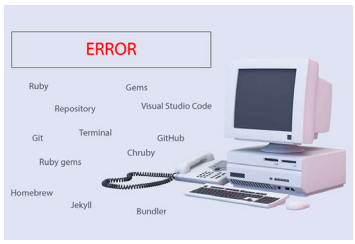
SUMMARY OF MY DOCUMENTATION PAGE

Dear Reader,

As my internship documentation page on my website is very elaborate, I thought it would be a good idea to summarize its content on one page, so you could have a better overview and understanding of it all. I hope this overview helps you to navigate through all the documentation if needed.
To give you some general information about my internship: I did an internship at De Waag where I could work on my personal project - making a biodegradable collection of clothing that can be worn during an Extinction Rebellion blockade. From the 4 days in the week that I worked at De Waag, 3 were dedicated to my project, 1 was dedicated to the open day of the fabrication laboratory of De Waag (Fablab).

WEEK 1

In the first week I learned to code my own website. This website shows my documentation of the past 5 months. The website is made through Github.
Making the website was quite hard. I encoutered a lot of errors. On the week 1 page of my documentation, I have noted down all the steps that I had to take to build the website.



WEEK 2

In the second week I wrote a research paper about the concept of my main project. Writing the research paper gave me clearity about why I was starting this project. It also made me more enthousiastic about the project that I was starting. On the week 2 page, you can read the paper.

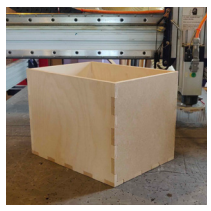
WEEK 3

In the third week I learned to work with the machines in the Fablab. Learning to work with the machines was quite a struggle as I don't have such a great engineering background.

However, I managed to learn all of them. Now that I know how they work; I would love to use some of them in my final designs in the end of graduation. On the week 3 page you can click on all the machines and see a documentation on how to use them.

WEEK 4

In the fourth week I created my own storage box at De Waag to put all my stuff in that I was using to work on my personal project. I learned to work with Fusion360 to design my own box and after that, I created a .gcode to cut my own box with the shopbot machine.
On the week 4 page you can see the steps that I took to create this box.

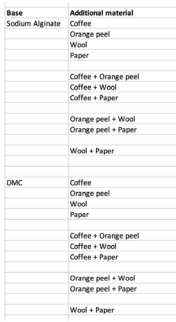


WEEK 5

In the fifth week I researched designers at De Nieuwe Instituut in Rotterdam. One of the most inspiring garments was a garment that was worn collectively. It made me think about my own collection of garments: I would love to have a collective worn garment at an Extinction Rebellion blockade. The researched helped me think of potential looks for my collection. On the week 5 page you can see all the inspirational research I have done for the personal project.

WEEK 6

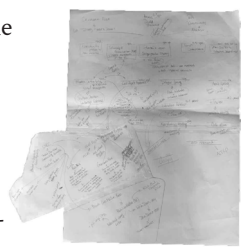
In the sixth week it was time to start with the materials for my collection. I started researching biomaterial recipes. I ended up with 2 base materials: alginate and cellulose. This I combined with different sorts of waste materials: wool, lemon peels, used coffee and paper. On top of that I found non bleached linen yarn to sew the materials together. On the week 6 page you can see all the research I have done to get to the recipes.



Base	Additional material
Sodium Alginate	Coffee
	Orange peel
	Wool
	Paper
	Coffee + Orange peel
	Coffee + Wool
	Coffee + Paper
	Orange peel + Wool
	Orange peel + Paper
	Wool + Paper
DMC	Coffee
	Orange peel
	Wool
	Paper
	Coffee + Orange peel
	Coffee + Wool
	Coffee + Paper
	Orange peel + Wool
	Orange peel + Paper
	Wool + Paper

WEEK 7

In the seventh week I decided to research the background of activism, civil disobedience particlarly. Many of the ways of protesting, including slogans and songs from Extinction Rebellion come from other movements and before using them, I wanted to understand where they came from. In this week I have created a mindmap with different key words on activism. On the week 7 page you can see all the sources I have read to get to that mindmap.



WEEK 8

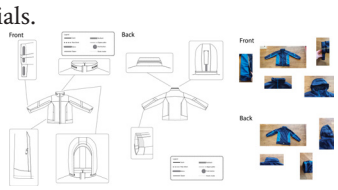
In the eight week I started making the recipes that I researched in week 6. I grinded lemon peels, I washed and carded wool, and I mixed different ingredients together. All of the recipes I put in a patry dish to compare after being dried out. Some of the recipes worked out really well, while others where a total disaster.
On the week 8 page you can see that process and the outcome of the different ingredients in closer detail.

WEEK 9

In the ninth week I interviewed fellow rebels from Extinction Rebellion to see what they would take with them on a blockade. I took pictures of the products they often used at XR blockades. Overall I figured out that people protest very differently and that all ways are very inspirational and fitting to XR. It made me realise that my collection needs to fit many different puposes and needs to be mutli functional. On the week 9 page you can see the questions and answers + products that I got during the interviews.

WEEK 10

In the tenth week I looked at clothing that I found inspirational and could be a starting point for my collection, such as a very technical and multi functional jacket. It made me realise that the garments that I wanted to make ask for detail, technicalities and many hardware and trimms. For this I had to find a solution in biomaterials.
On the week 10 page you can see all the garments that I researched and their technical drawings.



WEEK 11 & 12

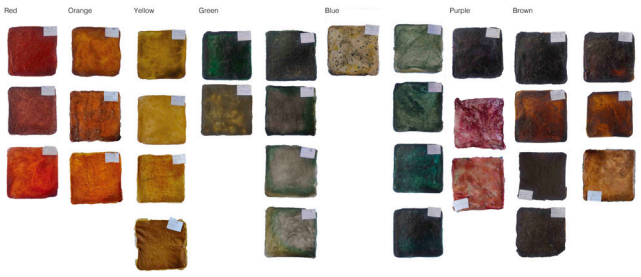
In these 2 weeks I tested my materials on several qualities to make sure I was able to use them for physical prototyping. You can see the tests from left to right.
Water resistance. By adding beewax to the material I figured out whether I was able to make the material water resistant. **Strongness.** By sewing the materials I was able to see if they could be implemented into a swen garment. **Compostability.** By burrying the materials I was able to see whether the materials were really biodegradable. **Sizing.**By scaling up, I was able to see how much liquid I should pour on a M^2 to create the best outcome.
On the week 11 & 12 page you can find all the test, their outcomes and more information on how I did those test and why I did them.

WEEK 13 & 14

In these two weeks I was struggling with the biomaterial printer. I managed to get it working on my laptop. This took me ages. I made my first print and already saw what was wrong with the print and the material. I went back and forth until I got the right material and the right 3D model to start testing with 3D printing.
On the week 11 & 12 you can find information and a video on the first 3D prints with biomaterials.

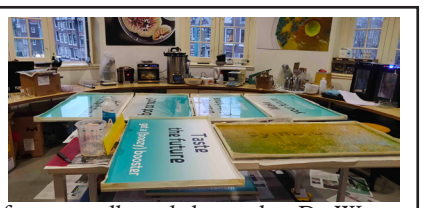
WEEK 15 & 16

In these two weeks I have experimented with many different natural dyes. I worked together with the local color project from the textileLab. They use natural dyebaths to color fabrics, I took over their baths to make and color my biomaterials. Working together was absolutely amazing. It was the first time that my work connected the fablab with the wetlab and the textilelab in De Waag. Connecting those three labs together felt like an absolute win for me. It was also the first time that my project was starting to take shape and people came around to see what I was doing. That felt so powerfull and warm. On the week 15 & 16 you can find information on all the different colors I have used.



WEEK 17

In this week I created bigger molds to start casting my materials on bigger scale. I worked with leftover cardboard sheets that De Waag used for Museumnacht and poured epoxy over them. At first, I did it wrong and I did not mix the 2 components of the epoxy. At the Fablab, we had a laugh about it and I tried it again, this time successfull. On the week 17 page you can see the process of me pouring the epoxy molds.



WEEK 18 & 19

In these weeks I managed to create some biomaterial 3D prints. That was a massive success and I was very proud. I printed & experimented with different nozzle sizes as well. On the week 18 & 19 page you can find out how to work with the printer and my process of it.

WEEK 20

In week 20, I decided to start with the practical components of the garments. These include shoulderpads, lining, zippers, buttons, hooks. Some of them can be 3D printed, others are impossible to make yet. It made me realise how big of a challenge my multi functional garments are gonna be, since they include a lot of hardware, trims and finishings. On the week 20 page you can find information on different practical components and how I want to tackle them.