FINAL PROJECT PROPOSAL

Artistic vision for the project

For this project, I want to make a survival and exploration game about a phoenix lost in the Arctic. The basic goal of the game will be to defeat enemies across the world to gather resources (Sun points) and then spend those resources to summon the final boss.

To gather resources, the player will have to find and fight evil Spirits that roam the world, which will drop Sun points when defeated.

To incentivize the player to take their time through the game, the final boss will be very difficult to defeat right away but shrines will be placed at random locations in the world. By visiting these shrines, the player will be able to spend Sun points to unlock new abilities and skills that will make exploring the world and defeating enemies (including the final boss) easier. These abilities could include ranged attacks, area of effect attacks, self-healing, bursts of speed, and the like.

Because the game takes place a cold environment, the player will have a Warmth gauge that will deplete over time. Some of the abilities will consume Warmth when used. Since the player controls a phoenix, they will be able to respawn at the last shrine they have visited. However, if their Warmth meter is completely depleted, they will lose this ability and get a game over if they die.

The world will be presented in a way similar to early *Zelda* games: divided into "screens" and showing only one screen at a time, with access to a map showing one which screen the player currently is. Coming out of the last screen on the map will bring you back in to the first one on the other side. Each screen will be randomly selected from a list of presets, making it so that each world is unique.

The project will use p5 as its main library to handle the visual display of elements, with JSON and localStorage to store and manipulate large amounts of data for things like terrain generation and the attributes of entities, attacks, etc.

Technical challenges

The main technical challenges for this project will be:

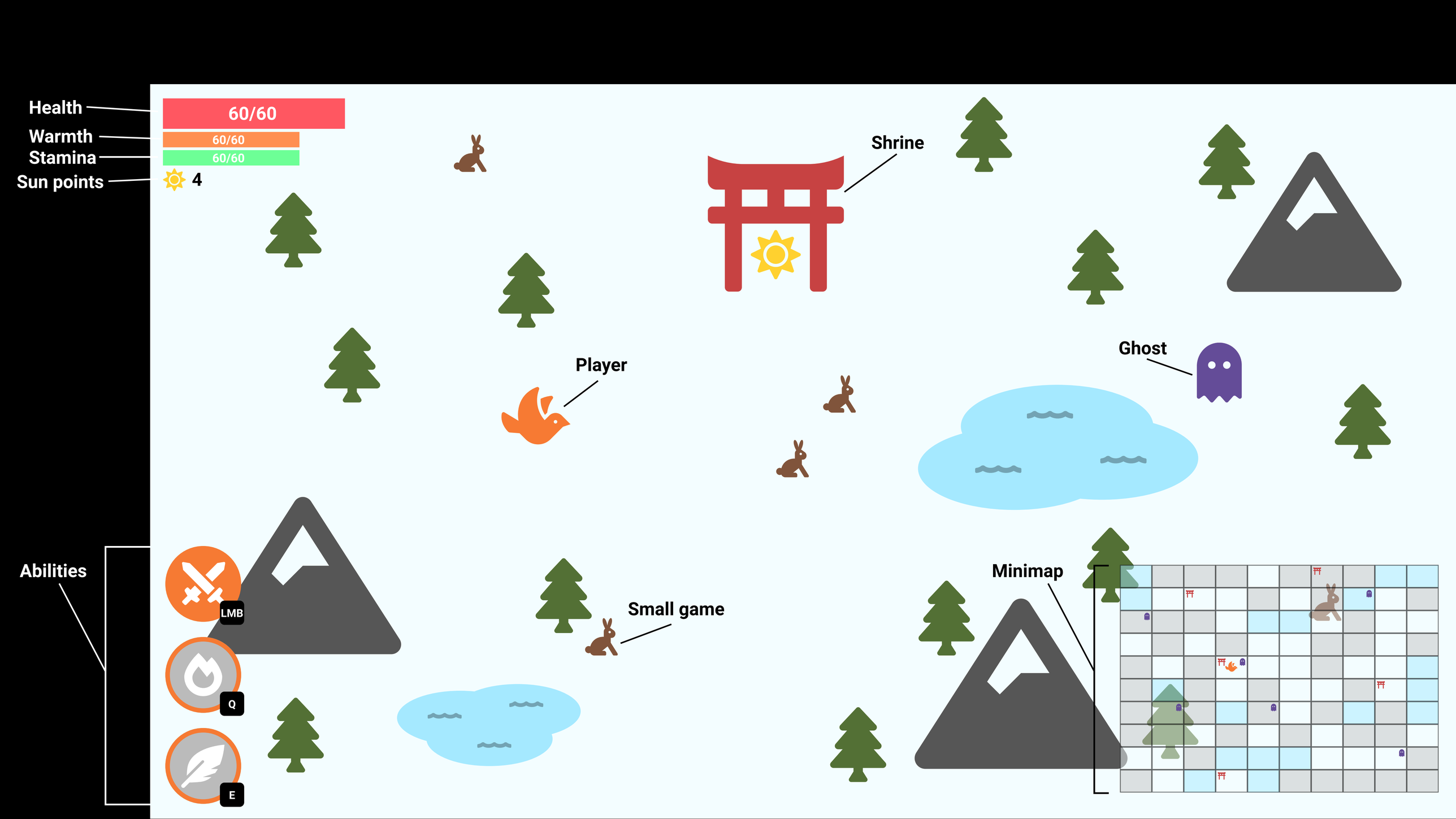
a) To find a way to replicate the map as a minimap (in the corner of the screen) that displays the important locations in the world;
b) To design a set of tiles for each biome that is diversified enough so that the player doesn't feel like they are cycling through the same ones over and over again;

c) To create a simple but engaging combat system that is more complex than only “hit the enemy in the exact same way X times until their health reaches 0” (especially for the final boss) and design interesting abilities that improve the gameplay by giving more options to the player;
d) To find a way to program the autonomous behavior of Spirits and other entities;
e) To handle the very high number of entities and structures on the map to allow for interactivity with each one of them;
f) To create a movement system that makes sense in the context of the player controlling a bird;
g) To allow the player to save the most important data from the game in localStorage to be able to come back to it later;
h) To organize the large amounts of JSON data in a way that makes it comprehensible.

Prototype program

The prototype for this project focuses on:

a) Generating a random set of screen-sized tiles to create the map and allowing the player to transition between them;
b) Displaying a minimap that reflects the player’s current position in the world;
c) Trying out a movement system where the player is constantly gliding and can only change direction but not stop;
d) Randomly placing entities throughout the world and giving them movement and stats;
e) Starting to figure out how to handle attacks and other interactions between the player and the environment.


Health
60/60
Warmth
60/60
Stamina
60/60
Sun points
4
Shrine
Player
Ghost
Small game
Minimap
Abilities
LMB
Q
E


60/60
60/60
60/60
4
ABILITIES
2
5
2
4
6
3
5
LMB
Q
E