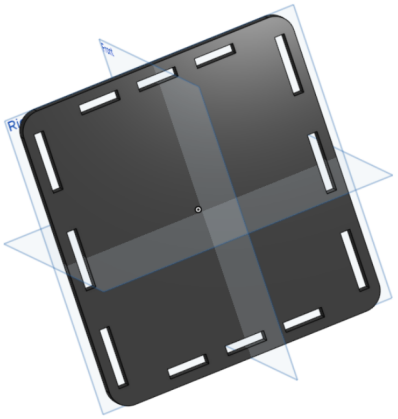
Report

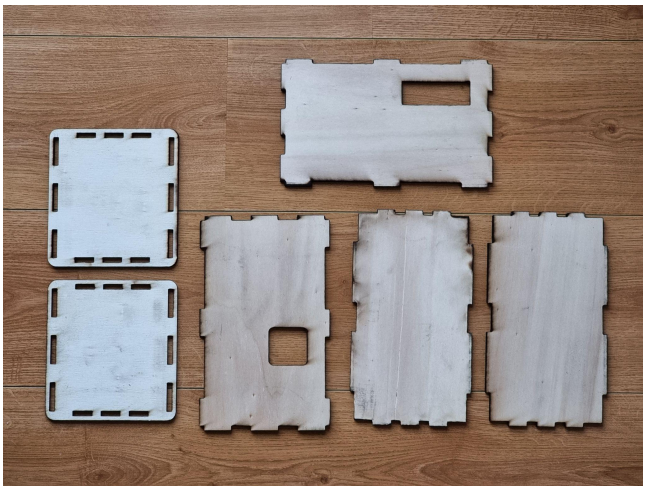
SESSION 5 *(02/02/23)*

Vahan Komaryan

Before this session, I had modeled the parts of our box on Onshape so I could create an assembly. We were able to consult with Benjamin and agree on the dimensions of the box by showing the main elements inside



During this session I spent most of my time in the FabLab cutting out the wood parts needed to make our box. Here is the result, as you can see, it will be necessary to clean and paint them to have a good result.



Then, I finished updating the code. An operation I had started before the session. The problem was that the code was too dense with useless information, so I redid it completely leaving only the useful stuff. Now, the code is clearer and we find the functions allowing us to draw a rectangle for example or a line. We have not yet tested them with lasers but they should work. The code can be found in the archive.

Finally, I added to the code all the parts of the sensors that allow to position the motors in the right direction at the start of the system. It works perfectly. Then I coded a screen and 4 buttons that will allow me to control the system (change mode, etc..). I tested it and it works well. We left some space to fix the screen at the back of the box.

Benjamin Choiselat

During this session, I've continued to improve the code for the audio part : even though I didn't succeed to use multiple running averages for the different frequency bands and compare them to adapt the code to different types of kicks (which can have different frequencies, depending on the music) , I still managed, by keeping the moving average for only one frequency band but improving the sensibility of the reading, to have a reading that works on a really good amount of music, and on different types of music.
The change in the sensibility also allowed a diminution of parasitic inputs in the laser, and now the lyrics are not a problem, only the rhythm is captured by the module.

Finally, with Vahan we designed all the interior of the box, with all the components inside, to find the right size for the box and the right layout for the lasers and the mirrors.