Whack a cockroach

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Time management

The start of the project can be tracked with GitHub, starting on the 2nd of march with my first commit. However, this is when I pushed the design doc so my actual work started few days before that. Deciding and coming up with ideas what you want to do is not easy so this took few days and discussions with friends, sharing ideas and talking about them. This time is very hard to estimate, but I think I've spent maybe 1 hour doing the design document (this is when I had the somewhat complete idea in my mind and wanted to put it on paper).

It took me 9 sessions to finish this game according to GitHub. First one was the design document, 8 coding sessions and in 2 of them I implemented the art I've made. The length of the sessions were very different. Sometimes I was tired and dealing with harder problem so it took me more time. I think I definitely spent more than 10 hours on it. Coding by itself took me approximately 25-30 hours. The art, due to the lack of my experience with pixels it took me around 10 hours. I got distracted by doing details that are not showing and stuff like that.

Work flow

Firstly I did the design. On march 3rd I set up the template. The coding work started on the 6th of march. Rectangle shapes, and insect class was added. On the 8th of march I did the movement of the insect, added hole class and object hole array. I had to leave school so I continued on the 9th and I added insect array and that they were popping out of the holes. March 14th, I did some insect fixing and added hit counter and started doing the sprites.. March 18th I finished almost all of the sprites and I wanted to animate them only to realize that they are bad. So on the 19th I fixed the sprites and animated them. I also did the freeing of ladybug and was mostly finished. On the 20th of march I fixed the bugs that were there and added final touches like mistake counter, reset button, instructions and I added hole sprite, different font and changed the background. And by this the game was finished.

New technologies

Definitely working with multiple classes and objects. On top of that I used arrays of objects, it took me quite some time to get used to that. I don't know until this day if the way how I worked with them is proper or if I overcomplicated things but it is working and I understand it. For the first time I could see why the debugging tool is handy. It saved me many times. I guess I enjoy staring at a dark screen with some text written on in a funky language, because I solved the problems by myself. I only asked Ken how to use static variable.

First time I was doing animated spreadsheets (if I don't count the one time with did it at school). And first time doing animation in photoshop. I had to learn how to resize canvas and image without losing quality in photoshop. Connected to this I learned more about resolutions and pixel ratios and what canvas size you are supposed to work on (at least I hope).

Problems encountered

My design wasn't as good or maybe I didn't have a complete idea of how I want it to work. That is mostly because I didn't know how to work w classes and arrays of objects. It wasn't terrible but I had to do a lot of thinking while coding and maybe make some things more complex that they should be.

As I said that I had to learn how to use object arrays so at start I didn't even know how to print my array. That's why I was working with just one object of each type in beginning. I waited until we would start arrays in lectures but that wasn't as helpful as I would wished for so I just tried few ideas and decided to make bunch of functions to manipulate w arrays. Working with different classes was less challenging but I had to learn it as well.

Probably the hardest thing was to get the holes relocate after certain time and to make sure that they will not overlap. This required a lot of gym workout for my brain muscles. Luckily I remembered how we used nested for loops for printing shapes on a screen and how we also used them 2D arrays. Without this I would have to reach out for some help. When I finished this, I decided that I will keep the insect popping out at the same time. Since the changing of holes was time based and I didn't know how to change it and I didn't want to spend a lot of time thinking about it. Also I didn't mind them popping out at the same time.

The art related problem was that I drew the insects and did the animation on bigger canvas. I went for FHD even though my insect rectangle was 60 pixels wide and 130 pixels tall. I wanted to fix it in SFML with scaling but it was more difficult and it looked terrible. The sprites were compressed heavily and it looked bad. I wanted it to look decent without having to redraw them and I wanted to keep as much of the detail as possible. I learned about resizing in photoshop and fortunately resized the image properly. The sprite sheets aren't as good, they are a bit wobbly but I was happy that I got the sprites and animation working. I will improve for next time.

I added few things that I didn't plan to do because I felt like there should be more interactions. Like the mistakes counter, but that was just on top because I had time, although it made it a bit more complicated to do and at one point I thought I ruined the game with it. Funny how such a small change can impact the whole thing.

Lessons learned

More prior planning. Y design doc was alright but I had to change things because I didn't know how would the holes work etc. Etc.. At the same time it is hard for me to plan these things when I can't see them/imagine them. Maybe draw more. Put more calculations down. Do pseudocode even? Decide what will I start with and maybe make basic work flow. Focus on important things and don't get distracted by details. Remember to commit regularly.

Videa link: Recording-20230321_164454.webm