

PEGBOARD GLASS CABIN

Physical Product Design Project
CASE STUDY

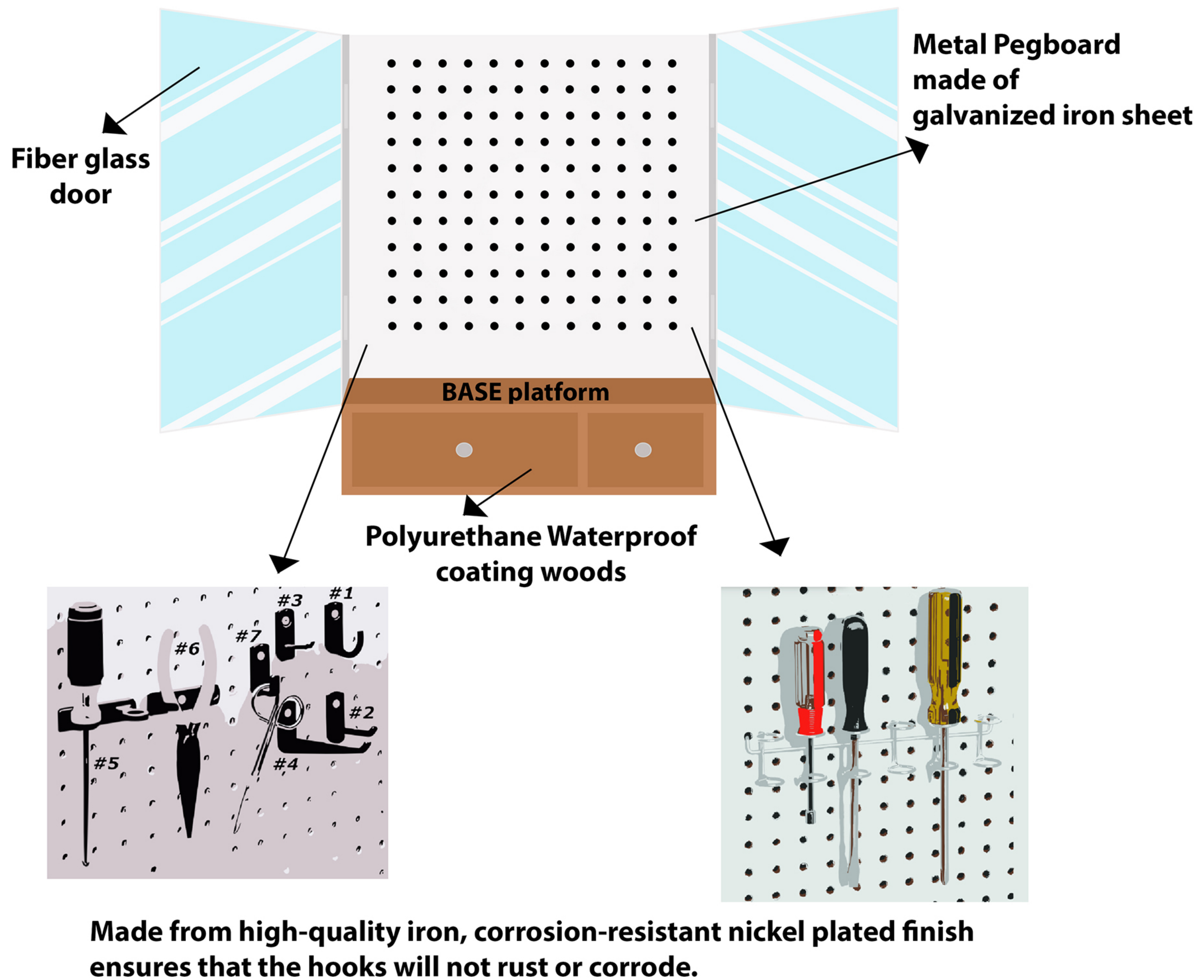
Deekshith Suresh

Introducing the story of how I end up with Glass Door Pegboard



The project was implemented to ease the users to select the required tools from their storage area. Storage area is one of the areas where users spend a lot of time and efforts to find their required items. Here this project focuses on the user journey of finding the required tool - Screwdriver from the storage area where pain points faced by the user are **time consuming, efforts taken** and **Hand injury** while searching tools. Let's get started!

Let's have a glimpse of my usability Product - Glass Door Pegboard



It's better to understand the designed product first and its features, thus you will understand how I approached the methods to understand the pain cause faced by the users and reaching the solutions.

The product is pegboard with glass door rather than just pegboard (see in usual markets). Our user goal is easliy finding and selecting tools from storage area with less effort,less time, good condition of tools and hand free injury

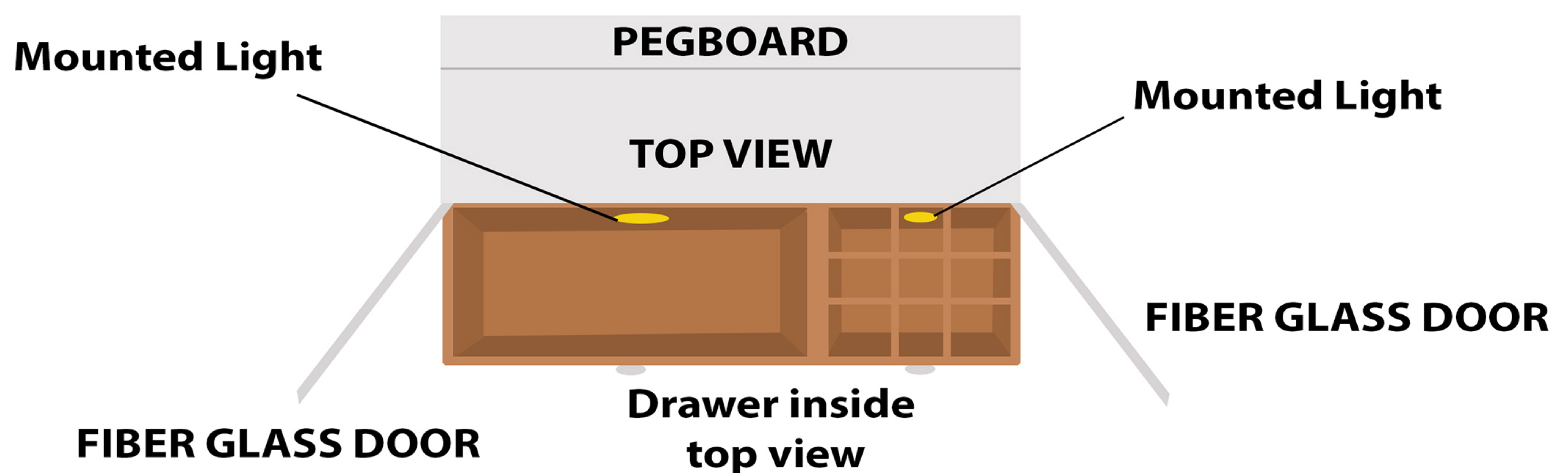
Fiber glass helps to provides a barrier against moisture, chemicals, and other environmental factors that can cause rust and corrosion.

Fiberglass is also highly resistant to impact damage.

There by One of the painpoints faced by user can be avoided making tools to stay in good condition.

Fiber glass also helps to see from outside whether tools are there without even taking extra effort to open.

There by One of the painpoints faced by user can be avoided without taking extra effort and save time.



Drawers are of Polyurethane coating woods is a waterproofing wood coating and is considered the best way to waterproof wood that is durable and provides a long-lasting waterproof wood finish, protects the wood from water and moisture damage.

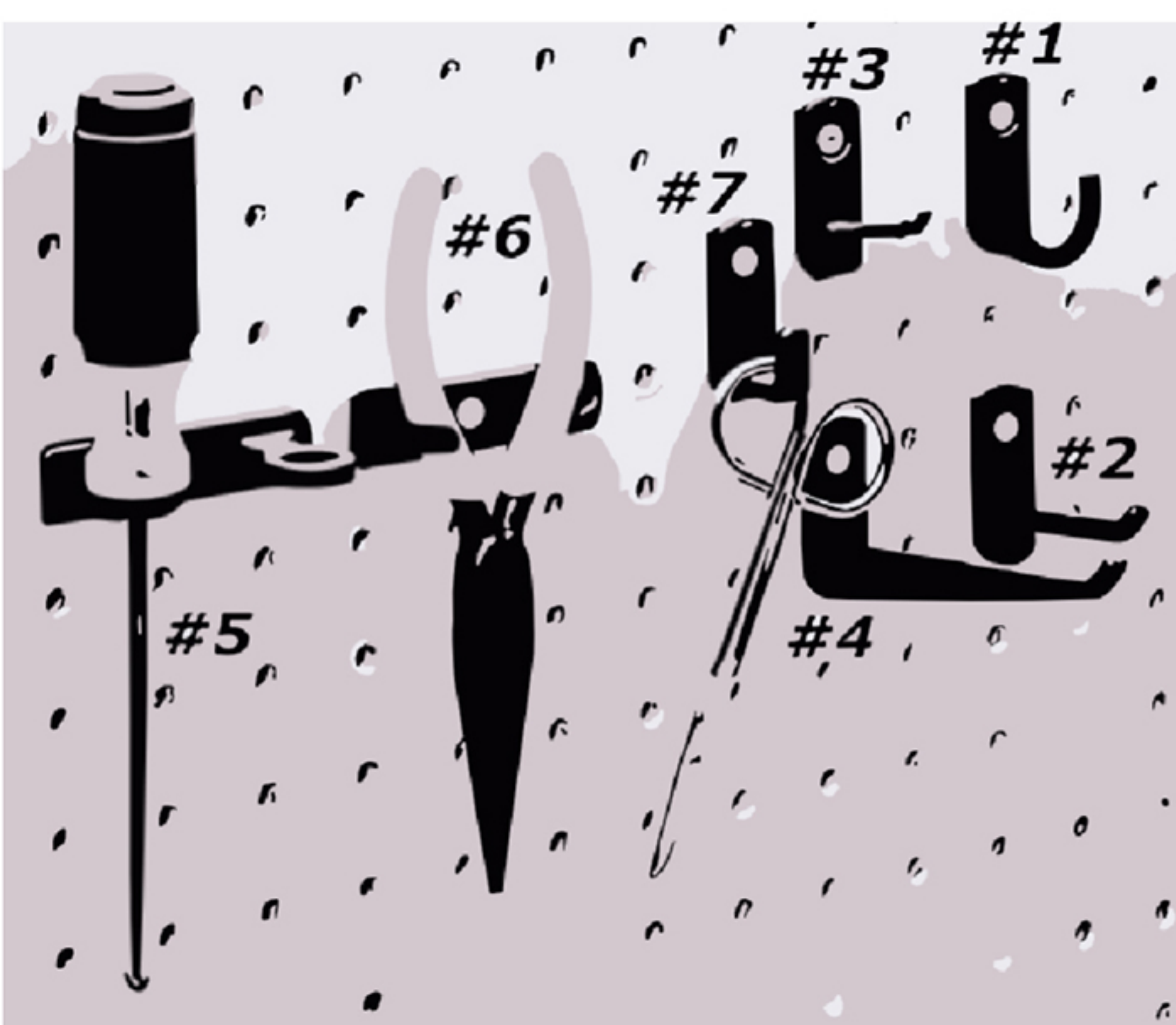
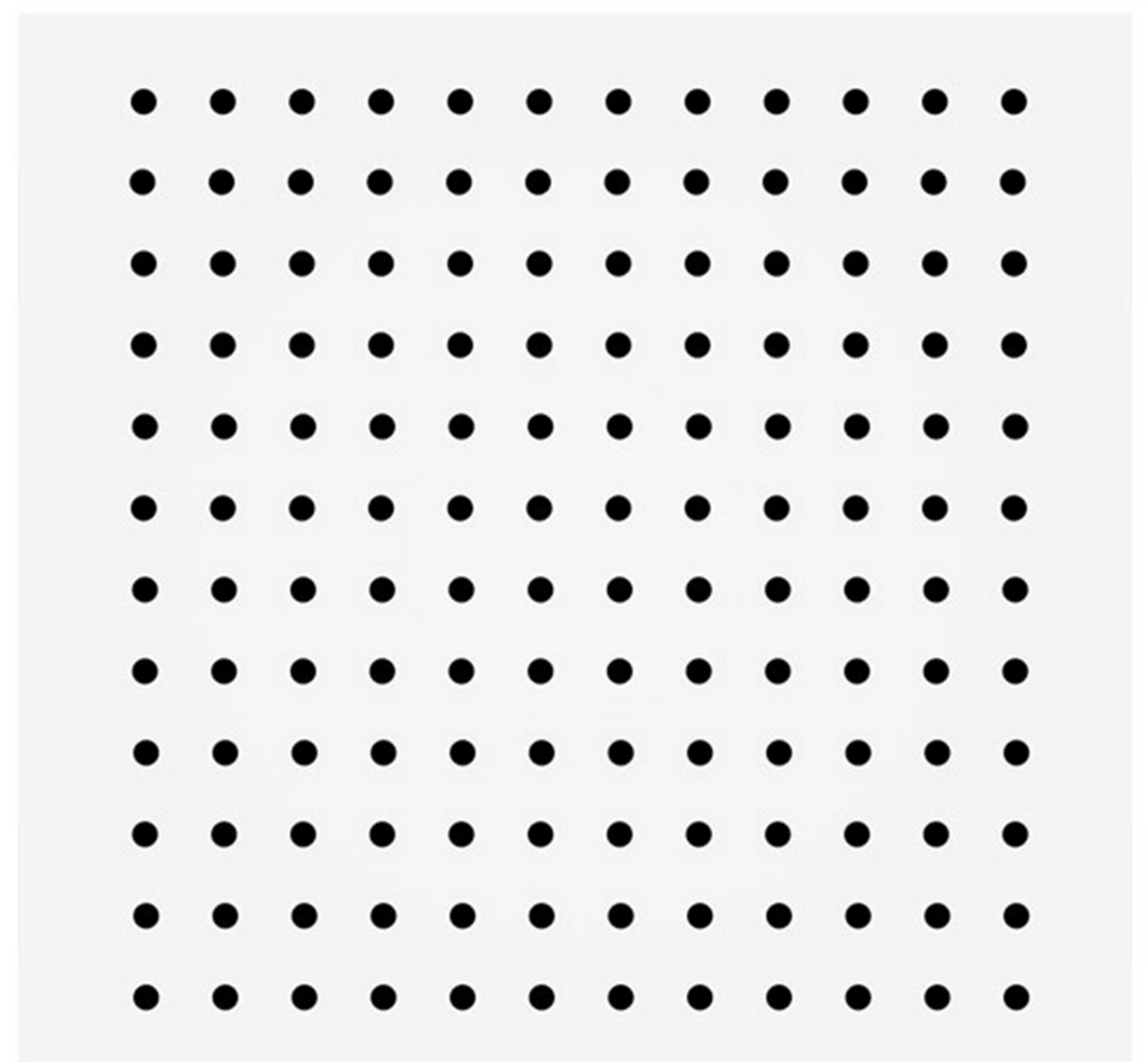
There by One of the painpoints faced by user can be avoided making tools to stay in good condition

Another feature is platform base over the drawer within the pegboard to keep the heavy tools and to be visible. Also there is mounted light inside the drawer to be visible of what inside it clearly.

There by One of the painpoints faced by user can be avoided finding tools efficiently

Galvanized iron sheet pegboard is applying a protective zinc coating to iron or steel, to prevent rusting.

There by One of the painpoints faced by user can be avoided making tools to stay in good condition



Hooks Made from high-quality iron, corrosion-resistant nickel plated finish ensures that the hooks will not rust or corrode.

There by One of the painpoints faced by user can be avoided making tools to stay in good condition

Every Solution derived only because of problem exist. Let's focus on the Core problems that inspires me to design a usability product

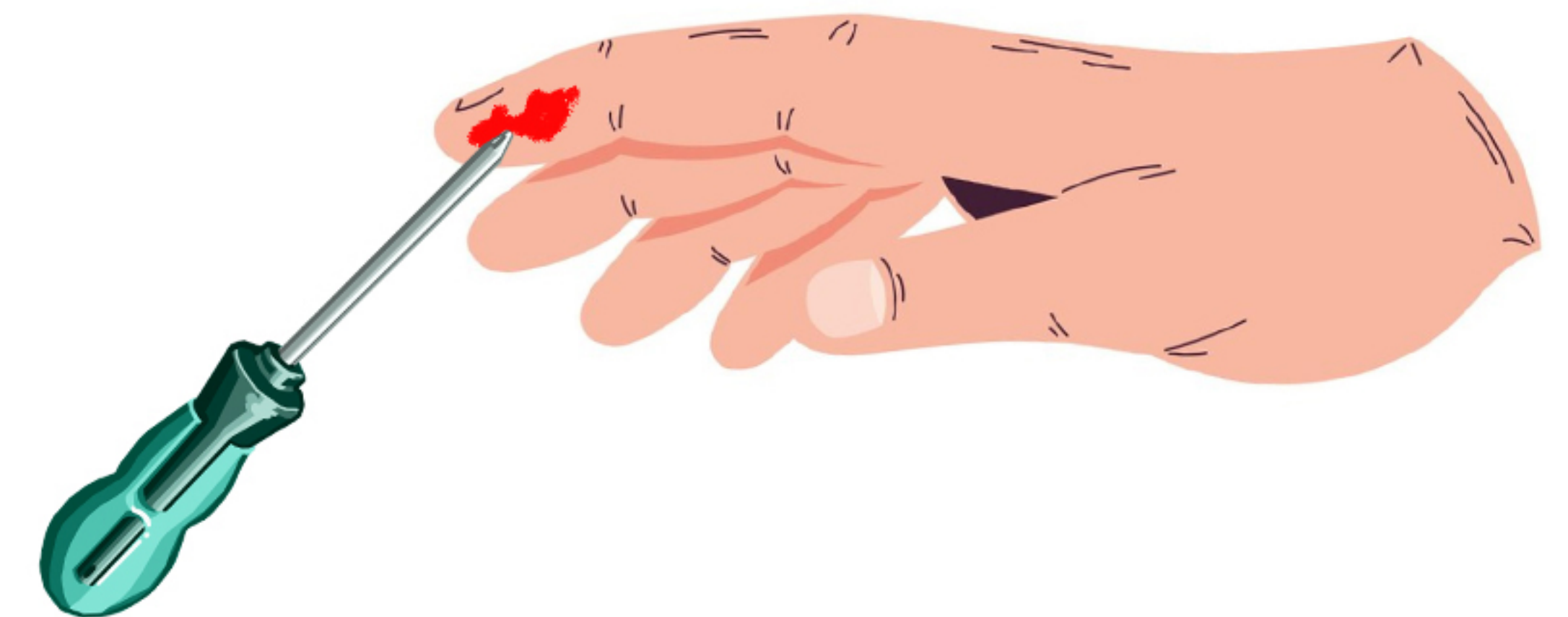
HIGH TIME CONSUME
TO FIND AND SCAN
TOOLS



HIGH EFFORT TAKEN
TO SELECT THE REQUIRED
TOOLS



HAND PRONE INJURY
WHILE FINDING TOOLS USING
HANDS IN A BOX/SHELF



The user journey focuses on storage area where user wants **to find screw driver** for to assemble furniture. For that they entered the storage area thinking screw driver might find in cardboard box or somewhere in shelves.

By user journey perspective, sub - goal is the user scans the items of the electronic tool box to locate the desired tools. By evaluating the entire journey ,we found some of the painpoints faced by the users mentioned in above diagram.

The interesting part - Focus your sight at my journey from finding the problems in a storage area to designing a Glass door pegboard

In storage area, I come up with secondary research of various storage products and journeys that user would often experience from user goals. Journeys are clothes closet area, basement storage for Holiday decorations and storage of tools in storage areas.



Choosing Clothes closet from storage

Finding Decoration from storage basement



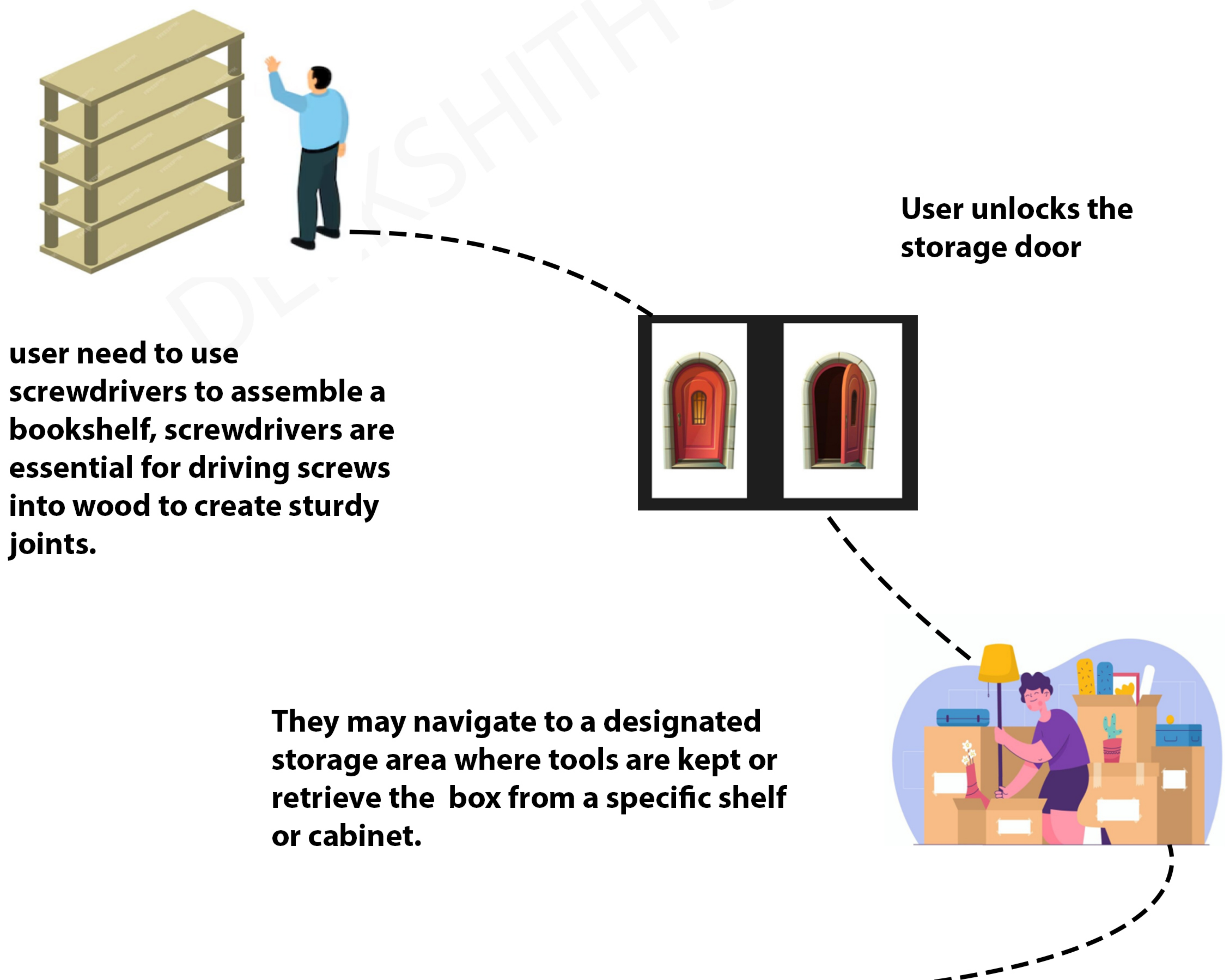
Selecting Electronic Tools



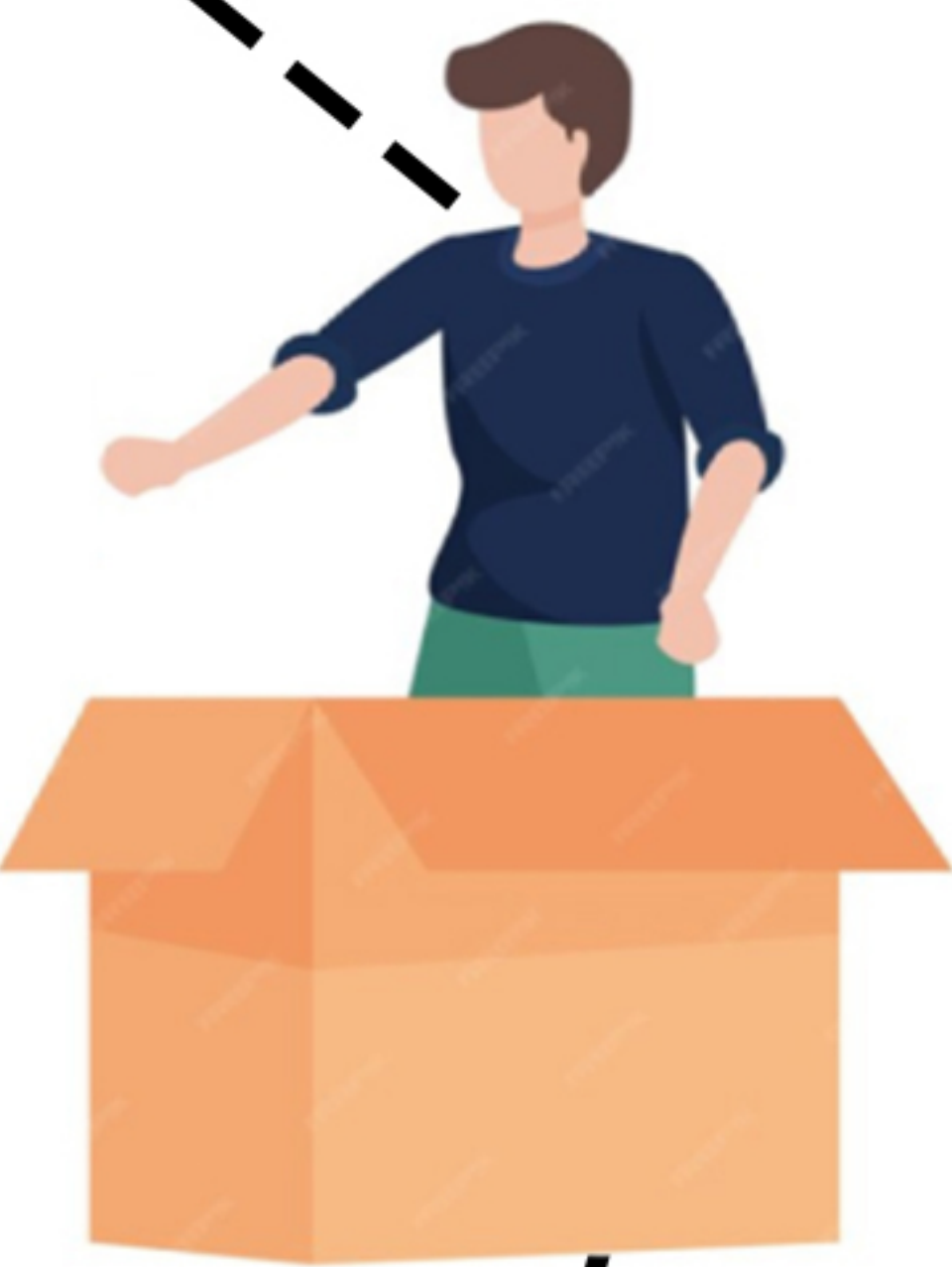
Since I had many user goals, I took the crucial moment of using **converging method** where i converged 3 main user goals from various which i mentioned earliet in previous page. All those 3 user goals , i started to go with the help of **secondary research** insights the journeys and pain points faced by the user and finds the user journey '**finding tools from storage areas**' more important.

Below shows the user journey and pain points faced by the user.

USER JOURNEY :



The user opens the cardboard box to access its items.



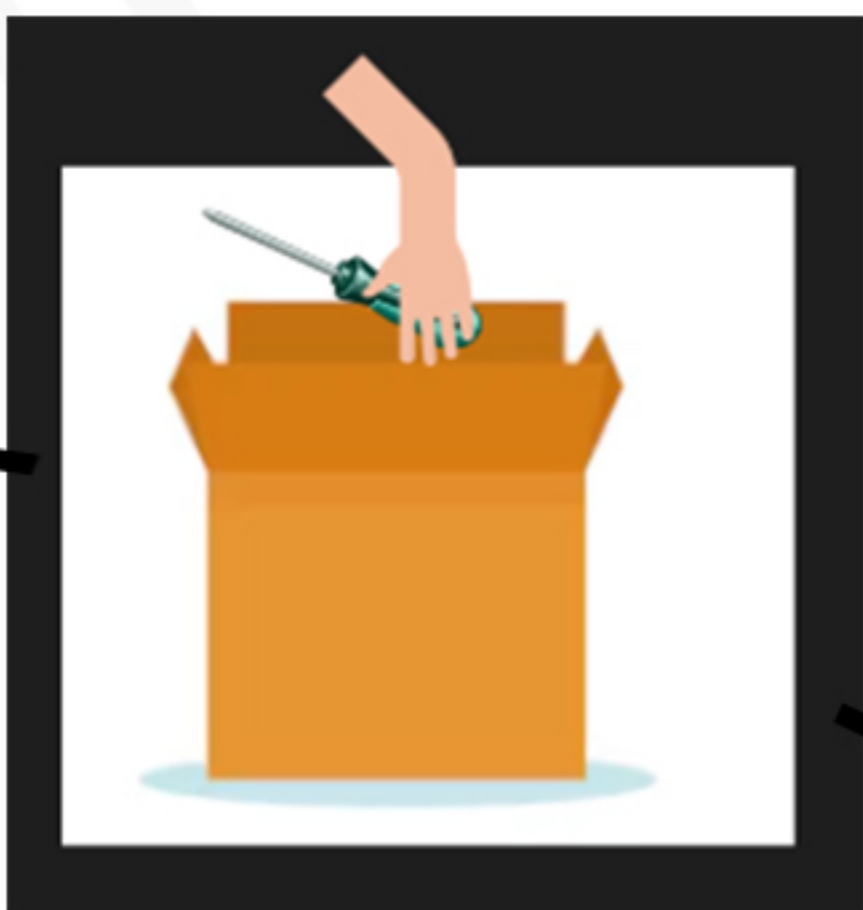
The user visually scans the items of the tool box to locate the desired tools, and not found, thereby taking more time to find the desired tools, the user begins a systematic search within the cardboard box.



then user use their hands to search through the items or shuffle items to reveal hidden tools.



The user identifies the screwdrivers, based on their visual appearance and functionality.



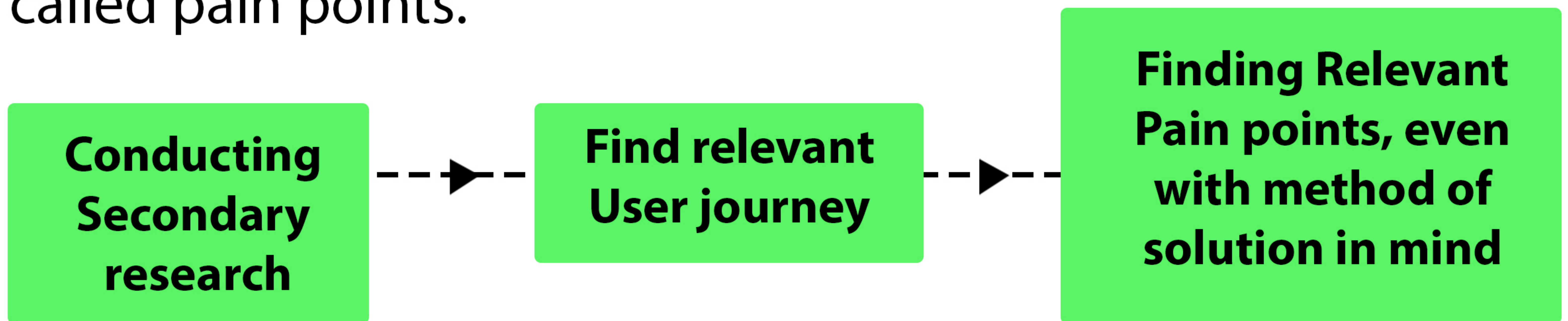
Find the tool in bad conditon.



searched again, After retrieving the necessary tools, the user closes the box to keep its items secure.



After expanding user journey, As a Design thinking perspective, needs to find problems faced by the user, also called pain points.



The most important thing to remember is when generally finding the problems, the obvious problems that comes to our mind would be surface level problems. Thus we have to undergo deep thinking process to find the relevant problem with details of how and why the problem there

PAIN POINTS :

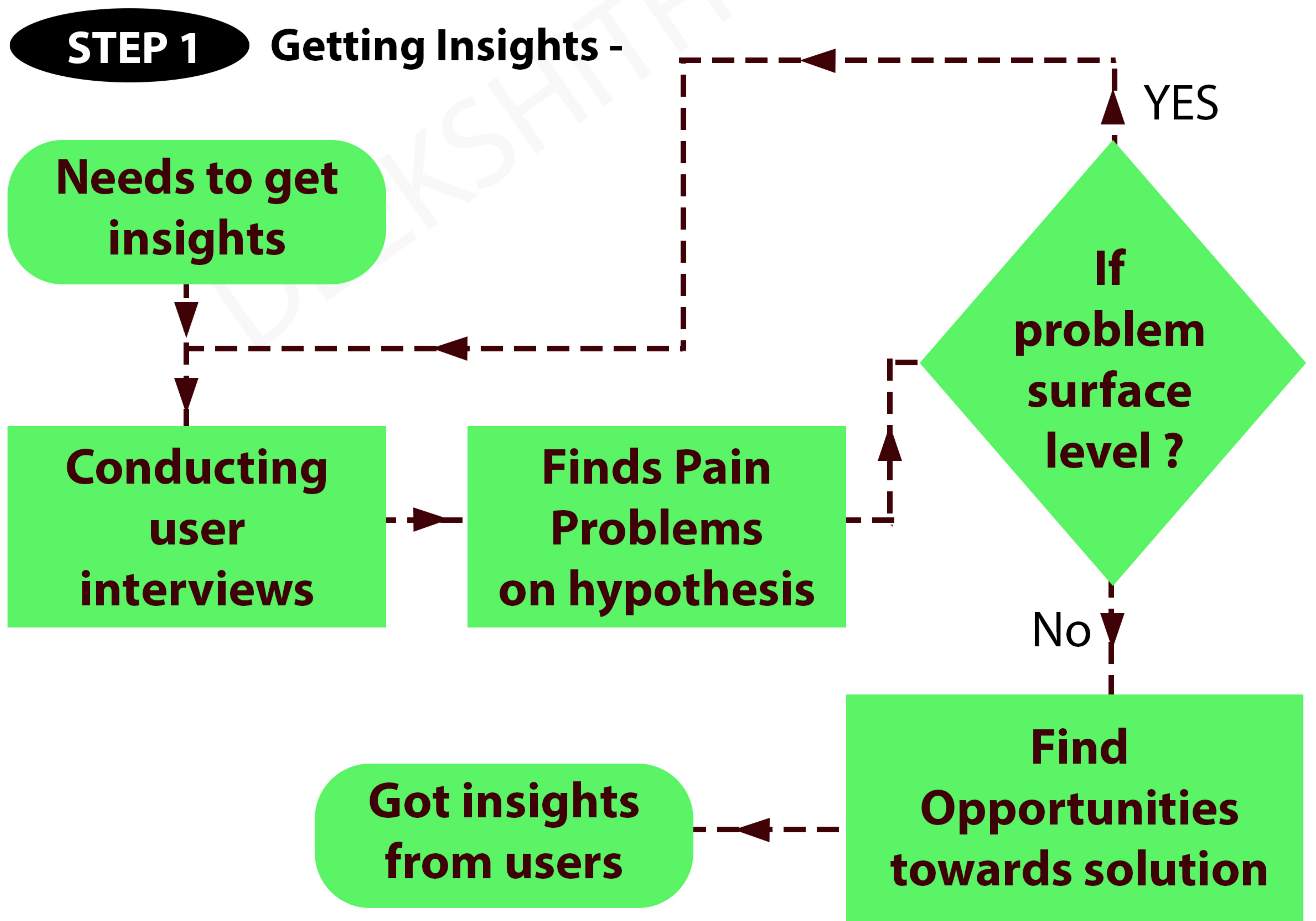
- 1.While entering storage area, user tends to be difficult to find and sluggish due to unsure of where tools were kept as many boxes and shelves were there.
- 2.User finds difficulty in terms of effort to search every boxes and shelves, finds the tool kept box, open the cardboard box where tools were kept.
- 3.since there were lot of tools, user started to visually scan in detail. Desired tools are not immediately visible, the user begins a systematic search within the cardboard box. and thereby lost time.

4.user also used their hands to shuffle tools to find the required tools, thereby making their hands injury prone from sharp pointed tools.

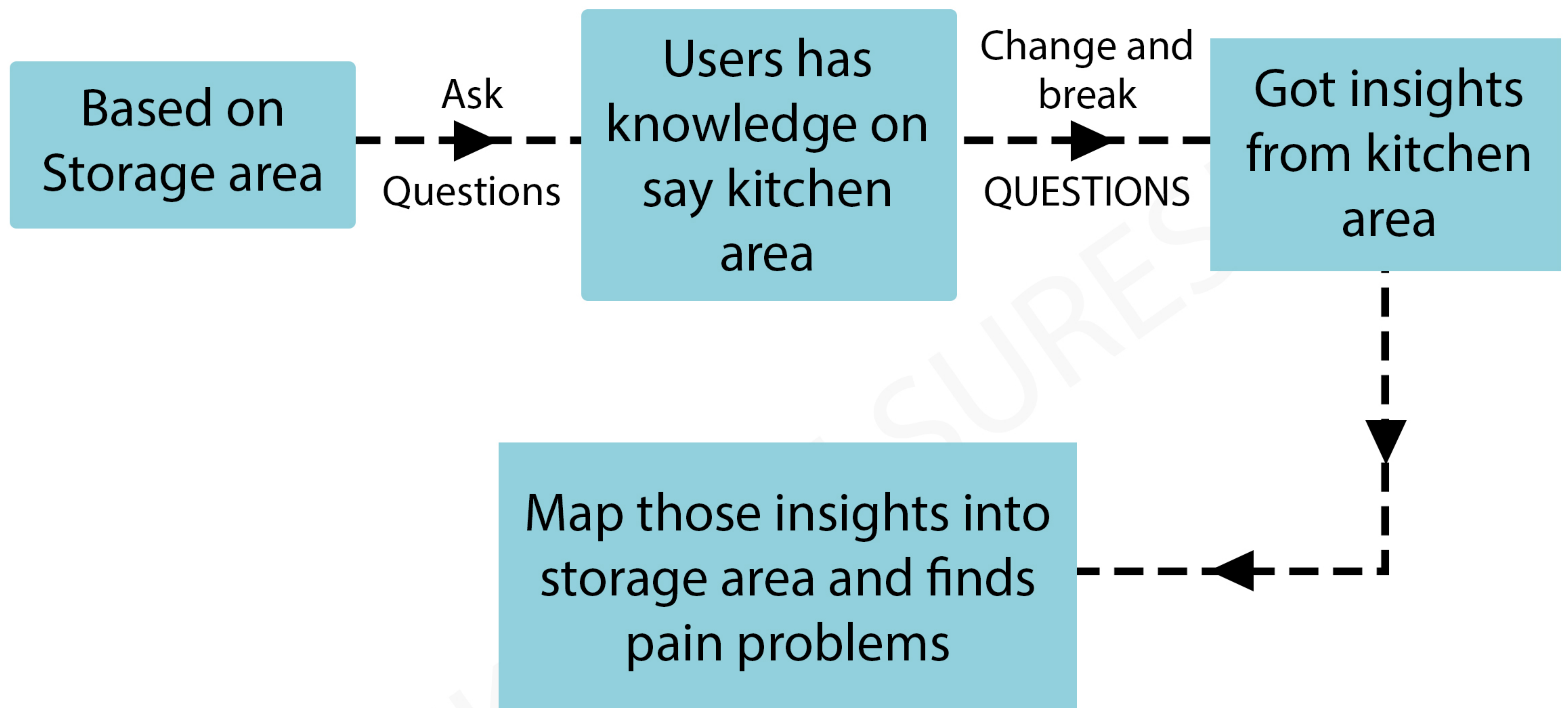
5.Once user finds the tool, was in bad condition , there by assembling of furniture further delays and time loss.

Conducting User Interviews :

Now we need more insights from the users and hence did interviews with 3 peers . The idea was to understand whether they were facing same consistent problems or whether to add more problems to my hypothesis faced by them.



While conducting interviews, we may not get direct painpoints based on the areas we want. So ask questions or break questions into like story or investigation to make user reach to required area or ask hypothetical questions like if you do this etc or ask questions to make them to tell story like what did you do yesterday and delving deeper into micro-situations, actions, or decisions made by user

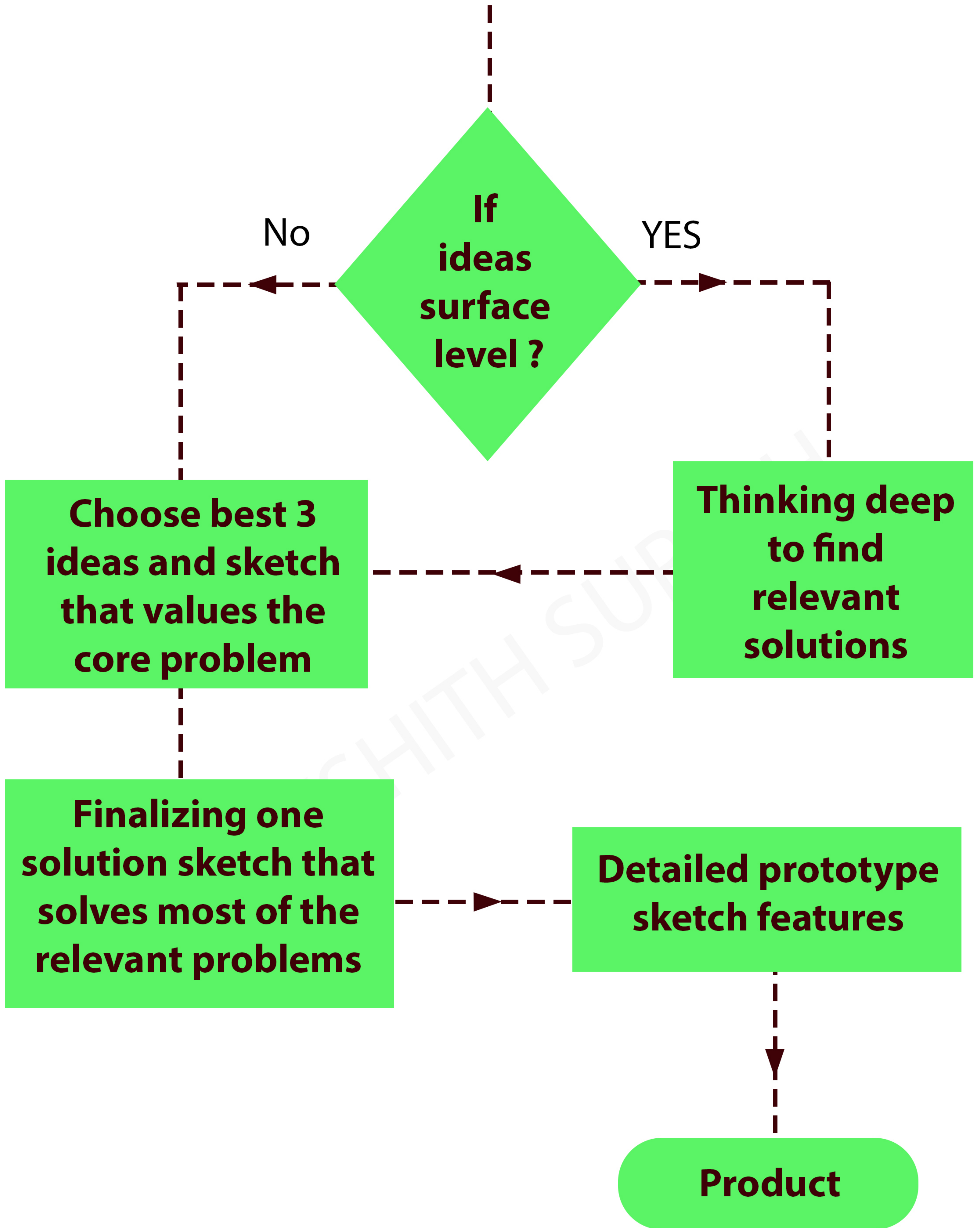


STEP 2 Finding Solutions and Product -

Needs to get Solutions

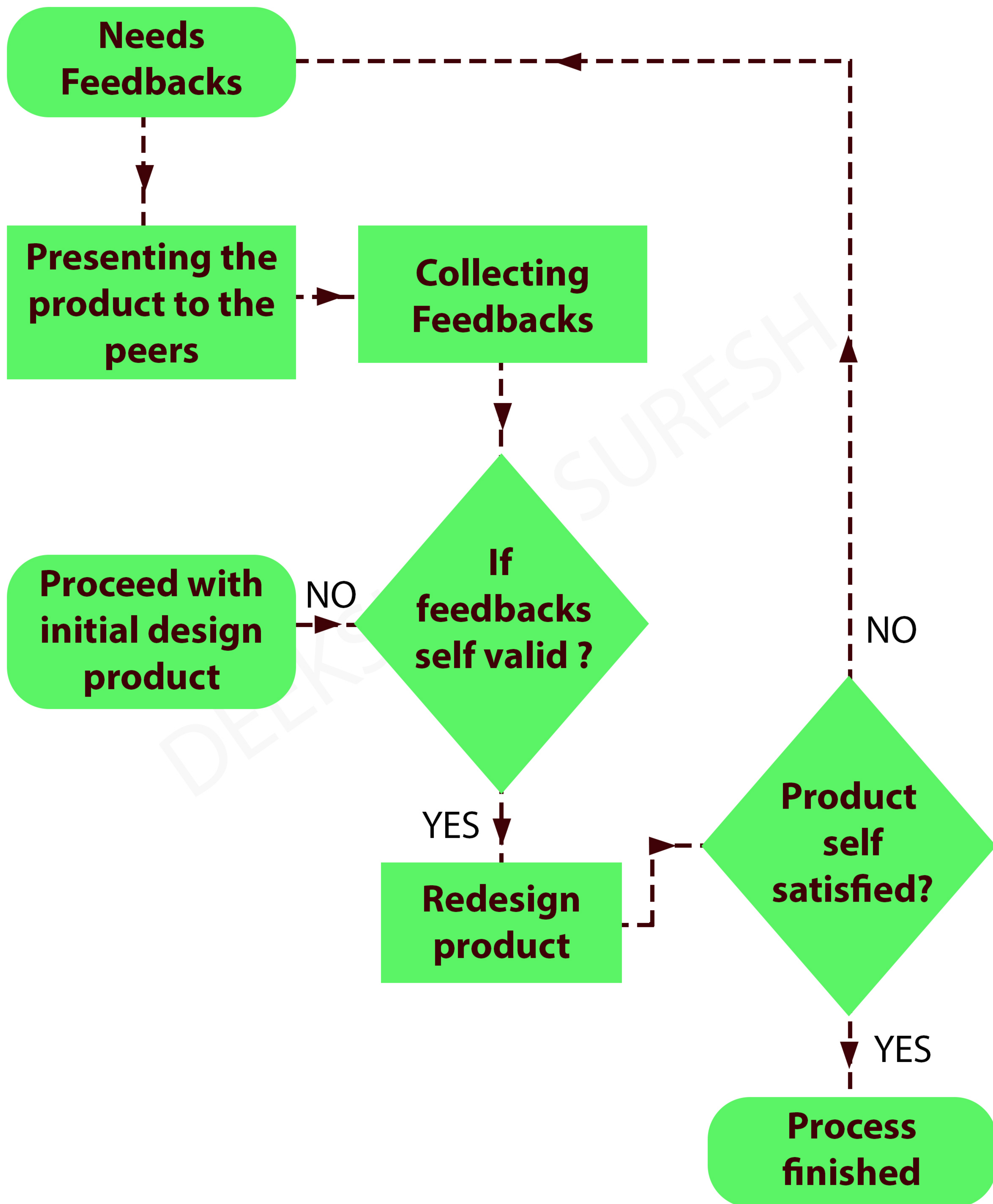
Conducting Crazy 8 method

Getting ideas



STEP 3

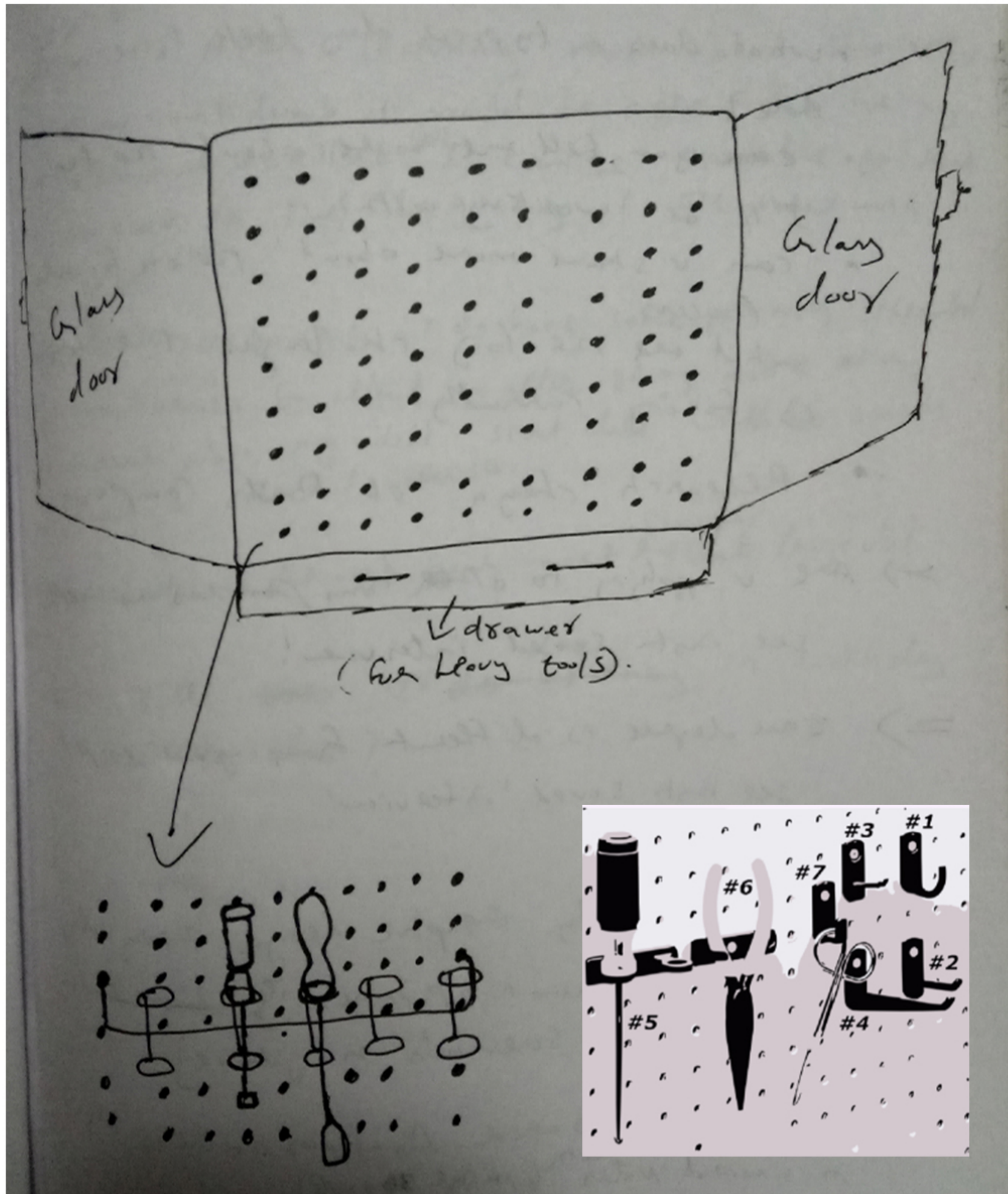
Testing and Redesign the product -



Three best Solutions :

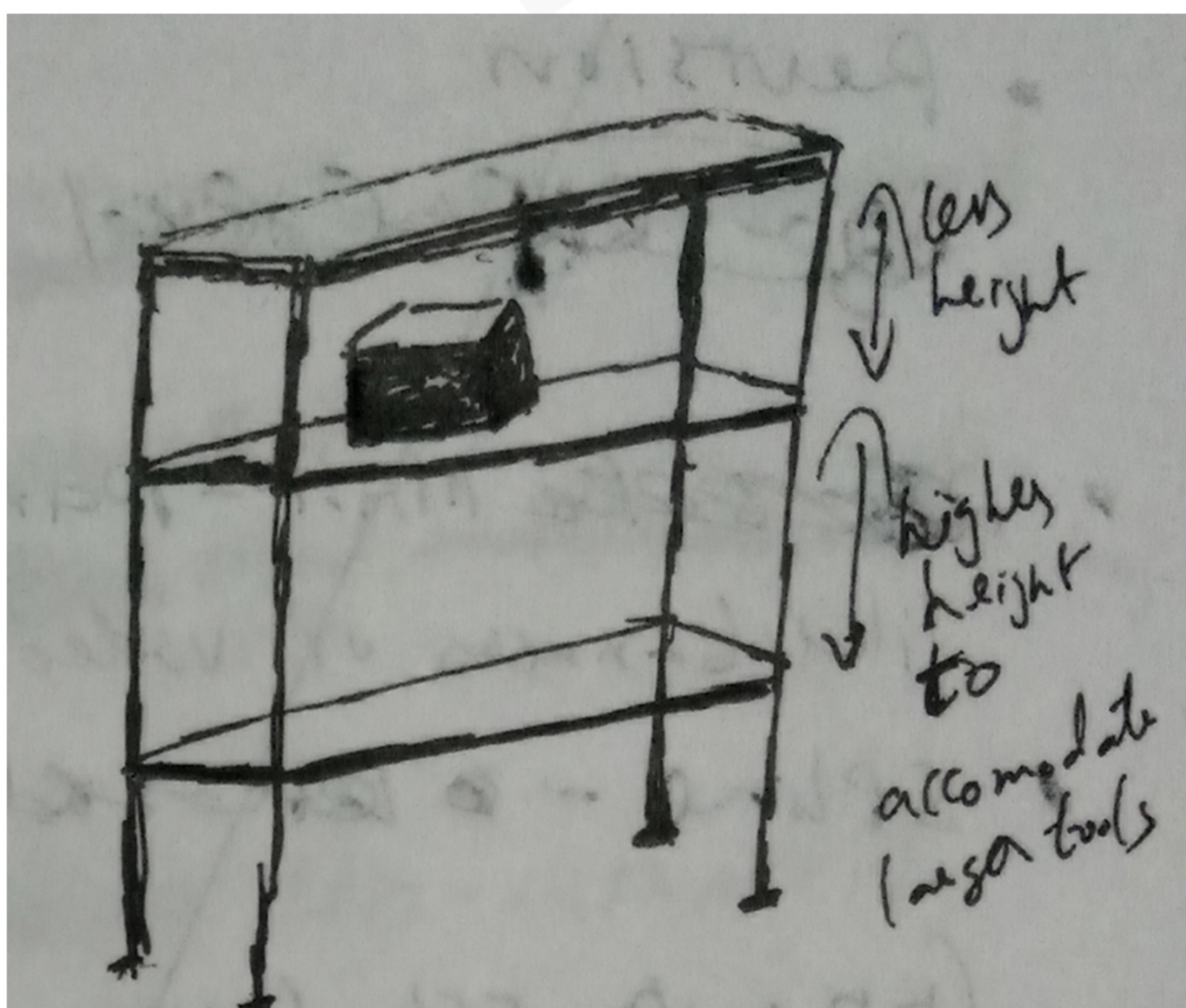
As i had many solutions after deep thinking and crazy 8 method, below are my three best solutions.

1) Pegboards with glass Cabin



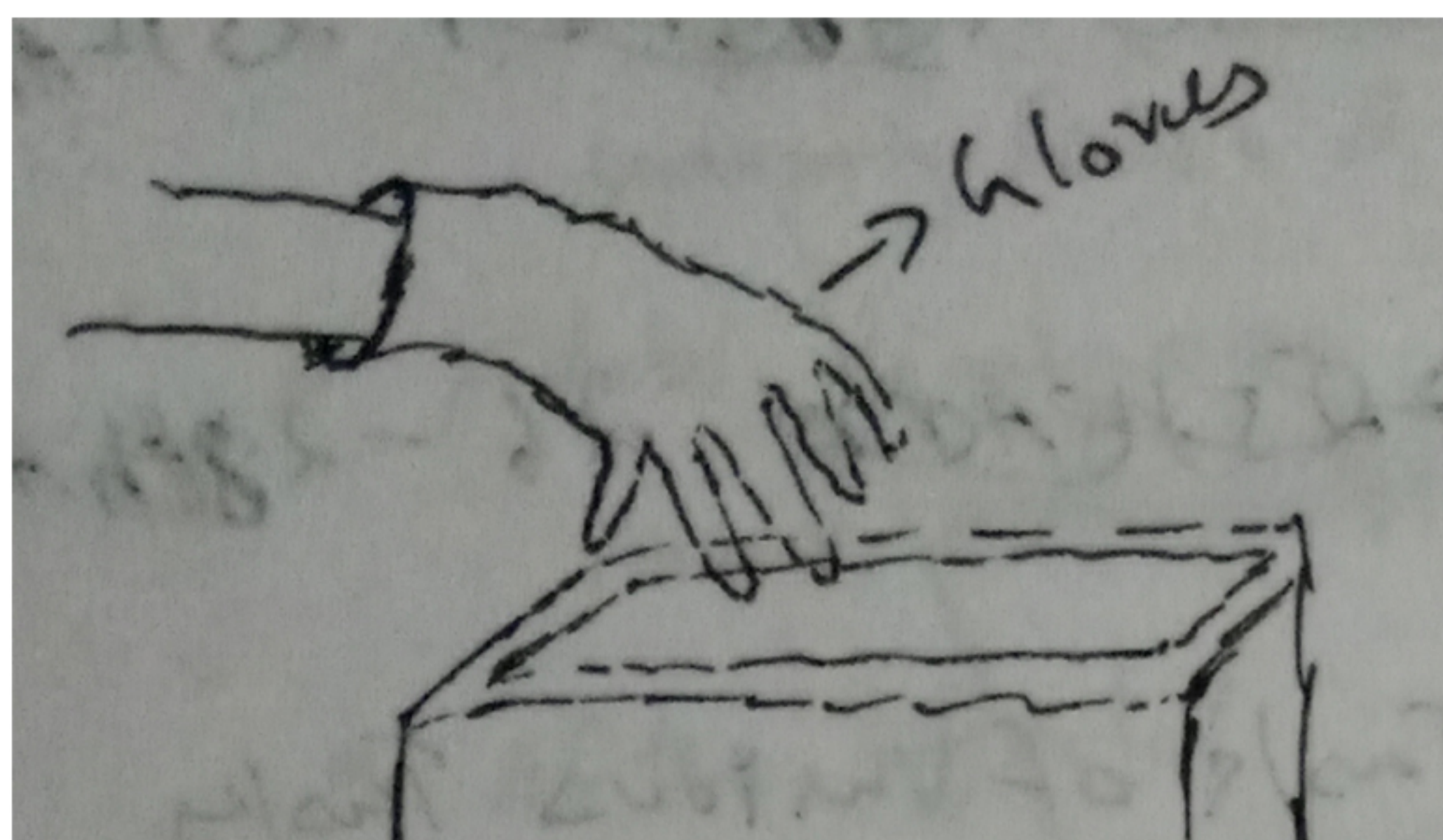
Great for hanging frequently used tools within easy reach. Use hooks and holders to keep items secure.
Reason - As i believe this would solve most of the painpoints faced by user in their journey for searching tools in storage areas that saves time and efforts

2) Shelving units



Utilize shelves for larger tools or storage bins. Adjustable shelves offer flexibility to accommodate different tool sizes.
Reason - As i believe this would solve most of the painpoints faced by user in their journey for searching tools in storage areas that saves time and efforts and even can put heavy tools here.

3) Transparent Plastic box with gloves available



To put tools in plastic box are can view tool outside and can open box easily with using openable plastic box..

To make injury free for hands from sharp pointed tools while searching tools in a box

Reason - As i believe this would solve most of the painpoints faced by user in their journey for searching tools in storage areas that saves time and efforts and injury free.

Chosen the first idea as it eliminates most of the problems faced by the user - saves time, less effort and non injury care

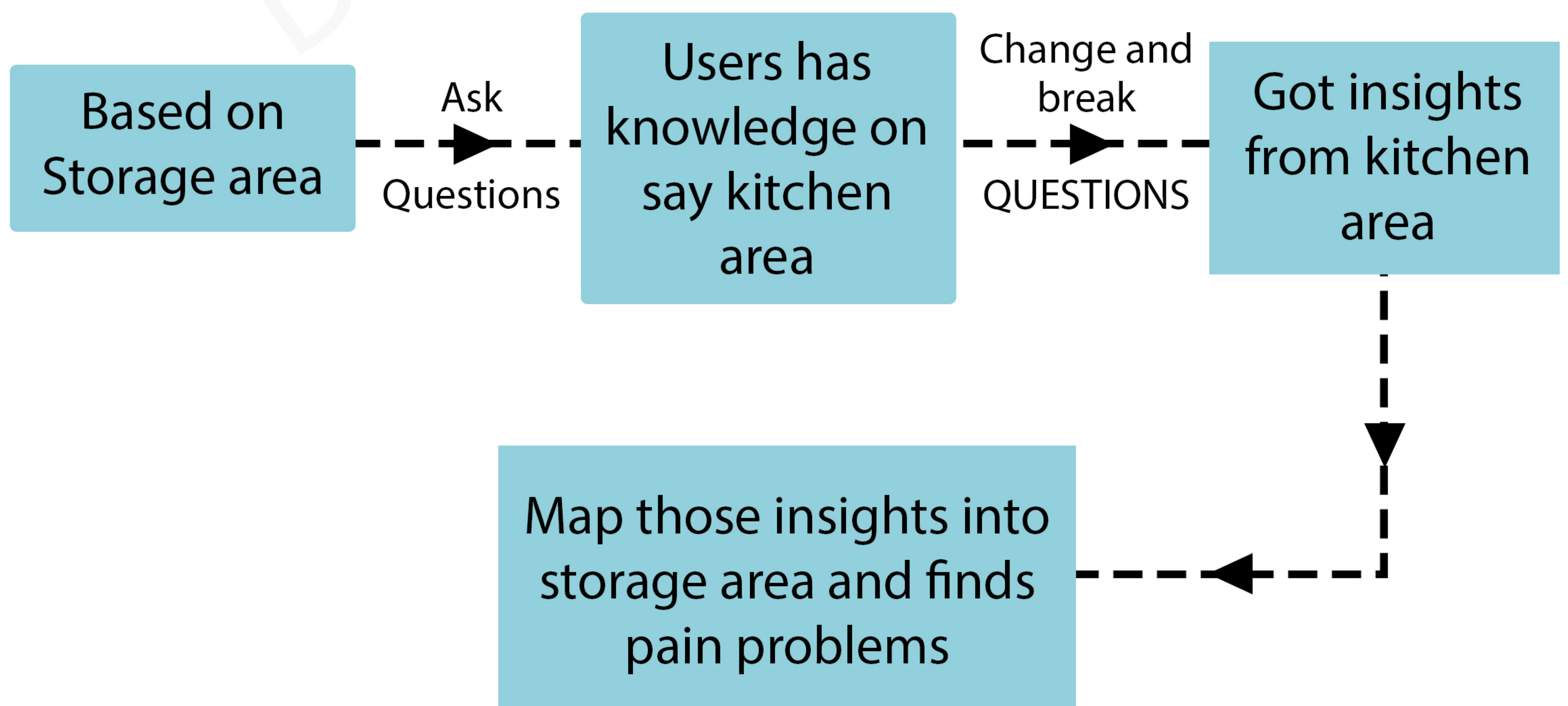
The first idea again improvised by presenting the design product and took some feedbacks from the peers, even concentrate on some more problems
STEP 1 , thus improved version of product achieved as shown initially in the case study - the base platform , mounted light wall.

Highlighting the crucial decisions

Several decisions had been taken so far. Most crucial decision that I took to design the product in much better way or for to find the core of the problem etc are rained below.

■ Crucial Decision taken on conducting interviews

While conducting asking questions on one of the peers on storage areas, the user has only experience knowledge on other areas thereby getting the pain points faced by the user was so tough. Therefore I started to **iterate** questions based on the areas user has life experience and later I mapped those ideas into my problem area.

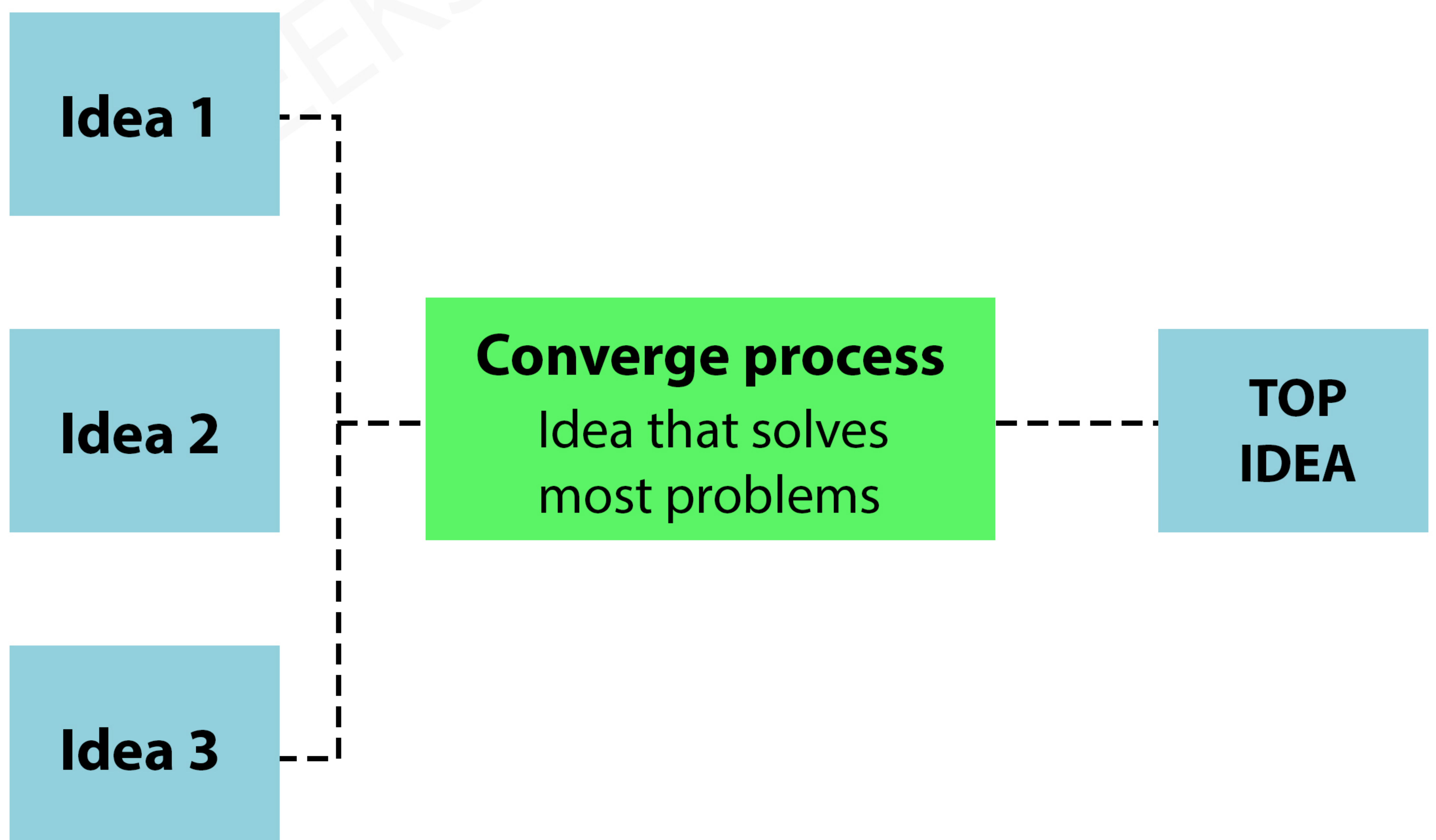


■ Crucial Decision taken while defining user problems

From various problems we got as insights from users, some problems can be surface level problems and large user goal. So i focused on to go detail by eliminating surface levels problems and focus to **converge** on sub user goal problem . once I got the core problem, I **diverged** that particular problem to find relevant details by a straight forward solution

■ Crucial Decision taken on generating ideas

After crazy 8 method and deep thinking process, got the top 3 ideas. To find the best idea, I **converged** from 3 ideas to choose 1 idea that solves most of the problems when compares to other ideas.



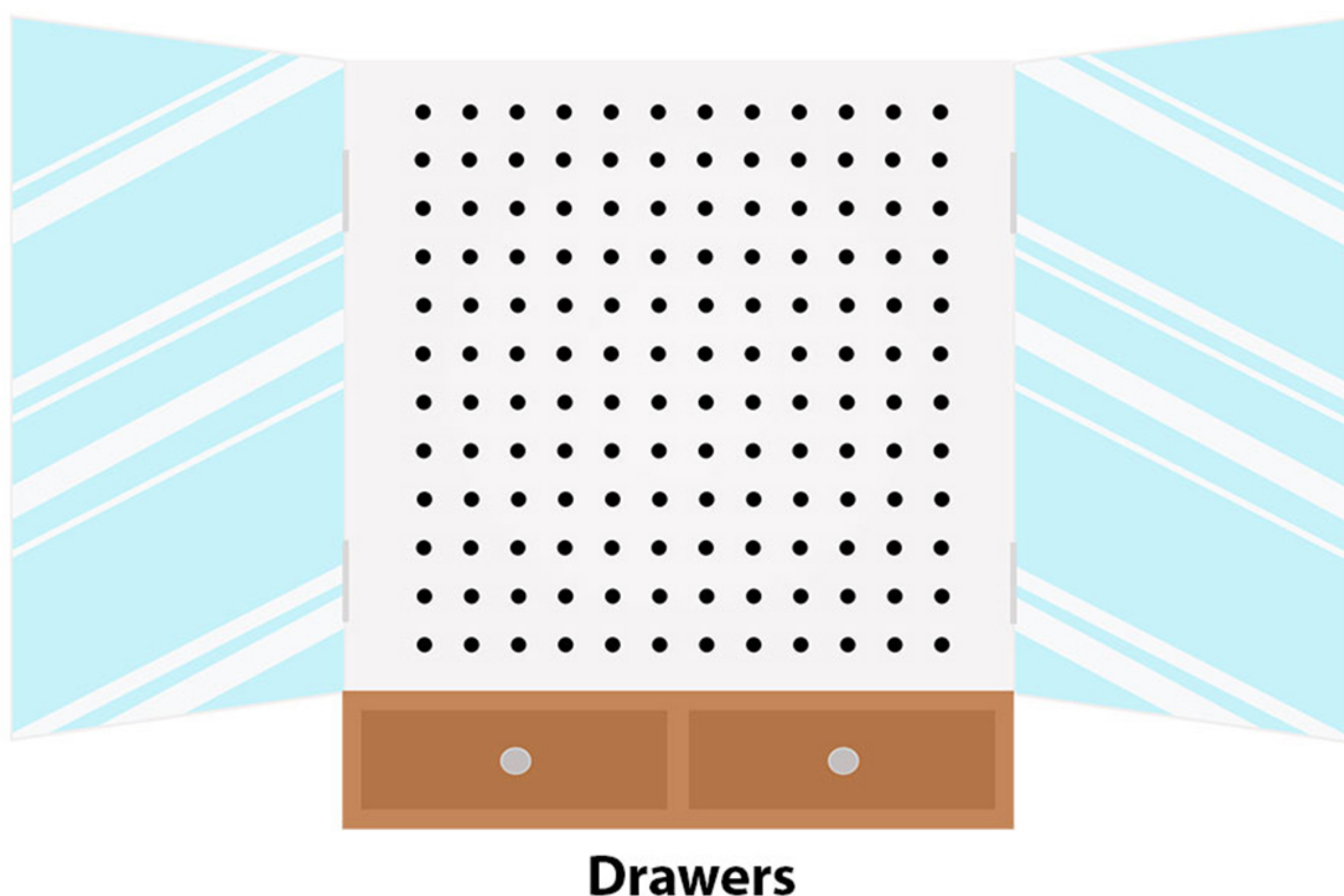
Crucial Decision taken on final product

While designing the product, I concentrated on diverging process of adding more features from other ideas to solve most of the problems faced by the user to become more reliability product.

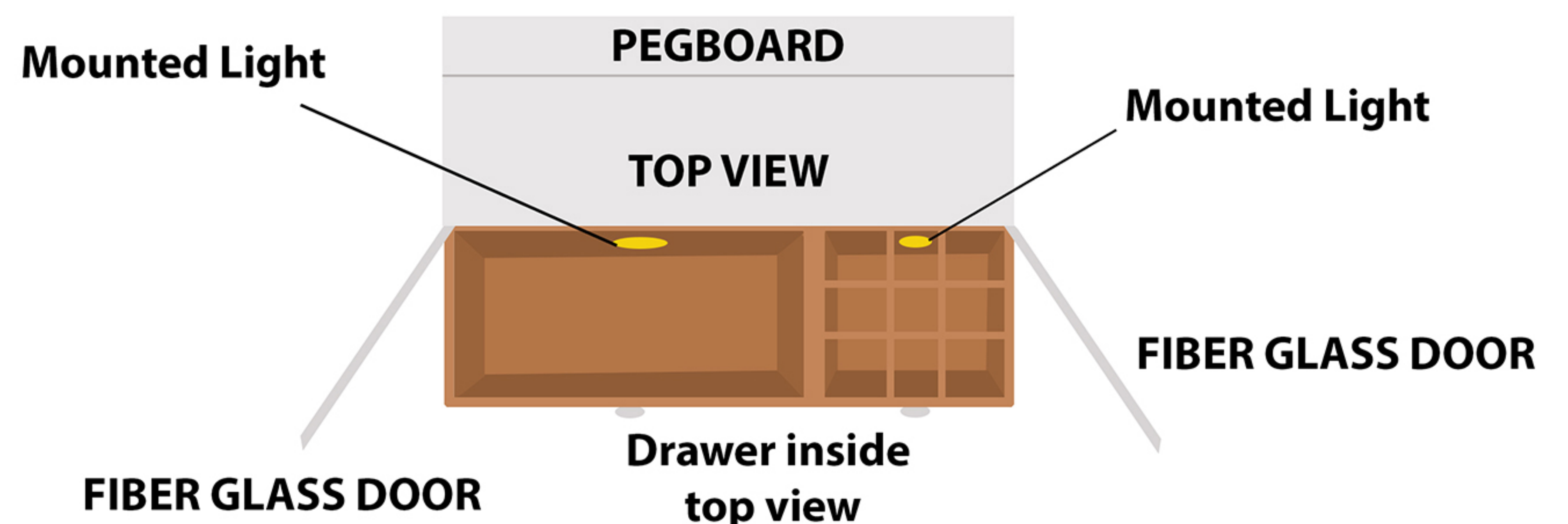
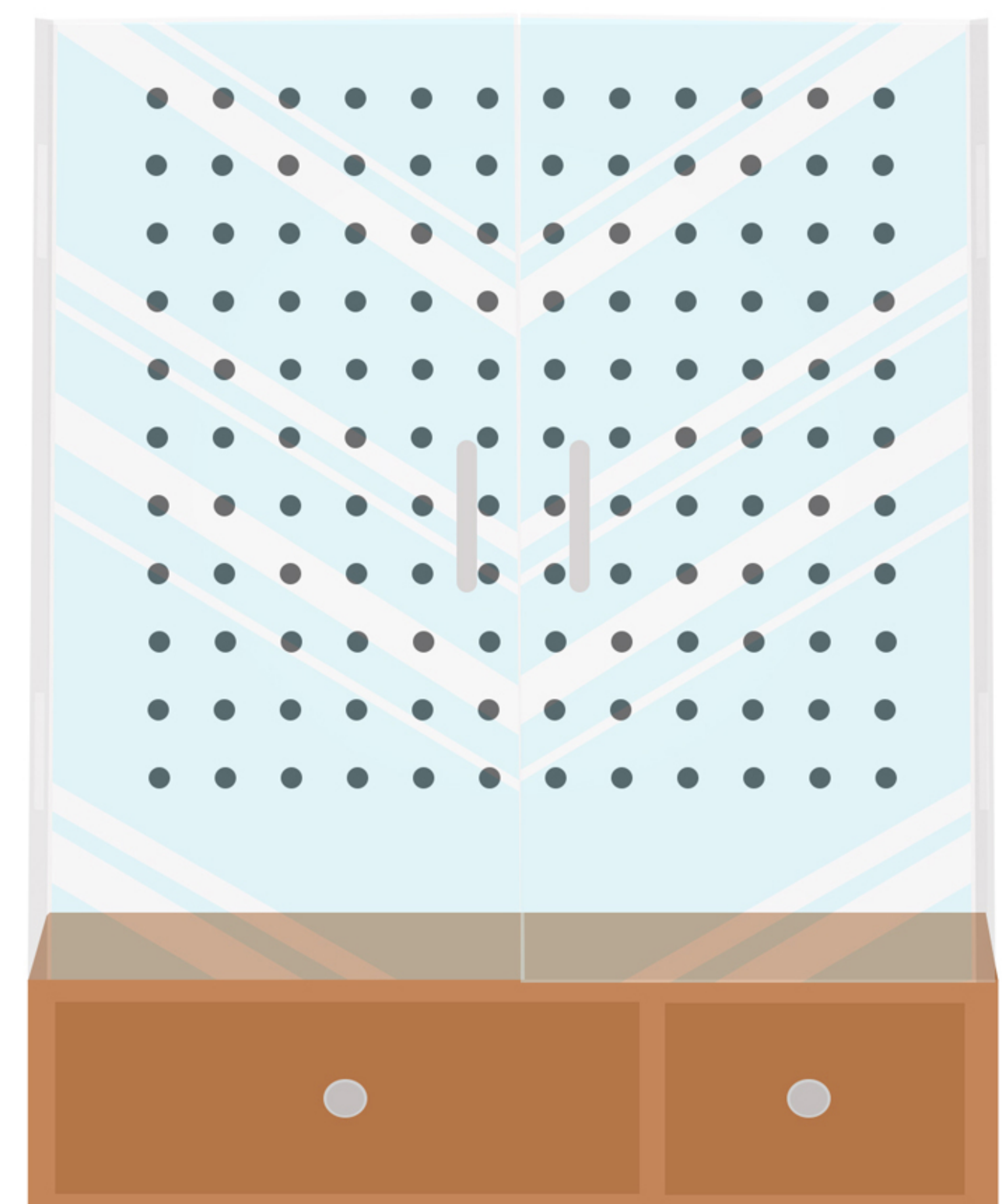
Crucial Decision taken on Testing phase

While in testing phase, I got numerous feedbacks , some surface level and some opened my eyes. I got to **iterate** my product with 2 more features like mounting light lamb on drawer , drawer size and base platform to keep heavy tools if any. thus i **diverged** to add more features in final product.

Initial product :



Final Product



Future improvements, Learnings & Feedbacks

What would I do if I had to take this project further?

Feature like voice AI where user just has to tell what tools wanted , each tool section there would be a bulb. so once request made, bulb would lit enable user to identify tools section easily.

Let us see what I learnt while working on the project

- 1) Main learning was to understand user pain through journeys, find solution of those pain points rather than focus on product feature only.
- 2) Finding not just painpoints but relevant details of painpoints and factors involved in it and should not be surface level, from there find opportunities to have solutions.
- 3) When we conducting an interview to get insights, answers we get won't be ensure to change our research area, but at the same time map the answers to our research points even answers are not of the same subject to get to understand issues faced by the user.

4) Suppose we want to get painpoints with relevant details, we need to consider a solution that might helps to find relevant details of the journeys and pain points, this is call reverse engineer.

5) To find the solution, don't be a surface level one, instead think deep with more insights, more unique and relevant to pain points.

 Seeking your feedback to help improve & collaborate in the future.

I genuinely value your opinion regarding whether you believe my product effectively addresses the core problem.

Additionally, I would greatly appreciate any suggestions or insights you might have on further enhancements to make this product even better.

Thank you for taking the time to read my case study! Your insights and feedback are incredibly valuable to me. Please feel free to share your thoughts or any feedback you may have about the case study. Your input is greatly appreciated!

