

# Criteria A

## Strand i Explain and Justify the need for a solution to a problem for a specified client/target audiences

We all have habits. They are part of our daily lives. A habit is a repeated action that becomes an automatic behavior, with little to no thought. From getting out of bed and brushing our teeth to what and when we eat, these routine behaviors become part of us.(Refer to A1.0). Lack of time management can disrupt several key habits in teens ( 13 - 18 year olds ), leading to decreased well-being. This can lead to irregular sleep patterns, missed meals and lack of time for exercise or spending time with family. (Refer to A1.1).Time management is a common problem that plagues all humans, as stated in a study on PMC pubmed central. According to “The Dispatch” ( A1.2), highschoolers are one focus group who have the second highest percentage of individuals who lack time management behind college students. A study by Magoosh found that 86% (refer to A1.3) of students struggle with time management. Demographics found on the “99 firms website”, described how 47% of students are not taught proper time management(Refer to A14). The lack of proper time management has led to work piling up, this has led to students maintaining an extremely busy schedule as they try to manage their time and complete their work by only focusing on their academics. Disruption in habits causes anxiety, depression, mood swings. Additionally ,the lack of proper time management leads to many students spending time allocated for their studies, if performed by the student can form inconsistent times for the habits According to the “times of india” ( refer to A1.5) having inconsistent times for your habits can lead to your progress towards goals being hindered de motivating you, inconsistency makes it harder to build new habits and worsening mental well being by the development of feelings such as frustration, disappointment and self doubt. The same source outlines that 76%of high school students can't maintain proper habits due to their busy schedules.

According to the University of Cambridge inconsistent eating can be the cause of many health problems and indigestion, indigestion can lead to lethargy and exhaustion due to a lack of nutrients. Aside from maintaining essential habits many students also struggle with maintaining healthy habits such as exercising. Even common sanitary habits such as washing of hands and brushing of teeths can be neglected because of their busy schedule(refer to A1.5).The lack of healthy habits as a source of entertainment accompanied with lack of interest in studies can lead to the development of coping habits to cope with stress and dull / tedious work. The Active Collab website (refer to appendix A1.6) identified a lack of good habits ( stemming from poor time management ) as the main cause for the development of various bad coping habits such as procrastination, multitasking, lack of sleep, etc. A 2025 study outlined procrastination as the most common coping / bad habit that is developed by students, the study identified that 75% of students consistently struggle with procrastination. The psychological impacts of coping habits can also affect the academic life of a highschool student by disrupting their routine as they spend time on coping habits over studies, as identified by PMC-GOV some examples of psychological effects include elevated stress and anxiety coupled with worse sleep quality. According to “Vitality habit Index”, this is a problem happening globally with the teens.(refer to A1.7)

**My client** is a high school student who is 15 years old and in high school. She is also affected by the different impacts of poor habit management. **Aanandi** has developed a habit of procrastinating during her studies. During my discussion with Aanandi, I was able to uncover her frustration about her not being able to spend enough time for her favourite outdoor activity, eating on time and sleeping on time. She expressed her sadness thinking about “how it impacts her”. **I empathised my client and understood her pain point.(Refer to the empathy map-A1.8)**

Her poor habit management habits and chronic procrastination lead to a lot of anxiety and stress from looming deadlines and a plethora of work in highschool. The overwhelming amount of work also meant that Aanadi works late at night which impacts her sleep quality. The lack of sleep affected her ability to study in school the next day as well as doing her everyday tasks on time. The physiological effects of poor habit management affect Aanadi’s mental well being. **Aanandi stated that “it’s high time and I must overcome my habits of procrastination and focus on my well being”.** For any further client refer to image 1.3 or image 1.4 ( persona map and empathy map ). Aanandi requested for a

Image 1.1 survey

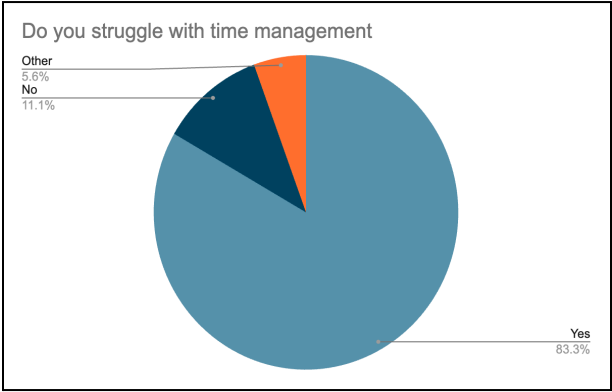


Image 1.2 persona map

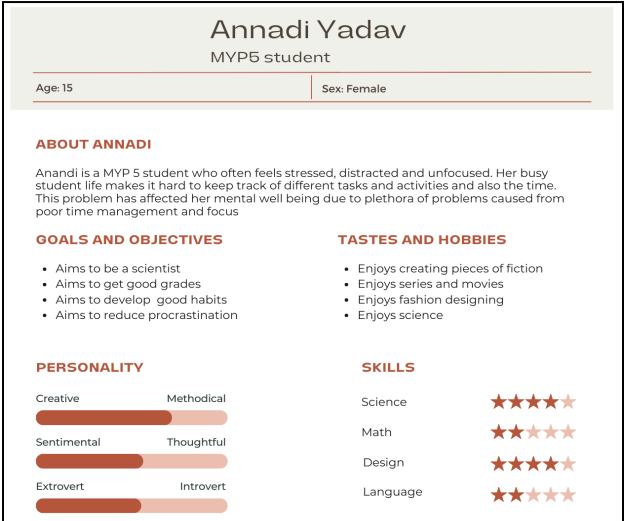


Image 1.3 persona map

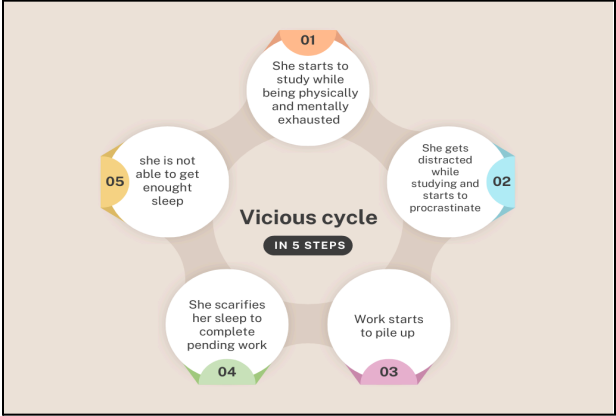
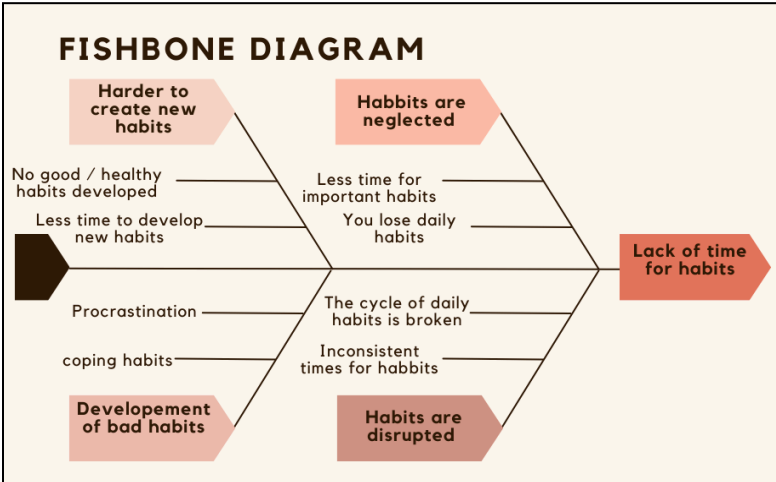


Image 1.4 fishbone diagram



solution to help her manage her habits. She had been stuck in a cycle of procrastination, this procrastination lead to stress, more work and further procrastination. Refer to image 1.2 ( vicious cycle )

**Problem statement** = Habits are an essential component of someone's daily life because they impact several aspects of a person's life, such habits include hygiene, food, water, entertainment, etc. These major habits, if disrupted or neglected, could impact the mental or physical wellbeing of an individual. They can be neglected or disrupted due to poor time management; this is especially apparent with teenagers between the age of 13 - 18, this is because of their busy school schedule as a highschool student.

**Proposed solution** : The proposed solution is a habit tracker. The habit tracker will consist of a dual tracking system. The dual tracking system would allow the user to track multiple habits over a period of 30 days. The dual tracking system can work using switches and beads. To make sure you can write down and erase your habits multiple times the product will use a dry erase surface.

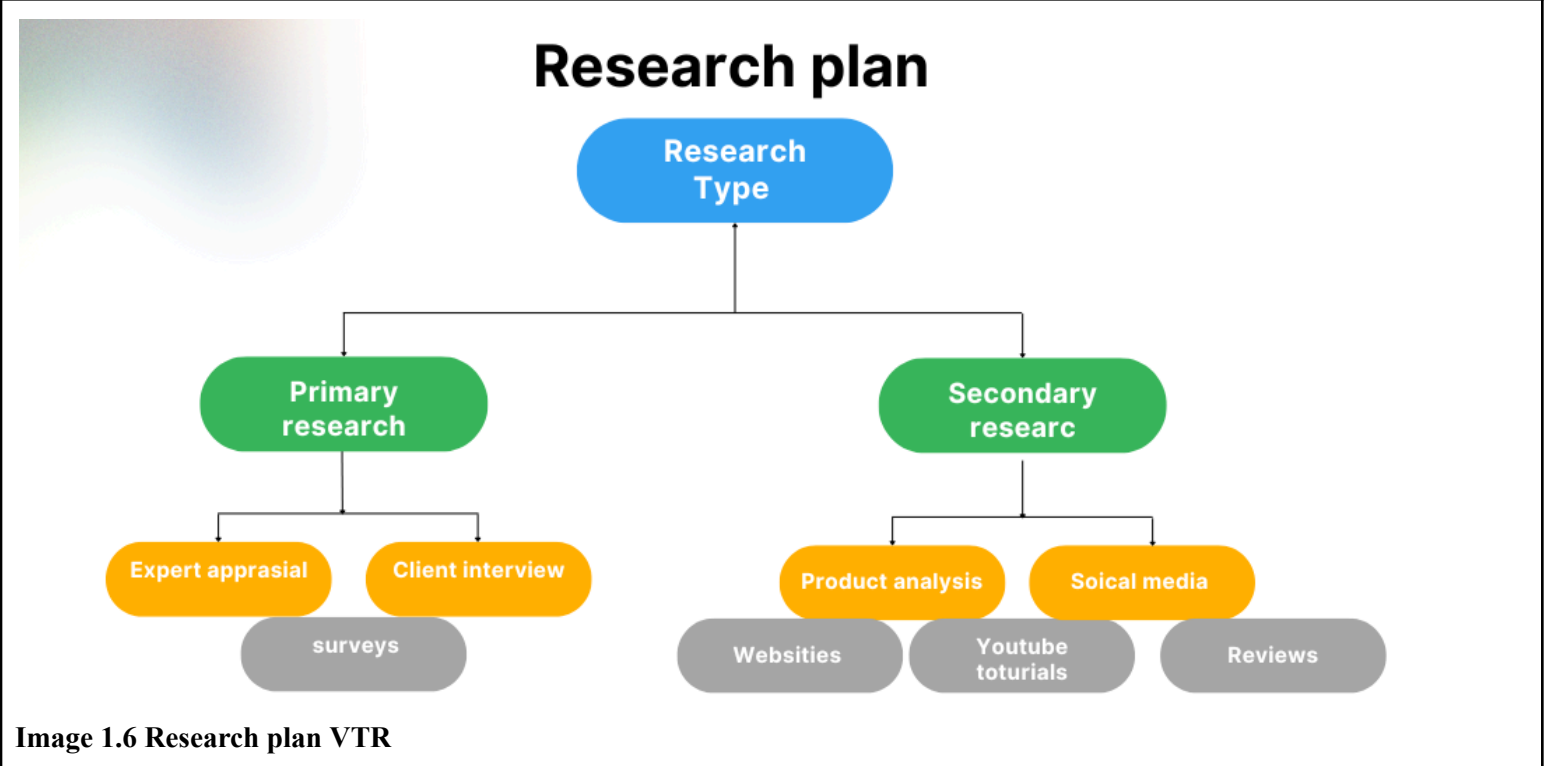
The habit tracker aligns with the Key Concept of Development, as it encourages personal growth by helping users build and maintain positive habits, ultimately leading to self-improvement. The Related Concept of Adaptation is reflected in how the product allows users to track their progress in a structured yet flexible way, adapting to their evolving needs over time. The Global Context of Scientific and Technical Innovation is evident in the way the habit tracker applies behavioral science principles—such as habit reinforcement through visual tracking mechanisms—to create a practical and effective tool. Additionally, the unit "Designing for Well-Being" is directly supported by this product, as it promotes mental and emotional well-being by providing an engaging and satisfying method for users to develop self-discipline and consistency. By integrating elements of functionality, psychology, and user-centered design, the habit tracker serves as a tool for personal development, adaptation, and innovation, ensuring that users can effectively manage their habits and improve their overall quality of life.

The proposed solution is a dry-erase surface clock with integrated habits-tracking switches directly supports **Sustainable Development Goal 3: Good Health and Well-Being** by addressing the physiological and psychological

impacts of poor time management. The product offers a practical way to reduce stress and anxiety caused by procrastination and looming deadlines, which are common challenges faced by high school students like Aanandi. By providing a physical and engaging tool, the product enables users to visually organize their habits, allocate specific time slots for each, and track their progress. These features help alleviate the mental burden of managing multiple priorities, creating a sense of accomplishment when habits are completed. Additionally, the non-digital design minimizes distractions from screens, promoting better focus and improving sleep quality. The customizable clock face encourages users to structure their time efficiently, fostering healthy habits that contribute to long-term mental and physical well-being, aligning closely with the goals of SDG 3.



**Strand ii Identify and prioritize primary and secondary research needed to develop a solution to the problem**



**Primary research**

Primary research is where the data is obtained first hand. This means that the researcher conducts the research themselves or commissions the data to be collected on their behalf. Primary research means going directly to the source, rather than relying on pre-existing data samples. This can be done through the use of surveys, interviews or in other words data that has not been collected before

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|--------------------------------|-------------------------|-----------------------------|
| Color yellow = least important | Color green = important | Color blue = most important |
| Research question              | Research type           | Priority justification      |

**Aesthetics**



|                                                                             |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                                                                             |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| What aesthetic styles resonate with the client?                             | <b>Research -:</b><br>Client interview<br><b>Procedure -:</b><br>I will interview the client for their requests and also take their opinion on the matter.<br><b>Date ( 2025 ) -:</b><br>23rd of January                                                                                    | Aesthetics are important because they make the product more attractive, users are generally more comfortable using aesthetically appealing products. Thus this question is important. Answering this question would make the product more aesthetically pleasing to the client and also more personalized.                                                                                                                                                                                                                                      |
| How does texture impact the aesthetic appeal of the product?                | <b>Research -:</b><br>Client Interview<br><b>Procedure -:</b><br>I will interview the client for their requests and also take their opinion on the matter.<br><b>Date (2025) -:</b><br>23rd of January                                                                                      | The texture of the product directly influences both aesthetics and usability. A glossy texture enhances visual appeal, making the product more refined, while a matte texture may provide a more natural and rustic feel. Since the client has a preference for aesthetically pleasing yet functional designs, this question is moderately important. It is rated 2/3 because while texture impacts the overall look and feel of the product, other factors like size and ergonomics play a larger role in determining usability.               |
| What is the impact of color schemes on user motivation?                     | <b>Research -:</b><br>Client Interview<br><b>Procedure -:</b><br>I will interview the client for their requests and also take their opinion on the matter.<br><b>Date (2025) -:</b><br>23rd of January                                                                                      | Color psychology suggests that different colors evoke different emotions and levels of motivation. Bright colors may create a more engaging and energetic experience, while neutral or muted tones may offer a calming and minimalist feel. Since the client wants the product to be visually appealing but also motivating, choosing the right color scheme is important. However, this is rated 1/3 because while aesthetics contribute to engagement, the functionality and ergonomics of the product have a greater impact on usability.    |
| What size / layout provides the best ergonomics.                            | <b>Research -:</b><br>Client Interview<br><b>Procedure -:</b><br>I will interview the client for their requests and also take their opinion on the matter.<br><b>Date (2025) -:</b><br>23rd of January                                                                                      | Size and layout play a critical role in usability and comfort. The habit tracker must be large enough to be clearly visible and interactive, but also compact enough to be portable. The ergonomics of the product affect how easily users can track habits and interact with it daily. This question is rated 3/3 because ensuring the right size and layout is fundamental to making the habit tracker functional, accessible, and user-friendly. Without proper ergonomics, the effectiveness of the tracker would be significantly reduced. |
| Function                                                                    |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| What features would make the product more engaging for highschool students? | <b>Research -:</b><br>expert appraisal ( design teacher )<br><b>Procedure -:</b><br>I will use the data I received from the appraisal with the expert to help me further answer this question.<br><b>Date -:</b><br>23rd of January                                                         | This question is most important because if the students are not engaged with the product they might forget about it and abandon it. This will make it impossible for the product to complete its objective, for the same reasoning answering this question would allow me to combat this question.                                                                                                                                                                                                                                              |
| User                                                                        |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| What challenges do users face with current habit management products        | <b>Research -:</b><br>Expert appraisal ( design teacher ) and survey<br><b>Procedure -:</b><br>I will take appraisals from experts for what size factors I could use. I will support the info i gather from experts with census from a survey<br><b>Date ( 2025 ) -:</b><br>23rd of January | This is most important since challenges that users face with current products can be an inspiration for the solution. Answering this question would allow the product to identify challenges and modify the proposed solution to remove the challenges. Allowing users to have a near flawless experience. Thus this question is most important and needs to be answered.                                                                                                                                                                       |
| How durable should the surface be to avoid scratches and stains?            | <b>Research -:</b><br>Expert appraisal ( design teacher )<br><b>Procedure -:</b><br>I will use the opinion of an expert for this question<br><b>Date ( 2025 ) -:</b><br>23rd of January                                                                                                     | Making sure that the user is satisfied with the solution is very important. This can be applied here since to make sure the user is comfortable we should consider shaping the product so it is more suitable for the leg. For example making it more of a half cylinder to support the cylindrical shape of the foot. Thus it is most important                                                                                                                                                                                                |

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| What motivates students to complete their habits?                                                                                                                                                                                                                                                                    | <b>Research -:</b><br>Survey<br><b>Procedure -:</b><br>I will use the census from a survey to answer this question<br><b>Date ( 2025 ) -:</b><br>23rd of January                                                         | This question is extremely important since identifying the main motivation could allow me to include it in the product which will further increase the effectiveness of the product. Thus this is most important.                                                                                                                                                                  |
| Cost                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| Secondary research                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| Secondary research, also known as desk research, is a research method that involves compiling existing data sourced from a variety of channels. This includes internal sources (e.g.in-house research) or, more commonly, external sources (such as government statistics, organizational bodies, and the internet). |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| Color yellow = least important                                                                                                                                                                                                                                                                                       | Color green = important                                                                                                                                                                                                  | Color blue = most important                                                                                                                                                                                                                                                                                                                                                        |
| Research question                                                                                                                                                                                                                                                                                                    | Research type                                                                                                                                                                                                            | Priority justification                                                                                                                                                                                                                                                                                                                                                             |
| Aesthetics                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| What is the best shape to improve aesthetic appeal?                                                                                                                                                                                                                                                                  | <b>Research -:</b><br>Product analysis, expert analysis ( design teacher )<br><b>Procedure -:</b><br>I will analyze products to identify different trends.<br><b>Date ( 2025 ) -:</b><br>24th of January                 | Aesthetics are extremely important but a crucial component of improving aesthetics. Shape is important since it affects both aesthetics and functionality thus it is most important. Answering this question would allow me to find the ideal shape that is both functional and aesthetically pleasing. If a shape is symmetrical it makes the user feel more comfortable.         |
| User                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| What trends exist in products for habit management?                                                                                                                                                                                                                                                                  | <b>Research -:</b><br>Product analysis<br><b>Procedure -:</b><br>I will analyze products to identify different trends.<br><b>Date ( 2025 ) -:</b><br>24th of January                                                     | This question is most important because identifying different trends would allow me to be inspired by further improvements and it would also let me avoid them. Thus answering this question would make my product better and more innovative thus it is most important.                                                                                                           |
| What are the psychological benefits of an analog product?                                                                                                                                                                                                                                                            | <b>Research -:</b><br>Product analysis<br><b>Procedure -:</b><br>I will analyze products to understand the psychological benefits of an analog product over a digital one.<br><b>Date ( 2025 ) -:</b><br>24th of January | This question will not necessarily change the outcome of the solution but answering this question might allow us to uncover advantages of analog tools. Which could allow me to further strengthen my product and justify taking the analog path instead of digital. Thus this question is least important.                                                                        |
| Function                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| What features make a habit management product easy and intuitive to use?                                                                                                                                                                                                                                             | <b>Research -:</b><br>Product Analysis<br><b>Procedure -:</b><br>I will analyze different products to gain insight about different features<br><b>Date ( 2025 ) -:</b><br>24th of January                                | Choosing to prioritize function over form is extremely debatable and situational. It is also very important because choosing more functionality affects aesthetics and vice versa. You could also argue That for a medical product mental health must be taken as a factor thus needing attention. In short, choosing either can drastically affect the product thus is important. |
| Development                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| Is it important to consider the use of sustainable materials?                                                                                                                                                                                                                                                        | <b>Research -:</b><br>Websites and social media<br><b>Procedure -:</b><br>I will use articles and blogs from websites and gather info on this topic from social media platforms like youtube.                            | Although it is important to consider the use of sustainable materials, for the current problem we have to ensure that the product quality and function is not impacted by a pursuit of sustainability. Thus this makes this least - important. Answering this question would allow me to gauge the importance of sustainability.                                                   |

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|                                                                     | <b>Date ( 2025 ) -:</b><br>25th of January                                                                                                                                                 |                                                                                                                                                                                                                                      |
| Safety                                                              |                                                                                                                                                                                            |                                                                                                                                                                                                                                      |
| What safety standards should be applied for a wall mounted product? | <b>Research -:</b><br>youtube tutorial.<br><b>Procedure -:</b><br>I will also use youtube tutorials to learn about safety<br><b>Date ( 2025 ) -:</b>                                       | Safety is important to consider when creating a physical product. Safety ensures that the user is not injured and can comfortably use the product without risks. This is especially important for a product meant for highschoolers. |
| Cost                                                                |                                                                                                                                                                                            |                                                                                                                                                                                                                                      |
| What are some effective ways to reduce cost?                        | <b>Research -:</b><br>youtube tutorial.<br><b>Procedure -:</b><br>I will also use youtube tutorials to learn about cost effective techniques<br><b>Date ( 2025 ) -:</b><br>25th of January | Since the target audience of the product is highschoolers, making sure that the product is cheap and affordable is important since a high price will make it impossible for many students to purchase.                               |

Strand iii Analyze a range of existing products that inspire a solution to the problem

Product 1punch card habit tracker

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| <b>Description</b><br><b>Name</b> = Punch Card Habit Tracker<br><b>Price</b> = 250 rupees<br><b>Reviews</b> = 4.5 stars with 720 reviews (82% 5 stars)<br><b>Weight</b> = 0.2 kilos                                                                                                                            |
| <b>Key takeaways</b> <ul style="list-style-type: none"><li>- Simple and effective habit-tracking method</li><li>- Provides a satisfying punch-through experience</li><li>- No additional tools like markers or magnets required</li><li>- Can be used anywhere, no need for a whiteboard or surface.</li></ul> |



image 1.7 )

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reason for choosing</b><br>The reason I chose this product is its simplicity and effectiveness in habit tracking. The punch card system is straightforward and requires no additional accessories like markers, magnets, or whiteboards. It provides a satisfying tactile experience as users punch through the card to mark completed habits, reinforcing a sense of accomplishment. Additionally, it is a portable and minimalist option, making it ideal for students who prefer a no-fuss, structured way to track their habits. | <b>Function</b><br>The punch card habit tracker is designed for easy usability. Each card has a set number of habit slots that can be punched through upon completion of a task. This visual and physical method of tracking progress can be motivating for users. Unlike other habit trackers that require a surface to attach to, this product can be carried in a notebook, wallet, or pinned on a board. Since it does not rely on reusable materials, once a habit card is completed, a new one can be used, making it a fresh start for users every time. |
| <b>User</b><br>This product is perfect for students who prefer a structured and tangible way to track their habits without relying on whiteboards or digital tools. It is extremely lightweight and can be easily carried around. The simplicity of punching through each habit spot creates a sense of progress, making it appealing for students who enjoy a hands-on approach. Since it is very affordable, it is accessible to a wide range of users, making it an excellent choice for those on a budget.                          | <b>Aesthetics.</b><br>The punch card habit tracker follows a minimalist and clean design. The layout is simple, with evenly spaced habit slots for an organized look. Some versions use soft pastel colors or subtle patterns to enhance the visual appeal. The uniform design ensures clarity and ease of use. Additionally, the punched holes create a visually satisfying representation of progress, which can be motivating for users.                                                                                                                     |
| <b>Cost</b> = Very affordable, making it one of the cheapest habit trackers available.<br><b>Materials</b> = Made from thick paper or cardstock, ensuring durability but limiting reusability.<br><b>Safety</b> = Completely safe, with no sharp edges or small detachable parts that could pose a risk.                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Pros</b> <ul style="list-style-type: none"><li>- Simple and easy to use</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Cons</b> <ul style="list-style-type: none"><li>- Not reusable – once punched, it cannot be reset</li><li>- Limited durability compared to other habit trackers</li></ul>                                                                                                                                                                                                                                                                                                                                                                                     |



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| <ul style="list-style-type: none"> <li>- Satisfying physical interaction (punching through the card)</li> <li>- No additional accessories required (no markers, magnets, or surfaces needed)</li> <li>- Portable and lightweight</li> <li>- Extremely affordable</li> </ul> | <ul style="list-style-type: none"> <li>- No customization options – fixed layout with no ability to rearrange tracking methods</li> </ul> |
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Product 2 Magnetic habit tracker

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| <p><b>Description</b></p> <p><b>Name</b> = Magnetic habit tracker kit</p> <p><b>Price</b> = 380 rupees</p> <p><b>Reviews</b> = 4.6 stars with 980 reviews (88% 5 stars )</p> <p><b>Weight</b> = 0.3 kilos</p>                                                                                                   |
| <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>- Interactive and tactile experience making it more satisfying</li> <li>- Uses magnets which are More durable than beads</li> <li>- You can slide or click</li> <li>- The included whiteboard can be used as a normal whiteboard.</li> </ul> |

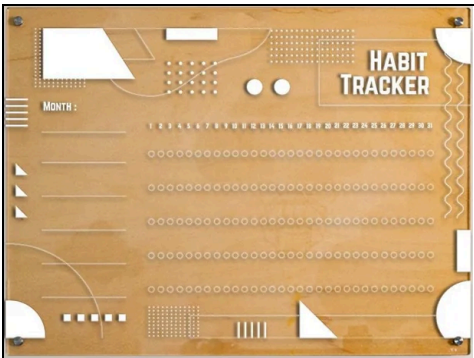


( image 1.8 )

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| <p><b>Reason for choosing</b></p> <p>The reason I choose this product is because of its great versatility combined with an interactive and tactile experience that attracts highschool students. The product is extremely customizable since you can choose to use your magnets any way you want. Moreover you can also choose if you want a click feeling or a sliding one. The magnets are also more durable and will last for a long time. The magnets are also quite aesthetically pleasing.</p> | <p><b>Function</b></p> <p>The product portrays great function. You can choose your arrangement of habits you have completed. This is suitable to highschool students who can customize their preferences. The product can be used on a whiteboard. The above image shows an example of how it could look on a white board. But with a large enough magnetic surface such as a fridge would also be sufficient. The magnetic features mean you can take the kit with you.</p>                                                                                                     |
| <p><b>User</b></p> <p>The product is quite ergonomic due to its extreme versatility. This extreme versatility allows it to be used in many situations. It also has extremely satisfying sounds making it more attractive for the average highschooler. Its low price makes it extremely attractive for highschool students.</p>                                                                                                                                                                      | <p><b>Aesthetics ( For all the points mentioned refer to image i.5 )</b></p> <p>The product also maintains extremely good aesthetics. Each magnet has different details and colors. And the product also used light and soft colors which as mentioned before make the product more aesthetically pleasing for the user. The use of circles makes the product more aesthetically pleasing as well. According to “sunesh society” the use of round off shapes like circles makes the product look softer and more comfortable to use. It is also more aesthetically pleasing.</p> |
| <p><b>Cost</b> = The cost is relatively cheap</p> <p><b>Materials</b> = The use of conventional cheap plastic, expected for the price</p> <p><b>Safety</b> = There are no unsafe aspects about this product.</p>                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>Pros to take inspiration from</b></p> <ul style="list-style-type: none"> <li>● Good aesthetics</li> <li>● Versatile functionality</li> <li>● Cheap</li> <li>● Customizable</li> <li>● Durable</li> </ul>                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><b>Cons to stay away from</b></p> <ul style="list-style-type: none"> <li>● Use of cheap materials.</li> <li>● The materials are also extremely unsustainable.</li> <li>● It requires a white board to be present.</li> </ul>                                                                                                                                                                                                                                                                                                                                                  |

Product 3 wall mounted whiteboard clock

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| <p><b>Description</b></p> <p><b>Name</b> = Sticky notes habit tracker kit</p> <p><b>Price</b> = 5200</p> <p><b>Dimensions</b> = 45 centimeter diameter</p> <p><b>Reviews</b> = 4.5 stars with 480 reviews (78% 5 stars )</p> <p><b>Weight</b> = 1.9 kilos</p> |
| <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>- Minimalist design</li> <li>- Multifunctional</li> <li>- Durable</li> </ul>                                                                                                               |



( image 1.9 )

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| <p><b>Reason for choosing</b></p> <p>The reason I chose this product is for its great functionality where it can be used as both a clock and white board. This functionality allows it to</p> | <p><b>function</b></p> <p>The product has great functionality. It can be used as both a white board and clock. This allows you to customize your</p> |
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| <p>be used effectively in many scenarios. Moreover the product excels in modern and minimalist design making it aesthetically pleasing. The product also uses extremely good materials and has good build quality making it durable. The only real downside is the price of the product.</p>                                                                                                                                                                                             | <p>clock face. This can be used for aesthetic customization but for a highschool student they can customize it by allocating a certain amount of time to habits. As seen in the image above, here you can customize the clock face.</p>                                                                      |
| <p><b>User</b><br/> The average highschool student would not be able to afford this product. This product lacks a bit in ergonomics, since normally clocks are placed on high places but this clock will have to be placed lower to be used. Generally clocks are placed higher to make space for more furniture. Although this is a minor issue it can be problematic for some individuals who have no good places for this product. Aside from that it also needs a marker to use.</p> | <p><b>Aesthetics ( For all the points mentioned refer to image i.6)</b><br/> The product has great aesthetics. The contrast between the black clock hands and white clock face leads to really good aesthetics. Moreover the product fits the modern and minimalist category with no stand out features.</p> |
| <p><b>Safety</b> = No one is at risk from this product although the edges could be sharp<br/> <b>Cost</b> = Extremely expensive not in the range of the average highschooler<br/> <b>Materials</b> = Extremely high quality durable materials</p>                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                              |
| <p><b>Pros to take inspiration from</b></p> <ul style="list-style-type: none"> <li>Minimalistic aesthetics</li> <li>Multifunctional</li> <li>Durable high quality materials</li> </ul>                                                                                                                                                                                                                                                                                                   | <p><b>Cons to stay away from</b></p> <ul style="list-style-type: none"> <li>Extremely expensive</li> <li>Reliance on markers.</li> </ul>                                                                                                                                                                     |

Product 4 wooden pegs habit tracker

|                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Description</b><br/> <b>Name</b> = Better homes garden round tufted storage ottoman gray faux linen<br/> <b>Price</b> = \$75<br/> <b>Dimensions</b> = Its 14 inches in height and 19 inches in length.</p>                                |
| <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>Rustic modern look fitting to the clients preferences.</li> <li>High quality acrylic and wood giving a premium feel.</li> <li>Abstract, minimalistic modern look.</li> </ul> |



(image1.10)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Reason for choosing</b><br/> The reason I choose this product is because of its premium feel and great aesthetics. The product perfectly caters to the aesthetic style that my client best resonates with. Strand one had mentioned how the client prefers a rustic modern look. This product caters to that request by using wood. The use of acrylic makes the product more modern. The abstract design with the cut out shapes and line engravings makes the aesthetics more modern by representing an abstract theme. The product is also extremely minimalistic. All of these factors allow the product to be aesthetically pleasing and allow the product to fit in with a modern style interior.</p> | <p><b>Function</b><br/> The product has good functionality. This is because you can use the product to track your habits during any time period. In other words you can track the habits every hour, day, week or month. But the product also lacks quite a bit functionality, the product only has space for 6 habits, which will be insufficient for the average human</p>                                                                                                                                                                                                                                                                              |
| <p><b>User</b><br/> The habit tracker is easy to read and interact with, thanks to its clear layout and engraved markings. Its wooden design adds warmth, making it more inviting for a high school student. The geometric patterns give it a modern feel, making tracking habits more engaging and visually appealing in any space.</p>                                                                                                                                                                                                                                                                                                                                                                          | <p><b>Aesthetics ( For all the points mentioned refer to image i.7 )</b><br/> The habit tracker has a simple and clean design. The wood finish gives it a natural look, and the geometric patterns add a bit of style without making it too busy. The layout is clear, making it easy to track habits, and the white accents help with contrast. The engraved details give it some depth, and the visible screws add an industrial touch. It fits well with the modern bathroom-laundry setup, blending in without standing out too much. Overall, it looks good and works well, making habit tracking a part of the space without being distracting.</p> |
| <p><b>Safety</b> = It poses no safety risks<br/> <b>Cost</b> = Relatively expensive<br/> <b>Materials</b> = High quality material with good aesthetics and durability</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Pros to take inspiration from</b></p> <ul style="list-style-type: none"> <li>Modern geometric design and warm wooden aesthetic make it stylish.</li> <li>Engraved markings ensure easy readability.</li> <li>Interactive format encourages habit tracking.</li> <li>Sturdy wooden material ensures longevity.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                    | <p><b>Cons to stay away from</b></p> <ul style="list-style-type: none"> <li>Fixed layout may restrict customization for different habits.</li> <li>Lacks tech features like reminders or progress tracking. Not portable, limiting accessibility.</li> <li>Requires physical interaction, which some users might find tedious.</li> </ul>                                                                                                                                                                                                                                                                                                                 |

|                                                                                                        |  |
|--------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"><li>• Can be personalized with different tracking methods.</li></ul> |  |
|--------------------------------------------------------------------------------------------------------|--|

**Strand iv Develop a detailed design brief, which summarizes the analysis of relevant research.**

**User and Problem**

The target user is Aanandi Yadav, a high school student struggling with time management, which disrupts her daily habits such as eating, sleeping, and exercising. Poor time management has led to increased stress, anxiety, and procrastination, significantly impacting her physical and mental well-being. Studies suggest that 76% of high school students struggle to maintain proper habits due to overwhelming academic schedules. Aanandi's inability to manage her routine effectively has resulted in sleepless nights, irregular eating, and a lack of motivation, making habit-tracking crucial for her well-being.

**Client requirements**

Aanandi requires a physical, non-digital product that helps her track habits, schedule tasks, and monitor progress in a simple and engaging way. She wants a rustic aesthetic and a compact, affordable design that eliminates digital distractions. Additionally, the product should have a task-completion tracker, a calendar to monitor long-term progress, and a wall-mounted or portable option for ease of use.

**Primary Research Summary**

User interviews and surveys confirmed that students face challenges maintaining good habits due to academic pressure. Aanandi specifically highlighted her procrastination habits, which contribute to her declining well-being. She expressed frustration about how time-consuming distractions like mobile apps worsen her routine. The research indicated that a simple, interactive, and non-digital habit tracker would be most effective.

**Secondary Research Summary**

Market research on habit-tracking products showed that digital solutions like Habitify are widely used but lead to screen fatigue. Other existing products, such as magnetic habit trackers, offer physical tracking but lack a long-term progress feature. Studies from sources like PMC-GOV and Active Collab indicate that habit-tracking systems that provide visual progress tracking and tactile engagement are more effective in reinforcing positive behaviors.

**Key takeaways from existing products –:**

Key takeaways product 1

- Modular system allowing for detailed tracking.
- High-quality materials ensure durability.
- Sleek, minimalist design for a modern look.
- Clear tracking system to reinforce habits

Key takeaways product 2

- Interactive and tactile experience making it more satisfying
- Uses magnets which are More durable than beads
- You can slide or click
- The included whiteboard can be used as a normal whiteboard.

Key takeaways product 3

- Minimalist design
- Multifunctional
- Durable

Key takeaways product 4

- Rustic modern look fitting to the clients preferences.
- High quality acrylic and wood giving a premium feel.
- Abstract, minimalistic modern look.

**Product Delivery, Cost, and Proposed Solution**

The proposed solution is a physical habit tracker with the following features:

- Dry-erase surface for daily habit tracking.According the target audience survey(refer to)
- Switches to mark completed tasks.
- A customizable 30-day calendar with red and green beads to visually track long-term progress.
- Wall-mounted and portable options for flexibility.

The estimated cost is under 1500 rupees, making it affordable for students while maintaining durability and ease of use. The product will be delivered within 15 days after finalizing the design.

**Goals**

- Develop a habit tracker that effectively helps users establish and maintain good habits.
- Ensure the product is engaging, interactive, and easy to use for high school students.
- Maintain a non-digital approach to prevent distractions.
- Design the product to be affordable, compact, and customizable.
- Incorporate a rustic aesthetic based on client preference.

Key Takeaways Chosen

- Interactivity: The inclusion of switches and color-coded beads will provide a satisfying, visual method of tracking progress.
- Aesthetic Appeal: The product will have a rustic, minimalistic look using natural wood and a simple color palette.
- Functionality & Accessibility: The tracker will be affordable, easy to use, and allow both daily and long-term tracking.

Design brief

The product will use 3 main parts, beads, dry erase surface and plastic switches. The dry erase surface will be covered by a frame and topped with a board that contains the switches. The user will be able to write down 10 habits in the space reserved for them. The habit tracker will have to be satisfying to make sure users feel rewarded, this can be done by making the switches clicky satisfying. The proposed solution also has to have good aesthetics, preferably a rustic aesthetic. For the materials the product will likely use wood to appeal to the rustic aesthetic. Certain pieces such as the switches can be 3d printed.

Criteria B

Strand i Develop detailed design specifications, which explain the success criteria for the design of a solution based on the analysis of the research.

Design specifications

| Specification                                                                                                                                                                                                                    | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Testing methods                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aesthetics                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                           |
| <b>Colors:</b> The product must use the color of the wood it uses . This will give the product a rustic theme due to wood being resembled with rustic aesthetics. Moreover the product will be polished for improved aesthetics. | Rustic styles resonate the best with the client, the client requested the product to use rustic aesthetics in strand 1. Due to this reason the product should use rustic aesthetics. But aside from the client, rustic aesthetics also have many advantages. According to Plato.stanford (B1.1) the use of rustic aesthetics allows individuals to feel more connected to nature which leads to a cozy and inviting atmosphere allowing to feel warmth and comfort the outdoor and nature feel of rustic styles also pushes individuals away from technology by feeling more connected to nature.. Rustic styles are also very minimalistic and are not overbearing unlike some modern or traditional aesthetic styles. This yet again adds to the inviting and comfortable atmosphere presented by rustic styles. The minimalism of rustic styles also allows them to be quite versatile. For a highschool student rustic styles are advantageous because of their connection to nature which provides warmth, comfort and also promotes highschool students to take steps away from procrastination. Moreover, the ability for rustic aesthetics to not be overbearing while remaining versatile and minimalist promotes the mental health of the user while making sure they are not concerned about its aesthetic impact. | <b>ser Preference Survey:</b> Show the client different rustic wood finishes (polished vs. unpolished) and collect feedback on which best aligns with their aesthetic preference. Analyze responses to determine the most visually appealing option.      |
| <b>Texture:</b> The texture of the product should be glossy by using wood polish.                                                                                                                                                | The reason why I chose the texture to be glossy was to make the product more aesthetic by making the colors pop more. To make the product more “rustic” polishing the product would allow the colors of the wood to pop more. Moreover the glossy texture makes it more satisfying to use compared to a product with a rough wood texture. In short it “feels” better to use. Glossy gives the product a slight shine. It also makes it safe by making sure the product does not inflict any injuries                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Tactile Preference Test:</b> Provide users with samples of both glossy and matte finishes. Ask them to interact with the surfaces and rate comfort, grip, and satisfaction levels on a scale of 1-5. Use a majority consensus to finalize the texture. |
| Shape = The product should be shaped as a cuboid.                                                                                                                                                                                | Choosing the cuboid shape makes the product more versatile. I mainly choose to make the product to be cuboid to make sure it looks symmetrical and to improve functionality.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Ergonomic Suitability Test:</b> Place the habit tracker in various workspaces (desks, shelves, backpacks) to evaluate stability and ease of use. Record observations and user feedback on how well the cuboid shape fits in different environments.    |
| Size and weight : The product should be as large as a tablet and weigh no more than 500 grams.                                                                                                                                   | The reason I choose to make the product resemble the size of a tablet is so the product can be portable. Tablets are also a familiar shape that many highschool students are used to. Making sure that the product does not weigh more than 500 grams is to make sure that the product can remain portable and be carried easily.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Portability Assessment:</b> Measure the product’s dimensions and weight to ensure it remains under 500 grams. Have users carry it in a school bag and rate its convenience on a 1-5 scale. If the                                                      |



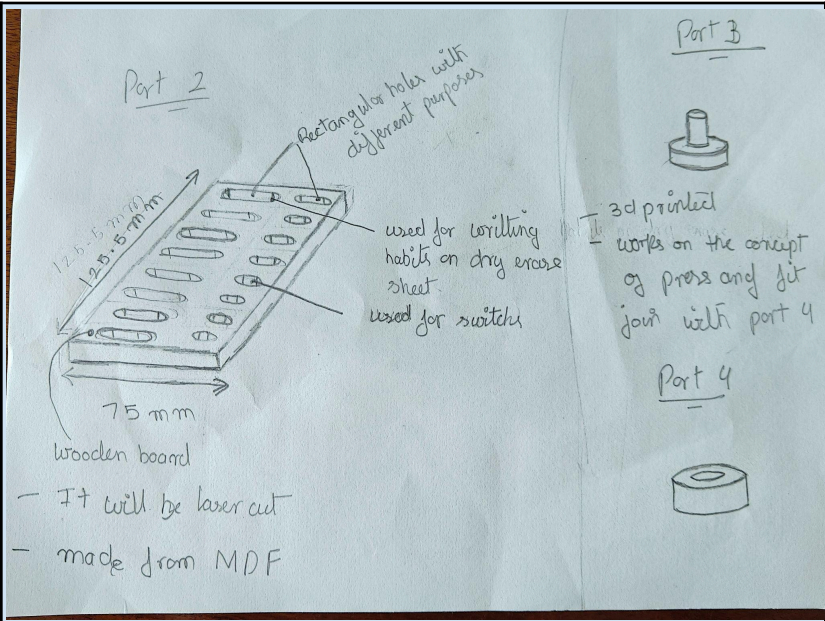
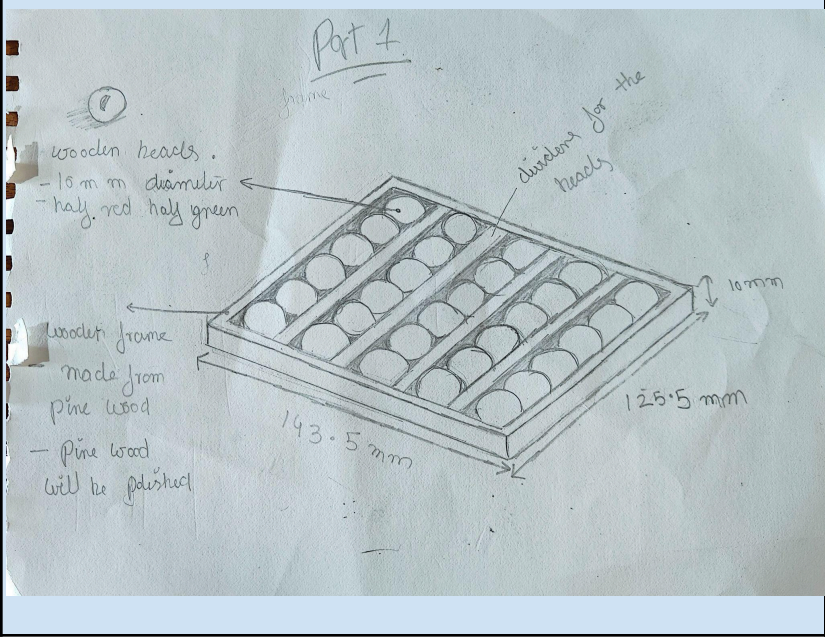
|                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | majority find it too bulky, modifications will be considered.                                                                                                                                                                          |               |
| Function                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |
| The product should be satisfying to use with the switches and beads.                                                                                          | Making sure that the product is satisfying to use is important because according to primary research results in strand 4 making sure the product is satisfying motivates users to utilize the product more. This is because it makes completing the habit more rewarding. In other words the satisfaction from using the product will act as a reward system for the user. This motivation will make sure that the users utilize the product continuously.                                                                                                               | User Interaction Test: Ask participants to use the switches and bead mechanism to track habits. Record user reactions and survey results on how engaging and satisfying the system is. Adjust based on feedback.                       |               |
| The product should be portable.                                                                                                                               | Making sure the product is portable will make the product much more versatile and allow the user to use the product in many situations such as vacation trips. This will allow many highschool students to maintain their habits even while they are away from home. This will be helpful in making sure that their habits are not disrupted no matter what.                                                                                                                                                                                                             | Real-World Simulation Test: Users will transport the product between school and home for a week. They will record difficulties or ease of carrying it and submit a final evaluation on portability and usability.                      |               |
| Cost and materials                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |
| The product should cost under 1500 rupees                                                                                                                     | Considering that the product is advertised toward highschool students making sure that the cost for the product are kept low would make them more accessible to highschool students who usually have avery limited budget.                                                                                                                                                                                                                                                                                                                                               | Market Comparison Study: Compare production costs with similar habit trackers on the market. Ensure the product stays under 1500 rupees while maintaining material quality and affordability for students.                             |               |
| The product should use pine or MDF wood for its components. The product should use wood polish for texture. It should use a dry erase sheet to track habits.. | Wood is an extremely strong material that is versatile to work with. It is durable while being easy to use. In other words using wood cuts down manufacturing costs. Moreover wood is generally an in-expensive material and is environmentally friendly in terms of its impact. Although its product process to acquire wood is unsustainable. But using something like MDF which is recycled wood makes its more sustainable. Using a dry erase sheet would allow the user to track their habits by writing them on a sheet of dry erase surface which they can erase. | Durability and Longevity Test: Conduct repeated use cycles (flipping switches, writing on the dry-erase surface, moving beads) to test material wear over time. Analyze how well the product holds up after simulated long-term usage. |               |
| Target audience and user                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |
| The user must fall under the age group of 13 - 18 to use the product. They must also have issues in managing their habits.                                    | The product aims to help highschoolers to better manage their habits. The product has been optimised from its aesthetics to function to appeal to highschoolers thus it will only be relevant to students who have issues in managing their habits. Moreover, making sure the correct age group use it is important because 86% of students struggle with time management which impacts their habits. Thus focusing on this demographic would lead to the most impact.                                                                                                   | Client & Peer Feedback Survey: Distribute the habit tracker to multiple high school students within the target age range (13-18). Gather structured feedback through surveys and interviews to determine usability and effectiveness.  |               |
| innovative features                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |
| The product must be able to track the habits of a person together and individually                                                                            | The key takeaway of my product is the ability to track habits individually and together. You can track your progress on your habits every day and if you complete all your habits in a day you can turn one bead to green. This allows you to track your habits daily / individually and monthly / together. If all of the beads turn green it means you have developed a new set of habits.                                                                                                                                                                             | Usability Experiment: Track how effectively users engage with the individual and collective tracking system (switches and beads). Measure accuracy, ease of use, and engagement levels using direct observation and user feedback.     |               |
| Deliver time and plan                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |
| The product should be completed 1 week after                                                                                                                  | Highschool is a very crucial time for any student. Making sure that product is effective as soon as possible is important. The product is also quite simple thus the manufacturing process should not take long.                                                                                                                                                                                                                                                                                                                                                         | Production Timeline Monitoring: Track the manufacturing process to ensure completion within one week. Create a checklist to monitor each stage (cutting, assembly, finishing) and adjust processes if delays occur.                    |               |
| Success criteria                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |
| 1-2 Unsatisfactory                                                                                                                                            | 3-4 Satisfactory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5-6 Good                                                                                                                                                                                                                               | 7-8 Excellent |
| Aesthetic Appeal                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                        |               |

| Aesthetic Appeal                                                                                                                     |                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| The product does not use a natural wood finish or looks unpolished. Colors appear artificial, failing to provide a rustic aesthetic. | The product retains some natural wood aesthetics but may not fully align with rustic design principles. The finish may lack refinement. | The wood’s natural color is well-highlighted with polish, creating an inviting rustic aesthetic. Most users find the color scheme visually appealing. | The wood grain and polish create a perfectly rustic, cozy, and minimalistic look, enhancing warmth, comfort, and an inviting atmosphere.             |
| The surface is rough, unpolished, or uncomfortable to touch, reducing user satisfaction.                                             | The texture is acceptable but lacks the smooth, polished feel. Some users may find it slightly rough or inconsistent.                   | The wood is polished, providing a glossy finish that enhances the natural color and improves aesthetics. Users find it satisfying to touch.           | The product is highly polished, with a smooth and glossy finish that makes the colors pop while maintaining a premium rustic feel.                   |
| The shape is irregular or asymmetrical, making it look unprofessional and hard to use.                                               | The product maintains a cuboid shape but may not be well-proportioned, leading to reduced functionality.                                | The cuboid shape is symmetrical, well-proportioned, and practical, enhancing both stability and usability.                                            | The cuboid shape is perfectly executed, ensuring functionality, symmetry, and a seamless rustic aesthetic that blends well in various environments.  |
| Size and Weight                                                                                                                      |                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                      |
| The tracker is too large or heavy, making it difficult to carry.                                                                     | The tracker is somewhat portable but may exceed the ideal weight or size for convenience.                                               | The tracker is the size of a tablet and weighs under 500g, making it easy to carry while maintaining functionality.                                   | The tracker is perfectly optimized for portability, lightweight, and easy to store, ensuring seamless usability in any setting.                      |
| Functionality                                                                                                                        |                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                      |
| The product is not engaging to use. The bead and switch mechanisms do not provide any rewarding experience.                          | The product is functional but lacks a satisfying tactile experience. Some users may find it underwhelming.                              | The product is enjoyable to use, with smooth bead movement and responsive switches that make habit tracking feel rewarding.                           | The product offers a highly satisfying user experience, with seamless switch and bead mechanisms that enhance motivation and engagement.             |
| The tracker is bulky and impractical for use in different locations.                                                                 | The tracker is portable but may still be inconvenient to carry for long durations.                                                      | The tracker is lightweight and compact, making it easy to transport for use in various settings.                                                      | The tracker is designed for ultimate portability, ensuring that users can carry and use it effortlessly anywhere.                                    |
| Cost                                                                                                                                 |                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                      |
| The tracker exceeds the budget significantly, making it too expensive for its features.                                              | The tracker is within budget but compromises on quality or functionality.                                                               | The tracker is reasonably priced, offering good quality and functionality without unnecessary expenses.                                               | The tracker is cost-effective, using high-quality materials while staying well within the 1500 rupee budget, making it affordable and high in value. |
| Material Quality                                                                                                                     |                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                      |
| The tracker uses low-quality materials that break easily.                                                                            | The tracker uses decent materials but may show signs of wear over time.                                                                 | The tracker is made of durable pine or MDF wood, ensuring long-term usability.                                                                        | The tracker is built with premium pine or MDF wood, offering superior durability and aesthetic appeal.                                               |
| Target Audience & User                                                                                                               |                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                      |
| The product is not suitable for high school students and does not address habit management issues.                                   | The product is somewhat relevant to the target audience but lacks a strong connection to their needs.                                   | The product effectively meets the needs of 13-18-year-old students who struggle with habit management.                                                | The product is perfectly tailored to high school students, addressing their habit-tracking challenges in an engaging and practical way.              |
| Innovative Features                                                                                                                  |                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                      |

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|                                                                                                                      |                                                                                                                  |                                                                                                                       |                                                                                                                                         |
| The tracker does not effectively track habits together and individually. The mechanism is flawed or missing.         | The tracker has a tracking system but lacks smooth interaction between individual and collective habit tracking. | The tracker successfully tracks habits individually and collectively using a well-integrated bead and switch system.  | The tracker’s habit-tracking system works flawlessly, allowing seamless individual and group tracking with a rewarding user experience. |
| Delivery Time & Plan                                                                                                 |                                                                                                                  |                                                                                                                       |                                                                                                                                         |
| The product is delayed significantly beyond the promised timeline, with little to no communication regarding delays. | The product experiences minor delays but maintains communication with users.                                     | The tracker is completed within a reasonable time frame (1 week) with minimal setbacks, ensuring timely availability. | The tracker is completed on schedule, with all production and quality checks executed efficiently, ensuring immediate usability.        |

Strand ii: develops a range of feasible design ideas, using an appropriate medium(s) and detailed annotation, which can be correctly interpreted by others.

Product 1

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p><b>Design overview</b></p> <p>The design will consist of 2 parts. The first part will track each habit individually while the other side will track it together. The first side comprises 2 columns and 12 rows. Both columns are cuboids with 2 rounded edges. The cuboid of the 2 columns will be half the size of the cuboids part of column one. The cuboids of column 1 will house switches which when flipped will either show red or green. The cuboids of column 2 will have a space beneath them to be used for a dry erase sheet of paper where the user will write down their habits. The second part of the product is made of 30 beads placed on 5 sticks ( 6 beads per stick ). The beads will be painted red or green. When the user has completed all their habits that they have written down ( you can choose how many habits to write down ) the bead will be turned to be green. Otherwise the bead will turn red. 21 - 30 beads in a <b>row</b> means you have developed a new set of habits. It will weigh around 500 grams and use wood for the beads and the base and will use 3d printed switches.</p> |
|  | <p><b>Design specifications</b></p> <p><b>Aesthetics -:</b> Shaped like a cuboid, uses acrylic paint or wood polish for a smooth texture and a dry erase surface fo0r customization.</p> <p><b>Function -:</b> It is extremely portable because of its light weight. It rewards the user through satisfaction.</p> <p><b>Cost and materials -:</b> The product will cost in the ranges of 1500 - 2000, it will use wood and 3d printed switches and dry erase surface.</p> <p><b>User -:</b> Extremely portable, lightweight, cost effective.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strength</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>weakness</b>                                                                                                                                                                                                                                                                                                              |
| <p><b>Dual Habit Tracking System</b> - The product uses a unique dual-tracking system that tracks daily and monthly progress, making habit formation much easier. It also allows you to develop a set of habits at the same time.</p> <p><b>Highly Portable &amp; Compact</b> - The tracker is designed to be lightweight and similar in size to a tablet, making it easy to carry and use in different environments. This ensures versatility for students who need to track habits at school and home.</p> | <p><b>Manual Tracking May Not Suit All Users</b> - The product relies entirely on manual input, which may be less efficient than digital solutions. Some users may prefer a more automated tracking system.</p> <p><b>Limited Customization</b> - The structure of the habit tracker is fixed, meaning users must follow</p> |



**Satisfying and tactile feeling** - The product uses many mechanisms that make it more satisfying to use for the user. The satisfaction from using the product acts as a reward for the user motivating them to use the product.

the pre-set tracking format rather than being able to adjust habit slots according to their needs.

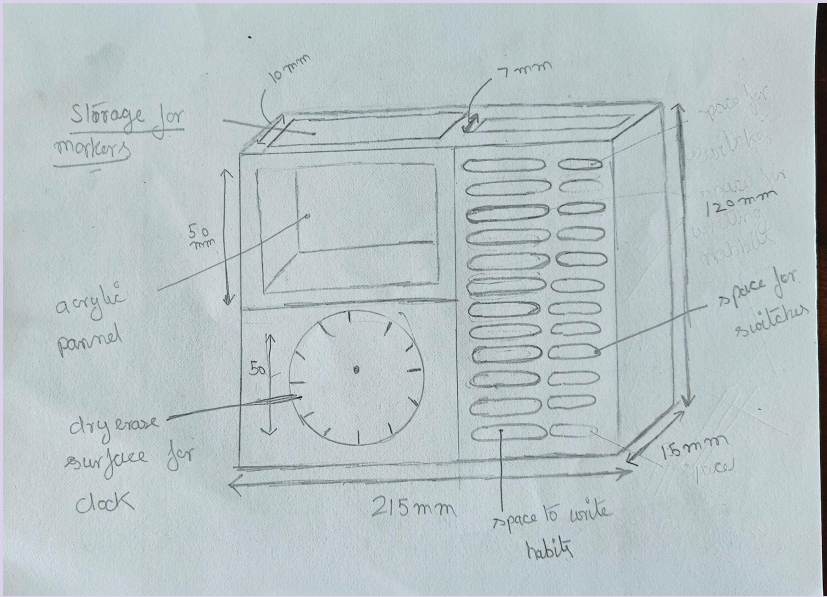
**Design summary and verdict.**

The habit tracker combines functionality, portability, and an engaging user experience while following a rustic aesthetic. It excels in habit reinforcement, allowing users to track both daily and monthly progress, though it has some potential drawbacks. The size and weight make it highly portable, designed to be as compact as a tablet and weigh under 500 grams. This ensures ease of use in different locations, making it adaptable for students who may need to track habits at school and home. The cuboid shape contributes to stability and a structured layout, enhancing usability while maintaining a minimalist aesthetic. One of the strongest aspects of the tracker is its dual tracking system. Users can track individual daily habits while also monitoring their long-term consistency through the bead system. This feature reinforces motivation, as completing daily habits is directly tied to long-term progress. The switch and bead mechanism also adds a satisfying tactile experience, making the habit-tracking process more engaging. In terms of material quality, the product uses pine or MDF wood, ensuring durability and affordability. The glossy polished finish enhances both aesthetics and longevity, while the dry erase surface allows users to update their habits effortlessly. The cost remains under 1500 rupees, making it accessible to high school students. However, the tracker relies entirely on manual input, which may not appeal to users accustomed to digital solutions. Additionally, while the design is strong, it lacks adjustability, meaning users must follow the pre-set structure. Overall, the habit tracker successfully meets its purpose, providing a visually appealing, highly functional, and well-structured tool for students.

**Average rating = 48 out of 56**

| Design aspect<br>( out of 8 ) | Expert<br>appraisal | Self<br>evaluation | User<br>evaluation |
|-------------------------------|---------------------|--------------------|--------------------|
| Aesthetics                    | 6                   | 6                  | 6                  |
| Function                      | 8                   | 7                  | 8                  |
| Cost / materials              | 7                   | 7                  | 8                  |
| User                          | 6                   | 6                  | 5                  |
| Safety                        | 7                   | 7                  | 7                  |
| Innovation                    | 8                   | 8                  | 8                  |
| Delivery                      | 6                   | 5                  | 7                  |
| <b>Total out of 56</b>        | <b>48</b>           | <b>46</b>          | <b>50</b>          |

**Product 2**



**Design overview**

The design will consist of 3 different components. The first component will comprise 2 columns and 12 rows. Both columns are cuboids with 2 rounded edges. The cuboid of the 2 columns will be half the size of the cuboids part of column one. The cuboids of column 1 will house switches which when flipped will either show red or green. The cuboids of column 2 will have a space beneath them to be used for a dry erase sheet of paper where the user will write down their habits ( same as the first design ). The second component is a clock with a dry erase surface, this allows you to customize the clock surface. The third component is a small storage space to store the markers required for the dry erase surface. Components 2 and 3 combined are the same size as component 1. In other words they are both exactly half the size of component 1. You can use component 1 for tracking habits daily and individually. You can use the dry erase surface on the clock to allocate time to habits. You can use component 3 to store markers to be used for the dry erase surface. It will be made of mostly wood. It will cost around 2000 rupees.

**Design specifications**

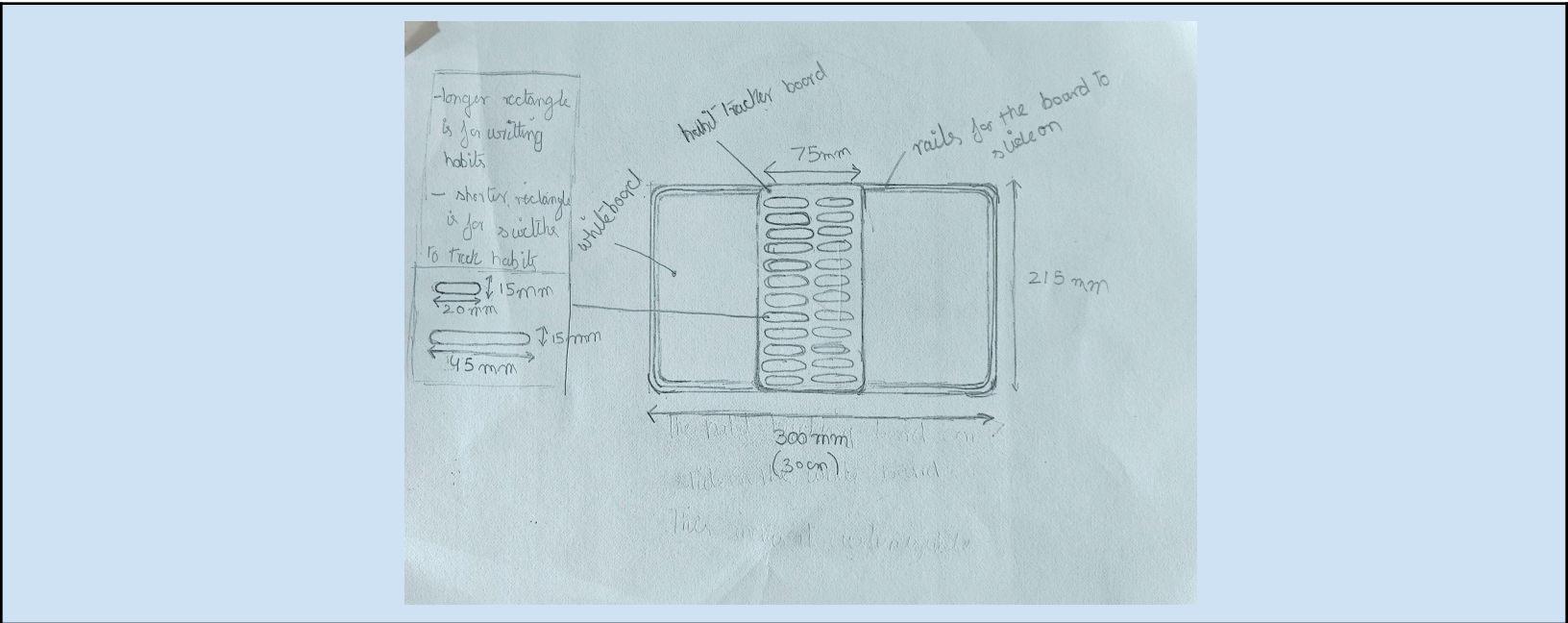
**Aesthetics** -: Shaped like a cuboid, uses acrylic paint for a smooth texture and dry erase surfaces for customization. It is sized around 200 x 75mm.  
**Function** -: It allows the customization of the clock surface. It has a storage space for markers.  
**Cost and materials** -: The product will cost 2000, it will use wood and dry erase surface alongside a few 3d printed components.  
**User** -: sturdy, multifunctional.



| Strengths                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Weaknesses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Customizable Tracking System</b> - The product features a dry-erase sheet and clock surface, allowing users to modify their habits and allocated time freely.</p> <p><b>Built-in Storage for Markers</b> - The inclusion of a storage compartment ensures that markers remain easily accessible, reducing the risk of misplacing essential tools for habit tracking.</p> <p><b>Durable Materials</b> - The use of wood and 3D-printed components enhances the durability of the tracker, ensuring long-term usability and sturdiness.</p> | <p><b>Manual Tracking May Not Suit All Users</b> - The product relies entirely on manual input, which may be less efficient than digital solutions. Some users may prefer a more automated tracking system.</p> <p><b>Limited Customization</b> - The structure of the habit tracker is fixed, meaning users must follow the pre-set tracking format rather than being able to adjust habit slots according to their needs.</p> <p><b>Requires Regular Maintenance</b> - The dry-erase sheet and clock surface require frequent cleaning to remain functional and visually appealing.</p> |

| Design summary and verdict.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Design aspect ( out of 8 ) | Expert appraisal | Self evaluation | User evaluation |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------|-----------------|-----------------|
| <p>The habit tracker offers a structured and multifunctional approach to habit tracking and time management by incorporating a daily habit-tracking system, a dry-erase clock, and built-in storage. The combination of interactive tracking elements, customization options, and practical organization makes it a highly functional tool for habit-building. The size and weight of the product ensure portability, with dimensions comparable to a tablet, making it easy to carry and use in different environments. The cuboid shape enhances stability and usability, ensuring a structured layout that fits neatly in workspaces or study areas. The acrylic-painted surface and dry-erase material add a layer of customization and visual appeal, making the tracker both practical and aesthetically refined. One of the strongest features of the tracker is its multifunctionality. Users can track individual habits daily while also using the clock surface to allocate time to specific tasks. This allows for a more structured and intentional approach to habit-building. The built-in storage compartment for markers ensures organization and accessibility, preventing the hassle of misplaced writing tools. In terms of materials and durability, the tracker is constructed using wood and 3D-printed components, making it sturdy yet lightweight. The dry-erase sheet enhances flexibility, allowing users to adjust their habit-tracking methods over time. However, the higher cost of 2000 rupees makes it less budget-friendly compared to simpler habit trackers, potentially limiting accessibility for students. A minor drawback is that the tracker relies entirely on manual input, which may not appeal to users who prefer digital tracking solutions. Additionally, the fixed structure may restrict users who need more customization options. Overall, the habit tracker effectively integrates habit-tracking, time management, and organization, making it a highly functional and visually appealing solution for students aiming to improve their daily routines.</p> <p><b>Average rating = 42 out of 56</b></p> | Aesthetics                 | 8                | 7               | 6               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Function                   | 4                | 3               | 5               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cost / materials           | 5                | 6               | 7               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | User                       | 6                | 6               | 5               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Safety                     | 6                | 6               | 5               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Innovation                 | 8                | 8               | 8               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Delivery                   | 5                | 5               | 7               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Total Out of 56</b>     | <b>42</b>        | <b>41</b>       | <b>43</b>       |

### Product 3



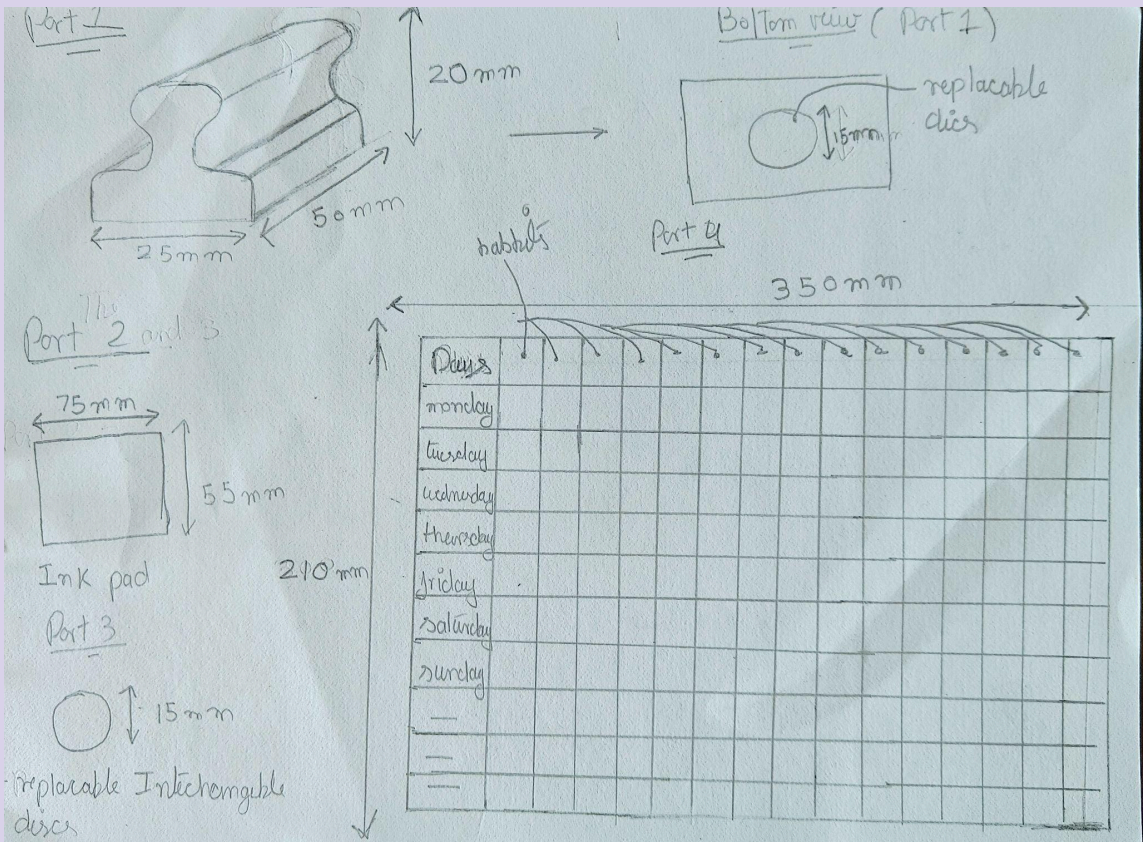
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Design overview</u></b><br>The design consists of 2 different components. The first component is the same as the other designs. The first component will comprise 2 columns and 12 rows. Both columns are cuboids with 2 rounded edges. The cuboid of the 2 columns will be half the size of the cuboids part of column one. The cuboids of column 1 will house switches which when flipped will either show red or green. The cuboids of column 2 will have a space beneath them to be used for a dry erase sheet of paper where the user will write down their habits ( the same as the 2 other designs ). The second component is a white board, but this white board has rails around it. The first component has been modified so it can attract on the whiteboard and move on the rails. This allows the user to both track their habits and use the white board normally. Component 1 will be 3d printed while component 2 will be made from a hard dry erase surface or acrylic or glass with 3d printed guard rails which are modified to accommodate the component 1. | <b><u>Design specifications</u></b><br><b>Aesthetics</b> -: Shaped like a cuboid, uses acrylic or glass for a hard dry erase surface.<br><b>Function</b> -: It is multifunctional<br><b>Cost and materials</b> -: The product will cost in the ranges of 300- 2000, it will use a dry erase surface and 3d printed components.<br><b>User</b> -: It is customizable and you can choose how to configure the product. It is not complicated does development time will be down |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Strength</u></b>                                                                                                                                                                                                                                                                                                                                         | <b><u>weakness</u></b>                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Interactive &amp; Engaging Design</b> - The sliding mechanism makes habit tracking more dynamic and satisfying.<br><b>Customizable Writing Surface</b> - The whiteboard allows freeform habit tracking alongside the structured system, making it flexible for different users. Users can track habits while still using the whiteboard for general writing | <b>Higher Complexity</b> - The rail system and moving component may increase production difficulty and require precise alignment.<br><b>Increased Cost</b> - The use of acrylic, glass, and 3D-printed parts may make the product expensive compared to simpler designs.<br><b>Lack of functionality</b> - The user can achieve the same functionality as the product by using an ordinary whiteboard. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                   |                         |                        |                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------|------------------------|------------------------|
| <b><u>Design summary and verdict.</u></b><br><br>This habit tracker design introduces an interactive and adaptable approach by incorporating a habit-tracking system with a rail-mounted whiteboard. The integration of a sliding component on rails adds a unique feature, allowing users to track habits while still utilizing the whiteboard for other purposes. The size and weight make the tracker versatile and practical, with component 1 being 3D-printed for precision and component 2 made from durable dry-erase materials, acrylic, or glass. The cuboid structure maintains symmetry and usability, ensuring a stable and visually structured layout. The rail system allows for smooth movement, enhancing functionality without sacrificing space efficiency. One of the strongest aspects of this design is its dual-purpose whiteboard system. Unlike previous versions that focused solely on habit tracking, this iteration allows users to write freely on the whiteboard while seamlessly moving the habit tracker along the rails. The switch mechanism for tracking daily habits remains intact, ensuring an interactive and rewarding experience for the user. In terms of materials and durability, the 3D-printed component ensures a precise fit within the rail system, while the whiteboard or acrylic surface guarantees longevity and ease of use. However, the increased complexity of the rail integration may make assembly and manufacturing more challenging compared to simpler designs. Additionally, the use of glass or acrylic may increase costs, potentially making it less accessible to budget-conscious users. A minor drawback is that while the tracker is highly interactive, it still requires manual tracking, which may not appeal to users preferring digital solutions. The predefined size and shape of the rails may also limit customization for users with varying workspace constraints. Overall, this habit tracker enhances user engagement by combining habit tracking with a functional whiteboard, making it a highly adaptable and visually refined solution for improving habit-building and organization.<br><br><b>Average rating = 26 out of 56</b> | <b>Design aspect ( out of 8 )</b> | <b>Expert appraisal</b> | <b>Self evaluation</b> | <b>User evaluation</b> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Aesthetics                        | 5                       | 3                      | 0                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Function                          | 2                       | 1                      | 5                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cost / materials                  | 4                       | 3                      | 3                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | User                              | 2                       | 5                      | 4                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Safety                            | 6                       | 8                      | 6                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Innovation                        | 4                       | 3                      | 2                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Delivery                          | 4                       | 4                      | 5                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Total out of 56</b>            | <b>27</b>               | <b>27</b>              | <b>25</b>              |

[Product 4 stamp based habit tracker kit.](#)





Design overview

This habit tracker kit will consist of 4 main components. A stamp, different customizable disks for the stamps, an ink pad and finally a dry erase surface. The dry erase surface has been etched with 8 columns and 11 rows. 1 row is reserved for headings of weeks and also the heading “habits”. One column is reserved for habits which the user can write down with a marker. Then the next 10 rows and 7 column ns are served for 7 days of the week for 10 habits. Using this format you can track the daily progress of the user for 1 week. You can track the progress for multiple habits over one week or a couple of habits over a longer duration. The stamps will be made clicky and satisfying for the user.

Design specifications

- Aesthetics** -: Shaped like a cuboid, uses acrylic paint for a smooth texture and artificial grass for improved blood flow. Dimensions are 88 x 44 x 22
- Function** -: It is extremely portable because of its light weight. It is also very durable.
- Cost and materials** -: The product will cost in the ranges of 1500 - 2000, it will use wood and artificial grass only.
- User** -: Efficient use of space to incorporate 2 different surfaces. Small form factor without any stand

Strength

- Interactive & Engaging Design** – The **clicky stamp mechanism** makes habit tracking more dynamic and satisfying.
- Customizable Tracking System** – The **interchangeable stamp disks** allow for personalization, making the system adaptable to different users.
- Clear & Structured Layout** – The **etched grid system** ensures habit tracking remains organized and easy to read.
- Reusable & Eco-Friendly** – The **dry-erase surface** allows for repeated use, reducing waste compared to paper-based trackers.

weakness

- Limited Tracking Timeframe** – The **weekly format** may not be suitable for long-term habit tracking without frequent resetting.
- Ink & Erasability Issues** – **Ink pads may dry out**, and **dry-erase markers can smudge**, leading to maintenance concerns.
- Lack of Added Functionality** – Users can achieve **similar results with a standard whiteboard**, potentially reducing the product’s necessity.
- Storage & Organization Challenges** – The **multiple stamp disks** require a dedicated storage solution, which could make the system less convenient.

Design summary and verdict.

This habit tracker design introduces an interactive and structured approach by incorporating a stamp-based tracking system on a dry-erase surface. The integration of clicky, customizable stamps enhances user engagement, making habit tracking both satisfying and rewarding. The etched grid layout ensures a clear and organized tracking system while maintaining a minimalist, reusable format. The use of interchangeable stamp disks allows for a personalized experience, catering to different user preferences. One of the strongest aspects of this design is its eco-friendly and reusable nature. Unlike disposable paper trackers, this iteration allows users to track multiple habits over one week or a few habits over a longer duration, providing flexibility in usage. The stamps add a tactile and interactive component, reinforcing habit-building in a way that

| Design aspect ( out of 8 ) | Expert appraisal | Self evaluation | User evaluation |
|----------------------------|------------------|-----------------|-----------------|
| Aesthetics                 | 3                | 4               | 4               |
| Function                   | 5                | 7               | 7               |
| Cost / materials           | 5                | 5               | 5               |
| User                       | 5                | 6               | 6               |
| Safety                     | 6                | 6               | 6               |

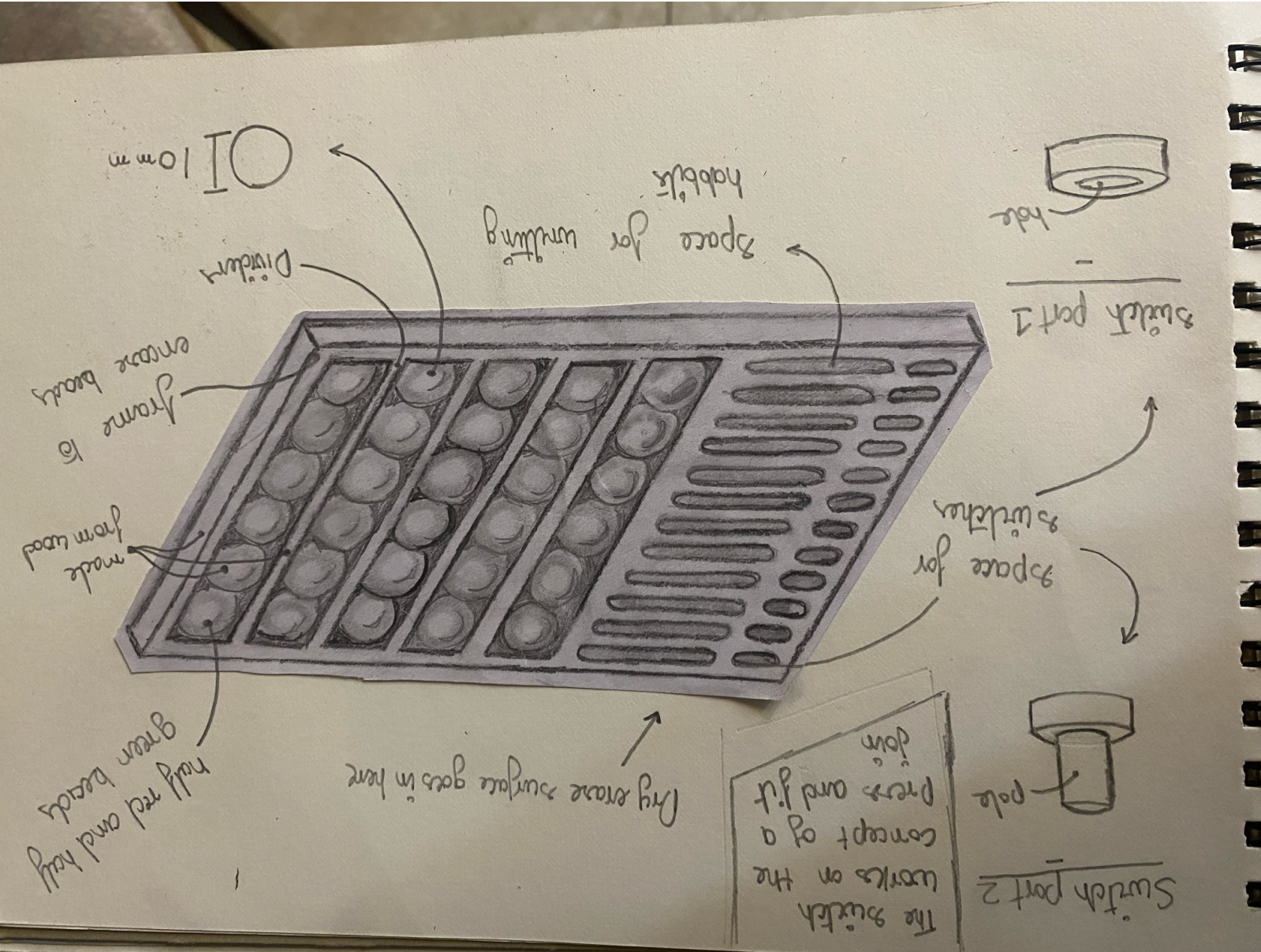


standard checklists do not. in terms of materials and durability, the dry-erase surface ensures longevity, while the custom ink stamps enhance usability. However, potential issues with ink drying out and marker smudging may require careful maintenance. Additionally, storing and managing multiple stamp disks could present organizational challenges. Another consideration is that while the tracker provides a visually structured layout, its weekly format may not be ideal for long-term tracking without frequent resetting. A minor drawback is that while the tracker is highly engaging, it does not offer additional functionality beyond standard whiteboards, which may lead some users to opt for simpler or digital alternatives. The predefined grid structure may also limit customization for users with different tracking preferences. Overall, this habit tracker successfully enhances user engagement through an interactive, stamp-based system, providing a fun, structured, and eco-friendly way to build habits. While some aspects could be improved for long-term usability and storage convenience, the design remains a highly adaptable and visually appealing solution for tracking progress efficiently.

Average rating = 48 out of 56

|                |    |    |    |
|----------------|----|----|----|
| Innovation     | 4  | 6  | 7  |
| Delivery       | 4  | 4  | 5  |
| Total ( / 56 ) | 33 | 38 | 40 |

Strand iii presents the chosen design and justifies fully and critically its selection with detailed reference to the design specification



To help decide which idea to choose as my final design I compiled all of my info into 2 tables. Using this information I will be able to properly evaluate the different designs. The tables have listed several factors such as strengths and weaknesses and also the scores each product received from 3 different parties ( user, expert and self evaluation ). At first glance design 1 is very attractive because it got higher scores than every single design from all 3 parties, but deciding which design to use is critical and thus all factors must be evaluated. For this reason I also compiled other data in another table. This data includes short summaries for each aspect for each design. I have also included which design had the highest points in each category. All of these factors will allow me to evaluate which design I should use. Based on this data design 1 and design 2 are the only ones to get the highest in different categories. Out of this design one has the highest number of categories won. It can also be observed that design one resonates the best with the user. Based on the table the strengths of design 1 support its popularity by having strong strengths such as portability and satisfying functionality. Design 2 is not far off since it also has strong strengths such as durability and customizability. On the other hand designs 3 and 4 are disliked. Design 3



Is disliked while design 4 is simply mediocre. Design 3 has bad scores with both the expert and the user while

|                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>This table shows which product won which categories from the success criteria. Based on average score.</b>                                                                                                                                                   | <b>Aesthetics</b> = Design 2<br><b>Function</b> = Design 1<br><b>Cost / materials</b> = Design 1<br><b>User</b> = Tie between design 1 & 2<br><b>Safety</b> = Design 1<br><b>Innovation</b> = Design 1<br><b>Delivery</b> = design 2 |
| <b><u>Aesthetics</u></b><br><b>Design 1</b> = good aesthetics with a rustic theme resonating with the client.<br><b>Design 2</b> = Use of acrylic paint for excellent aesthetics.<br><b>Design 3</b> = Mediocre aesthetics with no standout colors or features. |                                                                                                                                                                                                                                      |
| <b><u>Function</u></b><br><b>Design 1</b> = Good functionality with a dual tracking system<br><b>Design 2</b> = Unique functionality with dry erase clock.<br><b>Design 3</b> = Bad functionality, it can be argued that the habit tracker addon is useless.    |                                                                                                                                                                                                                                      |
| <b><u>Cost and materials</u></b><br><b>Design 1</b> = fairly priced<br><b>Design 2</b> = Fairy priced<br><b>Design 3</b> = expensive                                                                                                                            |                                                                                                                                                                                                                                      |
| <b><u>User</u></b><br><b>Design 1</b> = Captivated the user<br><b>Design 2</b> = Was able to receive attention from the user<br><b>Design 3</b> = Disliked by the user.                                                                                         |                                                                                                                                                                                                                                      |
| <b><u>Safety</u></b><br>Design one and two and three are fairly average when it comes to safety,                                                                                                                                                                |                                                                                                                                                                                                                                      |
| <b><u>Innovation</u></b><br><b>Design 1</b> = Quite innovative but still features common elements with other habits trackers.<br><b>Design 2</b> = Extremely innovative<br><b>Design 3</b> = Decently innovative with only one innovative feature.              |                                                                                                                                                                                                                                      |
| <b><u>Delivery.</u></b><br><b>Design 1</b> = Simple but still might take long.<br><b>Design 2</b> = Quite simple and will have the lowest development time.<br><b>Design 3</b> = Complex but feasible by using cad modeling                                     |                                                                                                                                                                                                                                      |

features from design 2 into design 1. As for delivery date, it will not be improved upon. This is because to reduce the delivery time the design will have to undergo a major design change. This will further increase the delivery time and contradict the ultimate goal of decreasing delivery time. In short it is more logical to improve aesthetics, since it will take minor readjustments to improve aesthetics. Thus the final designs will incorporate the aesthetics of design 2 into design 1 while ignoring improving delivery time and instead just focusing on improving the aesthetics of design 1 based off of design 2.

design 4 has mediocre scores and does not particularly stand out in any important aspect. Although design 3 is customizable and design 4 is portable they have large weaknesses which affect their score. Based on purely numbers design 1 is the clear winner. It has the highest score while also having the most number of categories with the highest scores. But numbers are not a valid way to properly evaluate designs. For that reason the second table has a set of small summaries for each and every design. These summaries will allow us to better understand the different aspects of each design. Table one also has a list of different strengths and weaknesses, we can use these to further improve our understanding. Based on both tables, design three and four do not have any stand out features. In other words design three and four are rejected from being the final design. Thus the only 2 designs that will be considered are design 1 and 2. Based on table 2 the areas where design one lacks is aesthetics and delivery. Although these at first may not seem major, delivery is important to make sure that the client receives the product as soon as possible to solve the problem and aesthetics can play a key role in mental wellbeing. Another important factor to note is how similar the weaknesses for design 1 and 2 are. Design 1 and 2 share 2 of the same weaknesses, manual tracking may not suit all users and limited customization. But design 2 has an additional weakness, requiring high maintenance. This is the reason it received a lower score. Based on the small summaries in table 2 design 2 is mostly on equal footing with design 1, but due to an extra weakness it received lower scores. Moreover It seems that design 2 sacrificed excelling in other aspects to excel in aesthetics. Based on this the final design should incorporate the aesthetics features of design 2 while making sure not to sacrifice on the other aspects. In other words incorporating the aesthetics

|                       | Expert                                                                                         | Self    | User                                                                                                | Average  |
|-----------------------|------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------|----------|
| Design 1              | 48 / 56                                                                                        | 46 / 56 | 50 / 56                                                                                             | 48 // 56 |
| Design 2              | 42 / 56                                                                                        | 41 / 56 | 43 / 56                                                                                             | 42 / 56  |
| Design 3              | 27 / 56                                                                                        | 27 / 56 | 25 / 56                                                                                             | 26 / 56  |
| Design 4              |                                                                                                |         |                                                                                                     |          |
| Weakness and strength |                                                                                                |         |                                                                                                     |          |
|                       | Strength                                                                                       |         | weakness                                                                                            |          |
| Design 1              | - Dual habit tracking system<br>- Highly portable and lightweight<br>- Tactile and satisfying. |         | - Manual tracking may suit not all users<br>- limited customization                                 |          |
| Design 2              | - customizable habit tracking System<br>- Built in storage<br>- Durable materials.             |         | - Manual tracking may suit not all users<br>- limited customization<br>Requires higher maintenance. |          |
| Design 3              | - Interactive and engaging design                                                              |         | - Higher cost<br>- Increased complexity                                                             |          |
|                       | - Customizable                                                                                 |         | - lack of functionality                                                                             |          |
| Design 4              |                                                                                                |         |                                                                                                     |          |

Final design

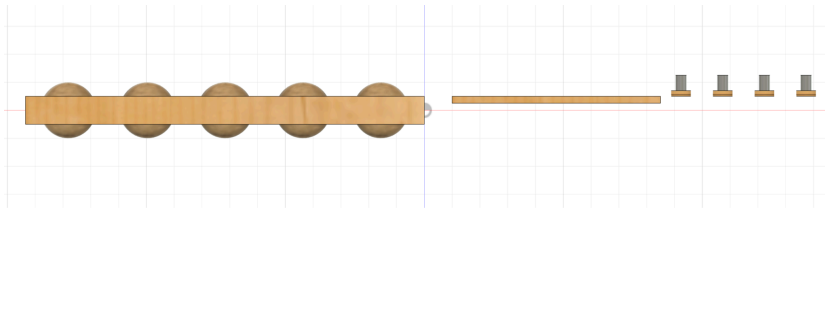
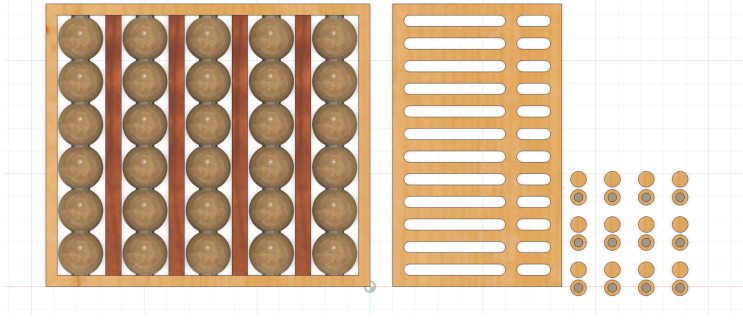
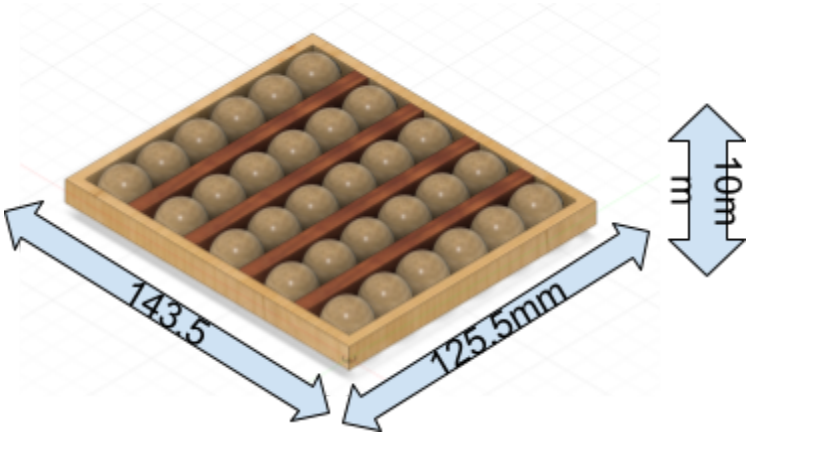
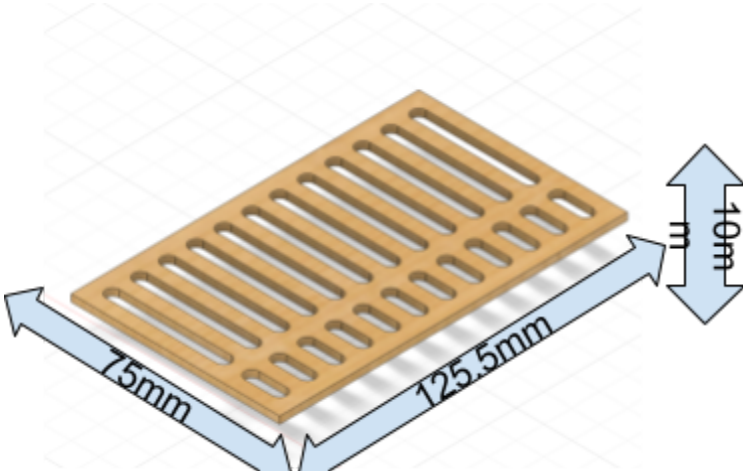
Thus the final design for the product will be 1 cm tall in total 22 cm in length and 12.5 cm wide. The product will have a dual tracking system. You can use the product to track habits daily and monthly. you can customize the way you track your habits. You can also track multiple habits at once. While I was analysing different products in criteria A strand 3 I had come across a few expert opinions about the products, these expert opinions suggested the product to track using a dual tracking system. For this reason the product has implemented a dual tracking system. The system works using beads and switches and dry erase surfaces. The user writes their habits down on 10 boxes ( based on how many they have ) then the user completes those habits and everytime they do that they flip a switch. Then if they have flipped all of the switches they can spin the bead. The bead is colored half red and half green. If they have completed all their habits they spin it to green if not they spin it to red. If all of the beads are green over a period of 21 - 30 days then they have developed a new set of habits. The product consists of a few main parts. First is 30 beads for the days, then the 3d printed switches, a dry erase surface, a frame for the dry erase surface, sticks for the beads to be housed and spun on, then a frame for the beads ( another component is a marker ). The aesthetics will be rustic wood like look. This is all based on the aesthetics of design 2. The wood will be polished for a better look. Then edges will be smoothened off for better texture. It will weigh 200 grams and is also priced at 1000 rupees.

Why this design?

This design effectively demonstrates all the advantages of design 2 while also solving the major flaw the design 2 had and also working upon aspects like aesthetics inspired by design 1

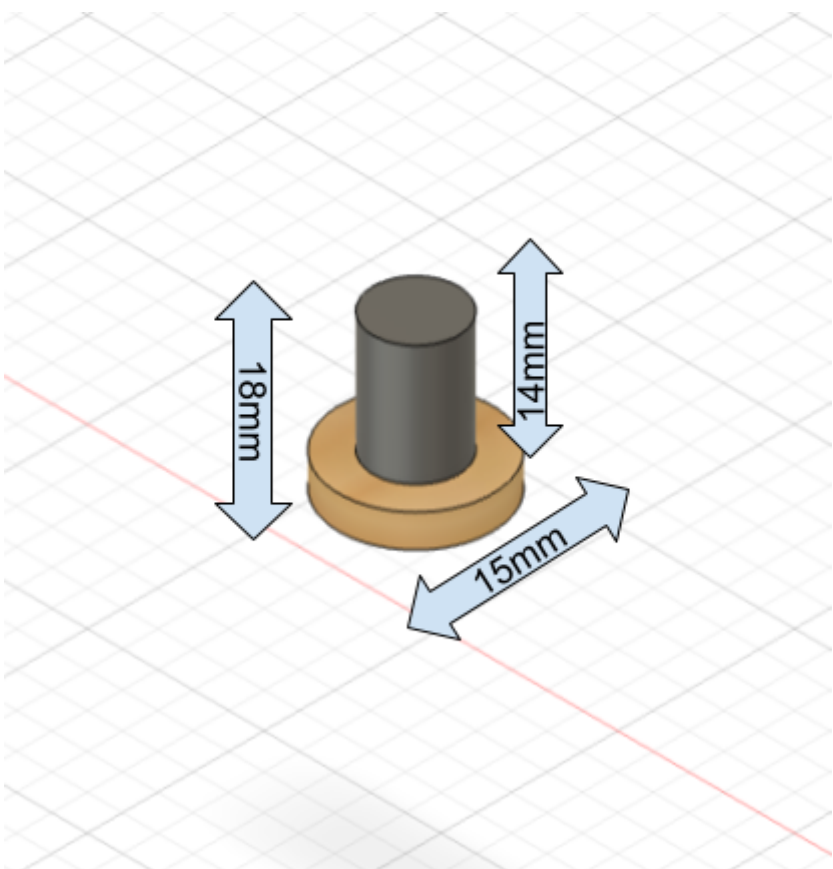
strand iv Develop accurate and detailed drawings/diagrams and outline the requirements for the creation of the chosen solution

Product created with fusion 360 measurements

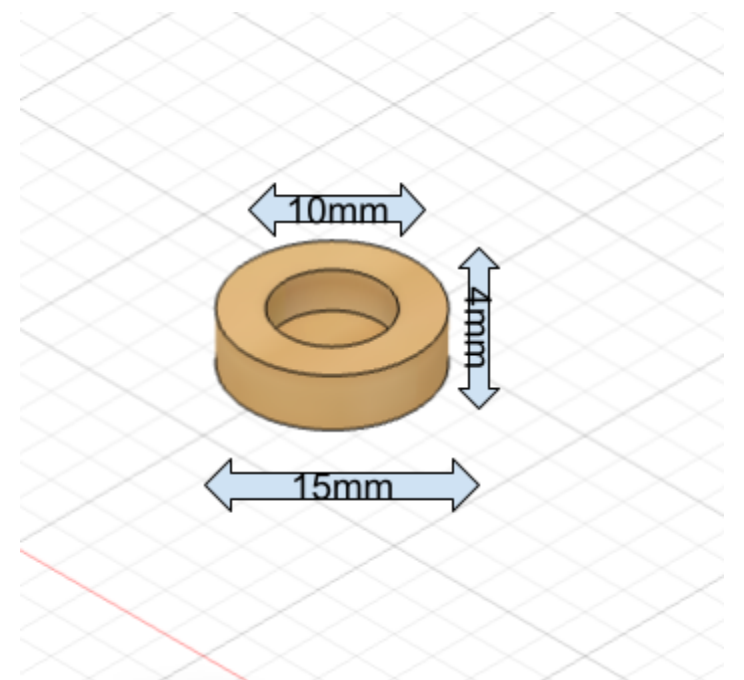
|                                                                                                                                |                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <p><u>Front / back view / side veiw</u></p>  | <p><u>Top view / bottom view</u></p>  |
| <p><u>Part 1</u></p>                         | <p><u>Part 3</u></p>                  |



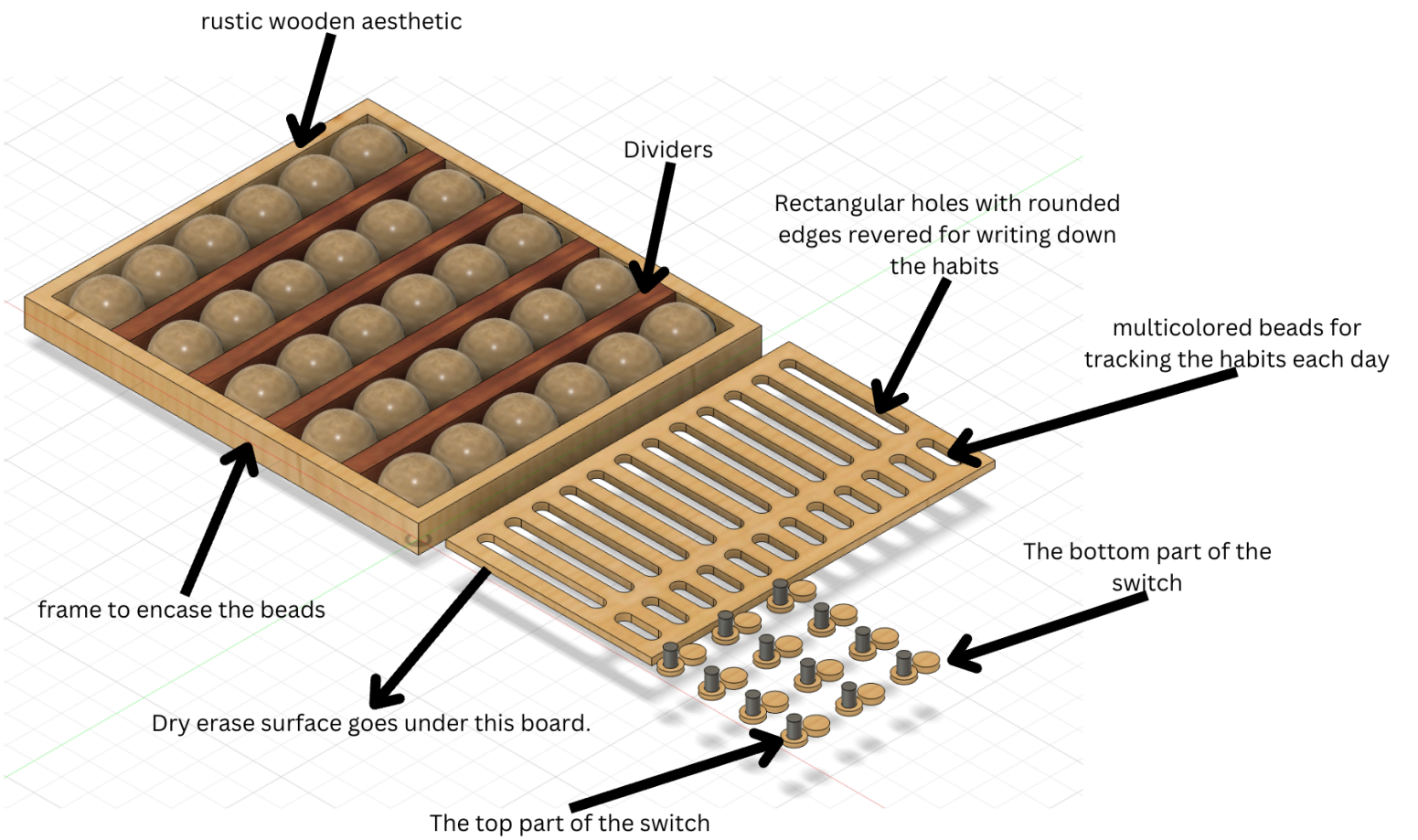
Part 2



Part 4



Final product created with fusion 360 with annotations



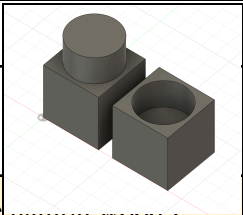
The materials required for the product

|                                                                               |          |                 |               |
|-------------------------------------------------------------------------------|----------|-----------------|---------------|
| This table represents the different materials my product used and their cost. |          |                 |               |
| Materials                                                                     | Quantity | Cost ( rupees ) | Justification |

|                          |                               |            |                                                                                                                                                                                                                  |
|--------------------------|-------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pine wood, mahogany, oak | 4 1 x 1 planks for each wood. | 750 rupees | I opted for three different woods for a better aesthetic contrast. I chose these woods because of their durability and structural strength. These woods also have a great aesthetic appeal after being polished. |
| Dry erase surface        | 8 x 4 roll of dry erase       | 150 rupees | This is important to make sure the user can write down their habits.                                                                                                                                             |
| MDF wood                 | 10 x 5 roll of wood           | recycle    | I chose this since it was the only wood compatible with the laser cutter machine.                                                                                                                                |
| Wood polish              | 1 can                         | 50 rupees  | To add aesthetic appeal.                                                                                                                                                                                         |
| Glue                     | One bottle                    | 50 rupees  | It is the best solution for final assembly.                                                                                                                                                                      |
| Total cost = 1000 rupees |                               |            |                                                                                                                                                                                                                  |

### Color scheme

|                                                                                 |                                                                                   |                                                                                                                                                                               |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | The color is chosen as a mix of brown or white or the natural color of wood. The decided to use was pine, oak and mahogany. The wood will be polished for a better aesthetic, |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



### Dimensions

| Part                            | Type     | Dimensions (cm)               | Amount | Description                                                          |
|---------------------------------|----------|-------------------------------|--------|----------------------------------------------------------------------|
| Frame for the beads             | Cuboid   | 14.3 x 12.5 x 1 and 0.5 thick | 1x     | I will cut the wood into planks and then make the frame.             |
| Frame for the dry erase surface | Cuboid   | 7.5 x 12.5 x 1                | 1x     | I will cut the wood into planks and then make the frame.             |
| Beads                           | sphere   | 2 cm radius                   | 30x    | I will cut the wood into a cube and then sand it until it is a bead. |
| Switches                        | Cylinder | 0.35 radius                   | 10x    | I will use the 3d printer.                                           |

### How will the supports detach and attach? What methods of construction will I use?

To allow me to detach and attack the supports I will use a type of joint known as a “press and fit joint”. In this type of joint, two parts (a cylindrical peg and a corresponding hole in this case) are made to have slightly different sizes such that when pressed together, they hold due to friction and the tight fit between the surfaces. Although there might be concerns about the integrity of the supports, the weight of the product will allow the supports to maintain that level of friction. The image 1.9 shows how the joint might word. While we are on the topic of joints, the way I would like to assemble is important. The main method I will utilize is the use of glue. I will use screws very rarely.

## Criteria C

## Strand i Construct a Logical Plan

### Steps / directions to make the product.

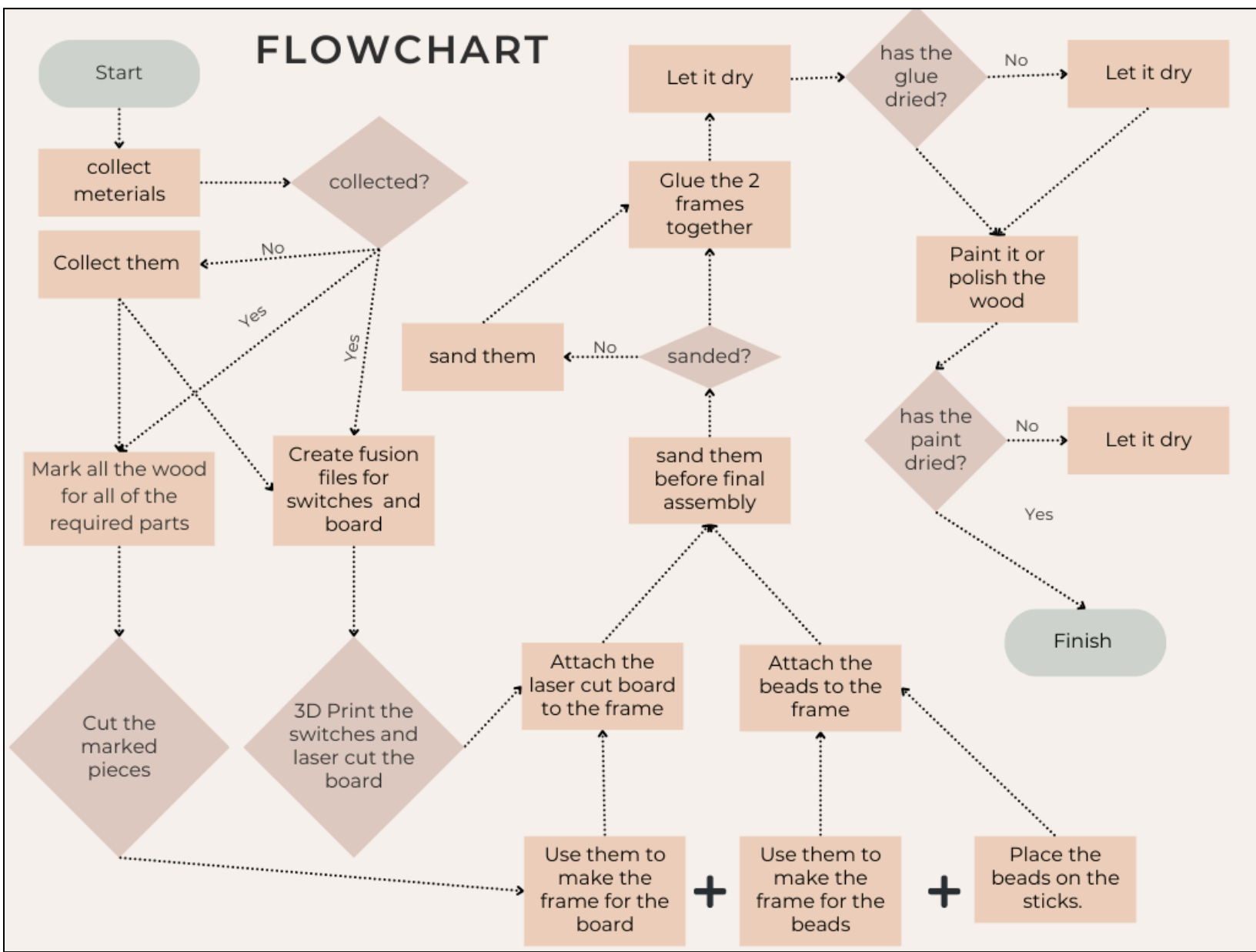
| Step | Description                                                                                                                                                                                                | Materials                                                                                                     | Tools required.                                                                                                                                                                      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>Collect all materials.</b> Acquire all the materials required for the task. Including all unavailable materials. Use scales to measure the appropriate girth for the wood. Identify all required tools. | Pine wood, Mahogany wood, Oak wood, MDF wood, dry erase surface, Wood beads, 3d printed parts, wooden sticks. | Table saw, hand saw, hand drill, Pencil, scale, eraser, screws, Fevicol glue, super glue, clamps, Screw drill head, Paint brushes, palette, laser cutter, 3d printer, nails, hammer. |
| 2    | <b>Mark the planks for the frame housing the beads.</b> Using a pencil and scale to mark the bottom and top surfaces of the product.                                                                       | Pine wood.                                                                                                    | Pencil, scale, eraser.                                                                                                                                                               |
| 3    | <b>Mark the frame</b> that will house the dry erase surface.                                                                                                                                               | Pine wood                                                                                                     | Pencil, scale, eraser.                                                                                                                                                               |
| 4    | <b>Mark the wood to be used</b> for separating the sticks that house the beads.                                                                                                                            | Pine wood                                                                                                     | Pencil, scale, eraser.                                                                                                                                                               |
| 5    | <b>Mark the wood to be used as beads.</b>                                                                                                                                                                  | Oak wood                                                                                                      | Pencil, scale, eraser.                                                                                                                                                               |





|    |                                                                                                                                                                                                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 11 | <b>Collect</b> all of the cut pieces of wood for the frame housing the beads after the polish has dried                                                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | <b>Place the beads on the sticks</b> , place 6 beads on 5 sticks.                                                                                                                                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | <b>Assemble the frame</b> alongside the beads                                                                                                                                                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | <b>Assemble the frame</b> for the dry erase surface..                                                                                                                                                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | <b>Laser cut</b> the board covering the dry erase surface                                                                                                                                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | <b>Attach</b> the switches to the board                                                                                                                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | <b>Cover</b> the frame for the dry erase surface with the board. Use fevicol                                                                                                                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 | <b>Insert</b> the dry erase surface                                                                                                                                                                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | <b>Attach</b> the encasing for the dry erase surface with the frame for the beads.                                                                                                                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | <b>Collect all materials.</b> Acquire all the materials required for the task. Including all unavailable materials. Use scales to measure the appropriate girth for the wood. Identify all required tools. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Flow chart.



Strand ii manufacturing process.

**Measuring / marking,** Here I can be seen measuring the wood and then using pencil and scale to mark the wood. I will use this as a way to guide me through my cutting process



**Cutting,** here I can be seen cutting the wood based on the measurements and marking I made





**Table saw.** Here you can see me using a table saw to cut wood



**Sanding,** here you can see me sanding the wood after it was cut



**Gluing,** here I can be seen using super glue to attract 2 pieces



**Using the hand drill,** I used the hand drill to make holes for sticks to be used for the beads.

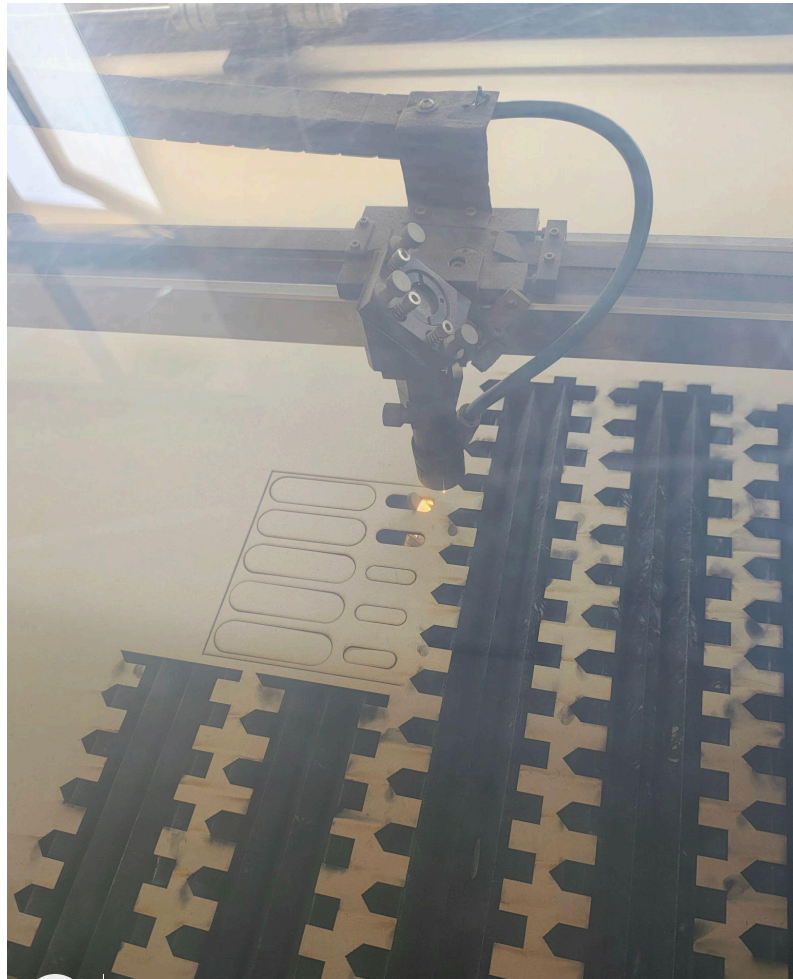




**Painting**, here you can see me painting the product with white paint

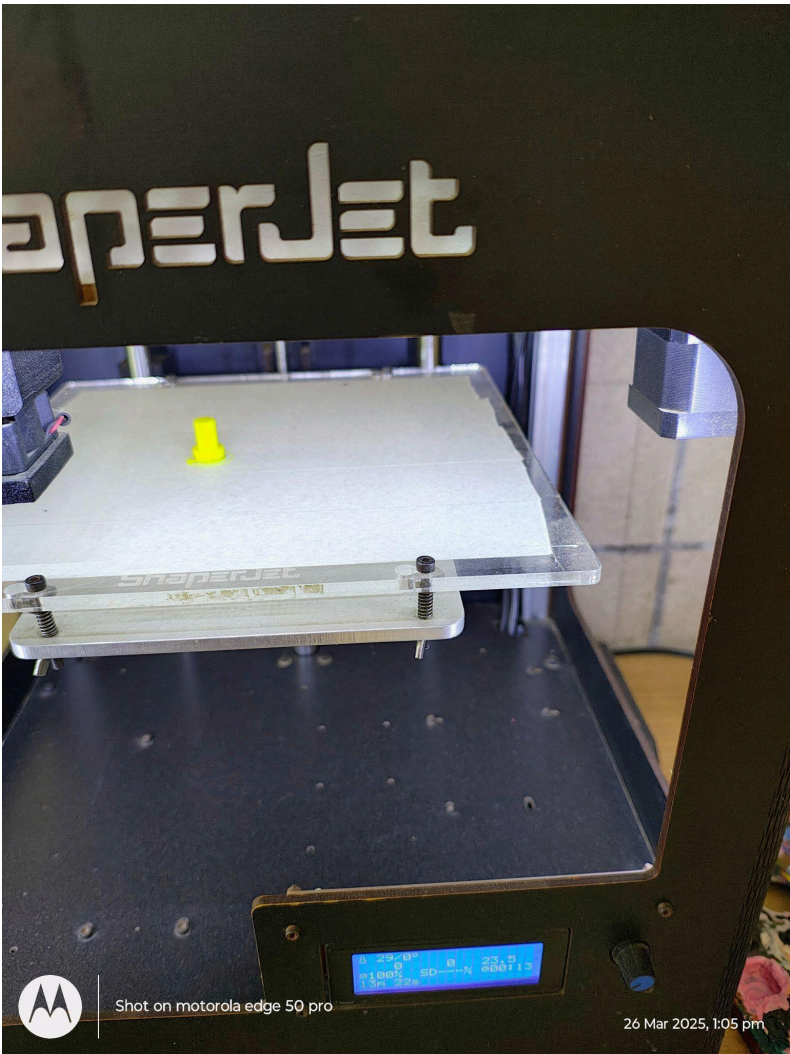


**Laser cutter**, here you can see me using the laser cutter for my product.



**3D printing**, here you can see me using the 3D printer to print pieces of my product.

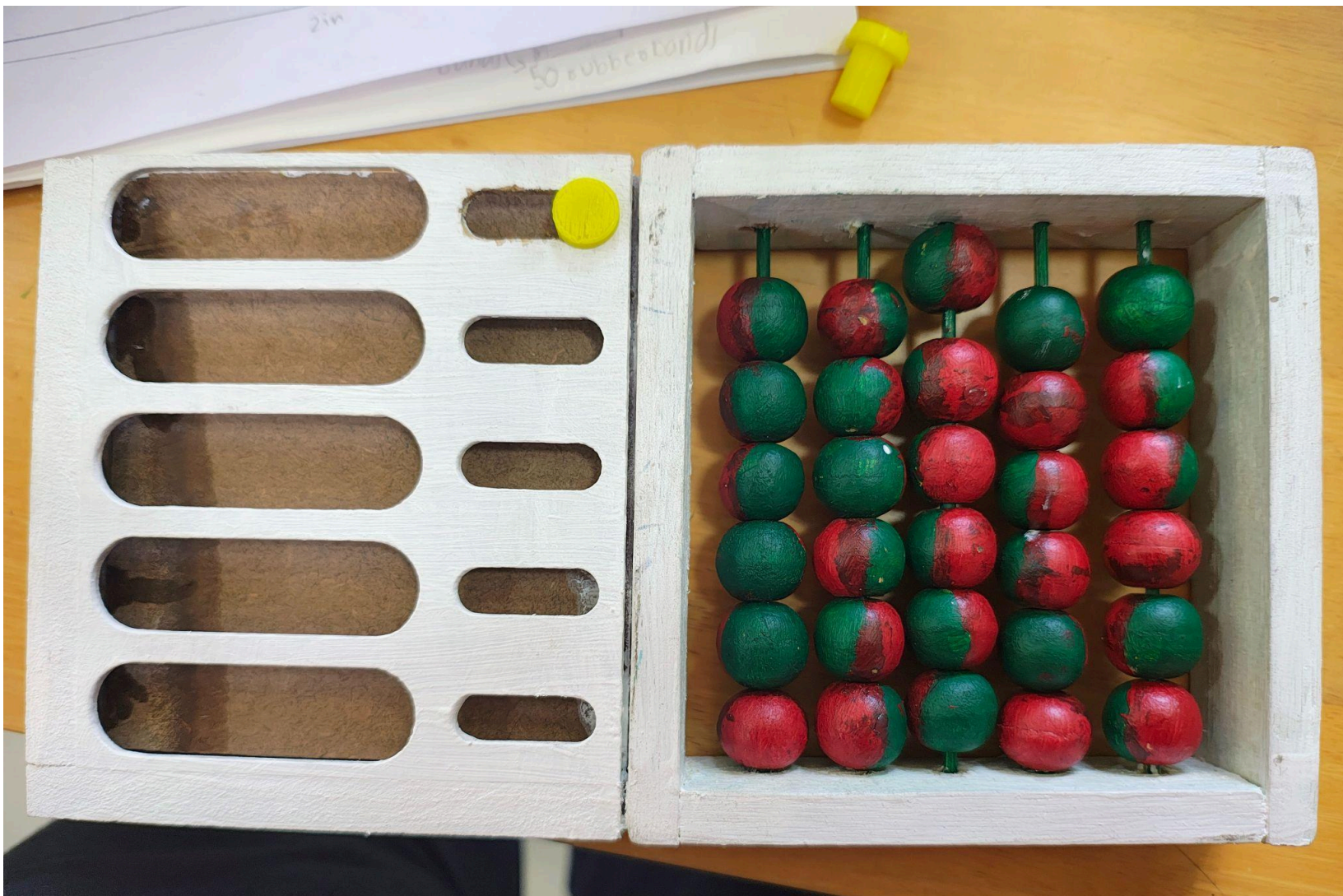




Strand iii solution.







My product came out better and worse in many aspects, it also had some unexpected major changes due to challenges that I faced during the creation of the product. In terms of functionality the product delivered fully, it had all the appropriate number of beads with each being colored half red and half green, as seen in image 1.13. The board used to write down the habits and the board that houses the switches had undergone a major change. As you can see in Image 1.14 the number of spaces have been halved. This was done to improve functionality and ergonomics for the user. The product also saw a huge change in its aesthetics, with different dimensions and instead of polishing the wood I painted it white. This was done because I used cal wood which does not mix well with wood polish.

Based on Criteria A strand 4 the product has changed in most of its goals. Such as instead of having a rustic aesthetic the product has utilized white paint. Although the product as mentioned in the design brief has 3 major components. It also utilizes the dry erase surface as mentioned.

### How to operate the product

Using this product without any context can be hard for that reason. Here is a guide on how to use it. First take out the dry erase sheet under the board. Next Use a marker to write down habits in their designated areas. Put the dry erase surface back inside its pocket. Now Track your habits for the day with the switches next to the habits. If you have completed the habit then flip the switch if not don't turn it. If you have flipped all switches ( completed all habits ) then rotate one bead in the frame to be green, if you missed out on even one habit then the bead should be turned to red. Repeat this for 21 - 30 and if you have all green beads between these days then you will have successfully developed a set of new habits.

### Strand iv changes made to solution.

#### Changes made and justification

The decision to use white paint instead of wood polish significantly enhances the product's aesthetic appeal and practicality. White paint provides a clean, modern, and minimalistic look that aligns with contemporary design trends, making the habit tracker more visually appealing and fitting for a variety of environments, such as study desks, bedrooms, and shared spaces. Unlike wood polish, which enhances the natural grain of the wood but can sometimes darken over time, white paint ensures a consistent and fresh appearance. Additionally, white surfaces reflect more light, improving visibility in different lighting conditions, which makes it easier for users to track their progress. This positively impacts mental well-being by creating a sense of order and organization, reducing stress and promoting focus when engaging with the habit tracker. A well-organized and visually pleasant product encourages consistent use, which is crucial for habit formation. Furthermore, the choice of paint over polish contributes to longevity, as it provides a protective coating that resists stains and wear, ensuring the tracker maintains its high-quality appearance over time. Overall, this change enhances aesthetic quality, usability, and long-term durability, making the habit tracker a more effective and appealing tool for self-improvement.



Replacing mahogany dividers with wooden sticks is a practical modification that significantly improves the product’s weight, cost-efficiency, and portability. Mahogany, while durable and aesthetically pleasing, is a dense and heavy wood that increases the overall weight of the tracker, making it less convenient for users who need a portable tracking solution. By opting for wooden sticks, the product becomes lighter and easier to handle, reducing strain when moving or adjusting the tracker. This modification also makes the manufacturing process more efficient, as wooden sticks are easier to source, cut, and assemble compared to mahogany, leading to reduced production time and material costs. Additionally, reducing the product’s weight positively impacts physical well-being, as users can interact with it effortlessly and without strain. From a mental well-being perspective, having a lighter and more manageable product makes habit tracking a less cumbersome and more enjoyable experience, which is key to ensuring long-term user engagement. The lightweight nature of the wooden sticks also makes the tracker easier to store and transport, ensuring that students can maintain their habit-tracking routine wherever they go. This change ultimately improves the usability, accessibility, and affordability of the product, making it a more practical and convenient tool for habit management. Overall the white paint was used since I did not have woods like pine wood and oak and I was forced to use cal wood which does not look good after being polished. Thus to make sure my product retains its aesthetics I painted it white. The aesthetics also saw a change in size. This was implemented to make sure the product is functional. To make sure we can use 30 beads I had to alter the size a slight bit so we can fit all 30 beads.

Switching from pine wood to cal wood introduces several functional, economic, and sustainability benefits that enhance the overall quality of the habit tracker. Cal wood is known for being more cost-effective while still maintaining a strong and durable structure, ensuring that the product remains sturdy and reliable for long-term use. This is particularly important for students, who often seek affordable yet high-quality solutions for their needs. Additionally, cal wood provides a smoother surface, making it more comfortable to touch and interact with during daily use. This directly impacts physical well-being, as smoother surfaces reduce the risk of splinters or rough textures that might cause discomfort when handling the tracker. In terms of mental well-being, the improved tactile experience makes habit tracking more satisfying and enjoyable, reinforcing positive reinforcement and encouraging consistent engagement. Another key benefit of cal wood is its sustainability, as it is often sourced from managed forests or recycled materials, reducing environmental impact. This aligns with growing concerns about eco-friendly product design, ensuring that users feel confident about using a product that supports responsible material sourcing. Overall, this modification enhances affordability, comfort, sustainability, and user experience, making the habit tracker more accessible, durable, and appealing to a wider audience.

Challenges faces

While creating the product I had faced several challenges that I had to overcome. These challenges included =

- One of the largest challenges I had to overcome was the time management and the delivery time for the product. As mentioned before one of the greatest disadvantages for my product was the delivery time. While selecting the final design I stated how I would focus more on aesthetics and neglect delivery time to ironically save time. This decision had its own advantages and disadvantages. After elevating the aesthetics of the product I did not have much time left, and rushed the assembly process. After completing the product I decided to conduct a small investigation where I decided to check if I had enough time to improve delivery time. Based on rough estimates I would have heavily surpassed the deadline. Although delivery time still remained a huge challenge that I had to overcome
- The next challenge I faced was the shortage of materials. Although I was ready to create the product, the lack of correct materials made it much harder for me to create the product. For this reason I was forced to opt with alternative wood, since the aesthetic was lacking in the alternative wood I painted the wood to elevate its aesthetics. Overall the lack of the correct type of wood was a huge challenge I faced.

Successes

In the end I was still able to see a moderate amount of success. Although the product did not come out as expected It was better than I had hoped in many different ways. Such as the aesthetics, after painting the product the aesthetics of the product were elevated and this unexpected change elevated the aesthetics of my product. Moreover the product also saw a change in the board that covers the dry erase surface. The board saw a reduction in the number of rectangular holes. This allowed for larger holes and overall worked in my favour. But some aspects of the product were worse than expected. For durability and endurance, the sticks on which the beads reside have been observed to be quite weak and prone to breaking. Overall the product both came out better and worse than expected.

Concerns

The main concern as I previously mentioned is the durability of the product. The sticks which house the beads are extremely thin and can be broken easily. This is especially concerning when we consider how much the product will be used. I am also concerned about the board that houses the switches and is above the dry erase surface. The board is made from thin MDF wood and I am concerned about its durability and if it will be able to withstand / endure daily use, especially since the board also houses the switches. In short I am most concerned about the durability of the product and aside from this one aspect I am confident in my products abilities.

Strengths and Weakness

| Strengths                                                                                                                            | Weakness                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3D cad modeling</b> = One of my greatest strength is my ability to seamlessly and effortlessly make any object using Cad modeling | <b>Painting</b> = I consider this as a greate weakness, my hands are very shaky in precise actions and cannot remain still. This makes the |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <p>this strength was very helpful, 3D cad modelling helped me visualize the product before it was made</p> <p><b>Sanding</b> = I quite enjoy the process of sanding I find it satisfying and relaxing and when I am bored I use sandpaper and wood to pass time away, I believe this has allowed me to be great at sanding</p> <p><b>Cutting</b> = I consider this as one of my strengths, my physical strength combined with my good focus allows me to be good at cutting wood.</p> | <p>process of painting very hard for me.</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|

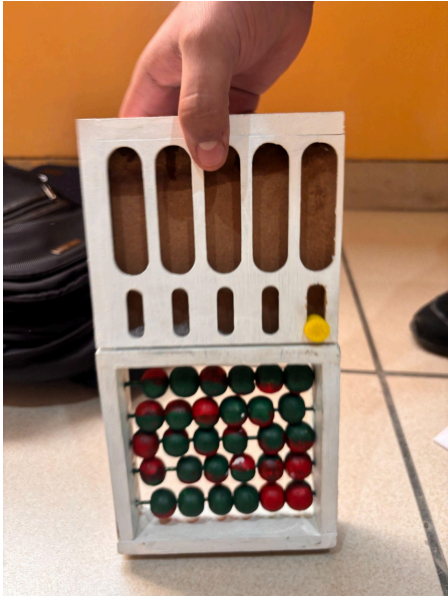
Timeline comparison, real compared to prediction

| St<br>ep | Task                                                                                             | Timeline    |             |             |             |             |             |             |             |             |             |             |             |
|----------|--------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|          |                                                                                                  | 1           | 2           | 3           | 4           | 5           | 6           | 7           | 9           | 10          | 11          | 12          |             |
| 1        | Collect all materials. .                                                                         | <div></div> | <div></div> |             |             |             |             |             |             |             |             |             |             |
|          | Mark the planks for the frame housing the beads.                                                 |             |             |             |             |             |             |             |             |             |             |             |             |
| 2        | Mark the frame that will house the dry erase surface.                                            | <div></div> | <div></div> |             |             |             |             |             |             |             |             |             |             |
| 3        | Mark the wood to be used for separating the sticks that house the beads.                         |             | <div></div> | <div></div> |             |             |             |             |             |             |             |             |             |
| 4        | Mark the wood to be used as beads.                                                               |             | <div></div> | <div></div> |             |             |             |             |             |             |             |             |             |
| 5        | Mark the wood to be used as the board covering the dry erase surface                             |             | <div></div> | <div></div> |             |             |             |             |             |             |             |             |             |
| 6        | Create the fusion files for the switches.                                                        |             | <div></div> | <div></div> |             |             |             |             |             |             |             |             |             |
| 7        | 3D print the switches                                                                            |             | <div></div> | <div></div> | <div></div> |             |             |             |             |             |             |             |             |
| 8        | Cut all of the marked pieces                                                                     |             | <div></div> | <div></div> | <div></div> |             |             |             |             |             |             |             |             |
| 9        | Use the laser cutter to cut the board covering the dry erase surface                             |             | <div></div> | <div></div> | <div></div> | <div></div> |             |             |             |             |             |             |             |
| 10       | Polish the wood, polish all of the cut pieces of wood                                            |             |             |             | <div></div> | <div></div> |             |             |             |             |             |             |             |
| 11       | Collect all of the cut pieces of wood for the frame housing the beads after the polish has dried |             |             |             | <div></div> | <div></div> | <div></div> |             |             |             |             |             |             |
| 12       | Place the beads on the sticks, place 6 beads on 5 sticks.                                        |             |             |             | <div></div> |             |             | <div></div> | <div></div> |             |             |             |             |
| 13       | Assemble the frame alongside the beads                                                           |             |             |             |             | <div></div> | <div></div> | <div></div> |             | <div></div> |             |             |             |
| 14       | Assemble the frame for the dry erase surface..                                                   |             |             |             |             |             |             |             | <div></div> | <div></div> | <div></div> |             |             |
| 15       | Laser cut the board covering the dry erase surface                                               |             |             |             |             |             |             |             |             | <div></div> | <div></div> | <div></div> |             |
| 16       | Attach the switches to the board                                                                 |             |             |             |             |             |             |             |             |             | <div></div> | <div></div> |             |
| 17       | Cover the frame for the dry erase surface with the board. Use fevicol                            |             |             |             |             |             |             |             |             |             | <div></div> | <div></div> |             |
| 18       | Insert the dry erase surface                                                                     |             |             |             |             |             |             |             |             |             | <div></div> | <div></div> | <div></div> |
| 19       | Attach the encasing for the dry erase surface with the frame for the beads.                      |             |             |             |             |             |             |             |             |             | <div></div> | <div></div> | <div></div> |

### Criteria D

### Strand i - Reflection

| Aspect Tested | Test Description | Testing Method and Explanation | Rating (1 - 5) |  |
|---------------|------------------|--------------------------------|----------------|--|
|---------------|------------------|--------------------------------|----------------|--|

|                      |                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                  |   |                                                                                       |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|
| <b>Functionality</b> | <b>Daily and Monthly Habit Tracking Test:</b> Evaluates whether the tracker effectively records and displays progress for both daily and monthly habits. | <p><b>Method:</b> Users were asked to track their habits daily and move the monthly bead system accordingly. Feedback was gathered on ease of use and effectiveness.</p> <p><b>Explanation:</b> The dual-tracking system ensures users remain consistent with their habits while receiving visual progress reinforcement.</p>    | 5 |                                                                                       |
| <b>Ease of Use</b>   | <b>User Interaction Test:</b> Determines if users can intuitively use the tracker without confusion or additional guidance.                              | <p><b>Method:</b> A group of students used the tracker for a week without instructions. Their ability to understand and use the system was observed.</p> <p><b>Explanation:</b> A habit tracker should be simple to use, and results showed that users quickly adapted to the flipping switch and dry-erase tracking method.</p> | 5 |                                                                                       |
| <b>Durability</b>    | <b>Material Wear and Tear Simulation:</b> Tests how well the tracker holds up over time with regular use.                                                | <p><b>Method:</b> The tracker is placed under stress from heavy objects.</p> <p><b>Explanation:</b> The durable 3D-printed and wooden materials resisted wear, though some minor cleaning was required for the dry-erase sheet.</p>                                                                                              | 4 |   |
| <b>Portability</b>   | <b>Transport and Handling Test:</b> Assesses how easy it is to carry and reposition the tracker.                                                         | <p><b>Method:</b> The product will be dropped three times.</p> <p><b>Explanation:</b> The compact design allowed for easy transport, though some users preferred a more lightweight alternative.</p>                                                                                                                             | 4 |  |
| <b>Customization</b> | <b>User Preference Adaptability Test:</b> Determines whether users can modify the tracker to suit their personal habit-tracking needs.                   | <p><b>Method:</b> Users were asked to modify the habit slots and dry-erase sheet while tracking different routines.</p> <p><b>Explanation:</b> The tracker allows for name changes on the sheet, but the fixed structure limits further customization.</p>                                                                       | 3 |  |



## Strand ii - evaluation against design specifications.

| Specification                                                                                                                                                                                                                                           | Met / not met | Justification                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Aesthetics</b> = . The product should present rustic aesthetics based on wood with natural colors and no paints. The product will be shaped as a cuboid and will have a glossy texture.                                                              | Not met       | The product does not have a rustic aesthetic nor does it have natural wood colors. The product uses white paint for aesthetics and it does have a glossy texture while being a cuboid but since it was not rustic themed these specifications were not met.                                                                                             |
| Function = The product should portray a dual tracking functionality with clicky and satisfying switches. The product also needs to make sure that the beads are half red and half green. The writing down of habits should be done over and over again. | Met           | The product excellently demonstrated the dual tracking functionality using the beads and the switches. The product also has dual colored beads. The product also has clicky and satisfying switches. The product also uses a dry erase surface to make sure it is reusable.                                                                             |
| <b>Cost</b> = The product should not cost more than 1000 rupees                                                                                                                                                                                         | Met           | The product only cost one fifth of the budget, and thus it heavily exceeded this specification.                                                                                                                                                                                                                                                         |
| <b>Materials</b> = It should use high quality and durable wood. The product should also use materials like plastic.                                                                                                                                     | Met           | The product met these conditions, it used high quality cal wood. This wood is quite durable while still being cheap and light. The product also uses MDF for any laser cut parts. In short the product used correct materials and met the design specifications.                                                                                        |
| <b>Safety</b> = The product should ensure that the mental or physical wellbeing of the user is not impacted in any way.                                                                                                                                 | Met           | The product meets these specifications by making sure that all of the edges and vertices are sanded. The product's main surface was also sanded to make sure it was as smooth as possible. The product also uses white as its primary color which represents peace, calm and tranquility. Thus it positively affected the mental wellbeing of the user. |
| <b>Ergonomics</b> = The product needs to be light and not bigger 400 x 500mm.                                                                                                                                                                           | Met           | The product meets by being 230 x 115mm in total dimensions, it remains light by using lightweight MDF and cal wood.                                                                                                                                                                                                                                     |
| <b>Sustainability and environmental impact</b> = It should be made from sustainable materials that can be recycled                                                                                                                                      | Met           | It meets this limitation by using large quantities of MDF wood, which is recycled wood.                                                                                                                                                                                                                                                                 |
| <b>Delivery time</b> = 3 days before the delivery date.                                                                                                                                                                                                 | Not met       | This was not met, as I mentioned before I neglected delivery time and because of this I had failed this design specification.                                                                                                                                                                                                                           |

## Strand iii - Possible improvements

| Aspect                | Justification & How to Improve                                                                                                                                                                                                                                                               |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Choice       | While MDF and pine wood are affordable and sustainable, they may not be as durable as hardwood alternatives. Using a higher-quality wood like teak or oak could improve longevity and resistance to wear. Additionally, applying a protective coating could have prevented damage over time. |
| Tracking Mechanism    | The bead and switch mechanism is engaging but could have been refined for smoother interaction. Using stronger, more tactile switches and adding a more secure bead-locking system would have prevented accidental movements and improved accuracy.                                          |
| Portability           | Although the product is designed to be portable, ensuring it remained lightweight while maintaining its durability was crucial. Exploring alternative lightweight but strong materials such as bamboo or composite wood could have enhanced portability without compromising strength.       |
| Customization Options | While the product includes a dry-erase section, additional customization options like interchangeable panels, adjustable habit slots, or a modular layout could have made it more versatile for different users.                                                                             |

|                          |                                                                                                                                                                                                                           |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aesthetics               | The rustic theme aligns with the client’s preference, but offering additional color or finish choices (such as darker stains or engraved details) could have catered to a broader audience and enhance user appeal.       |
| Manufacturing Efficiency | The current production timeline is one week, but refining the assembly process—such as pre-cut components or laser engraving instead of manual detailing—could have reduced manufacturing time while maintaining quality. |

This table outlines potential improvements for enhancing the durability, usability, aesthetics, and efficiency of the habit tracker while ensuring it remains practical and appealing to users.

### Difficulties faced

**Time management** = As I have mentioned many times before one of my greatest difficulties was managing my time properly, because of improper time management I was faced with looming deadlines and rushed my work in many different aspects.

**Lack of proper materials** = As mentioned above I lacked the correct material to make my product, this eventually forced me to use alternative woods.

## Strand (iv) - Impact on Client and Target Audience

For my client’s opinion, I sent pictures of the completed product, including images from tests. I also filmed various aspects of the product to showcase its features and functionalities. Additionally, I provided data sheets with key statistics and measurements. Lastly, I conducted a questionnaire where the client rated different aspects of the product and provided feedback.

### Client's Opinion on the Product

| Success Criteria                | Client’s Opinion                                                                                                                                                | Rating (1-5) |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Daily Habit Tracking            | The product effectively tracks daily habits with its switch system. It is easy to use, and the visual indicator makes it clear when a habit has been completed. | 5            |
| Monthly Progress Tracking       | The bead system works well for tracking long-term progress, but the beads could be slightly easier to turn.                                                     | 4            |
| Ease of Use                     | The tracker was intuitive, and I did not need additional instructions to understand how to use it.                                                              | 5            |
| Durability and Material Quality | The materials felt sturdy and high quality, but the dry-erase surface required frequent cleaning.                                                               | 4            |
| Portability                     | The tracker is compact and easy to carry, but it could be lighter for better mobility.                                                                          | 4            |
| Aesthetic Appeal                | The rustic wooden finish looks great and fits well with my room decor.                                                                                          | 5            |

### Client’s Opinion on Specific Features

| Feature           | Client’s Rating and Feedback                                                                 | Rating (1-5) |
|-------------------|----------------------------------------------------------------------------------------------|--------------|
| Switch Mechanism  | The switches provide a satisfying tactile feel, making it engaging to track habits.          | 5            |
| Bead System       | The bead movement is effective but could be slightly smoother.                               | 4            |
| Dry-Erase Surface | The ability to write and erase habits is useful, but the surface required frequent cleaning. | 4            |
| Size and Weight   | The tracker is well-sized, but making it lighter would improve portability.                  | 4            |



|               |                                                                                |   |
|---------------|--------------------------------------------------------------------------------|---|
|               |                                                                                |   |
| Customization | Limited customization options; adding modular tracking areas would be helpful. | 3 |

## Client Questionnaire Responses

### Q1: How well does the tracker help you stay on top of your habits?

- "The tracker is a great way to keep track of my habits, and the physical interaction makes it much more engaging than digital alternatives."

### Q2: Is the product easy to use and maintain?

- "Yes, it is simple and effective. The only small issue is that the dry-erase surface needs frequent cleaning."

### Q3: Would you recommend this product to other students?

- "Definitely. It’s a great way to stay consistent with habits. If a lighter version was available, it would be even better."

### Q4: Are there any changes you would make?

- "Making the beads smoother to turn and improving the weight distribution for portability would be helpful."

**Final Reflection** The feedback received highlights that the habit tracker successfully fulfills its purpose by making habit tracking engaging and effective. The physical interaction and visual reinforcement help maintain consistency, and the rustic aesthetic appeals to users. The primary areas for improvement include enhancing customization, refining the bead movement, and optimizing the product's weight for better portability. Overall, the product meets its intended goal and provides a useful solution for habit management among high school students.