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## OPEN SOURCE HARDWARE

From the beginning I was very intrigued by this topic. Being a designer who is just starting out in the field I often have to come up with cheap and achievable alternatives to expensive or unavailable techniques and machines. So this would definitely be something I will and can use in the future.

We decided to make an embroidery machine from a CNC Milling Machine. The CNC Milling Machine was convenient due to the fact that it has movement in the direction X ; Y and Z just like an embroidery machine. Furthermore a really interesting aspect of the machine is its size. That on the contrary of most other embroidery machines available, could cover a very big area.

To make this happen we had to create a frame to hold the fabric, a spool holder for the thread and a needle adapter.

### **Roles**

*Sofia* was in charge of the Needle adapter

Link: <http://wiki.textile-academy.org/fabricademy2017/students/sofia.guridi/week8sofia>

*Pauline and Fanny* were in charge of the spool holder.

Link: <http://wiki.textile-academy.org/fabricademy2017/students/pauline.bianchi/week8>

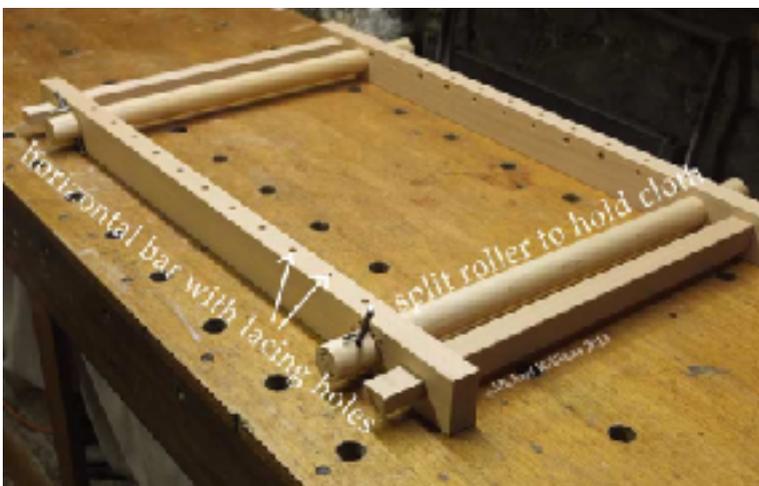
Together with *Brigitte* I was in charge of the fabric holder.

### **Process**

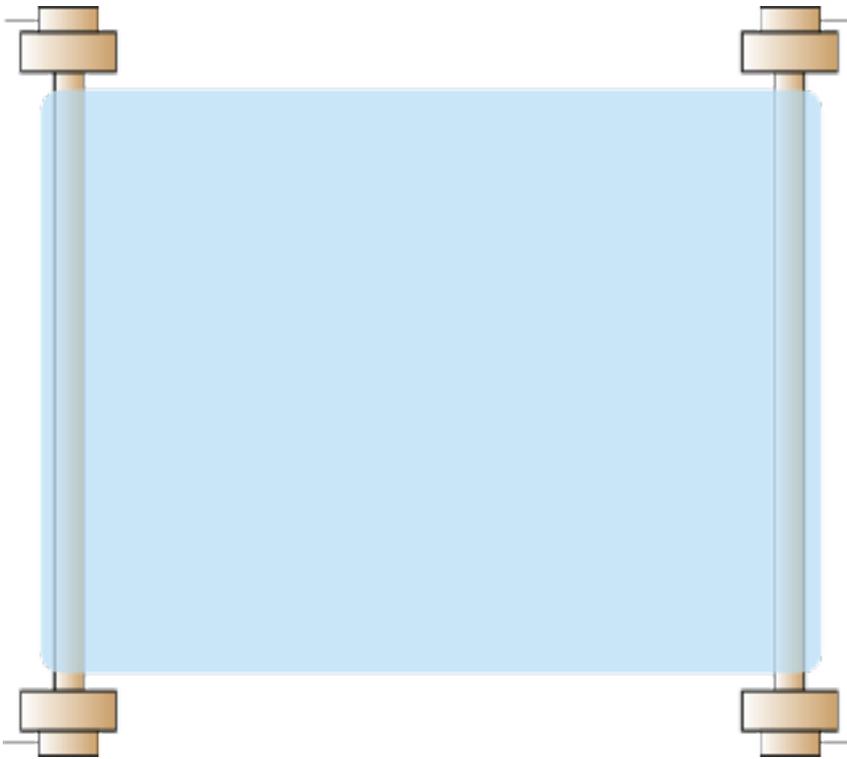
These are the things you will need for the frame we made!

- 4 blocks of wood
- 16 pins
- 2 wooden rods of 135 cm with a diameter of 32 mm
- 4 pins to hold the rods in position
- 4 pieces to turn to fighting the fabric
- 4 back pieces to keep the previous pieces in place

Our inspiration for the frame was the frame below:



Though our frame had to hold the fabric tense on all four sides. We decided to build it only tensing two sides but I will show a way to have tensed the two other sides also.



The whole system

HOW IT WILL WORK:



(picture below taken by Pauline)



If it could tense all four sides it would be a big improvement. This is how we could do that in the future:

