- Available to play on PC via Itch.io
- Keyboard & Mouse
- Rated E for everyone (age demographics)
- Single Player

## Inspiration & Aesthetics

### Inspiration

- Super R Type: River Raid
- Galaga
- NOPE (Jordan Peele)
- Star Wars

### Aesthetics

- Sci-Fi Space Environment
- Warfare / Fighting

## Story / Characters

- The story is simple: The galaxy has limited resources, and you're a space creature raiding human colonies to satiate your hunger. You're the alien.
- Characters:
  - 1) Space squid alien (Player)
  - 2) Human pilots (Enemy NPCs)
  - 3) AI controlled ships (Enemy NPCs)
  - 4) Human commanders (Bosses)
  - 5) Alien monsters (Bosses)

## Design Goal

- We're primarily making a game that functions as a space shooter. We're aiming to first ensure that we have the basic mechanics of a playable game before we put on the "bells and whistles": aka the specific character designs & outstanding gimmicks.

## In-Game Objectives, Controls & Mechanics

### Goal:

Go to different levels, destroy enemy fleets and bases in your way. Obtain power ups to increase strength throughout the level.

### Basic Mechanics

Use the keyboard to shoot or grapple ships. Dodge attacks and be mindful of your health.

### Controls:

Arrow keys → direction & movement

X → Shoot

S → Shield

D → Grapple/Throw

C → Special Move

R → Restart Level

Space Bar → Pause/Resume

Enter → Ship / Alien mode

## Menu

- The Starter Screen will feature the alien above the title letters.
- Below the title will be "START"
- Starter screen → Level Select

## Levels

- The levels are repayable.
- There will be a simple and concise progression of the levels.

Example: Level 1

- 1) The players must travel to the core of a large space station. They must destroy generators to open doors and venture forth.
- 2) The level is divided into three parts:
  - A) The beginning (outside in space, blasting asteroids & pilots)
  - B) The middle, (within the base fighting ships and destroying generators)
  - C) The end (the core of the station, where the boss battle will begin)

## Why Play?

- Fast paced space shooter combat.
- Playing as the antagonistic creature rather than a heroic protagonist.
- Stimulating gameplay that has a retro arcade feel.



# Playing the Game

## Player Movement

### Controls

- The player will be using their keyboards. The arrow keys enable them to move up, down, left, right, or diagonally, enabling them to move anywhere on-screen & preemptively dodge attacks.

\*\*The screen will keep scrolling upwards to indicate “movement”, as enemies and obstacles continue to descend.

### Mobility

- Movement speed will be moderately paced
- Players can freely maneuver throughout the screen
- Shielding can slightly limit mobility
- Players cannot speed boost at this time

## Player Combat

### Modes of Combat

- There are 2 playable modes of combat: ship mode and alien mode, interchangeable by the **ENTER** key.
- Ship mode is the creature's "assimilation" of a spaceship. Ship mode provides a better sense of mobility but a limited range of attacks.
- Alien mode is the creature's true form after discarding the ship it was using. This mode has more attack variety but limited mobility, in addition to more vulnerability.

### HP & DP

\*HP means Health Points. DP means Damage Points.

- Health will start at 100% (10 HP). Damage progression will be shown via an icon of the alien. When the player's health falls by 25%, the icon will gradually look more beat up until it reaches 0.
- Players will have to dodge incoming attacks. The alien's health can last about 10 times from the weakest enemy bullets, but heavy attacks will vary.
  1. Standard laser attacks = 1 DP
  2. Dive bombing attacks = 4 DP
  3. Artillery fire = 6 DP
  4. Regular boss attacks = 3 DP
  5. Asteroid collisions = 1 DP
  6. Building collisions = Instant Death
- To revive and restart the level, press the **R** key.

## Standard Attacks

- To shoot, the player will press the **X key**. They'll have an unlimited supply of fire/laser blasts that can deal 1 DP in both ship form & alien form.
- The amount that can be fired at once will be fairly quick
- In alien mode, the player will be able to grapple ships with the **D key**, and hurl them the same way.

## Special Moves

- 1) It varies in ship mode & alien mode. They're activated by pressing the **C key**.
- 2) In ship mode, the special move is a powerful, concentrated laser beam that damages obstacles and enemies in its path. It only faces forward. Worth 5 DP.
- 3) In alien mode, the move is spores released & fired from the alien's body, exploding on impact with obstacles & enemies. They just continually move forward, acting effectively as crowd control. Worth 3 DP per spore.

## Shield

- To use the shield, the player will need to press the S key. The alien will proceed to use the ship it's controlling as a shield, blocking incoming projectiles.
- It can block standard shooting attacks easily, but the player cannot attack and shield at the same time.
- Heavy attacks (such as dive bombing, artillery shots, laser beams or building collision) will instantly destroy the shielding.
  - 1) Dive bombing
  - 2) Artillery shots
  - 3) Building collision
- It does not recharge automatically, thus requiring a power up to repair it.

## Obstacles & Destructible Items

Asteroids are common obstacles throughout the game.

- They are stationary objects that can be easily dodged
- Can be destroyed with one hit
- Colliding into one means instant death
- Power ups spawn from them on occasion

Facilities & Generators can be encountered throughout the game

- It might be a side objective to destroy a number of them in order to proceed to the next stage/level
- Occasionally, the player might need to blast imposing structures that obscure the flight path or risk taking damage
- May take more than one blast to destroy

## Powerups

Various power ups & items can be gathered throughout each level.

- Shield power ups = Full shield restoration
  - Obtained from generators & enemies
- HP power ups = Full HP restoration.
  - Obtained by asteroids, generators & enemies
- Special Move power ups = Unlock special move (does not stack)
  - Obtained from enemies

## Enemy Types (Regular)

- 1) Regular Ships (Fighters)
  - Human pilots that aim to destroy you
  - The weakest opponents
- 2) Dive Bombers
  - Remotely controlled AI ships
  - Their objective is to seek out the alien and collide into it for maximum damage.
  - Notably tougher and slightly faster than Fighters
- 3) Artillery Cannons
  - Stationary cannons that can cause a considerable amount of damage to the player, given enough hits

## Enemy Movement

### Patterns

**\*\*All** enemies will try to make their way down the screen to destroy the player.

- Fighters cannot dodge attacks; they move forward until they reach the bottom of the screen. After that, they'll respawn from the top of the screen. They'll keep reappearing until the player dispatches them.
- Dive bombers will move faster than normal ships. Additionally, they will attempt to ram themselves into the player and drastically reduce HP. Luckily it's not unavoidable
- Artillery cannons are stationary and can be avoided. But be wary if you find yourself crowded in between a cannon and a fleet of ships.

# Enemy Combat

## HP / Health

Each enemy will have a health bar

- Fighters → 2 HP
- Dive Bombers → 4 HP
- Artillery → 3 HP

## Attacks & DP

- Fighters are the weakest but most frequent enemy variety. They simply head towards the bottom of the screen and eventually respawn from the top until the player dispatches them
- Dive Bombers are faster than Fighters, though their bullets are equal in strength. They will attempt to circle the player once or twice before crashing into them, but the pattern can be learned.
- Artillery, while stationary, can deal heavier attacks than most enemies (save for bosses.) They can be destroyed gradually or completely disposed of in a Special Move.

Damage Points:

- 1) Fighters → 1 DP per laser bullet
- 2) Dive Bombers → 1 DP per bullet, 5 DP per collision
- 3) Artillery Cannons → 3 DP per shot

## Bosses

- The strongest opponents that appear by the end of a level. There are 2 distinct types:
  1. Command ships that rank over the Fighters and Dive Bombers.
  2. Alien entities that also seek to devour and consume the human fleets.They're essentially narrative "competition"

## Boss Movement

Bosses can technically dodge, but their movements are static. They have repetitive moving patterns with unique gimmicks per fight.

## Boss Combat

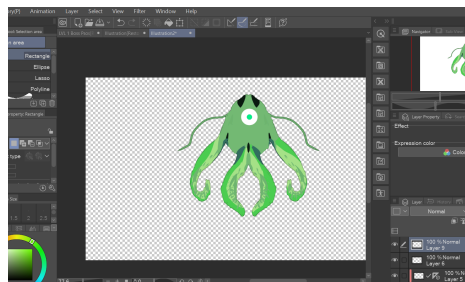
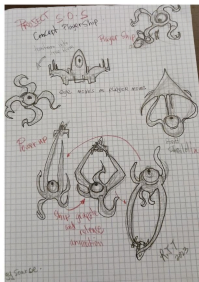
- They're stronger than other enemies; they can use heavy attacks that can reduce health by a whole quarter.
- They can switch to standard enemy bullets as well
- Capable of temporary shielding
- Simple fire & laser blasts

\*\*Bonus: Destroying a boss can unlock a new power up and/or move for the player.

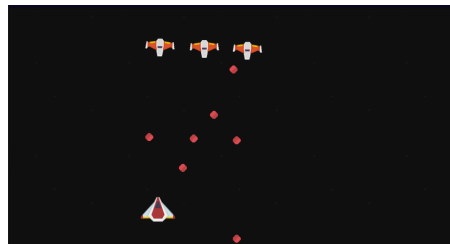
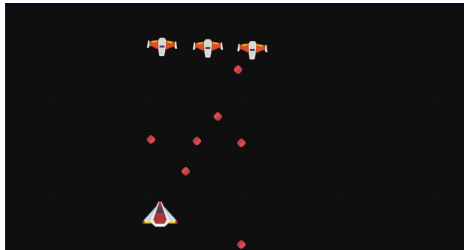
# Art Design

## Art Style

- Project SOS aims to engage the players with a stellar 2D art style. Here are a few key examples of the artwork developed so far:



## GDevelop Demo Screenshots



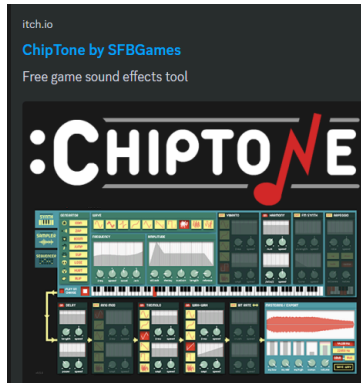
## Moodboard





# Sound Design

The ChipTone Application by SFBGames, [available on Itch.io](https://itch.io/game-sound-effects-tool), was utilized to create certain sounds.



## Current Sound Assets

- Alien creature sounds
- Laser blasts
- Asteroid explosion

## Game Engine (GDevelop)

# Coding Asset Screenshots

Level 1 (Events)

Preview

Publish

At the beginning of the scene

Add condition

key is pressed

Add condition

RedPlayerShip3 has just fired

Add condition

Enemies is in collision with RedGem

Add condition

Enemies is dead

Add condition

Enemies is ready to shoot

Enemies has unlimited ammo

Add condition

Enemies is moving

Add condition

RedPlayerShip3 is in collision with BulletEnemy

Add condition

RedPlayerShip3 is dead

Add condition

Display an authentication banner

Add action

Fire RedGem from RedPlayerShip3, at position RedPlayerShip3.XfromAngleAndDistance(0.0); RedPlayerShip3.YfromAngleAndDistance(0.0), toward angle 270 and speed 500 px/s

Set the fire rate of RedPlayerShip3 to 0.2 seconds

Add action

Play the sound Alien blaster shot sfx.wav, vol: 25, loop: no

Add action

Delete RedGem

Apply 50 points of damage to Enemies (Damage can be reduced by Shield: yes, Armor: yes)

Add action

Delete Enemies

Play the sound explosion\_asteroid2.wav, vol: 100, loop: no

Add action

Play the sound Alien blaster shot sfx.wav, vol: 10, loop: no

Fire BulletEnemy from EnemyOrange, at position EnemyOrange.X(); EnemyOrange.Y(), toward angle 90 and speed 500 px/s

Add action

Change the aiming angle of EnemyOrange to 120°

Add action

Delete BulletEnemy

Apply 33.34 points of damage to RedPlayerShip3 (Damage can be reduced by Shield: yes, Armor: yes)

Add action

Play the sound explosion\_asteroid2.wav, vol: 100, loop: no

Delete RedPlayerShip3

Pause the scene and start "Death Screen"

Add action

BlackSpace

RedPlayerShip3

CopperRedBar

RedLaser05

RedGem

BulletEnemy

EnemyOrange