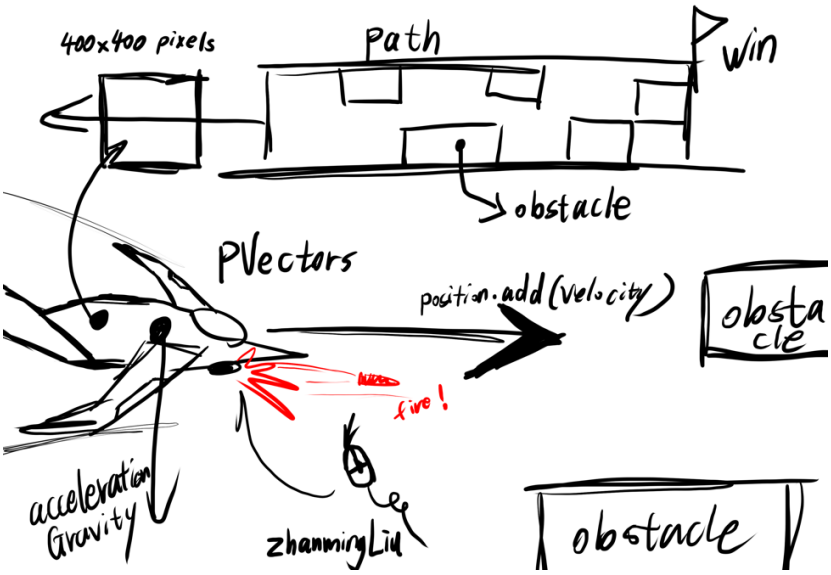
Ideation – Zhanming Liu



My first ideation was a fighter-shooting game. A very long rectangle (with a very long width) was the path that the fighter had to move along. Obstacles were scattered in various positions within the rectangle, causing damage to the player (if touched).

Pressing the keyboard:

Pressing ‘W’: the fighter rises

Pressing ‘S’: the fighter descends

The height of the fighter cannot exceed the screen (the height should be 400 pixels)

I also designed a firing effect for the fighter. If the mouse is pressed, the fighter will fire a projectile, mainly drawing flames.

Parameters needed:

The long path (rectangle) is affected by PVector, moving faster and faster horizontally.

The fighter is also applied PVector, velocity helps the plane move horizontally, acceleration can help the plane move up and down, and accelerationGravity can make the plane slowly move down under the force of gravity, forcing it to move. If the player does not operate, the fighter will slowly descend.

When facing fast-moving obstacles that move towards the player, the player needs to dodge in time, otherwise the value of the health bar will be reduced. At the same time, the fighter is

also slowly moving down under the influence of gravity, so the player also needs to balance their operation.

Obstacles move along the long rectangle to the left together with the rectangle. They are also affected by PVector, so the player will find it harder and harder to dodge. When an obstacle touches the player, the judgement will reduce the player's health.

If the player loses all their health, the game will end in failure. If the player reaches the rightmost part of the rectangle, then the player wins.

My second ideation is a Christmas-themed parkour game. Because Christmas is coming soon, this theme is more meaningful. The screen size is a rectangle. The player is a cute Santa Claus moving. There are also obstacles moving towards the player's direction. The player can jump and crouch. Running Santa Claus, as well as jumping and crouching Santa Claus, need image support. So this requires some images to support me to use PImage.

Press the keyboard:

‘Space’: Santa Claus jumps, and is affected by PVector to fall back to his original position.

‘C’: Santa Claus crouches, and after a brief period of time, he will recover to a standing position.

Additional mousePressed or other keys can make some elements on the screen display effects.

Parameters needed:

Obstacles are controlled by PVector and move from right to left. After moving to the leftmost position, they are reset to the right side and appear at a random height. Acceleration will cause the obstacles to move faster and faster, increasing the difficulty of the game in the later stages.

Santa Claus's movement depends on position and velocity. Jumping depends on boolean and acceleration.

To get higher scores, players need to use jumping and crouching wisely to avoid obstacles.

If the player touches the obstacles, the game will end in failure. The winning condition is that the player successfully avoids the obstacles for a certain period of time. I plan to set the time to around 30 seconds, and I can use millis() to achieve this.