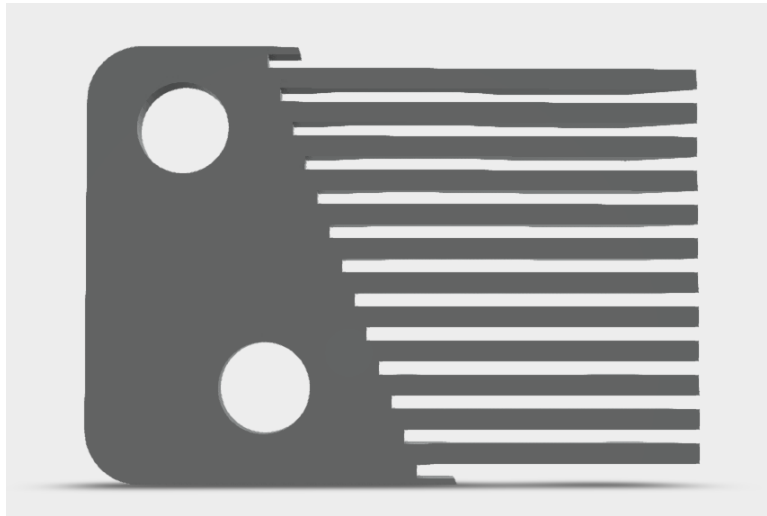


1/ Music box mechanism




We tried to print the entire music box using 3D print. However, the sound of plastic comb is not nice for hearing. So we switched to buying a metal music mechanism. Plus, the notes wheel it would have been in contact with would have probably been broken as soon as we would have used it because 3D printing it at a very small scale would not have been solid at all.



Some pieces were printed in a way too small scale, so we figured after that it would not work and might break as well. Therefore, we replaced them so our mechanism could work.

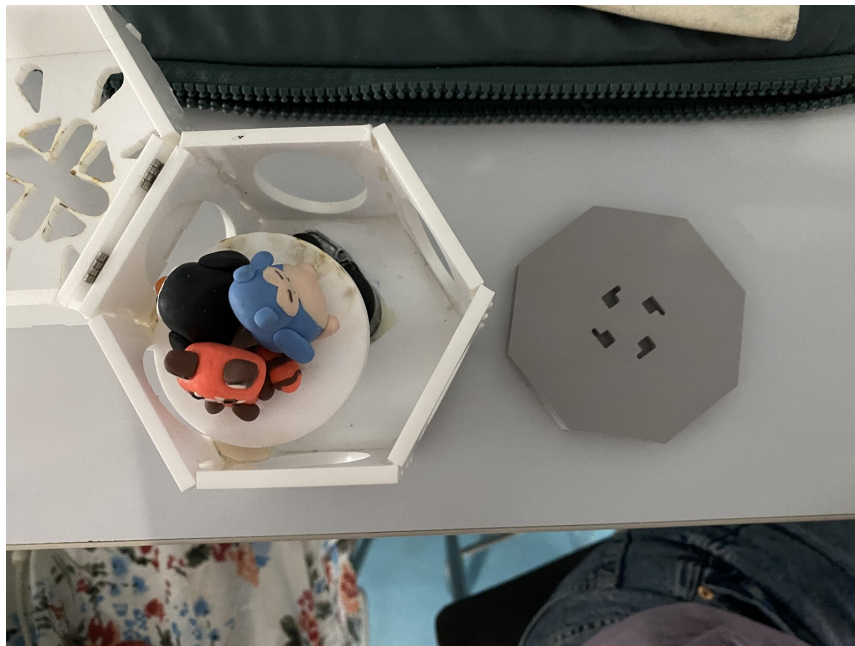
2/ Music box

We were late in time so we decided to use plastic board and laser cut it into the shape we wanted. At first, the box was supposed to be 3D printed as well but we decided to change it to laser cutting because it would have been too heavy otherwise, thus the shape of our box changed from octagonal to hexagonal.

| | |
|--|---|
| box music box .stl Standard Tessellated Geometry - 160.82 kB - 05/11/2023 at 16:42 |  Download |
| bolt music box mechanism.stl Standard Tessellated Geometry - 611.21 kB - 05/11/2023 at 16:42 |  Download |
| base music box mecanism .stl Standard Tessellated Geometry - 36.80 kB - 05/11/2023 at 16:40 |  Download |

3/ Platform for the characters

There's a problem with the 3D design : the first platform is in octogonal shape whereas the box is in hexagonal shape. Plus, the design for the turning support direction is wrong. We made a new platform in a circle using plastic board and laser cut.



4/ Characters were too heavy

The characters were too heavy for the plastic platform and for the turning support. The platform stopped each time when the heaviest character touched the music box. Therefore, we added a ring (fimo paste) to ensure the good functioning of the turning wheel. Plus, we added two supports for the platform for it to turn without stopping for weight unbalance.



5/ The up and down mechanism

Our original project was to make the platform go up and down when the user would push a button after opening and closing the box, but we didn't manage our time well enough to be able to pursue that idea.

Conclusion

We are glad our project works in the way that our platform can turn along with music. However, we are obviously not completely satisfied with the outcome of our project, as we couldn't do the up and down mechanism of the platform, and the box isn't perfect. Next time, we will know how to modelize better and therefore have a better management of our time and a better finished product.