

# Project Final Report

**Name of the game** Zoophobia

## List the names of the team members

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## Briefly describe the idea of the game: theme, setting, and goals.

Theme: Animals having territory wars.

Setting: Earth/Nature

Goal: Destroy the other tent

## Controls:

wasd - for camera movement

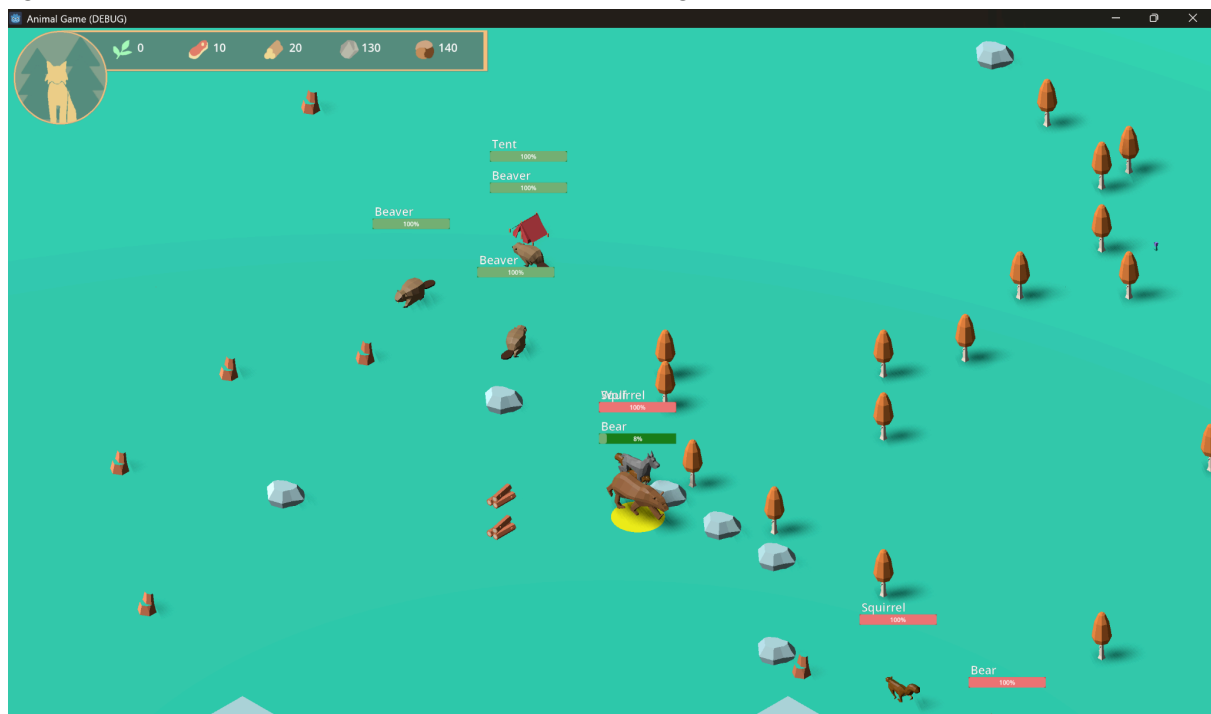
1,2,3,4 - when selecting your tent 1,2,3,4 are the keys to spawn your units

left click to select a unit

right click with a unit selected on terrain to move

right click with a unit selected on enemy to attack

right click with a unit selected on resource nodes to gather



## Units:

- Extractor

The Extractor can extract the resources from the environment. To do this, the player just needs to select the Extractor and right click the resources in the environment. Then the Extractor will do this automatically after that.

Here is the list of Extractor:

Beavers

The unit\_id of beavers is 1

The extracting is the special ability of beaver, but it can also attack



- Attacker

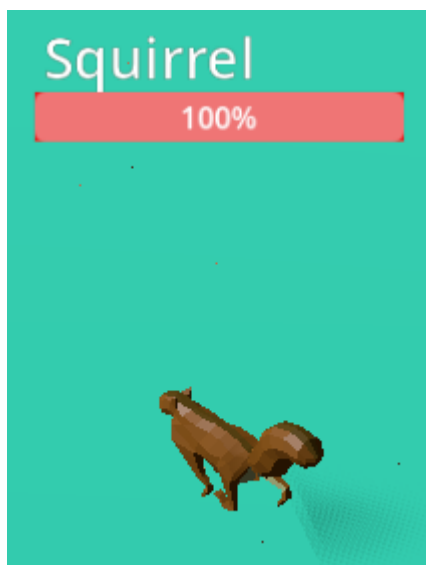
The Attacker can attack the enemy with higher damage. To do this, the player just needs to select the Attacker and right click the enemy in the environment. Then the Attacker will do this automatically after that.

Here is the list of Attacker:

Squirrel

The unit\_id of squirrels is 2

This unit cost less than other attacking units with lowest damage



Wolves

The unit\_id of wolves is 3

This unit cost medium compare to other attacking units with medium damage



Bear

The unit\_id of bear is 4

This unit cost higher than other attacking units with highest damage



### Environment:

Resources:

- Herbs: is gathered using extractor units
- Meat: get the resources by killing the enemy dynamic units
- Wood: use builders to produce
- Stone: use builders to produce
- Mud: use builders to produce

### Tribes:

The unit can be produced by costing the resources, Here is the cost of four units

```
func set_unitID(input: int) -> void:
>I  unitID = input
>I  match unitID:
>I  >I  1:
>I  >I  >I  self.cost = [10, 0, 0, 0, 0]
>I  >I  2:
>I  >I  >I  self.cost = [5, 10, 0, 0, 0]
>I  >I  3:
>I  >I  >I  self.cost = [0, 10, 10, 0, 0]
>I  >I  4:
>I  >I  >I  self.cost = [0, 10, 20, 0, 0]
```

### Describe the actions of the player and enemy units.

Tent action: spawn beaver, spawn squirrel, spawn wolf, spawn bear

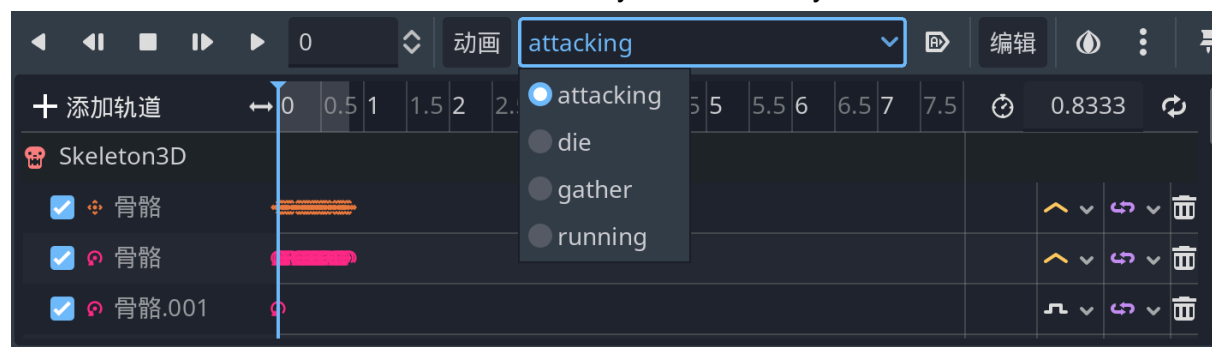
Player Unit Actions: walking, attack, resource extracting

Enemy Unit Actions: walking, attack, resource extracting

### Technical Requirements:

#### Animation:

Animation is done on all dynamic units for walking, attacking and gathering in the case of beavers. It is stored in each class for animals by AnimationPlayer.



#### Pathfinding:

Pathfinding is done using Astar2D to allow for pathing units around the impassable nodes such as rocks and trees.

#### Semi-automatic actions:

Semi-automatic actions are done when the beavers are ordered to collect a resource; they will continue collecting that resource automatically until given a different command.

#### Enemy AI:

Enemy AI is created using 3 rules (IDLE, ATTACK, RETREAT) when an offensive enemy unit is spawned it goes from idle to attack and moves toward the closest player unit. If it gets below 20% health it will enter retreat mode and try to run back to its base to regenerate. After healing back up to above 50% it will go back in attack mode and return to the closest player unit.

### Full game mechanics that enable meaningful play, according to your game's design.

E.g., if one of the goals of the game is to collect a certain resource, then the game

**should keep track of the resource collected or money gained, and perhaps let the player use that to create new units, etc.**

The goal of our game is to collect resources which are shown by the resource counter at the top of the screen to make new units and then ultimately destroy the enemy tent which will result in a win for the player and show a victory screen.

### **Feedback to the player:**

Feedback is given through the resource bar at the top of the screen showing when gatherers are collecting resources and how resources are lost when spawning units.

It is also given by the health bars above units indicating when a unit is damaged.

It is also shown by the yellow circle indicators under the selected unit so that the player knows what unit they are selecting.

### **Art assets**

The icons and feedback board are illustrated by ourselves.

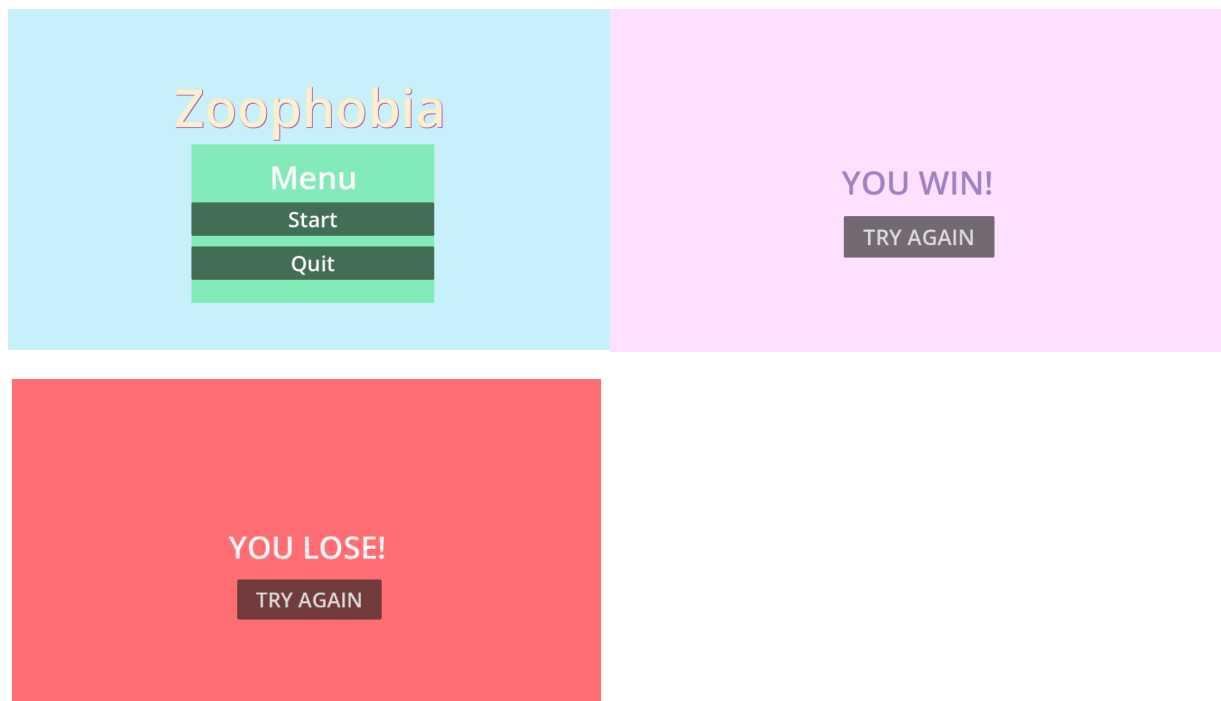
The model is borrowed from others. Bones and animations are created by ourselves

The music is borrowed from other website

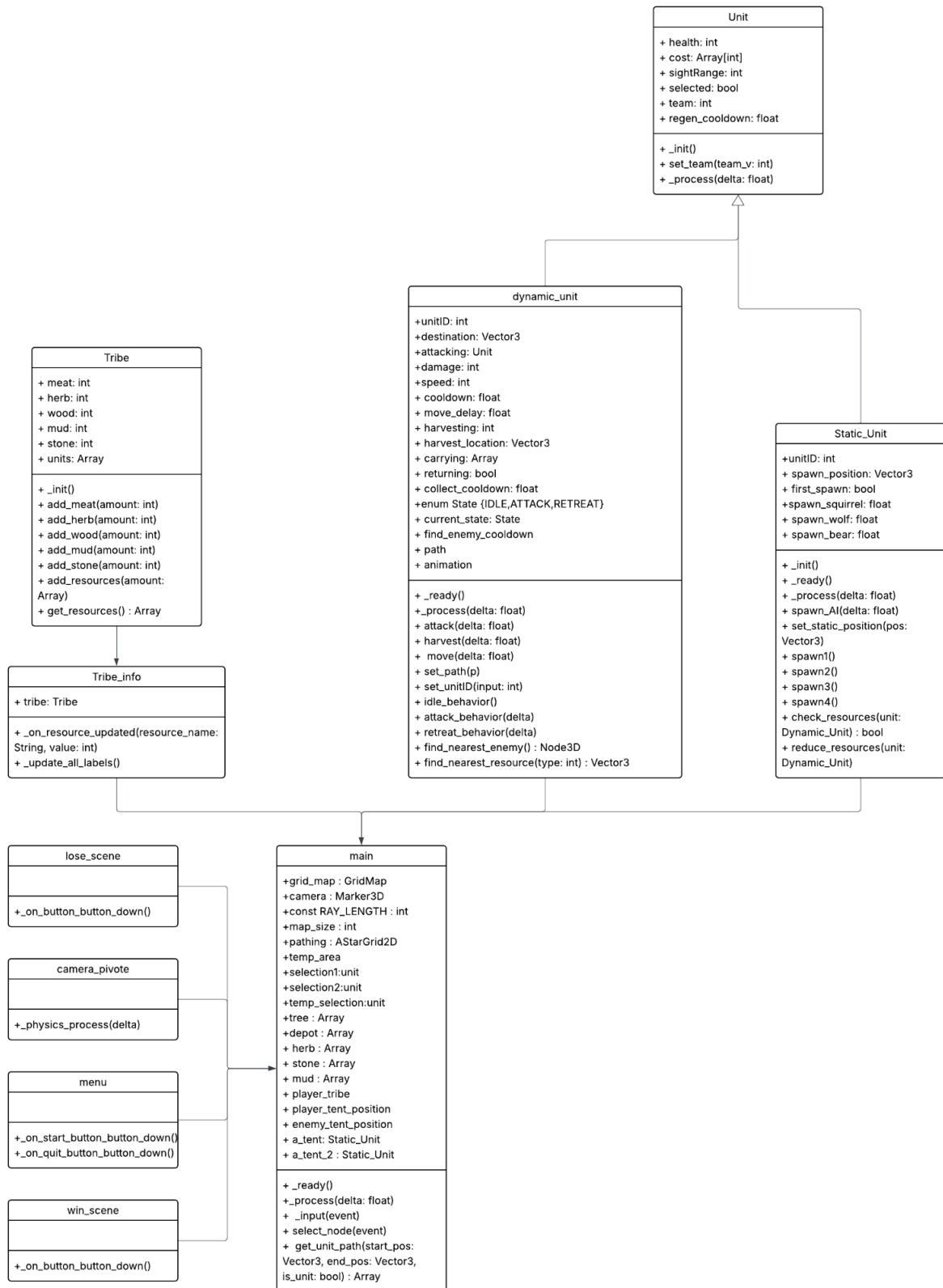
### **Additional features**

The music is added in the menu and main scene

We created the menu, winning and losing scenes for a better experience. The player can start the game again with the winning and losing scenes. These scenes will show up after any tent gets destroyed.



# UML



## Reference

Environment Assets

<https://kenney.nl/assets/nature-kit>

Animal Assets

<https://www.turbosquid.com/3d-models/low-poly-animal-pack-for-free-3d-model-1798659>

beaver:

<https://sketchfab.com/3d-models/rigged-lowpoly-anteater-beaver-f2f663e28eba4155bb1b3c75e4ee0899>

squirrel:

<https://sketchfab.com/3d-models/low-poly-squirrel-84612b29ae864768ae94384a103e3d73>

music:

<https://artlist.io/royalty-free-music/song/clockwork-carousel/125238>

<https://artlist.io/royalty-free-music/song/dusk-between-the-peaks/134748>