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Wellbeing in the workspace

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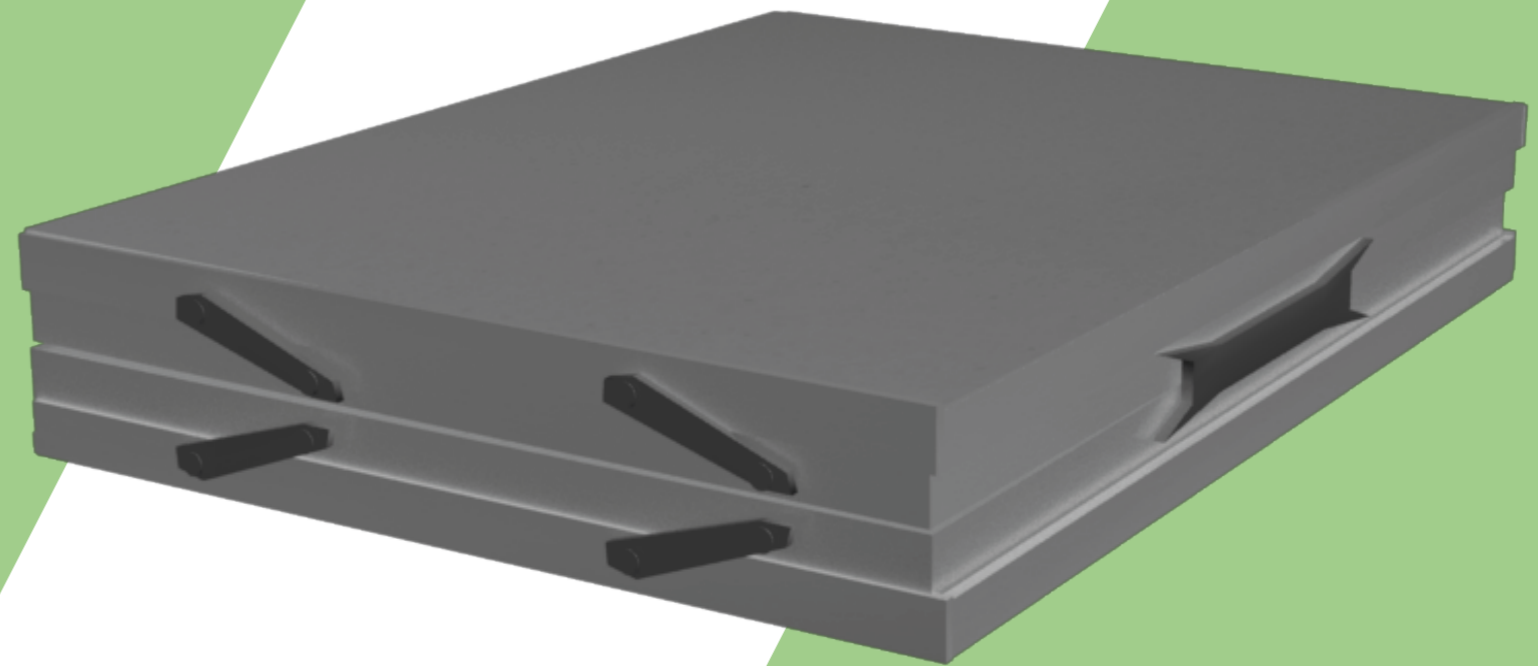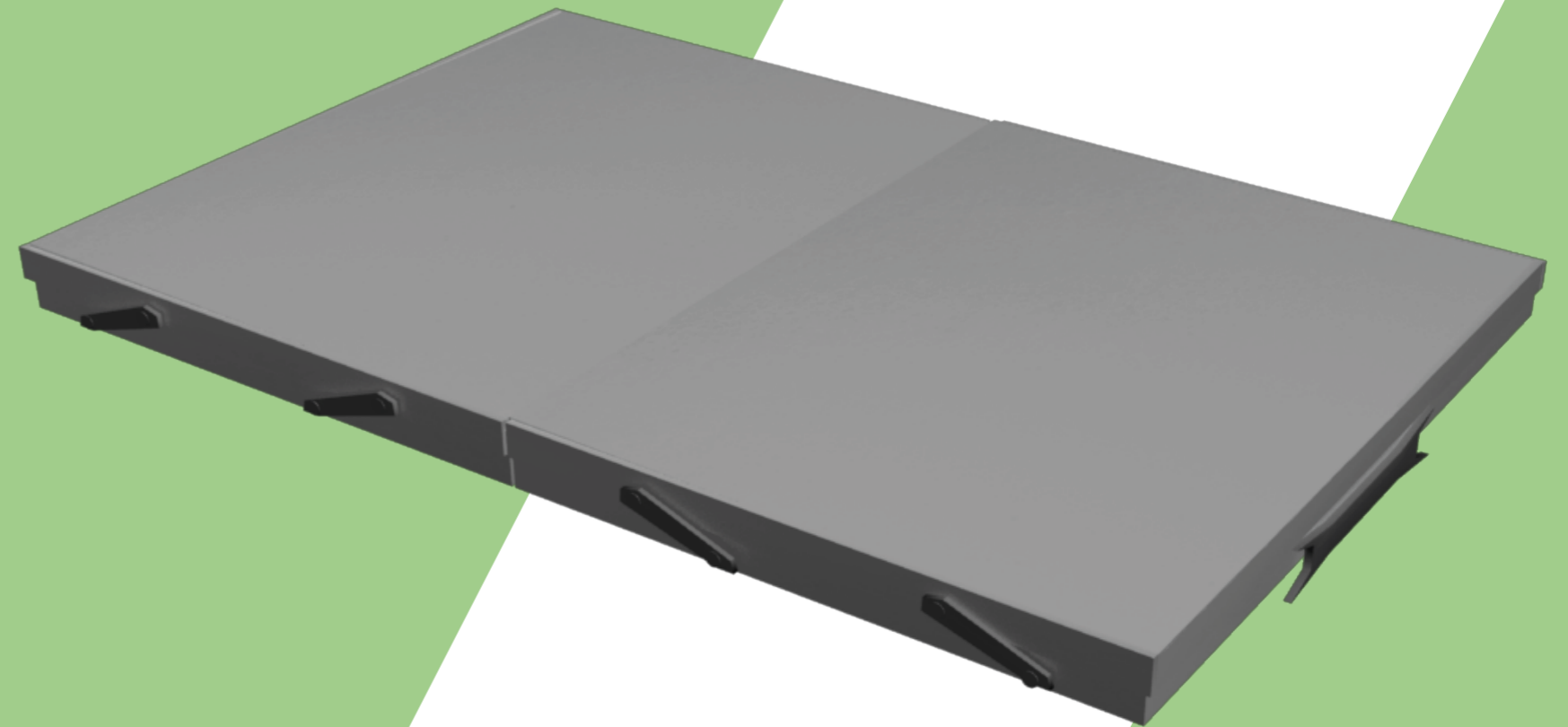
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INTRODUCTION

For this project, the goal was to identify and find a solution for a problem that interests us and using design and engineering methods we were taught, propose a concept solution.

THE ISSUE

The issue I chose was wellbeing in the workspace. Through thorough investigation and talking to people who work in different types of spaces, I came up with a solution.

The mental and physical health of the working person are very important and the goal of this product is to allow for the user to feel control over their work environment and equipment no matter where they're working.

LITERATURE REVIEW AND RESEARCH

In order to be able to propose solutions for this issue, I had to define the workspace.

A workspace is a place of work which is used to accomplish a company's goal or purpose. This space is also defined by who and how many people work there and what their task is.

After defining this, I wanted to look into different types of workspaces and the way they operate I observed these spaces and how they were organised depending on different factors and noted different aspects of the space. These spaces include the standard office space, the university studio spaces as well as the PDE offices, home working spaces as well as pictures found online of what is defined as the "modern working space".

Most spaces defined as a modern workspace, are open spaces with lots of colour and greenery as well as sofas and lounging areas for relaxation. This encourages collaboration and communication while also making the workers more comfortable in the space as it is not dull and they feel allowed to take breaks when they need them.

According to Steelcase research, hybrid working and hotdesking has become a lot more common in the recent years, especially after covid-19. Companies are now encouraging their workers to work from home some days of the week implying that the standard work model, working in office every day, is now changing but not completely. As a matter of fact only 2% of organisations are expecting people to work only from home since the start of covid-19 and a quarter of organisations are still maining the office space as their main space.

The new work models, hybrid working (or otherwise known as flexible working) and hotdesking are now very common. Hybrid working is a flexible work model that allows for a mix of in-office and remote working while hotdesking is a work model where desks are on a rota system or otherwise "rented" per day.

Steelcase research has shown that people who enjoy working from their office are:

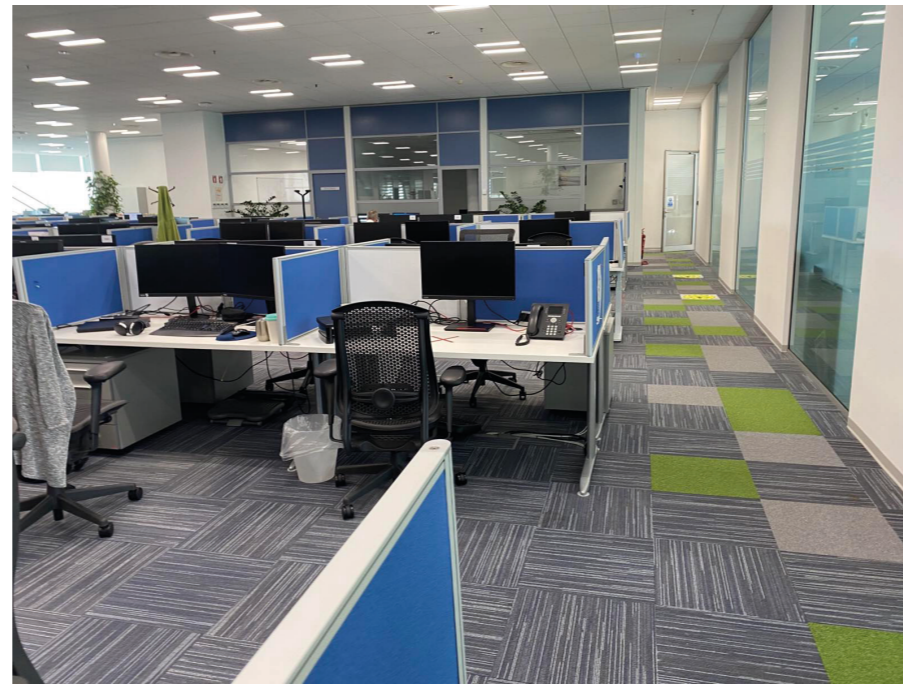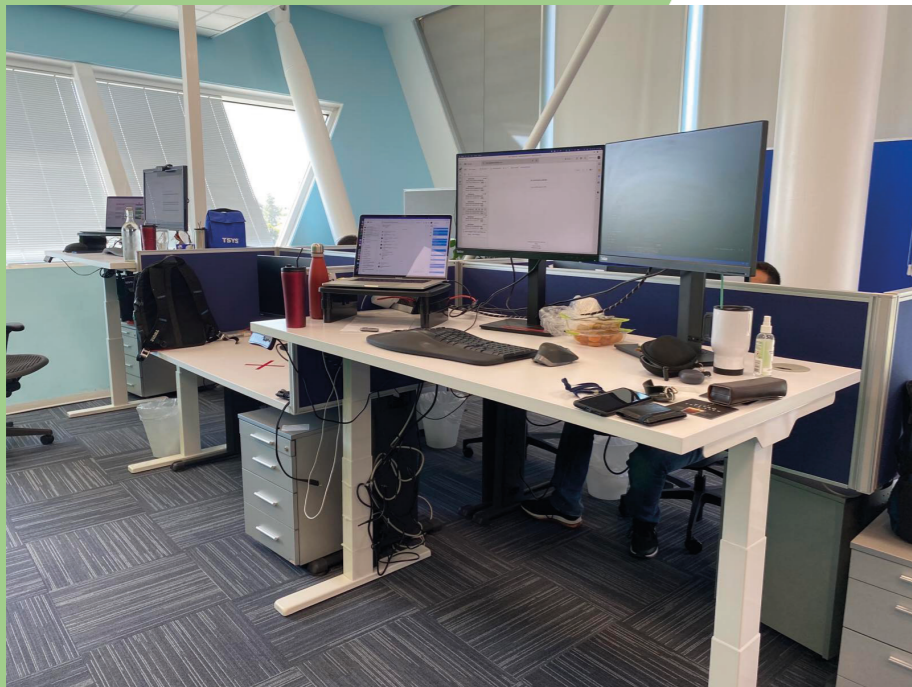*33% more engaged, 30% more connected to culture, 9% more productive, 20% less likely to leave*

implying that whether people like their office space really matters. The same research shows the importance of changing the policy and not the place, meaning adopting the hybrid and flexible work models and changing the space to aid these models. Finally, the hybrid and flexible models do not deal with the need for privacy, sense of belonging and desire for control that the employees have.

Of 11 countries that Steelcase surveyed, only Australia, Canada and the UK prefer flexwibility over having an assigned workspace with 55% preferring assigned workspace and working from home less than twice a week and 45% preferring no assigned workspace and working from home more than three times a week.

OBSERVATIONS AND INSIGHTS

To make more sense of this research, i observed different wokspaces to see how these facts apply to real life. The big difference between the four spaces observed was if they used hotdesking or not.

HOTDESKING

Observations:

Generally empty desks

Only personal items are food, drinks, phones, wallets, laptops

Very few plants

No decor

Minimal colours

Few plants

Observations:

Messy space

Space for storage of personal items and books/docu-ments

Decor

During this research, the difference between spaces of organisations that use hotdesking and ones that don't, really piqued my interest. Other issues that were observed were, productivity issues from a lack of work ethic and motivation, mental health issues from work anxiety, depression and covid anxiety as well as physical wellbeing from sitting in a bad position for long period of time, temperature and equipment use.

After talking to people who work in these spaces, asking questions about their workspace and noting any general comments they made, I concluded that the biggest issue arises from hotdesking and hybrid work. I decided to focus on a solution that made hotdesking easier for the employees and filled the previously mentioned need for control, privacy and sense of belonging.

CONCEPT GENERATION

I game up with some concepts and the one I thought would work the best is the following:

A foldable and portable storage solution that can turn into a work-top. This helps organise all equipment needed for your work and enables easy flexible working and hotdesking since users always have access to their work kit wherever they are.

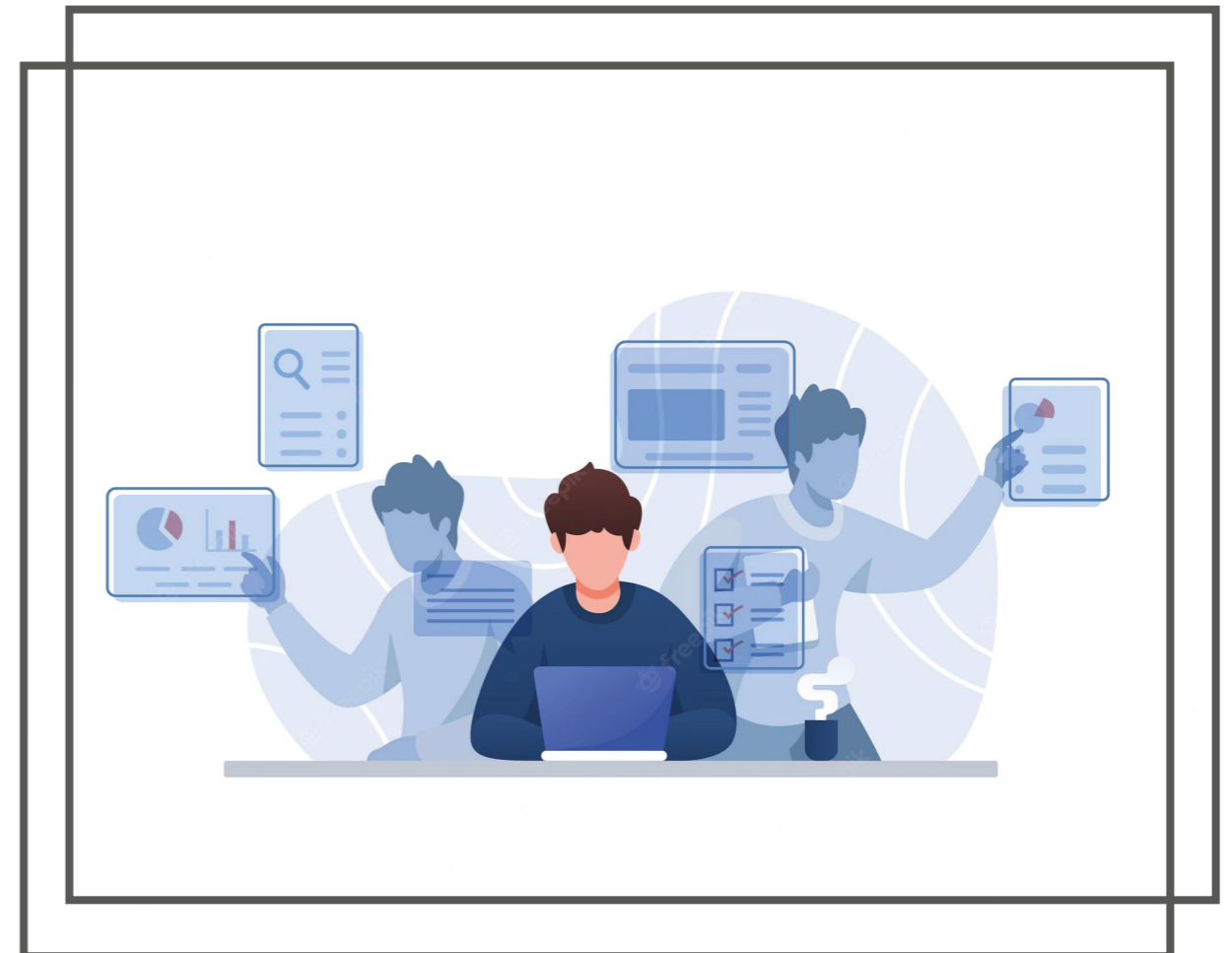I created these initial sketches of what this could look like.

THE USER:

The target user for this product would be anyone working hybrid or using hotdesking. People who have equipment they need to carry with them for work such as designers and their design tools, architects and their tools, people who carry around a laptop and mouse and any documents and stationary for work.

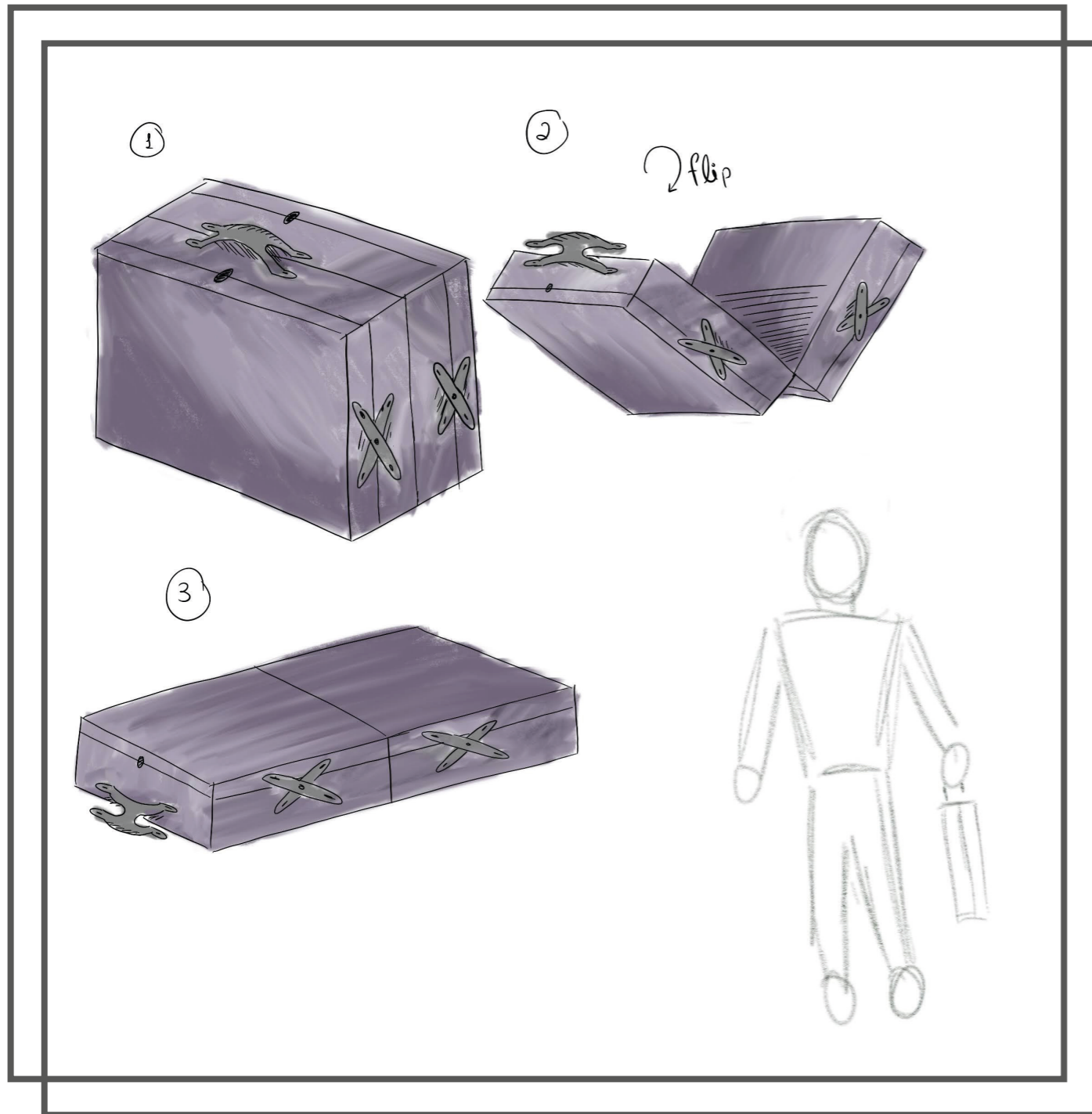This could also potentially be used by students that want to study in different spaces.

USER PROFILE:

- Any gender
- Ages 18-50
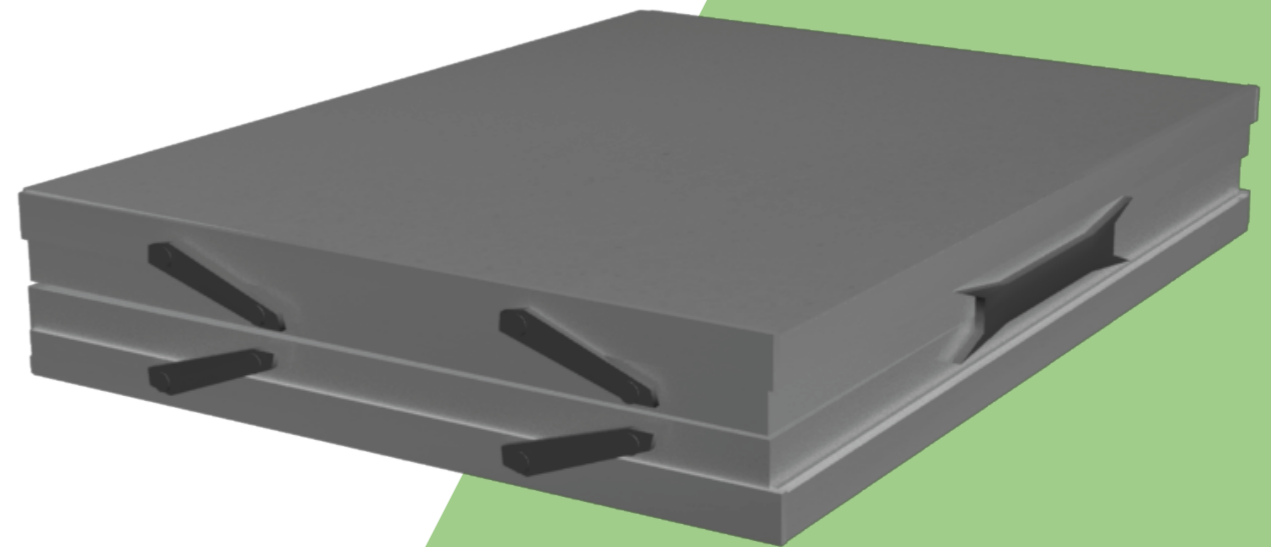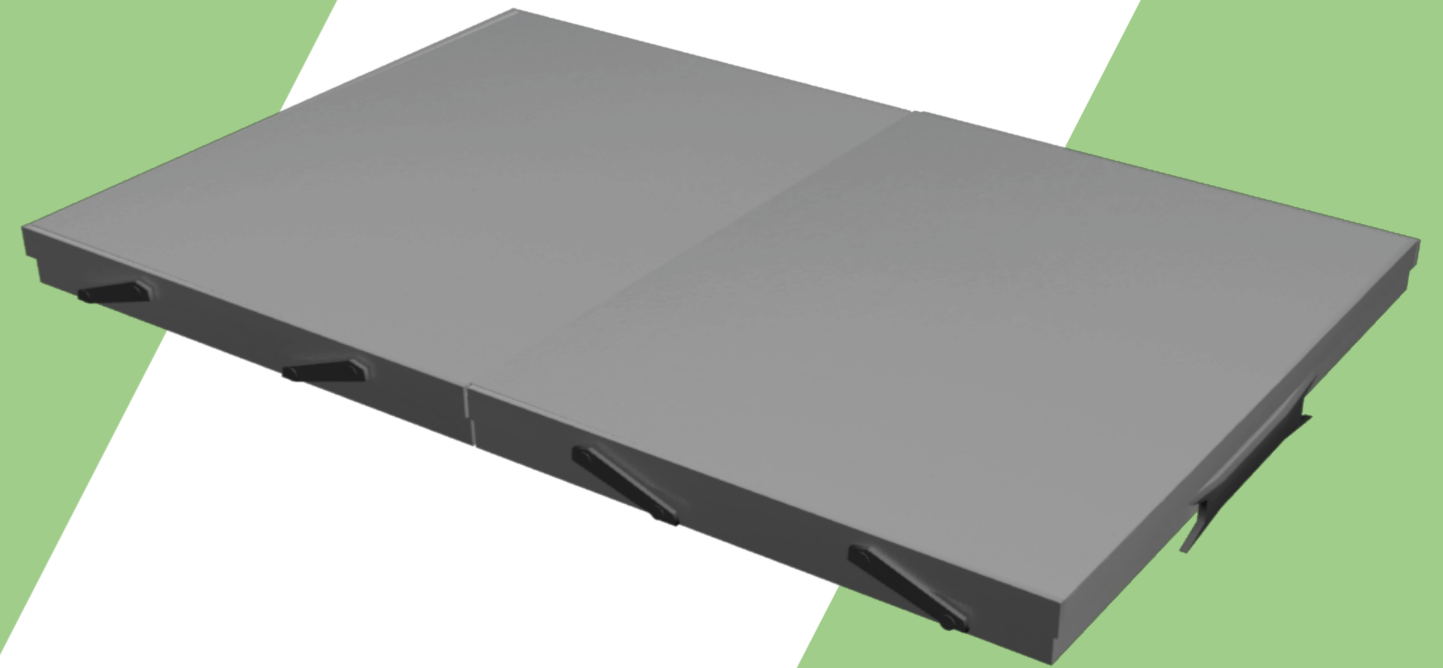- Area: Worldwide
- Financial condition: any

CONCEPT DEVELOPMENT

In comparison to the initial sketches made for this concept, where this product had foldable legs and wheels as well as a screen, the final concept is a lot simpler, easier to carry and a lot lighter than the initial concept. It's foldable for easy storage and a handle that detaches in order to unfold the case.

This final design, aims to fulfill the need for control and privacy that was pointed out in the steelcase research mentioned earlier, as it allows for the user to have their necessary items to work anywhere. The material chosen is also easily customisable to each user's colour preferences.

ENGINEERING ANALYSIS

Opening mechanism:

This mechanism is placed to connect the two lids to the bottom components. With this mechanism, the lids can be lifted for the users to access the storage. I mainly looked at two different mechanisms as an option for this function: scissor mechanism and double pivot mechanism.

These two mechanisms are not the simplest solution for accessing the storage. For example, a hinge would be an easier configuration solution for the system. However, this would be against the design specifications of creating a storage solution that makes the user's life easier. By taking advantage of these more complicated mechanism possibilities, it allows the user to lift the lid to access the storage inside while still keeping the surface horizontal and hence not having to move anything from their workstation and keeping their work intact.

A double pivot mechanism is the most viable in this case. Unlike the scissor mechanism which is usually used for heavy duty warehouse lifts, the double or even triple pivot mechanism is often used in similar product to the one proposed, such as toolboxes and craft boxes.

Materials and adhesive:

Greyboard or otherwise known as unlined chipboard is a material completely made from recycled materials such as cardboard packaging, old newspapers and other paper recyclables. It is manufactured by creating a paper pulp from all the recyclables and then pressing the pulp into sheets of different thicknesses ranging from 0.3mm to 5mm. These sheets are left to dry and then cut into standard sizes of A1, A2, A3 etc.

Generally, this material is popular for book binding, shoeboxes, stationary and even crafting, since it is a lightweight material that is cheap to manufacture and process. It is also very environmentally friendly as it is made from recyclable materials and is biodegradable. Customisation is also very easy with this material as it can be stamped, inked, painted and simply easily decorated.

These properties of the material meet the sustainability requirements for my design as well as the weight requirements.

For the assembly of the case, there are a few different adhesive options.

In crafting projects where greyboard is used, spray 3M adhesive is very popular among crafters but for a product that would go out to the market, spray adhesive would not be enough to hold the product together for its whole lifetime.
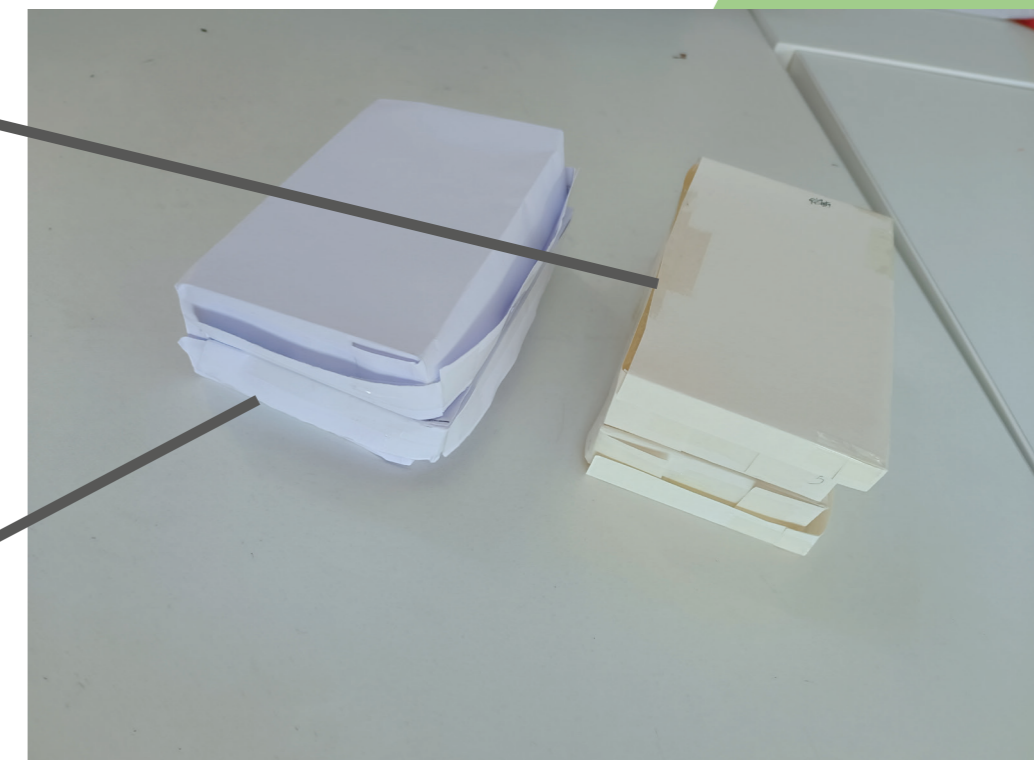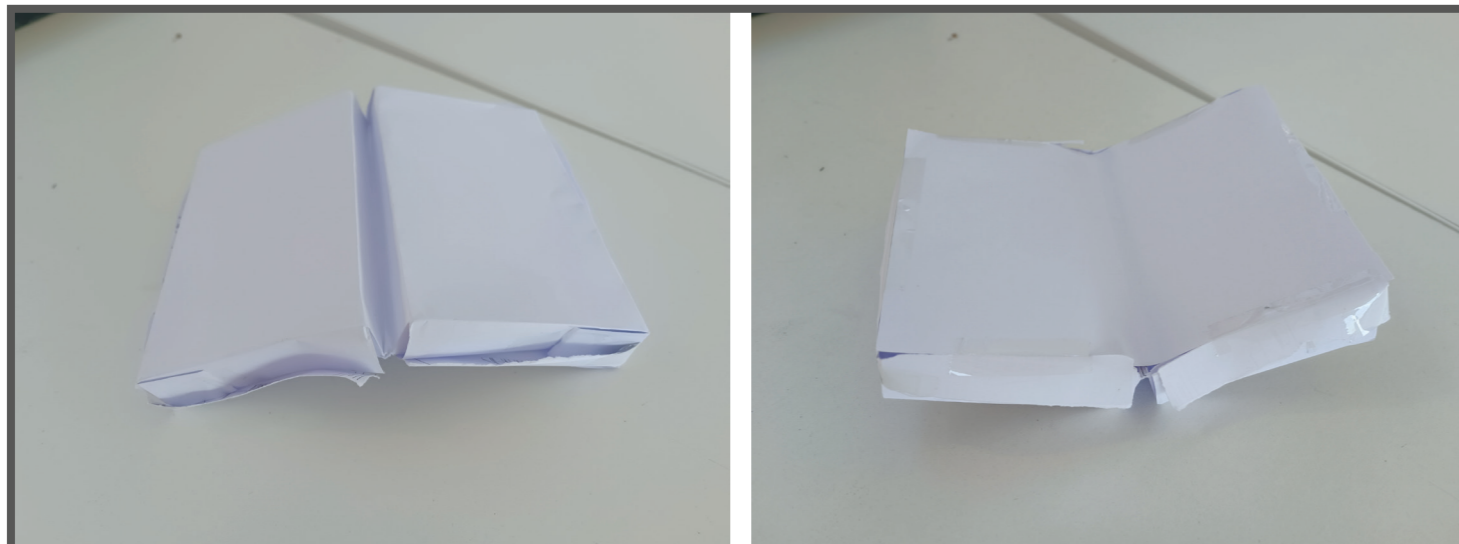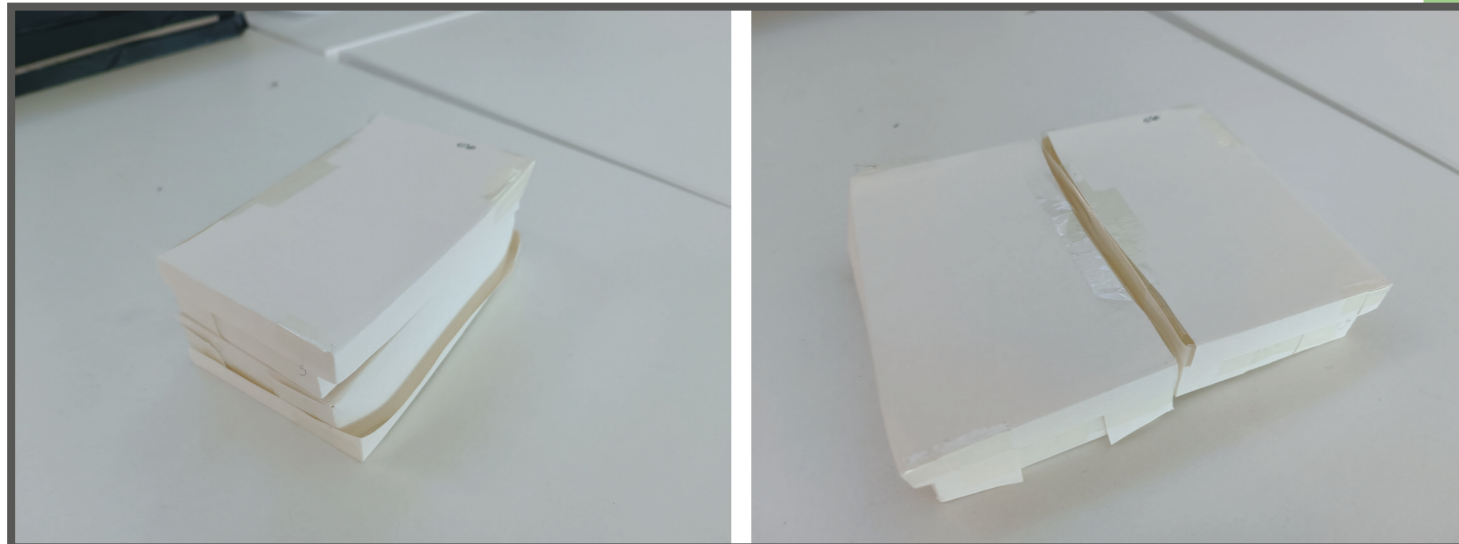
Lastly, cyanoacrylate adhesive or most commonly known as superglue instant adhesive, is the best option to adhere the greyboard pieces together. This is a liquid, high-strength adhesive which harden quickly and can adhere low porosity materials by reaction with the material's surface moisture. (Bonding and assembly, n.d.) Hence, this is ideal for a high-rigidity cardboard material with high porosity such as greyboard. Something like the 3M cyanoacrylate glue can be used for this.

PROTOTYPING

The physical prototyping was done in two different ways.

First, with large pieces of cardboard and greyboard, I tested which size for the product was most appropriate. I wanted the size of the desktop to be the size of an A1 piece of paper (59.4x90cm) so that there's enough space to work on top of. That's when I decided that making the product foldable would be a lot better than non-foldable.

I also wanted to test the orientation of the lids middle hinge, so I made two small paper models to test that out. As can be seen in the pictures,the lids being on the outside when folded makes the product sit a lot better when unfolded and look much neater when folded.
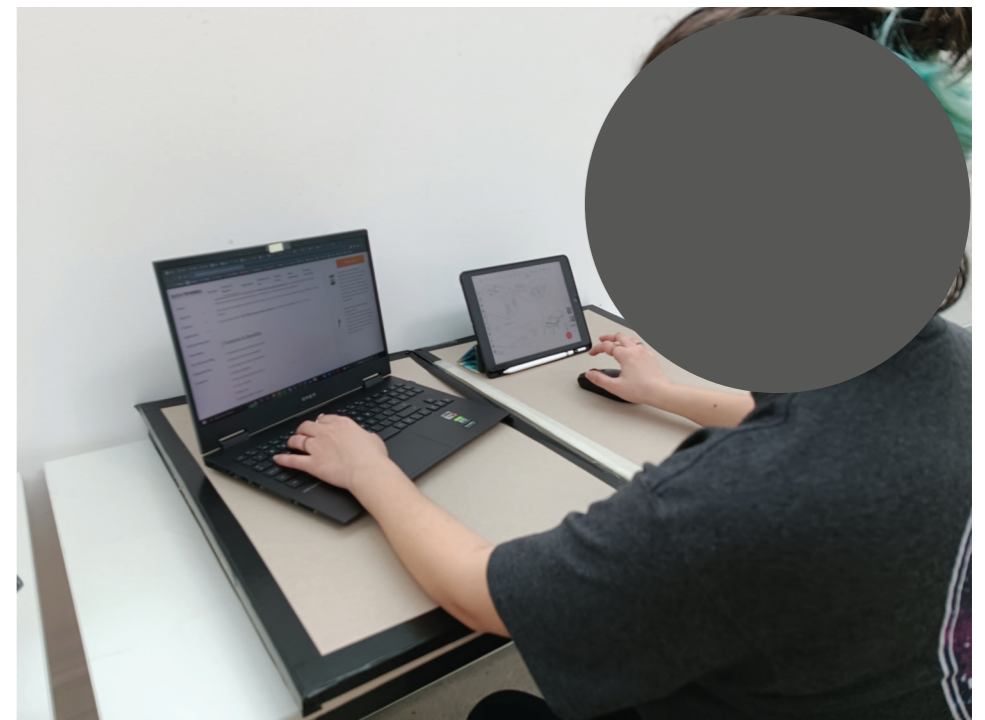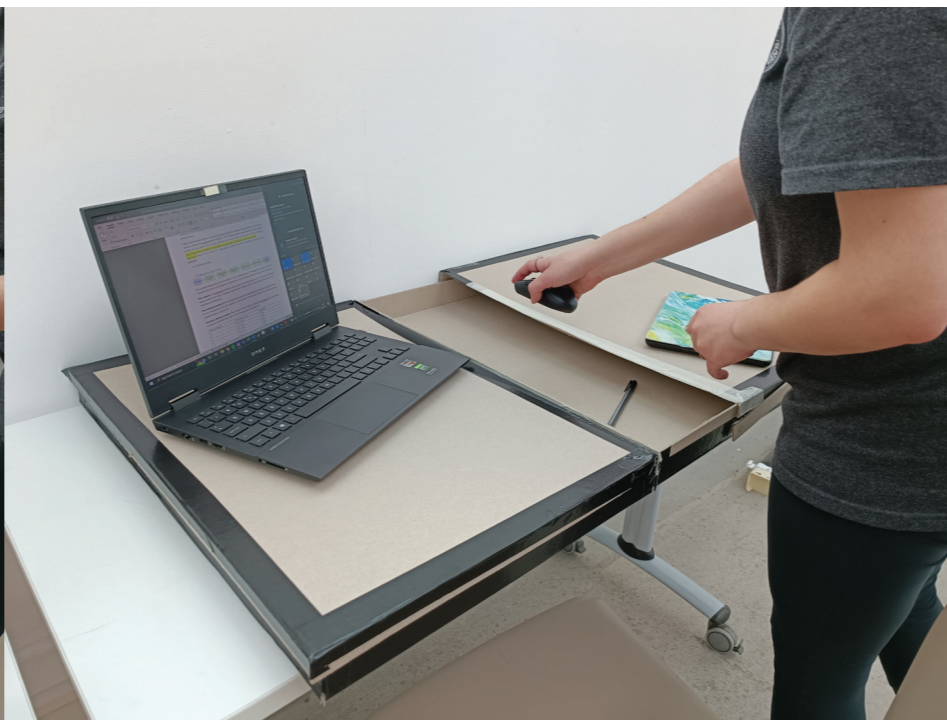
STORYBOARDING

Get to your workspace with the portable worktop.

Flip and unfold the worktop.

Take items out of the storage compartment and place them on top.

Work!

CONCLUSION

Going through this process of investigating issues in the workspace and creating a solution for a better hotdesking experience, allowed me to learn how to gain insights on a specific issue through observations and talking to people, as well as how to apply this knowledge to propose concept solutions. Big part of this was also learning to apply my engineering knowledge to these concepts and give a viable end product.

A big takeaway from this project is how I would approach some matters differently in the future, such as the mechanism research and calculations as I found myself struggling a lot with this part. Additionally, I would be interested in trying out more material options for the desktop and attempting to make a more accurate physical model.

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