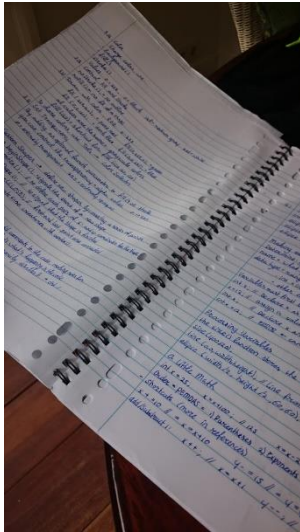


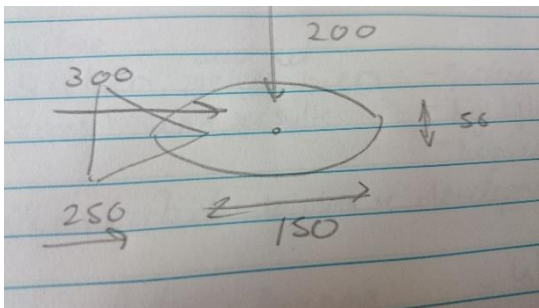
Creative Programming Reflections Challenge 1 & 2



Reflection Challenge 1 Processing

Elzelinde van Doleweerd

The first lectures of programming were very difficult for me. I had never made a site or something else by typing codes in a program on the computer. I didn't understand it at all and because of that, I didn't like it. But then I decided to start reading the book 'getting started with processing' which was on the wiki. I made a lot of notes and I tried things out after I read them. I planned to do this approximately one hour a day and after a while I already started to like it, because I could make nice things in processing by myself. It was also easier for me to understand the lectures and with all the information I could make my own poster.



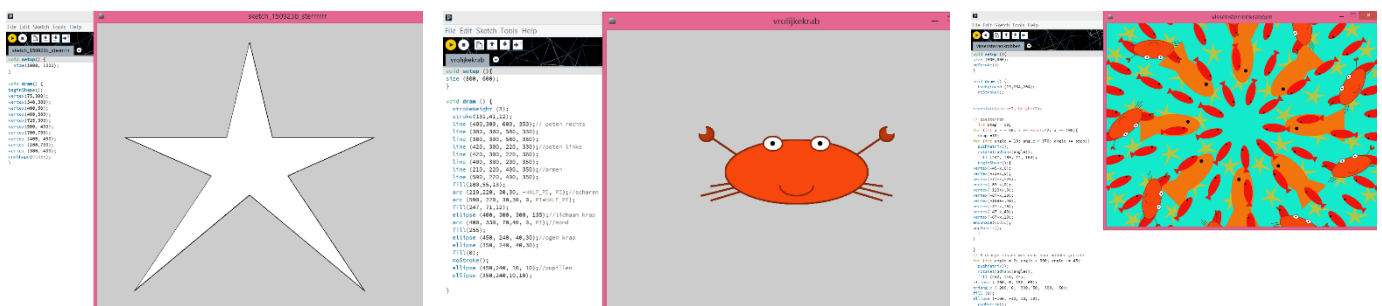
Poster

I started to make the poster with thinking of some nice simple figures which I could make. I thought about fishes and tried to sketch them. I thought of the different shapes and the coordinates. I made the fish in processing and after that I made a for loop so that I had a line of fishes. Then I decided to make some other fishes as well, smaller red fishes, in a

horizontal and vertical repetition. So I embed one for loop in another.

I liked the fishes, but I didn't like it that they were swimming in rows. I made some sketched and decided that it was nice to put them in a circle. That was not quite so easy, but after trying a lot with rotation, and angles, I managed to edited the for loops in the right way.

I wanted some other sea creatures in my poster as well, so I designed a asymmetric sea star and later also a crab. I found it easier to made both creatures first in another file and after that I copied them in the file with the fishes. I could use the same for loops of the fishes for the crab and the sea star, I just changed some numbers. The crab was turning in the wrong way, because I wanted that the crab turned with both eyes to the center. I tried a lot of things with the rotate function, but I didn't managed to put the crab in the way that I liked it. So I designed the crab again, but this time already 180 degrees rotated (see the screen shots below).





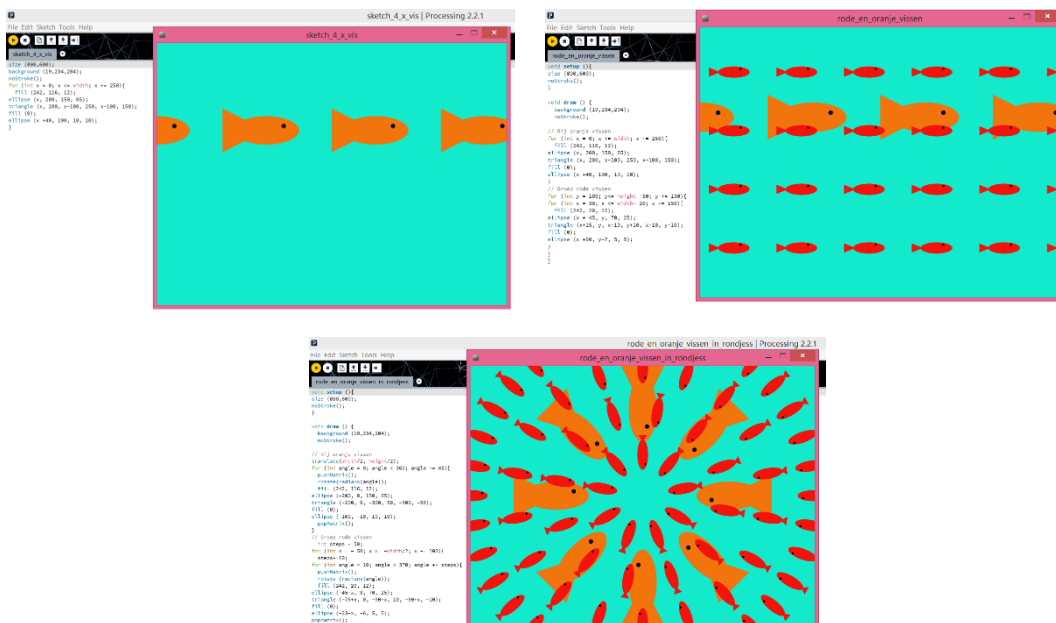
Than the poster was almost finished, I found on the processing site how I could write my name on it and how I could make a PDF file. I just changed the colors a bit and printed it out.

Learning goals

The next time that I make a poster, I will make something interactive. So I am going to read about that in the book on the wiki and to practice it on processing. Furthermore I hope that it will be easier for me and that it will cost me less time, when I am going to practice more often. I also hope that I could solve little problems (such as rotating the crab) on an easier way.

Conclusion

I have learned a lot already. First I didn't understand programming at all. Now I can read and understand a lot of programs already when I open them. It's a bit like learning a new language. I still can learn a lot of things and I'm curious about Arduino. I hope that it will be easier to understand for me because of the knowledge which I have now about processing. I'm happy with my own results and proud of my own poster.

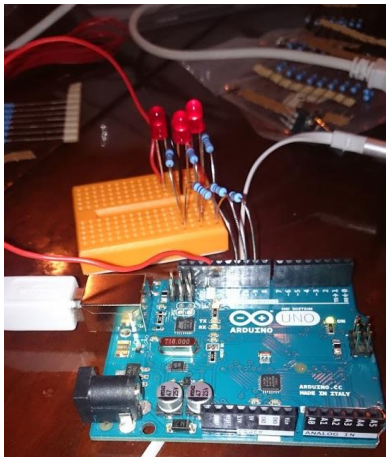


Reflection Challenge 2 Creative Programming

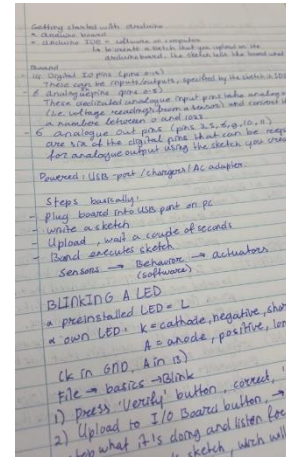
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After the first challenge, we started in the lectures with interactive sketches in Processing and we started with using the Arduino. I was a bit afraid, because I already found Processing very difficult to understand and to use. But I was satisfied with the results of my first challenge and I had learned a lot already. First I didn't understand programming at all. So I thought 'I can learn this, let's start again with the book on the wiki'(but



then not the book for processing but for Arduino). I made a lot of notes again and tried the examples in the book while I was reading it. It was nice to play with the LED's and to try different things. Another student advised met to watch some tutorial on



YouTube. I watched all the videos from the channel 'Open Source Hardware Group' (maybe a good tip to share this channel in lectures for the students) . I learned a lot from watching this and I began to understand how I could combine my Arduino with Processing and how to use the serial port.

Challenge 2

For this challenge we had to make something interactive. I wrote in my previous reflection that this was one of my goals. So I liked to start with this. But then the question came... how? I wanted to make something with an Arduino. I knew that it would be difficult for me, but I thought that it would also be good for me, because I think that I certainly have to use my Arduino in the future for designing some prototypes. And I had spent a lot of time in discovering my Arduino already. So I first tried to implement the Arduino in some of my own sketches in processing. I made a star and I added the Arduino with a push-button, on a way that I could change the color of the star from black to white by pressing this button. After that I was thinking about slowly and gradually changing the colors. I wanted to use the potentiometer for that. So I watched some tutorials for using this tool and I tried to implement this on one of the sketches of the crab that I made for my previous poster. I succeeded in doing this, which made me very happy already. I had the idea of changing my poster which I delivered for the previous challenge, on a way that it was interactive. I also wanted to know how I could use my keypad for doing this. I found out how I could turn the poster and later how I could zoom in and out. So I used the arrow keys and added this first to my poster. In the lectures there was told a lot about sketches which could follow the mouse, so I tried this as well and added 'Mouse Dragged' in the sketch. I made some kind of reset from the space bar, by adding the begin position to this.

My poster was interactive already, but then I wanted to use my gained knowledge of Arduino. Therefore I added my potentiometer to change the colors of the different figures in my poster. I did this by changing one of the values of the RGB color, in a variable which was connected to the potentiometer. It was nice to see that it actually worked. But I wasn't finished yet. I wanted to use a

pushbutton as well. I was thinking of the function when I was looking at the screen and I found it funny to add this in the face of the crab. I wanted the crab to look sad when pressing the button, but I didn't want that it would stay sad, so only if the value was high, the crab had to look sad. So I made another sketch of the crab, but then looking sadly (the mound as a line instead of a half circle) and then I made a loop of it with an if-else statement. After that I setup both the potentiometer and the push-button on the breadboard, but then it didn't work anymore. Or it did work but it was flickering constantly. I discovered that I had to add one hundred milliseconds delay time, because it takes hundred seconds before the Arduino is sending new data in my sketch, that's why it takes hundred seconds as well before it could read the values. After that I found it very nice and I was finished.

So the functions of my new sketch is:

- Zoom-in : pressing the arrow up
- Zoom-out : pressing the arrow down
- Rotate clockwise: pressing the arrow to the right
- Rotate counterclockwise: pressing the arrow to the left
- Place in the beginning position: pressing the space bar
- Translate screen to where you drag it with the mouse : drag with mouse to a certain place on the screen
- Adjust colors of the sketch: turning the potentiometer on the breadboard which is connected with the Arduino
- Make the crab look sad: pressing the push-button on the breadboard which is connected with the Arduino

Conclusion

I had some troubles with making a good movie, because I couldn't install windows movie maker or an adobe movie editing program. That's why I made the movie in one go, so I hope that it is clear what I want to show. I really like to see for myself that I have learned so much during these eight weeks course. I started without any knowledge about programming, and right now I do understand Processing and Arduino and I can make interactive sketches by myself as well! I hope that I will need this knowledge in the rest of my study, but I certainly think that that is the case, and otherwise I would like to discover new things to make with Arduino in my free time.

The Arduino hardware

