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Final Project Documentation

For my final project, I wanted to expand on the sketch I completed during reading week and make it more interesting. For that assignment, I'd used a strict grid with 9 location options and the design of the "game" was a bit crude, so my goals for this were to improve the visuals and add more variety to the mechanics.

The first thing I did to tackle this was decide on a theme for the game as I knew I wanted to design/draw visuals for it, which ended up being an underwater seabed/coral reef. I'm not the best artist but I tried to create visually appealing assets, including the background (with a wooden scoreboard added later), the game over screen, and the winning screen.

I then moved on to adding more to the code I had from the midterm project by removing the grid system and replacing it with the Mover class from the course's GitHub to simulate the way bubbles accelerate as they rise to the surface. This adds another level of difficulty to the game by having the targets move and also making fast reflexes important as once the bubble starts travelling up, lining the mouse up with it becomes exponentially harder. I modified this mover code a bit as well though; I made the constructor require x and y variables so that the starting location of the bubble could vary between spawns. I also removed the display() method, as drawing the circle in my draw() code was easier so I didn't have to send multiple variables as parameters, and I modified checkEdges() to check only when the bubble reached the top of the frame and return a value accordingly. I also added a simple getY() method to return the current y-location of the bubble as a float. I broke the game into two difficulties, easy and hard, to add a bit more to it as well, mostly because I liked the reduced stroke width and faster speed but unfortunately these make the level of precision needed feel a bit finicky when playing.

Finally, I made a few more code modifications to setup() and the two levels to account for the change in theme and mechanics or to clean up unused variables, and then I also added a sound for when the player successfully "pops" a bubble, and when they win or lose.

A lot of my project relied on the techniques we learned regarding PVectors including motion and physics, and, of course, the basics we learned early on, but I also tried to incorporate image and sound to elevate my project. I also experimented more with additional functions and classes, as I hadn't really used them much in my past sketches. I think the gameplay is a success as I personally find it pretty entertaining—I'd sometimes play to test something only to finish and realize I forgot to look at what I'd meant to—and I liked incorporating a cohesive visual theme. A weakness might be how repetitive the game is and how it relies so heavily on PVector movement. Had I had a bit more free time for this project rather than trying to balance it alongside an overloaded course schedule and work, I'd have liked to experiment a bit more with generating sound and maybe even making the game 3D.

Sounds:

Bubble Pop by elmasmalo1

Jingle_Win_Synth_06 by LittleRobotSoundFactory

WATRSplsh_rock splash 15_TK_SASSMKH8020 by tim.kahn