

Internal Organizational System for Hiking Bags

MIDTERM PROJECT PRESENTATION
BERKELEY CHANDLER

ID 6103 - Grad Studio B

Prof. Jim Budd

Spring 2024

Project Overview

PROJECT OVERVIEW

INVESTIGATE

current problems that
hikers and campers
face in the storage
and transportation
of their gear

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IDEATE

ways to store and
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INVESTIGATE

current problems that hikers and campers face in the storage and transportation of their gear

IDEATE

ways to store and organize hiking and camping gear that provide solutions to identified pain points

DESIGN

an internal storage system for outdoor backpacks that fills in gaps from the current design

Preliminary Research & Ideation Sketches

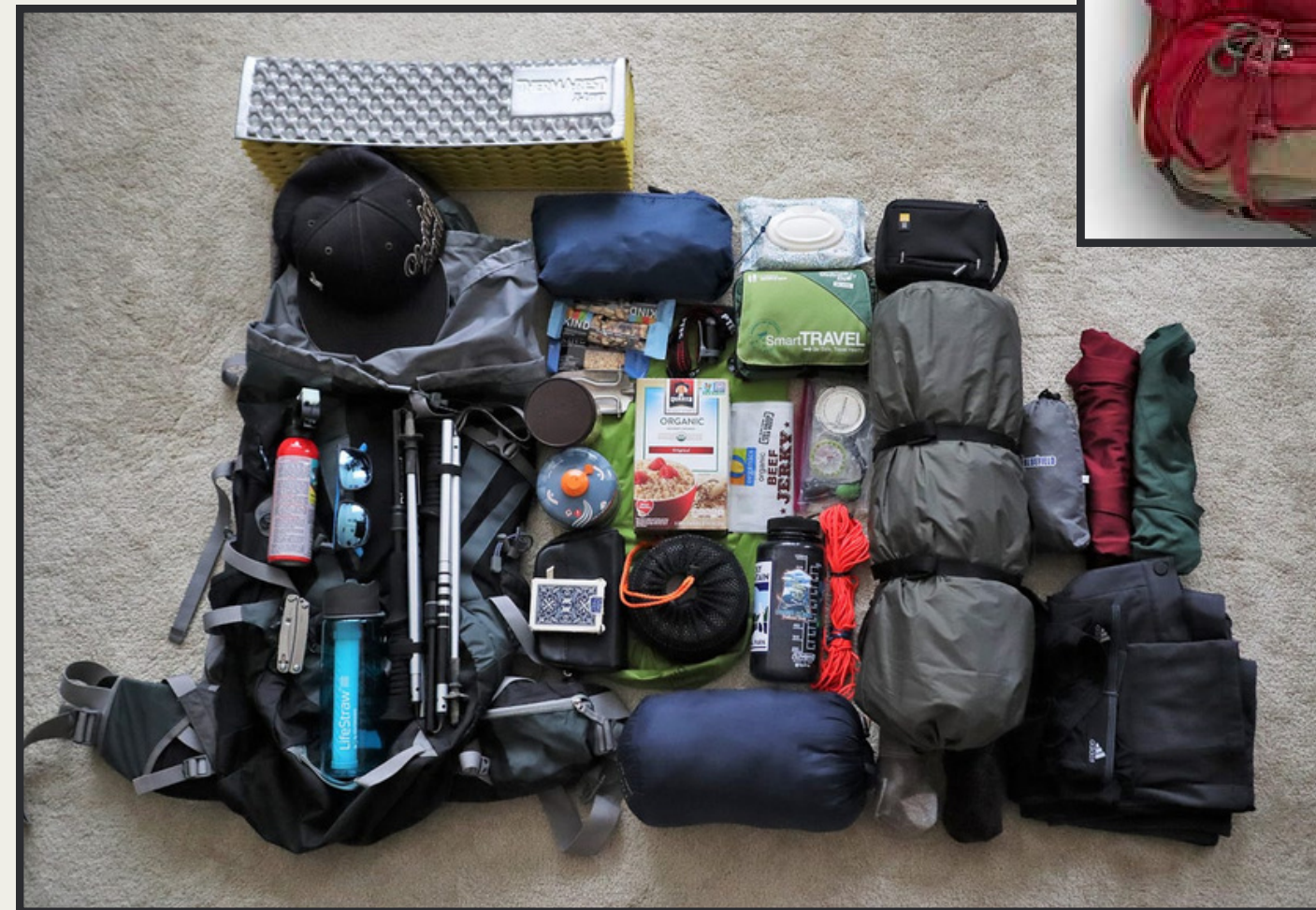
PRELIMINARY RESEARCH - HIKING BACKPACKS

most hiking backpacks are built like giant sacks, with no internal organizational framework built into them.



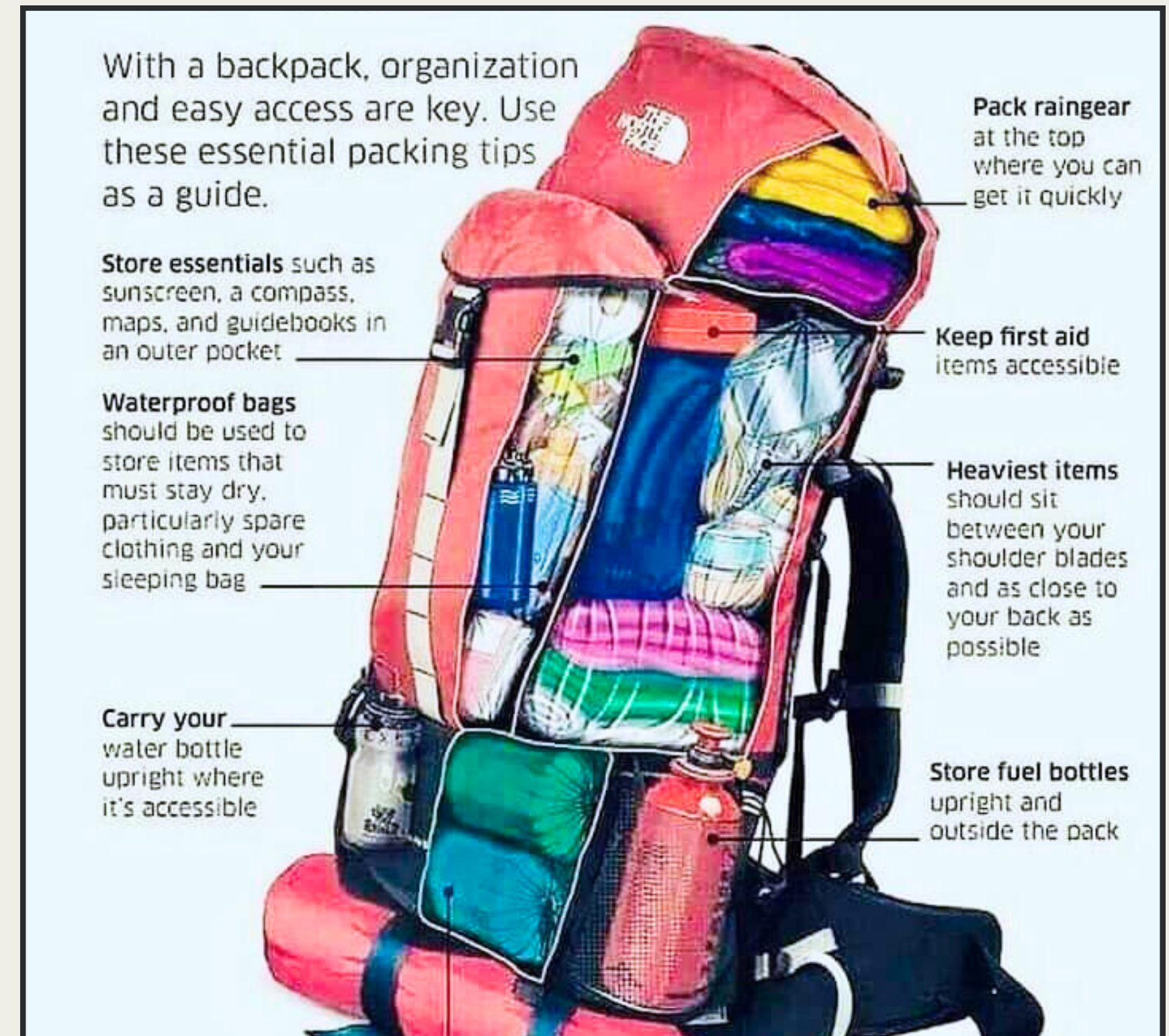
PRELIMINARY RESEARCH - HIKING BACKPACKS

at the same time, users are trying their best to bring everything they need while packing space is very limited.



PRELIMINARY RESEARCH - HIKING BACKPACKS

because of this, users tend to take all of their individual belongings and shove them down into the bag to try to utilize as much space as possible.



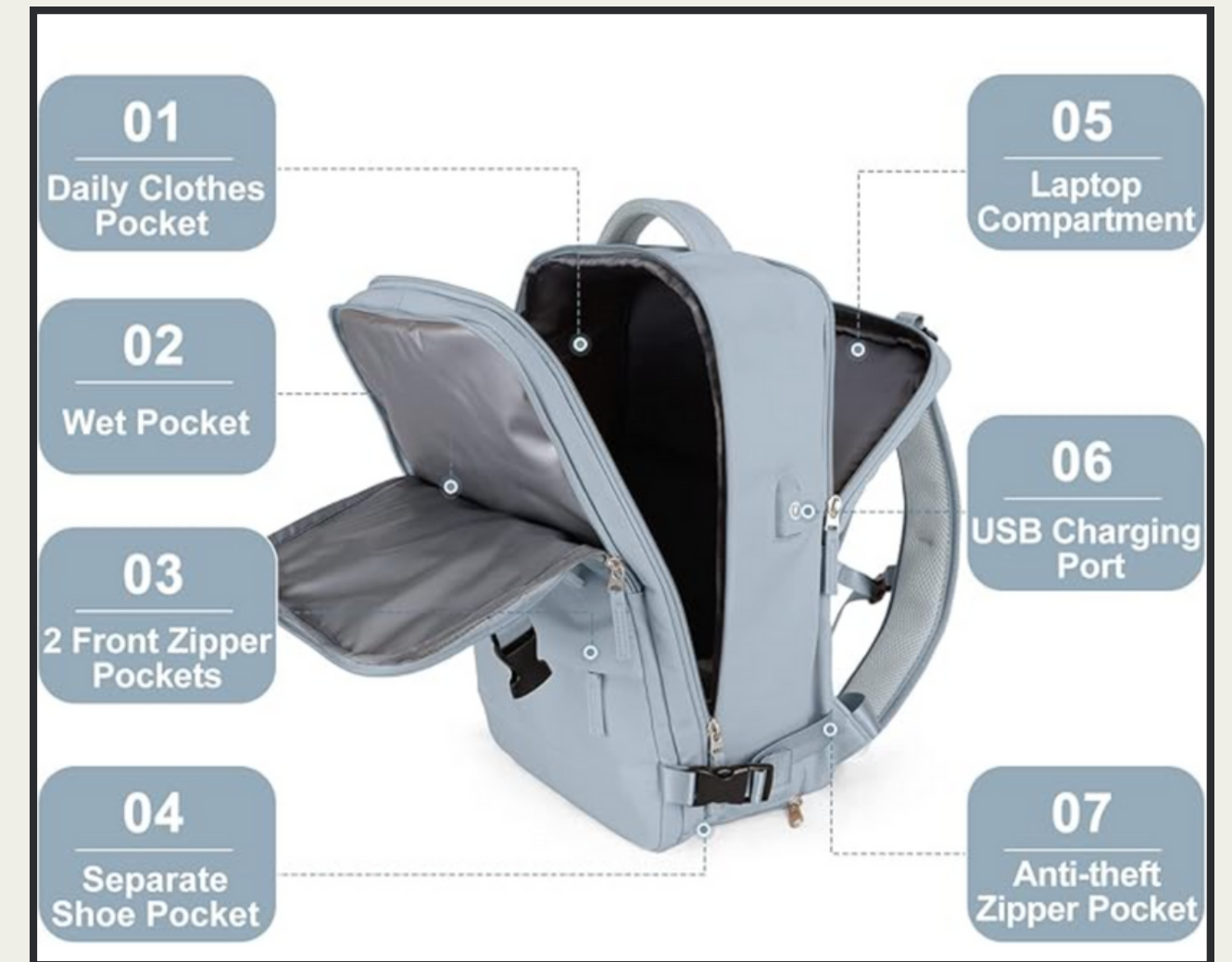
PRELIMINARY RESEARCH - ORGANIZATION

internal organization within organizers -
smaller compartments make individual
items easy to find/access



PRELIMINARY RESEARCH - ORGANIZATION

pockets made from different materials - i.e. ventilated, elastic, waterproof, mesh



PRELIMINARY RESEARCH - ORGANIZATION

hanging hooks - allow organizer to be hung up at destination, usually in a way where the internal contents are opened up to access

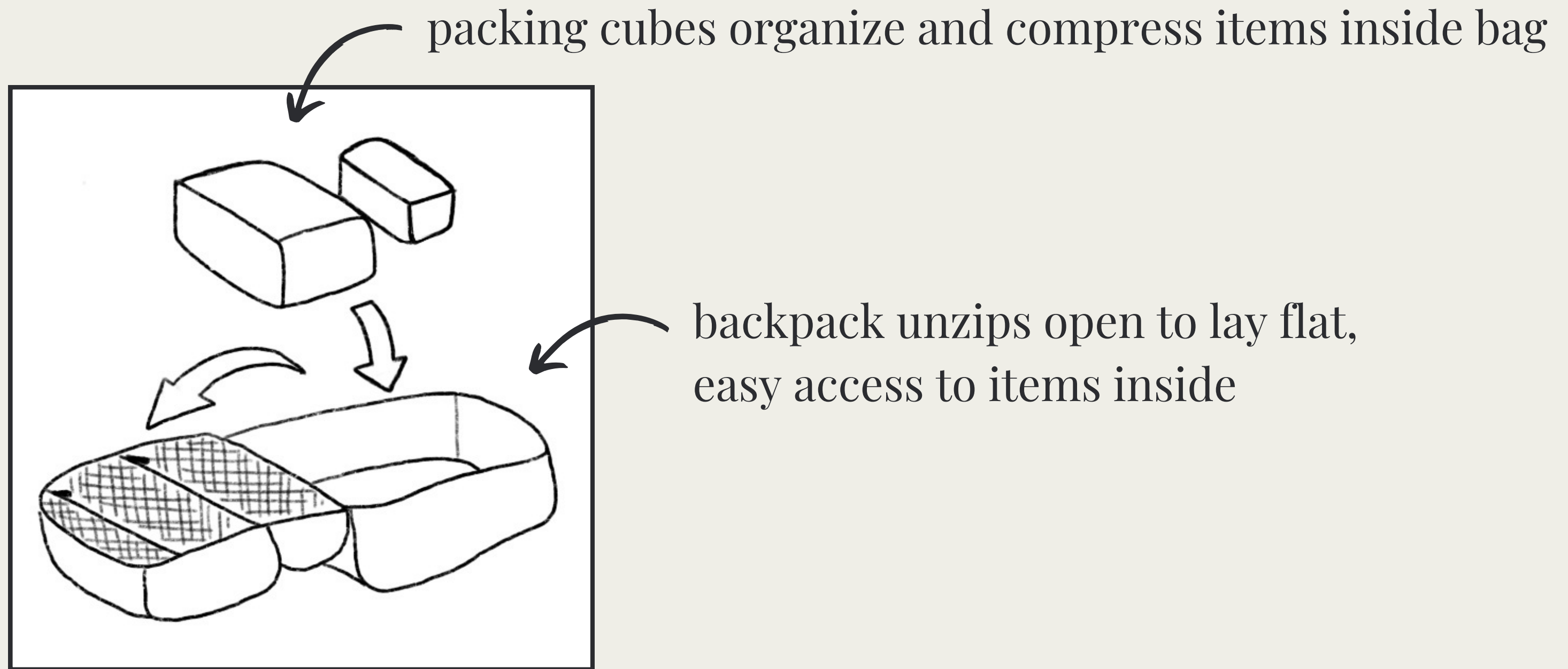


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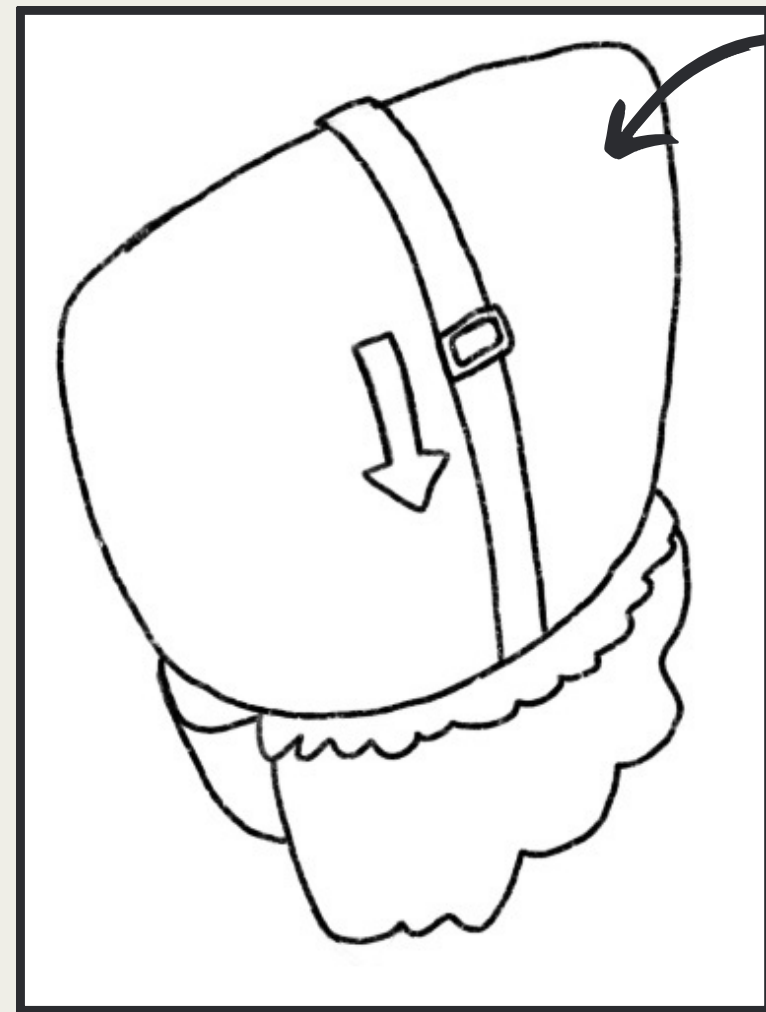
roll or fold up - easy to open and close; easy to store within larger organizers; takes up less space



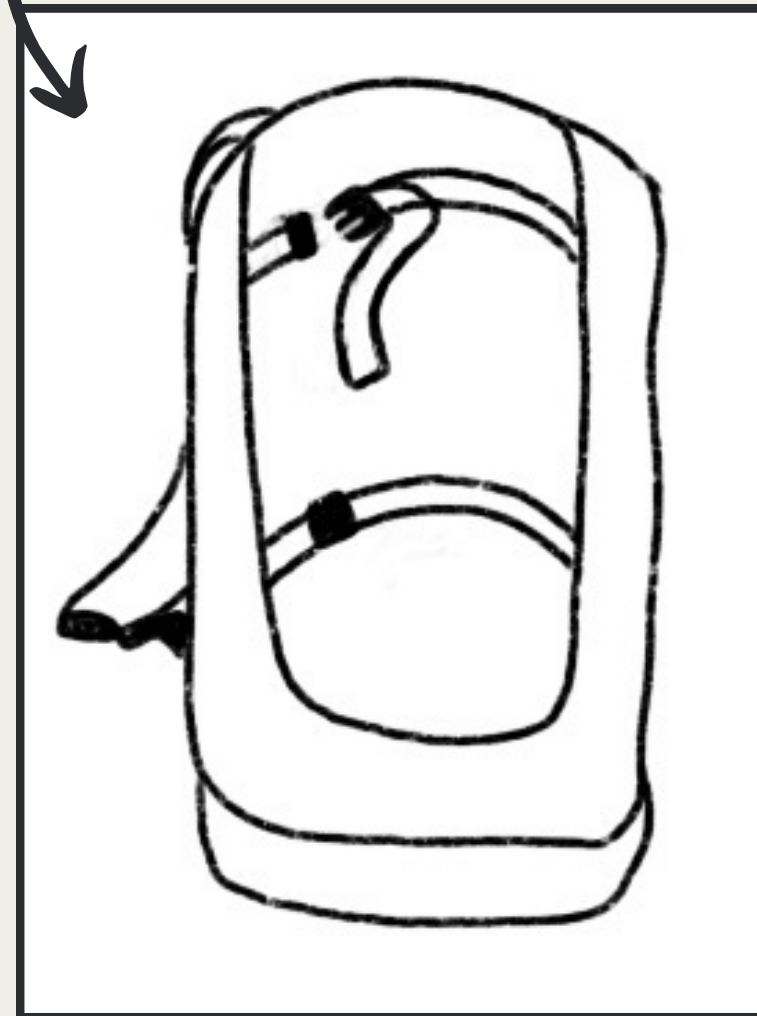
PRELIMINARY IDEATION SKETCHES



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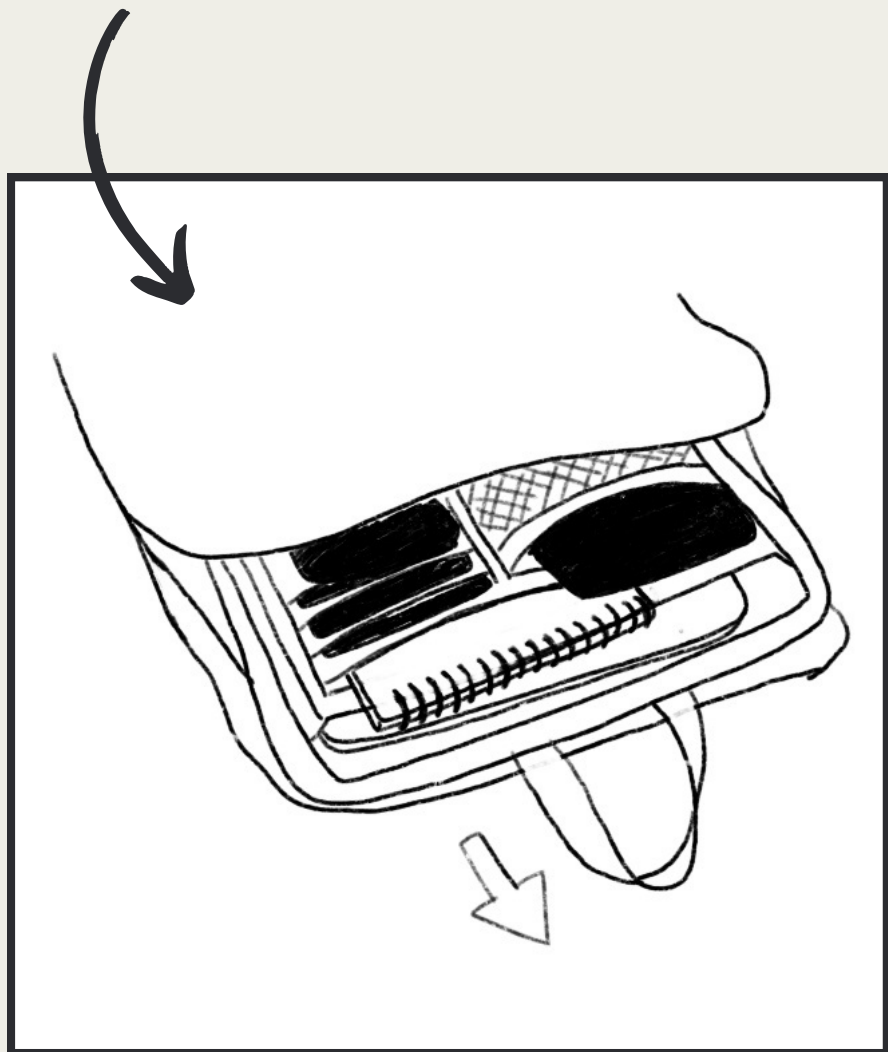


straps with buckle, helps tighten bag
pouches to take up less space

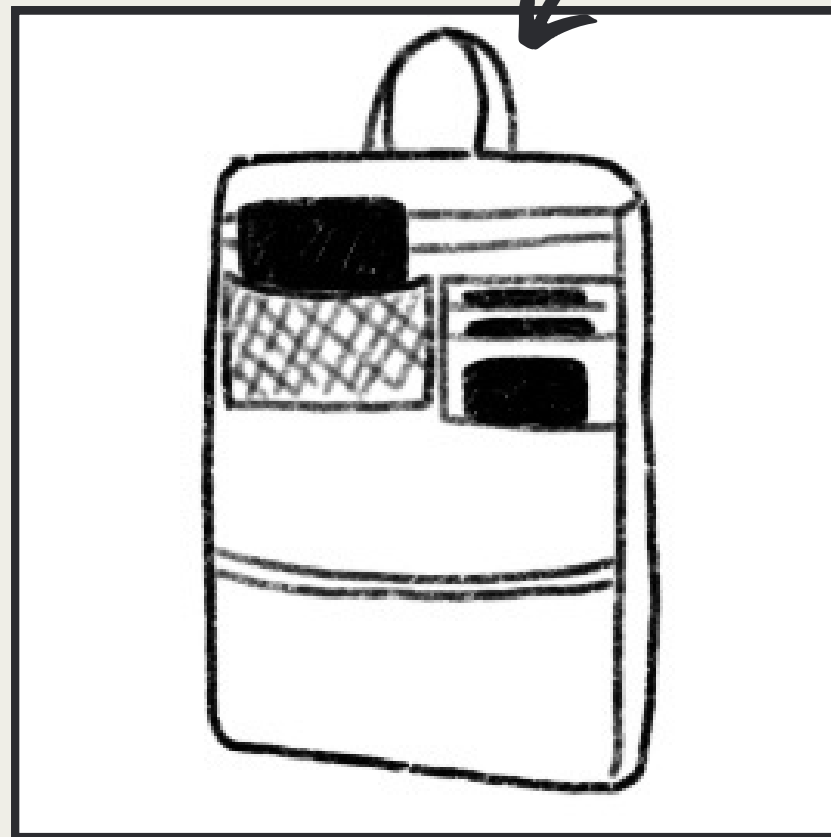


PRELIMINARY IDEATION SKETCHES

organizer file that can easily slide in and out of backpack, holds small items



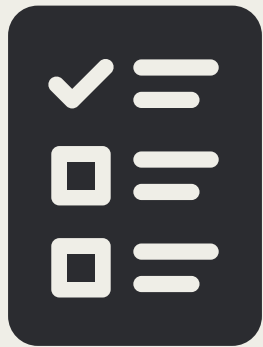
handle makes it easy to grab



User Journey

USER JOURNEY

gather items
to pack



1

pack items
into backpack



2

hike to
campsite



3

unpack
items



4

enjoy
camping



5

pack items
back up



6

unpack
items



7

STEP 1: GATHER ITEMS TO PACK



“it’s important that I don’t forget to pack anything, because all I’ll have with me out there is what I bring.”



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STEP 2: PACK ITEMS INTO BACKPACK



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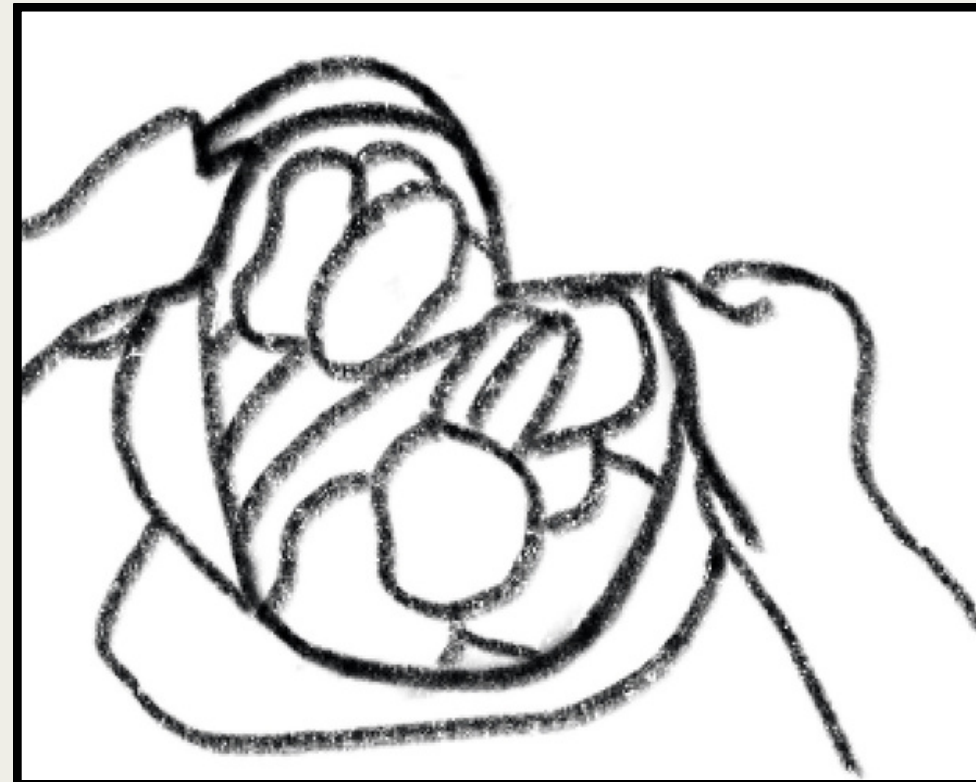


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STEP 3: HIKE TO CAMPSITE

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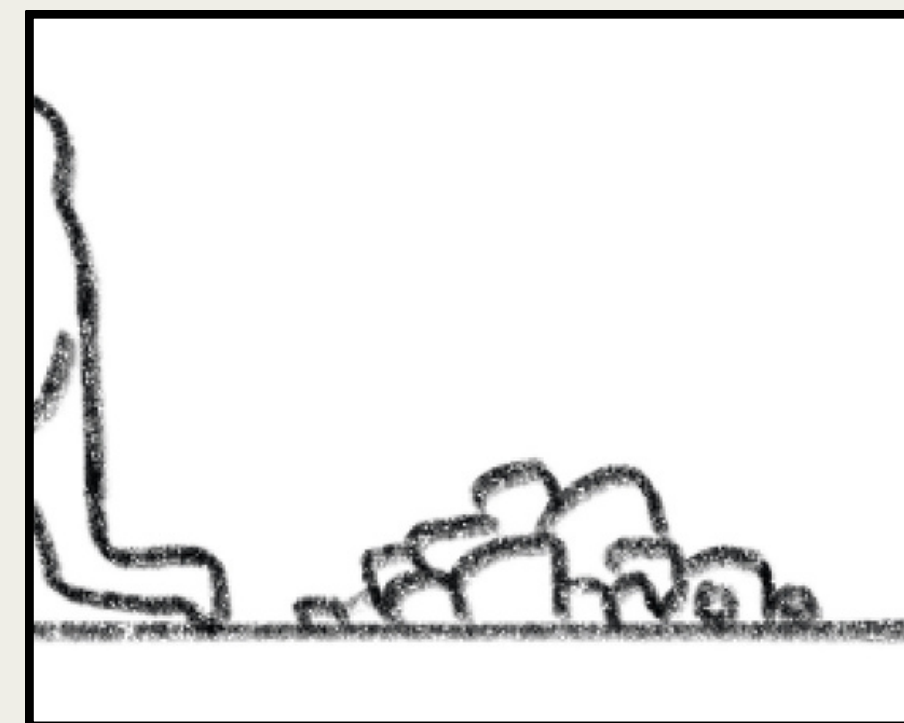
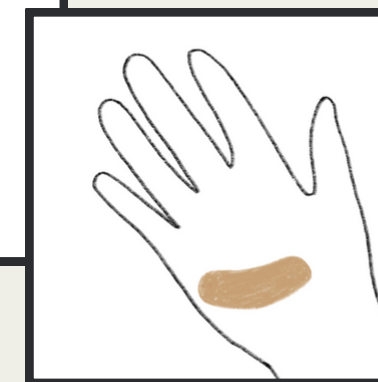
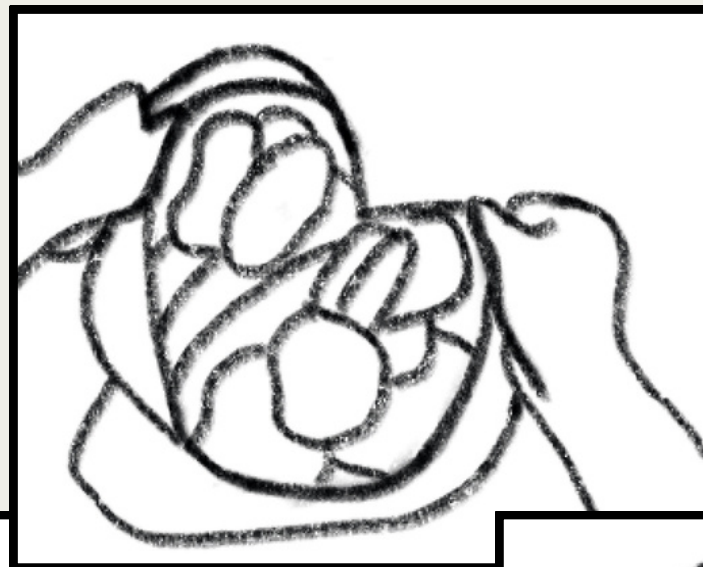
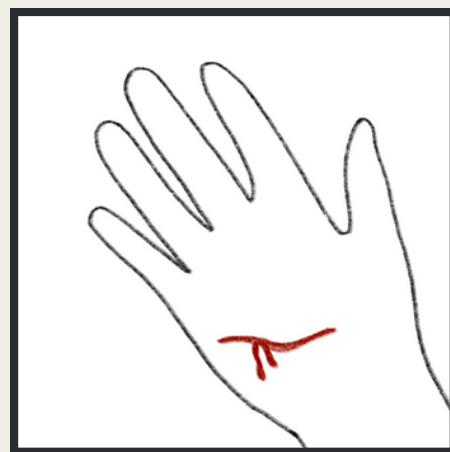
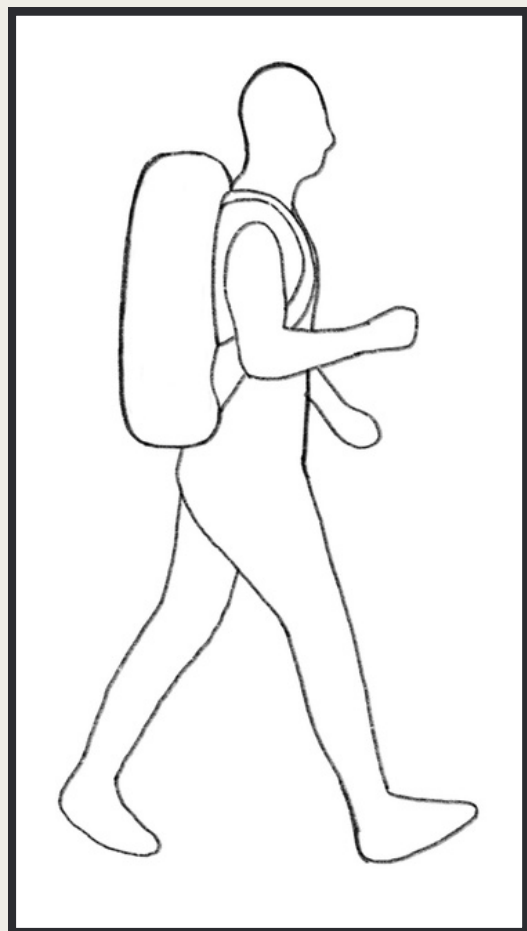


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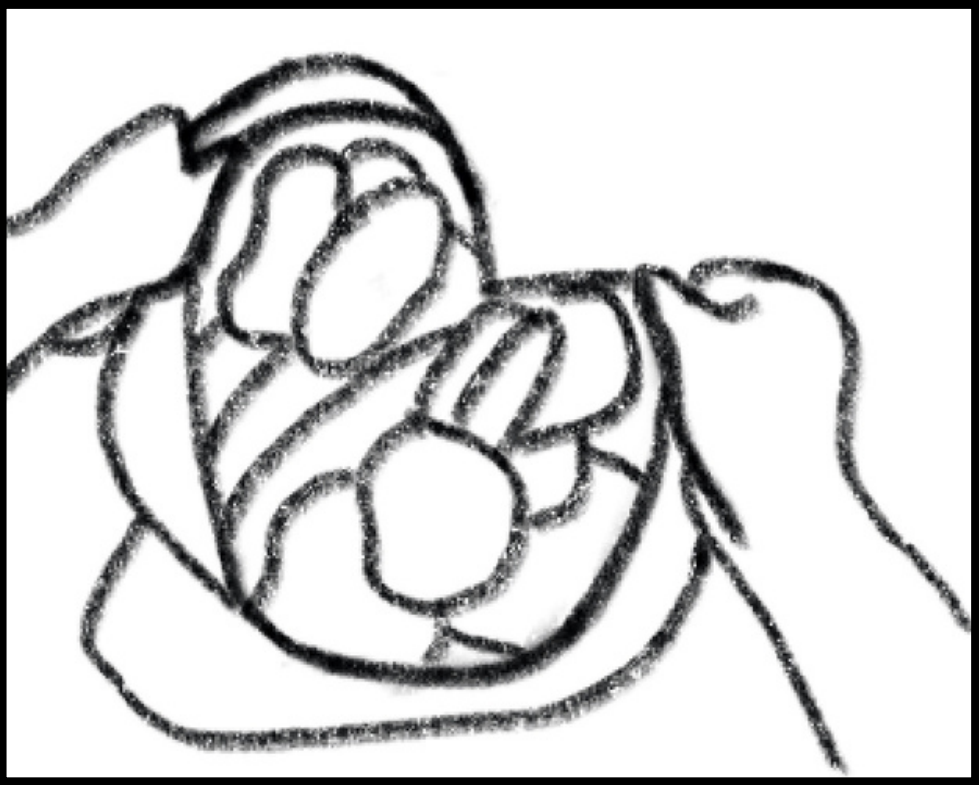


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help user **remember**
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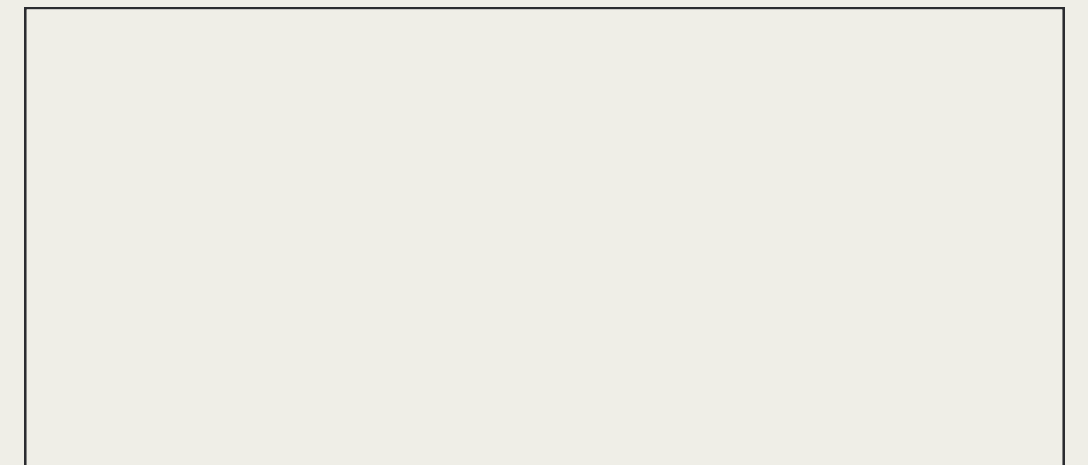
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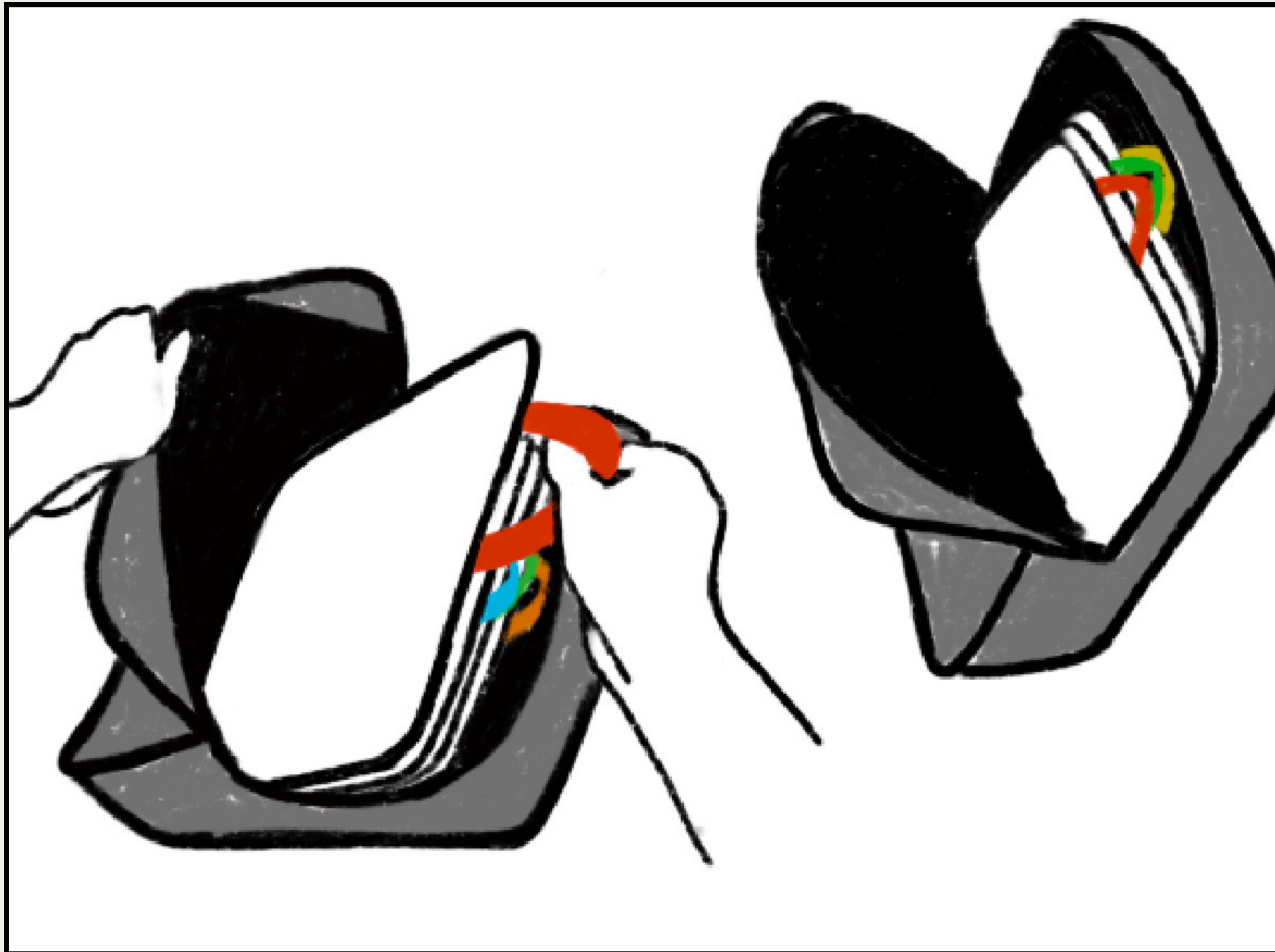
allow the user to
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maintain **organization**
when the user is at
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remain **lightweight** and
easily **transportable**

Preliminary Concept

PRELIMINARY CONCEPT: THE FILE SYSTEM



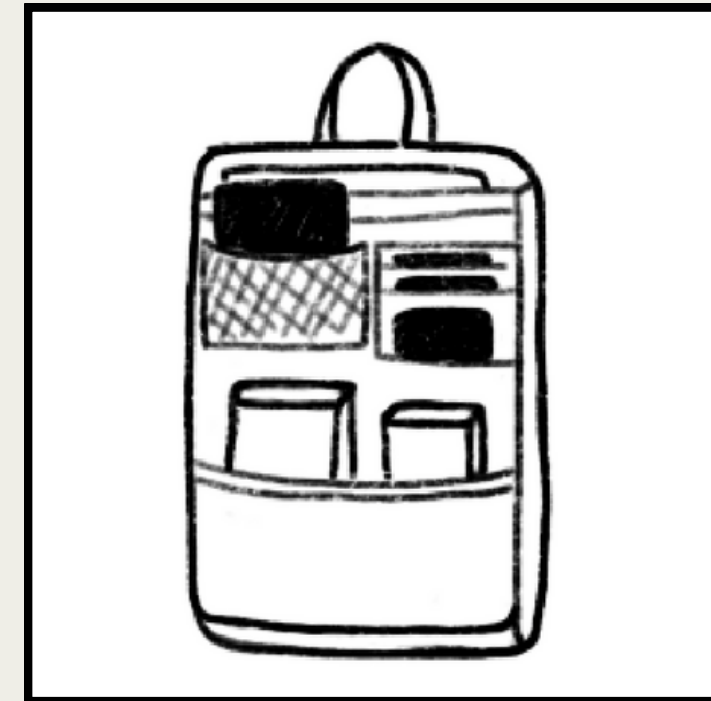
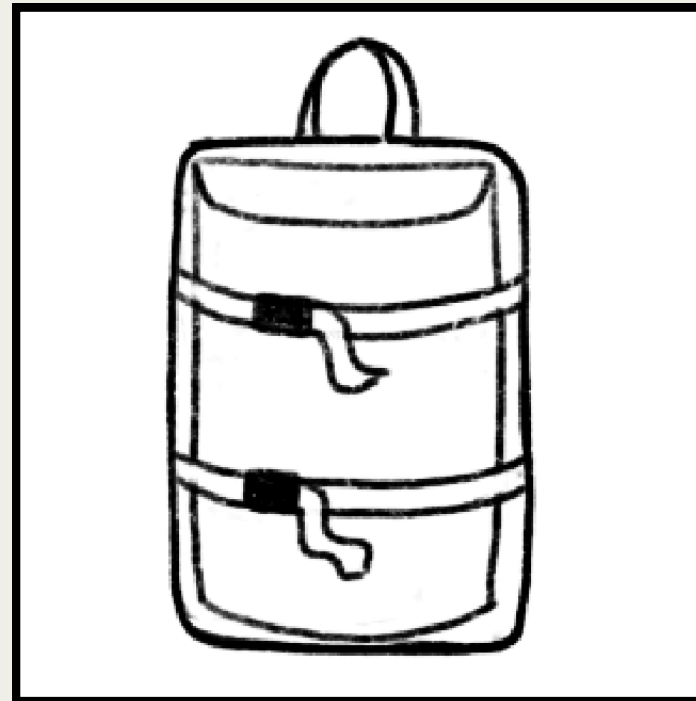
a series of organizer files that fit parallel to each other inside of the hiking backpack.

color-coded handles allow for easy identification of different types of files.

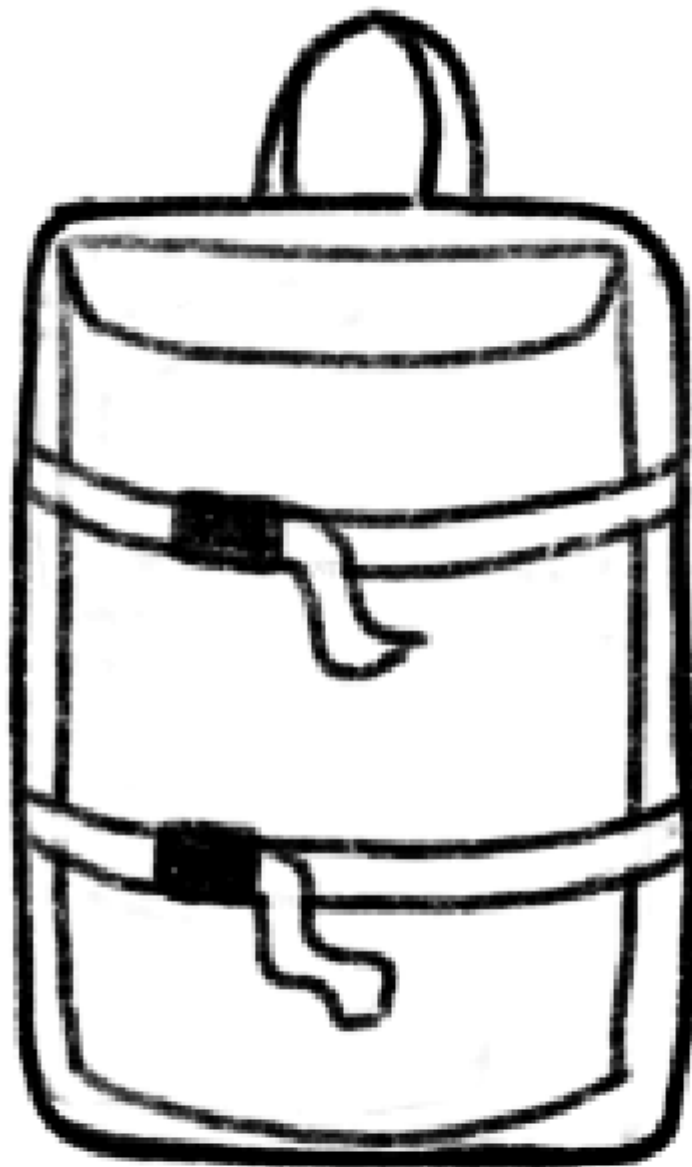
PRELIMINARY CONCEPT: THE FILE SYSTEM

each file has its own kind of pockets, with varying shapes, sizes, and materials to fit the types of items held in them.

file types (from left to right, top to bottom):
clothes, devices, tools,
shoes, toiletries.

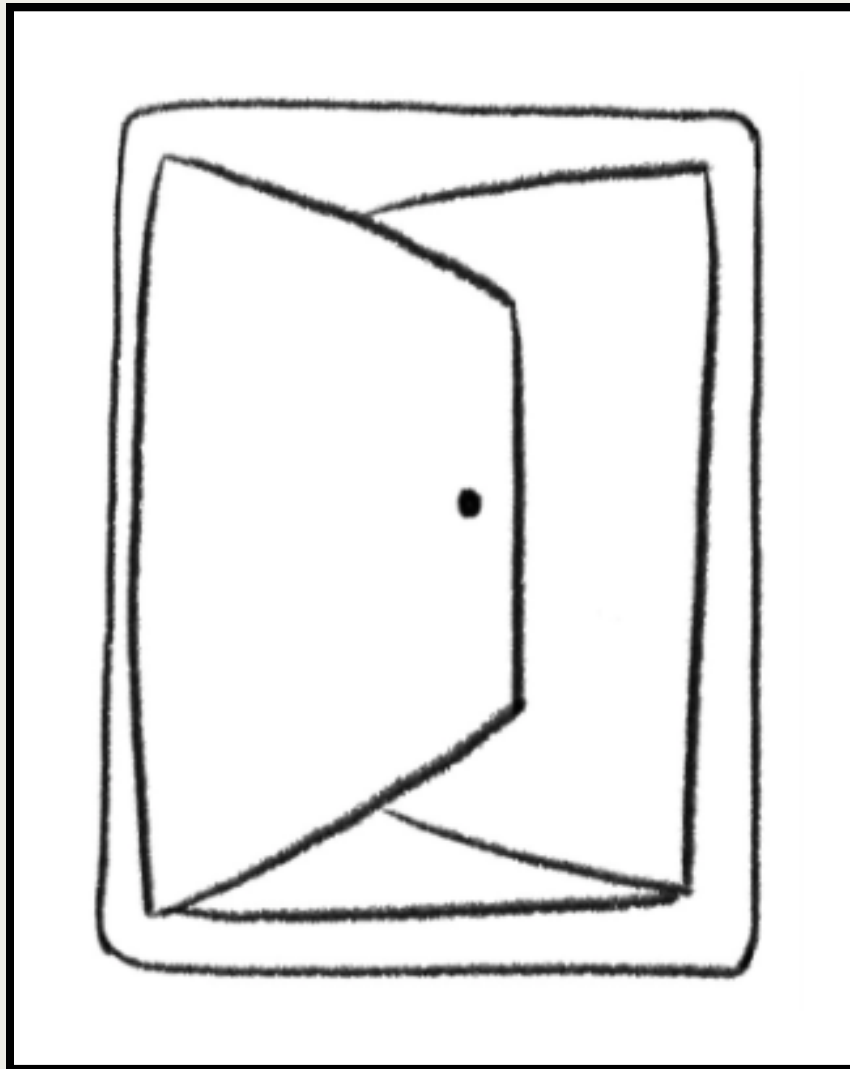


THE CLOTHES FILE: SKETCH CONCEPT 1

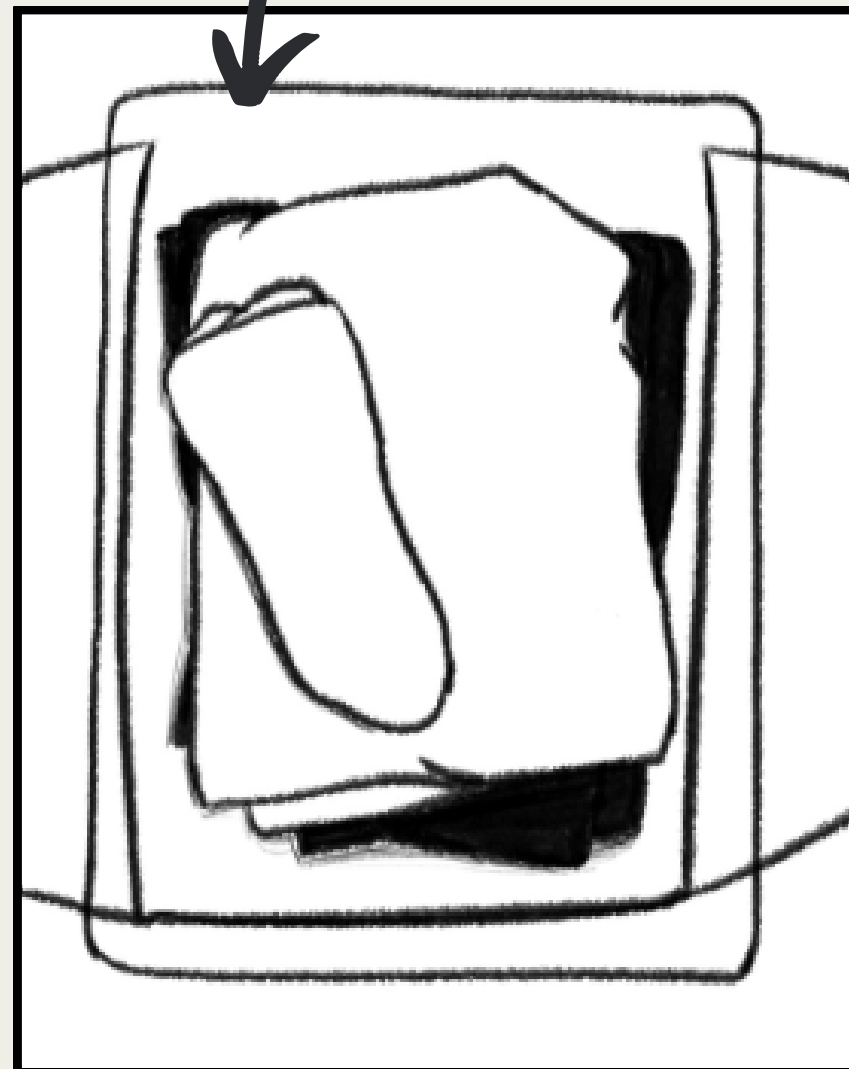


- has one large pouch to store many items that may be bulky and soft, such as clothing
- transparent face of pouch, allowing the user to easily know what is held inside
- buckle straps to help condense items inside pouch after it is filled

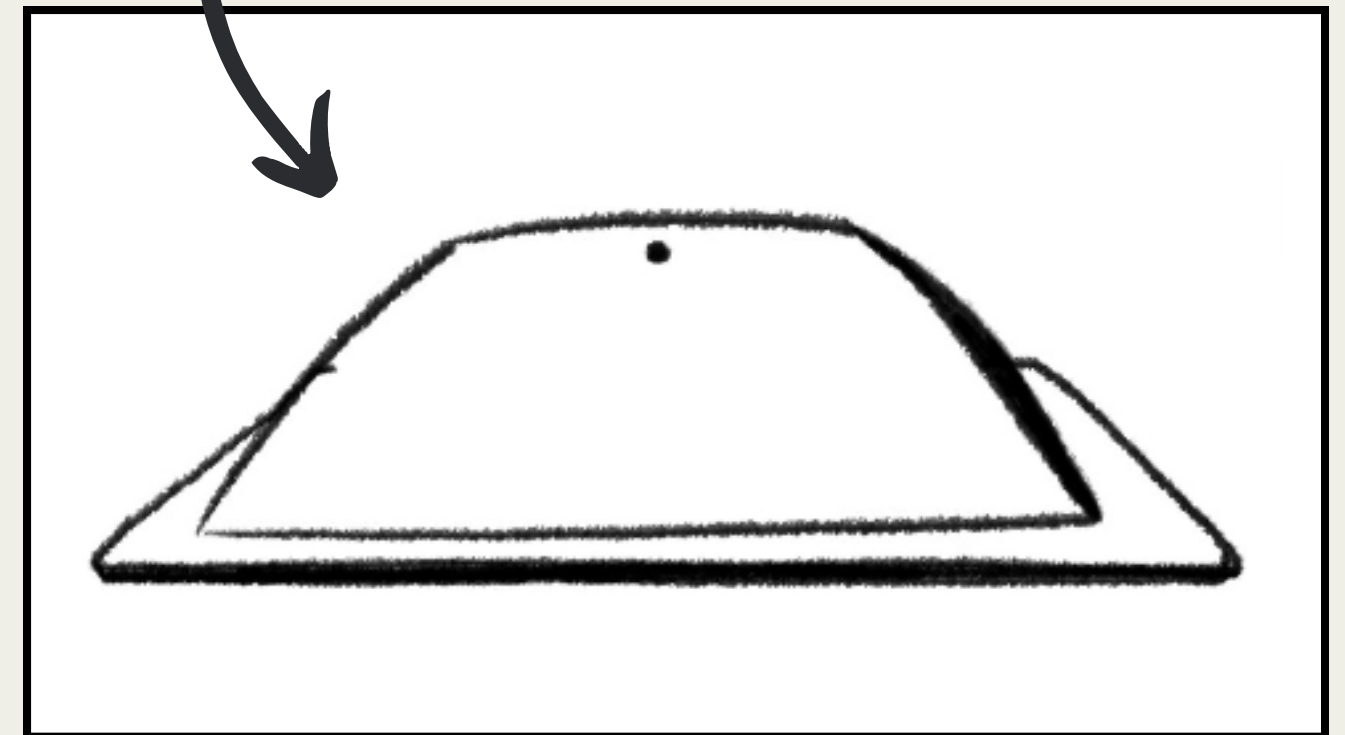
THE CLOTHES FILE: SKETCH CONCEPT 2



flaps fold open/closed to allow full
access to contents inside



side view to show
perspective of depth

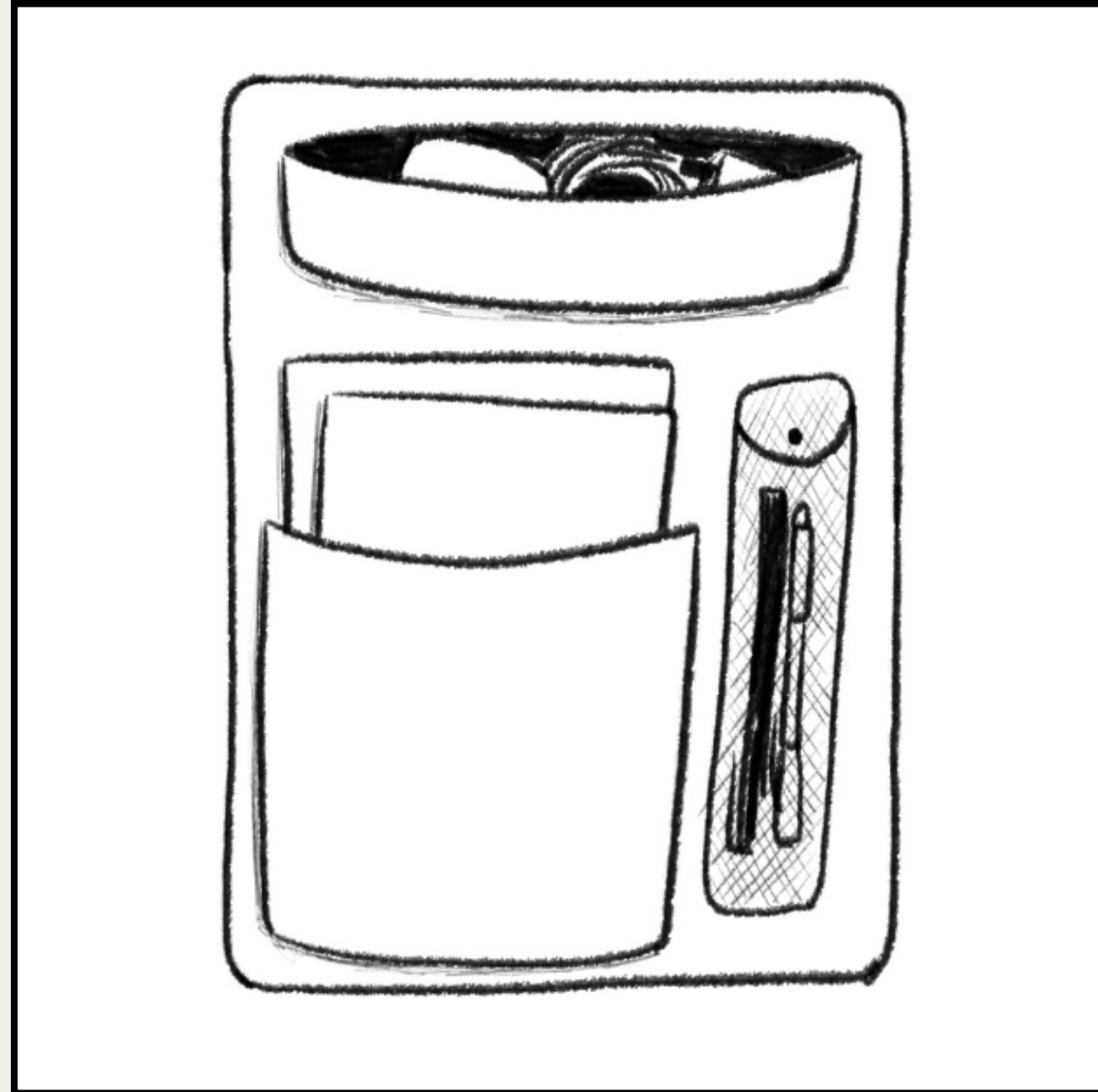


THE DEVICES FILE: SKETCH CONCEPT 1

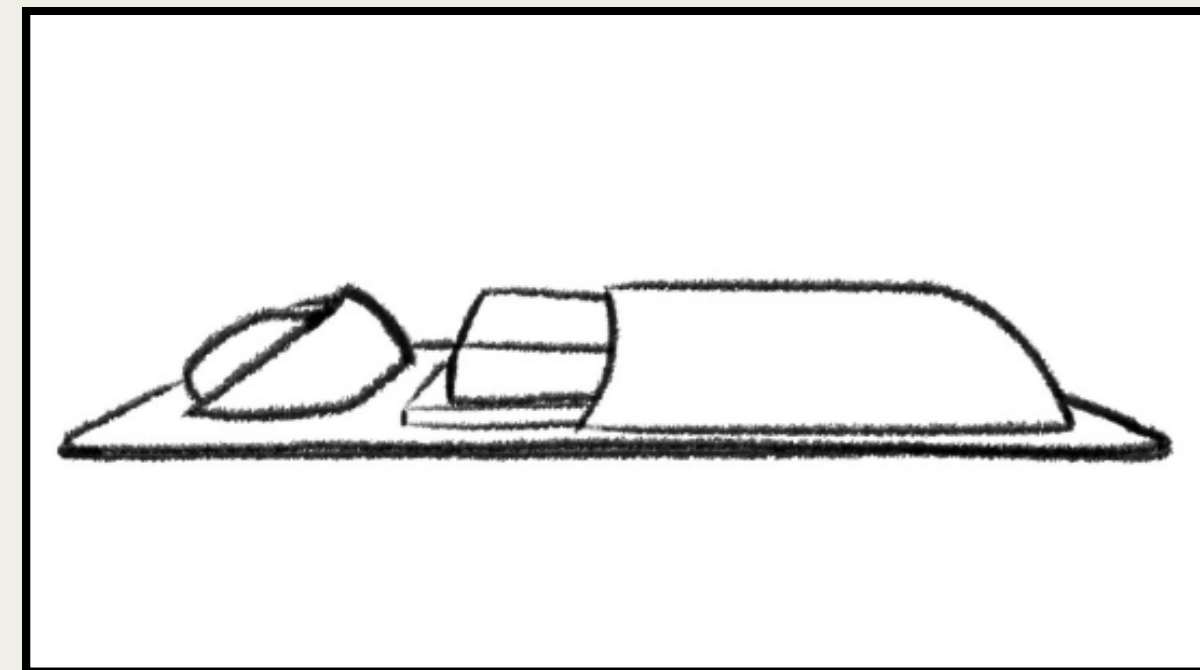


- large, thin pockets in the bag to hold larger items like a laptop or ipad
- stretchy pocket to hold items such as books
- smaller files to hold items such as a phone or pens

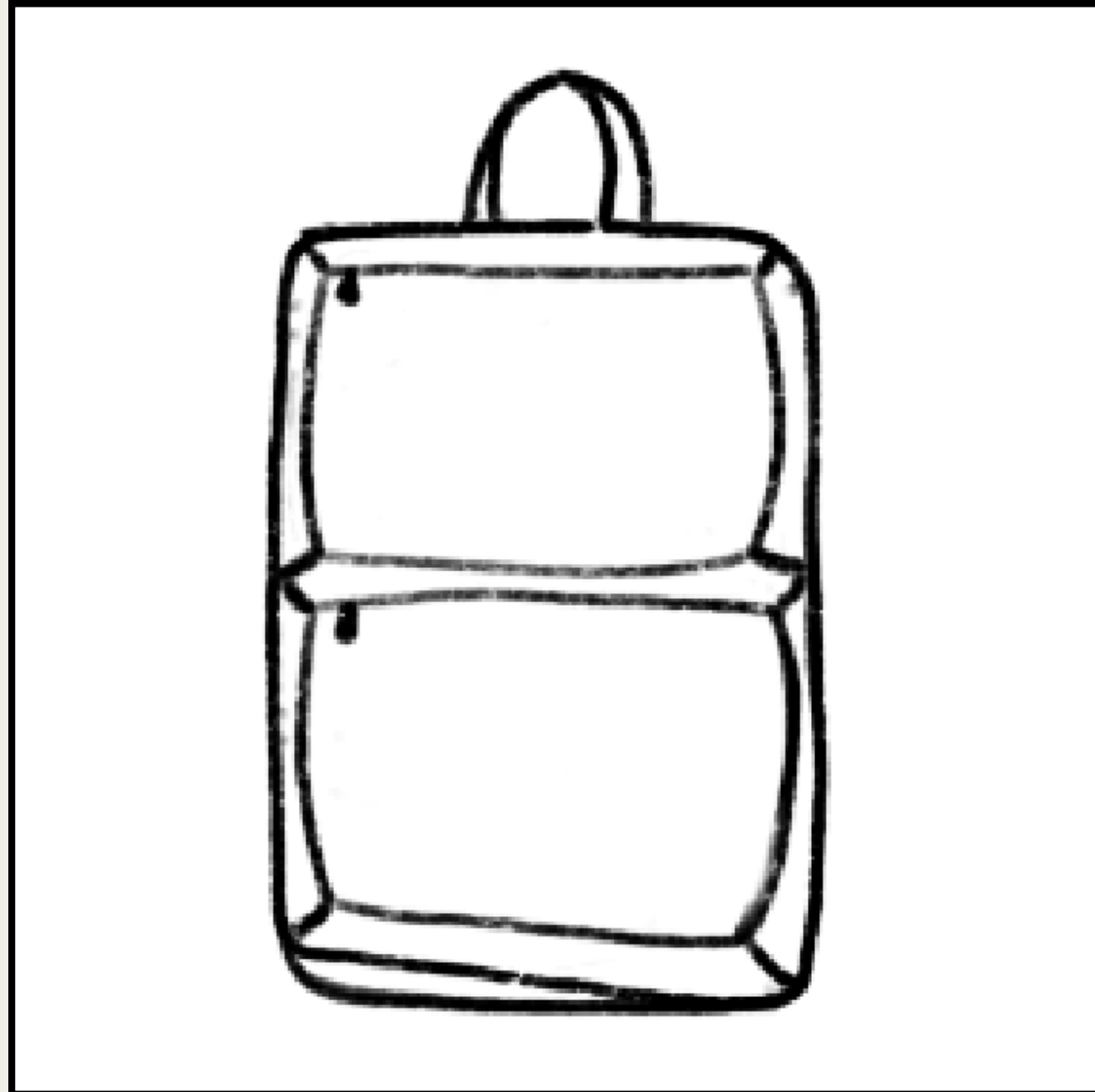
THE DEVICES FILE: SKETCH CONCEPT 2



- multiple pockets for varied objects
- open pouch at top for quick access to small items while it is stored in backpack
- thin and wide pouch for books, journals

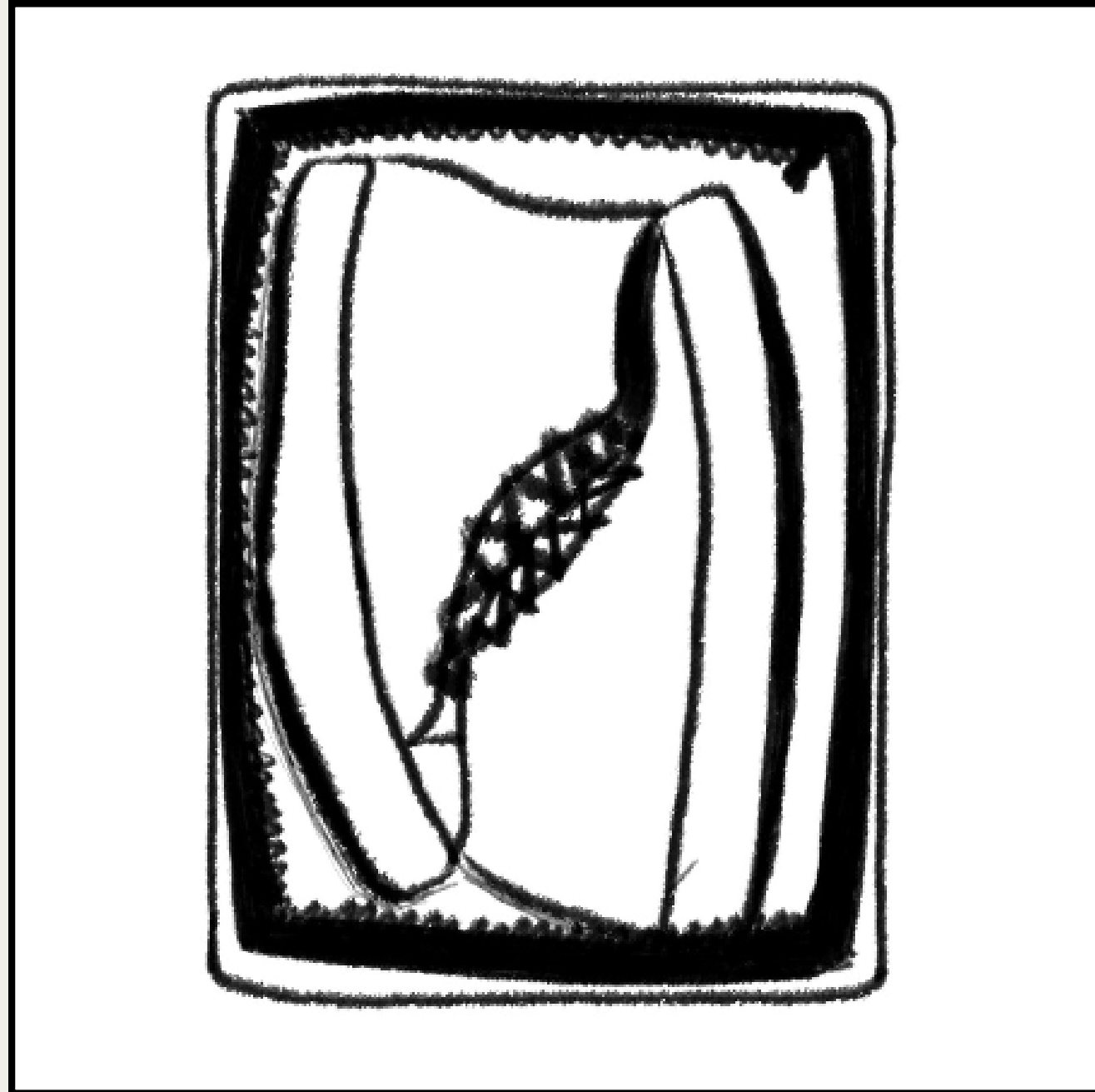


THE SHOES FILE: SKETCH CONCEPT 1

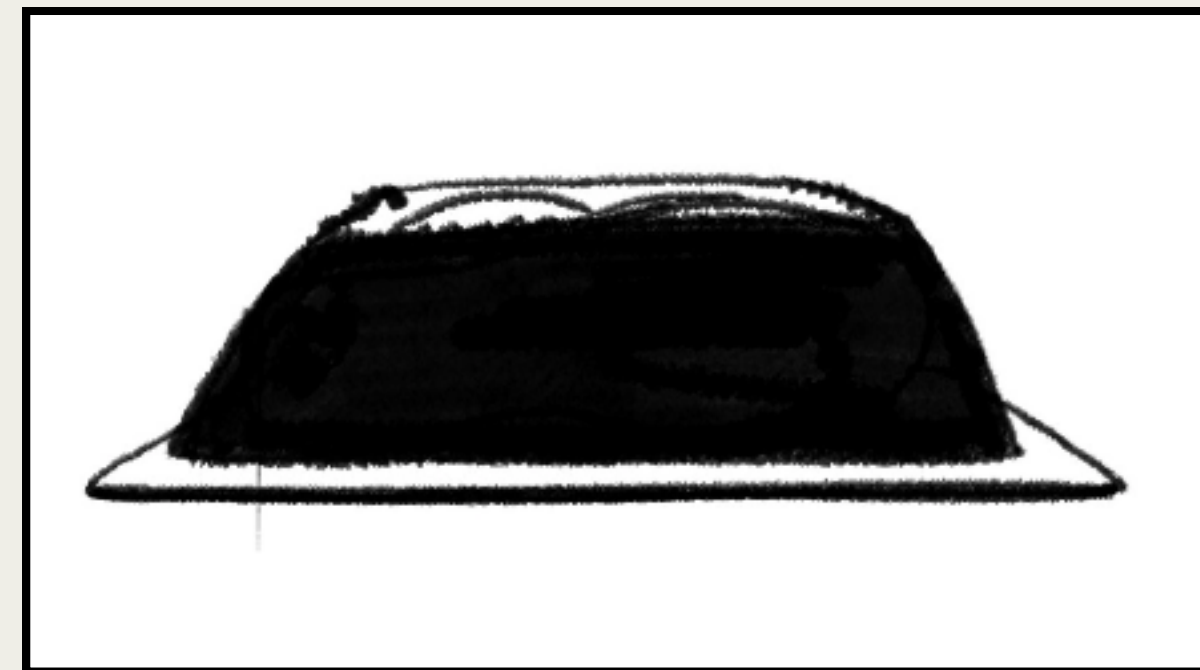


- two medium sized pouches to fit bulky but rigid items such as shoes
- elastic walls around sides of each pouch to help fit bulky items inside
- transparent face of pouch, allowing user to easily know what is held inside

THE SHOES FILE: SKETCH CONCEPT 2



- zipper goes around 3 sides to fold open
- transparent face
- elastic sides that stretch to fit bulky items

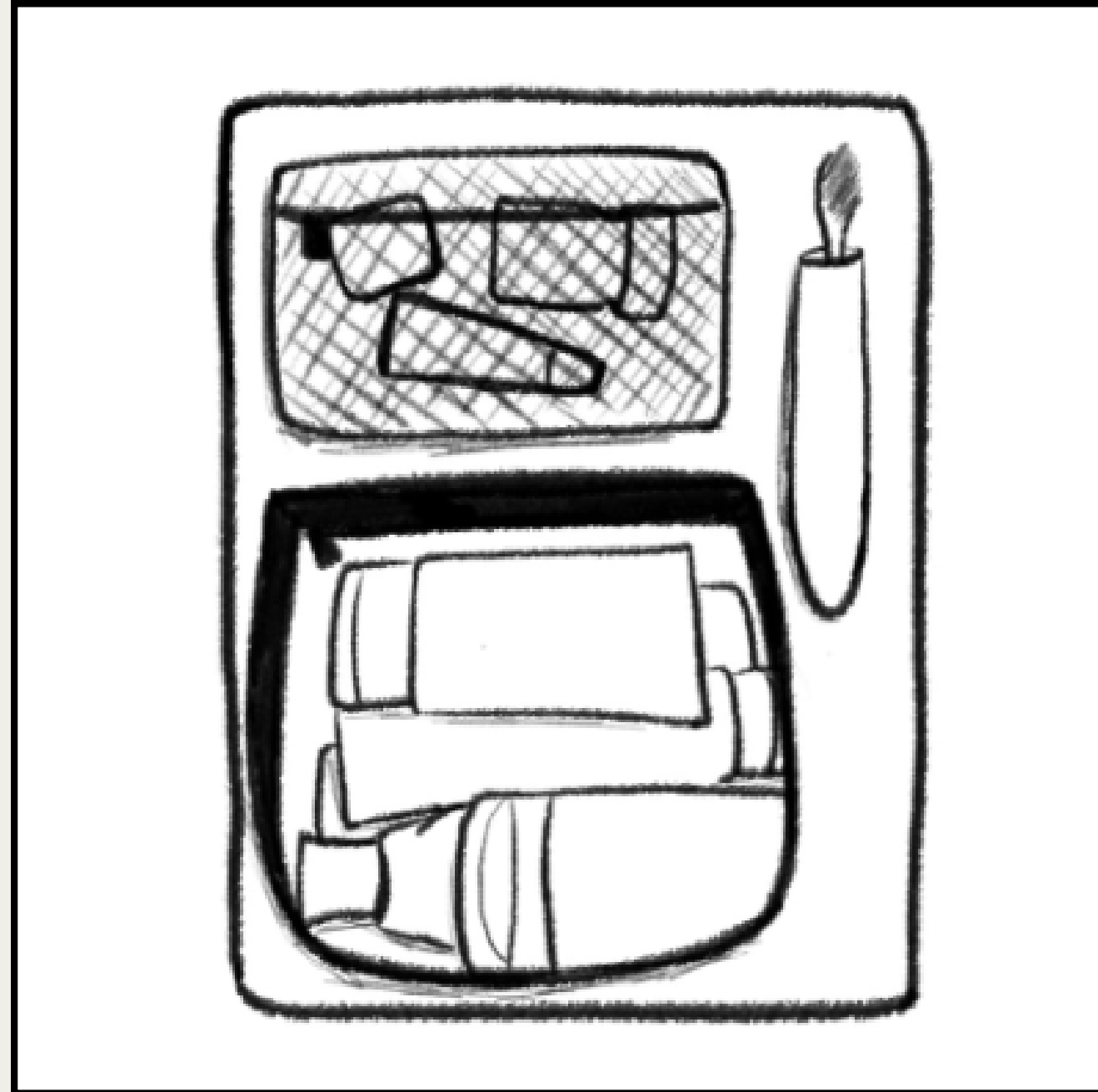


THE TOILETRIES FILE: SKETCH CONCEPT 1

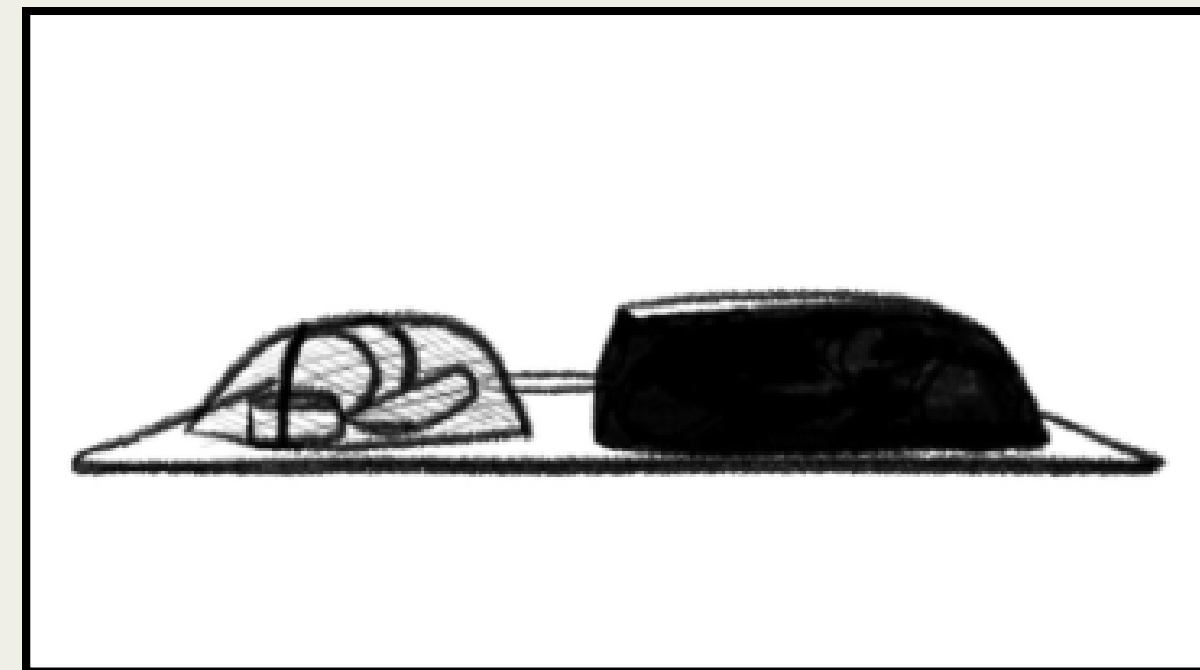


- small pockets to hold tiny items that may otherwise easily get lost
- elastic band to help hold items in pouch
- medium sized, waterproof pocket to hold items that may leak

THE TOILETRIES FILE: SKETCH CONCEPT 2



- multiple pockets for varied objects
- mesh = breathable, for small items
- large zipper pouch = waterproof, leakproof



Revisiting the User Journey

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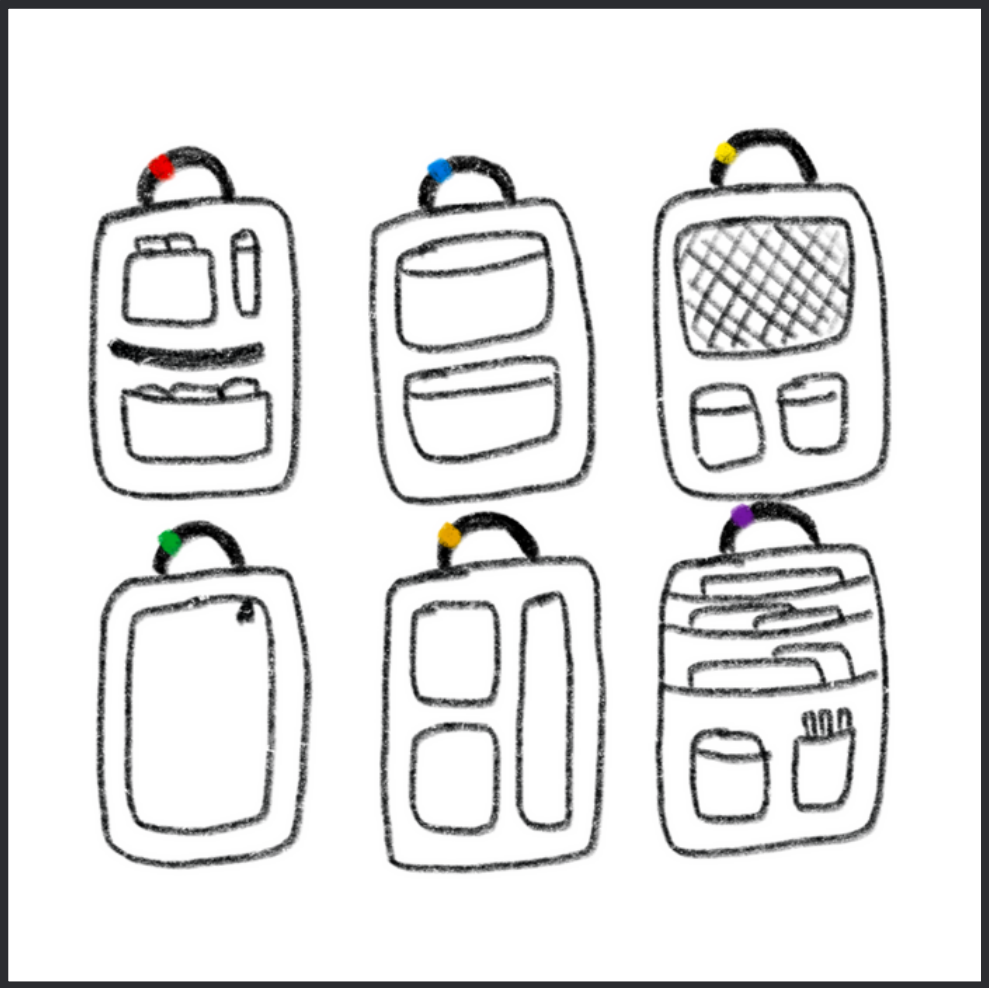
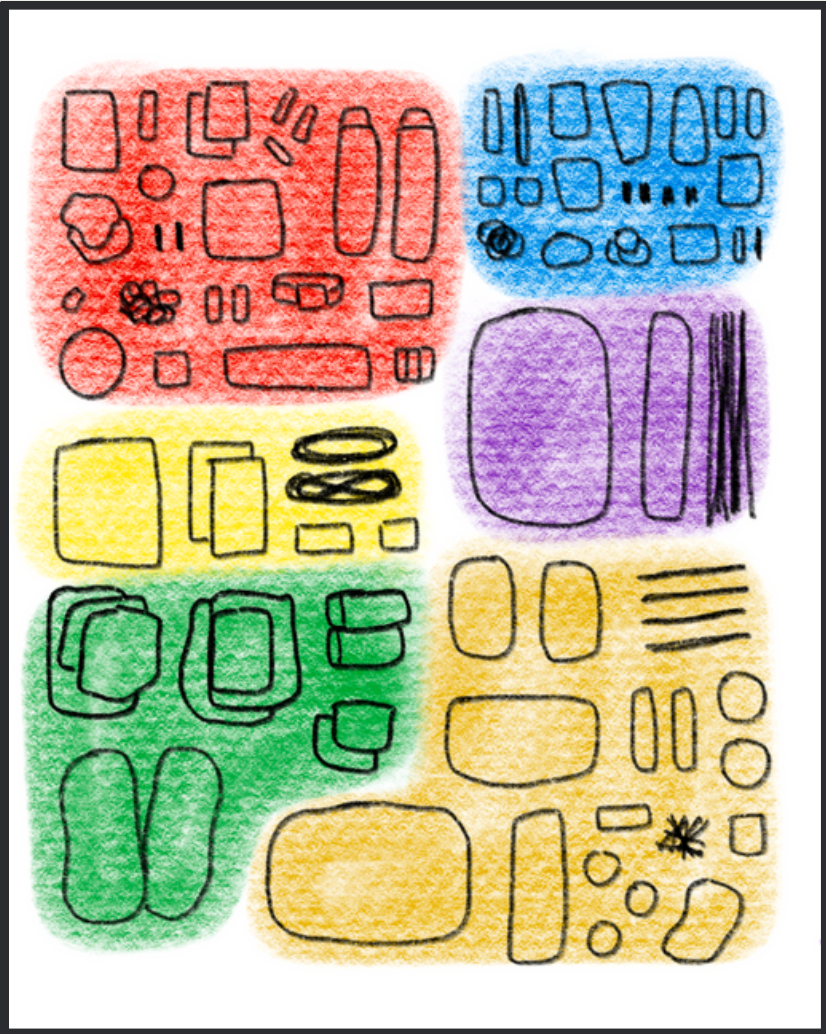


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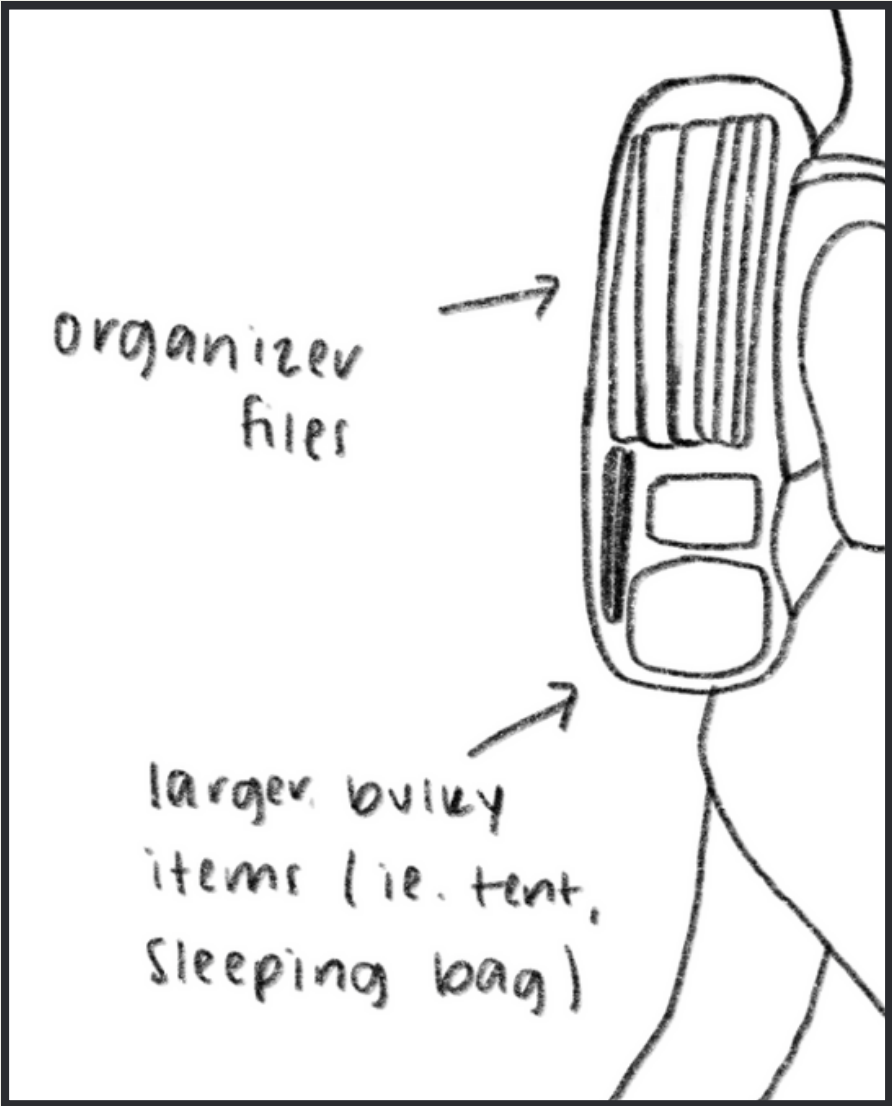
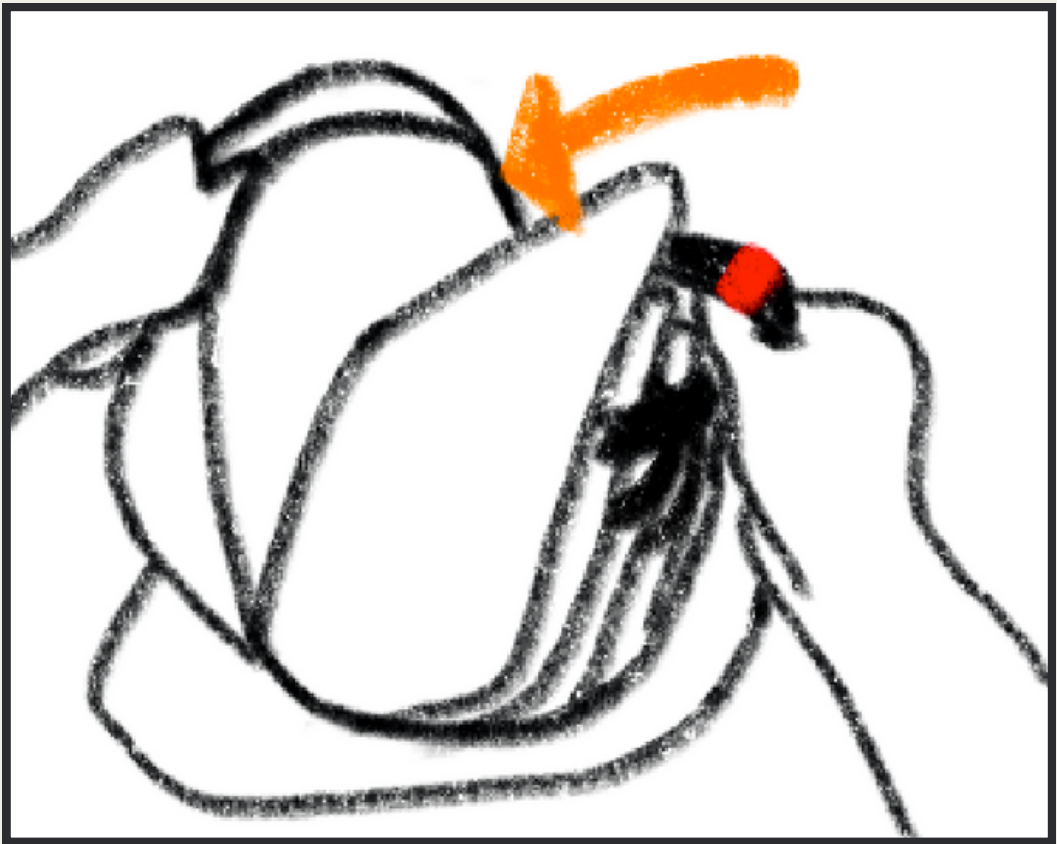
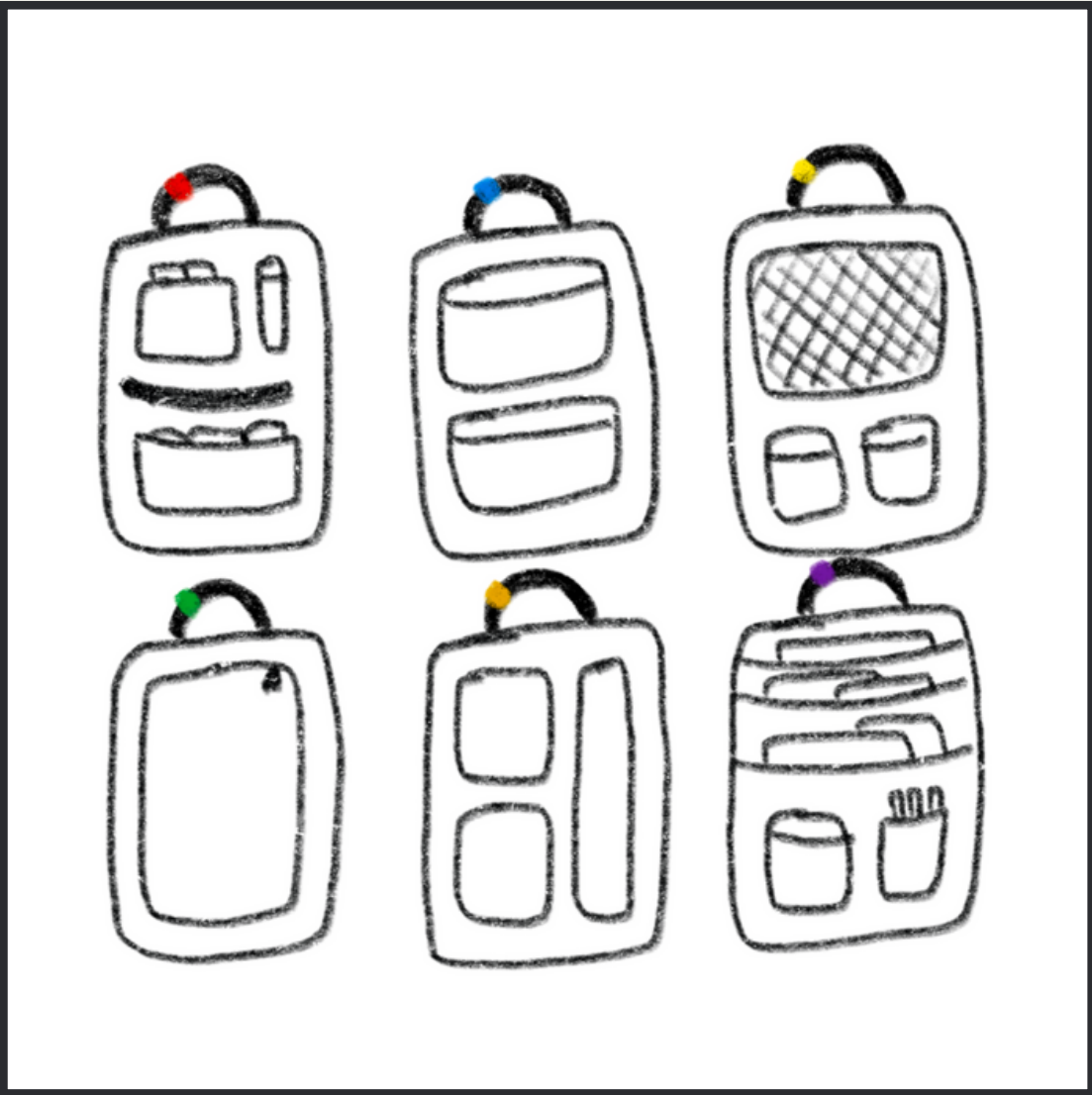


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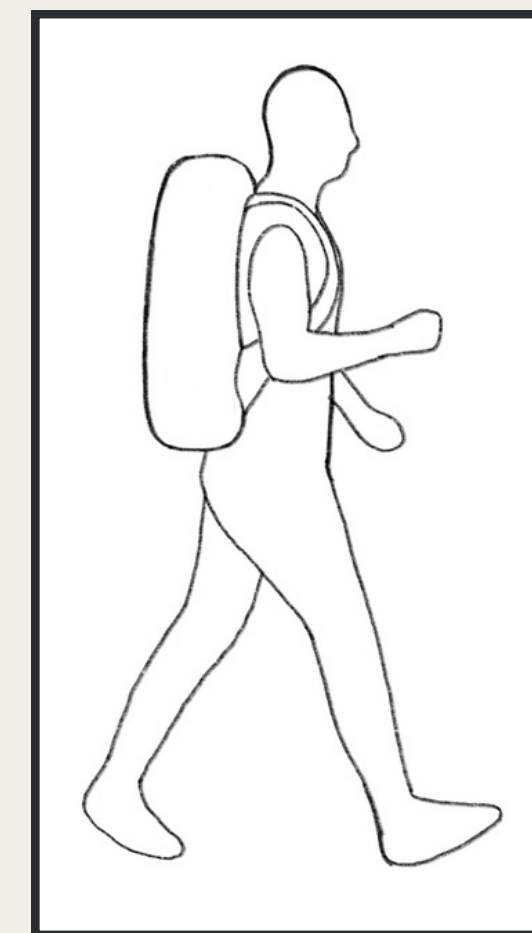
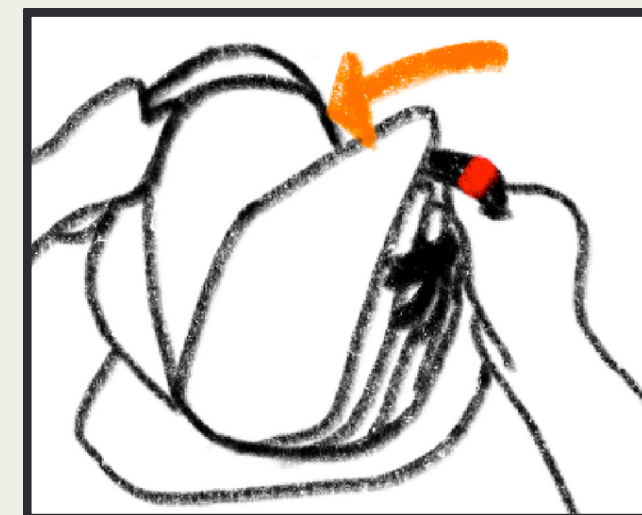
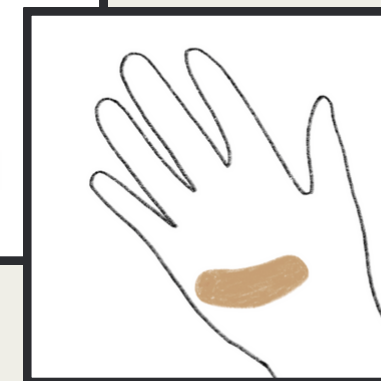
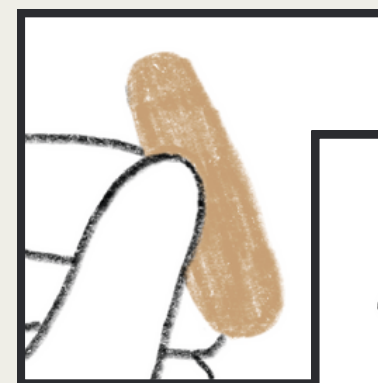
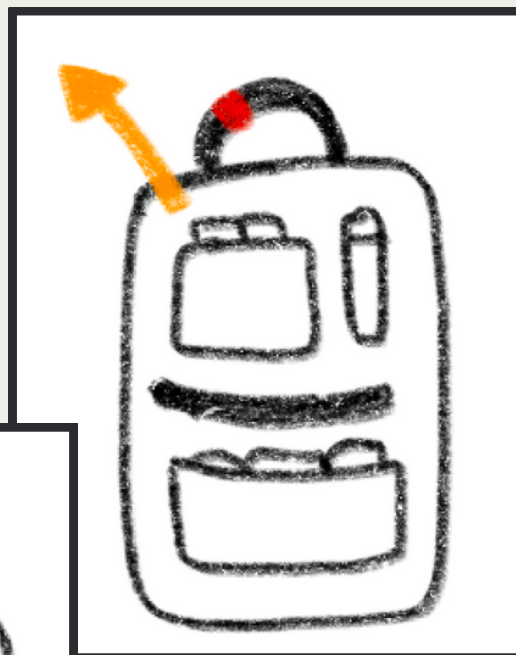
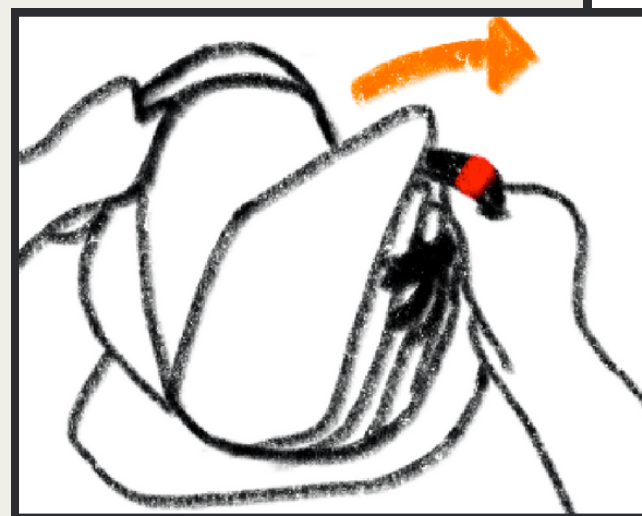
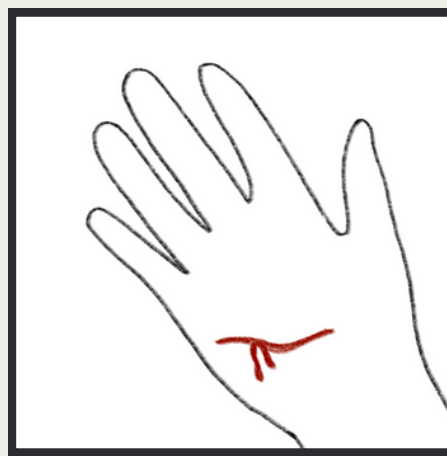
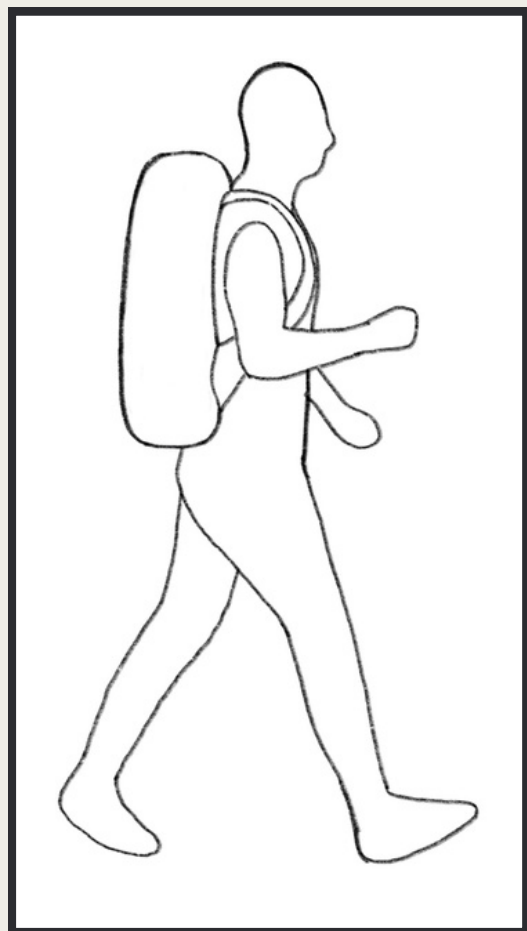


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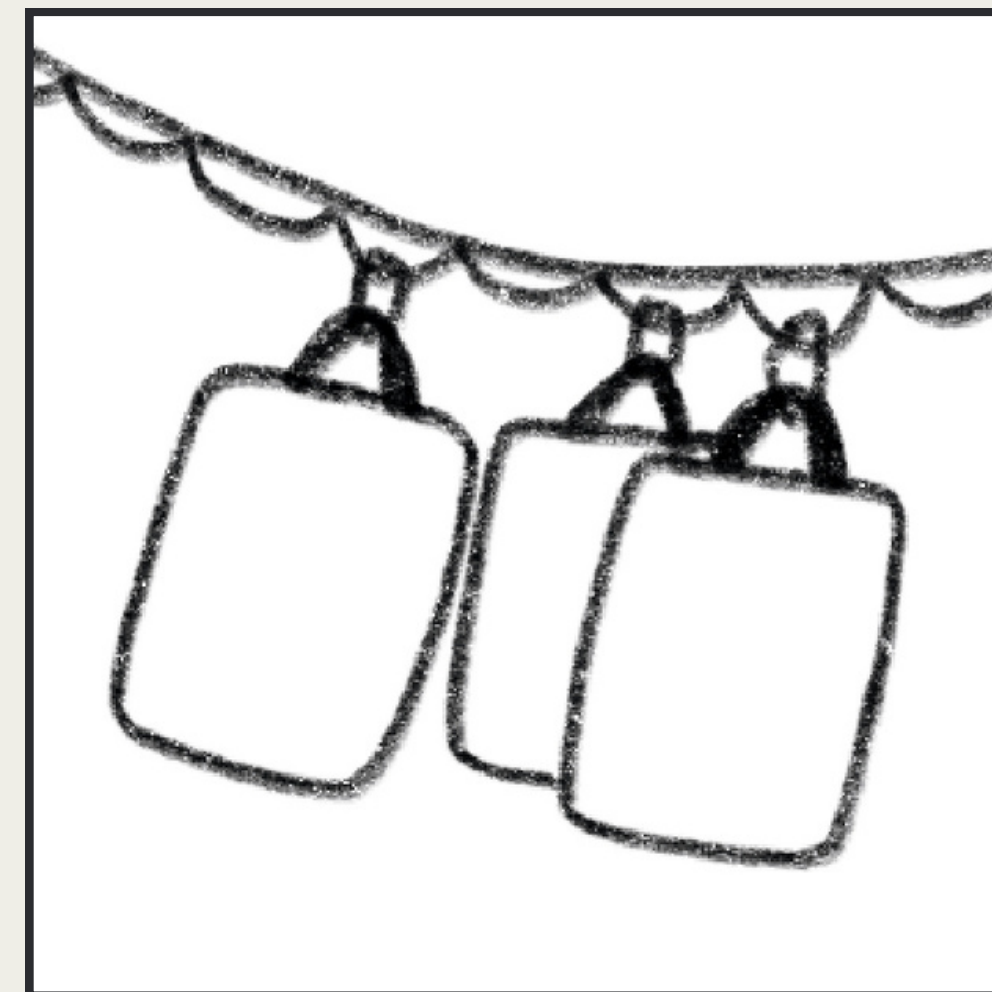
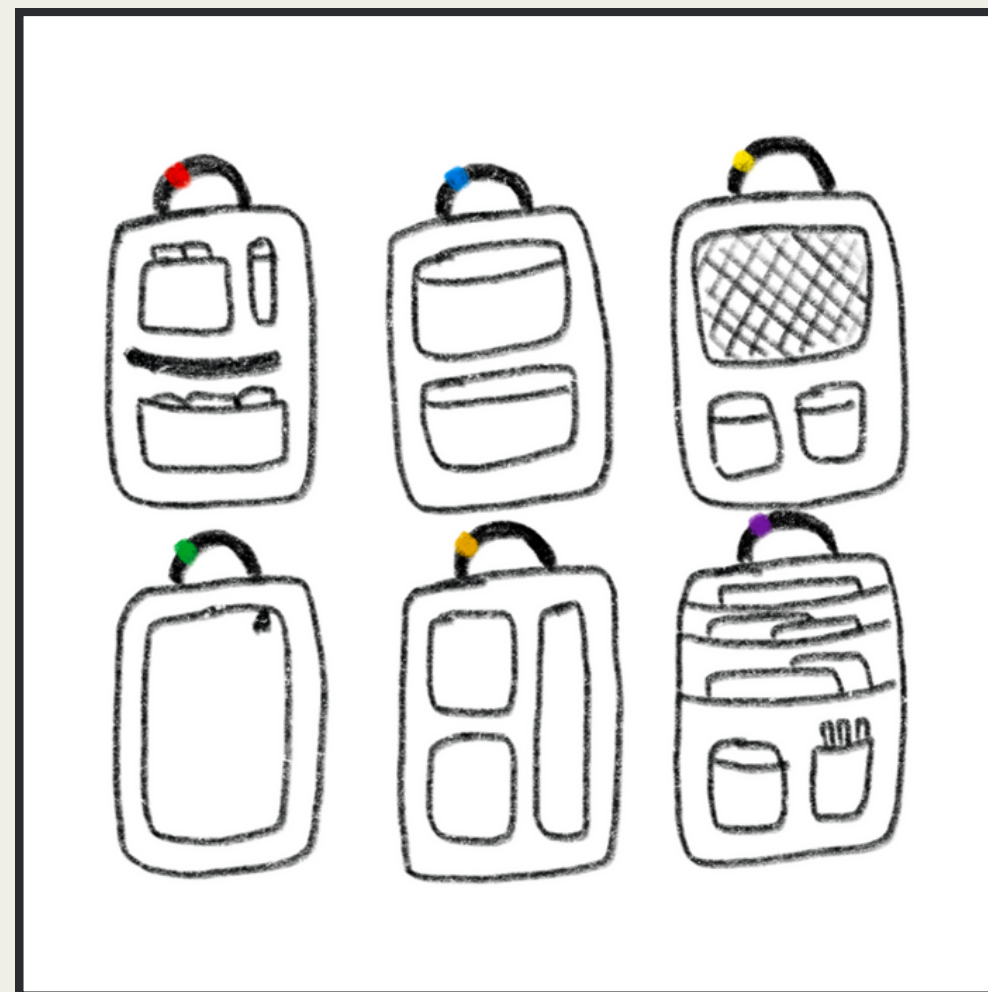
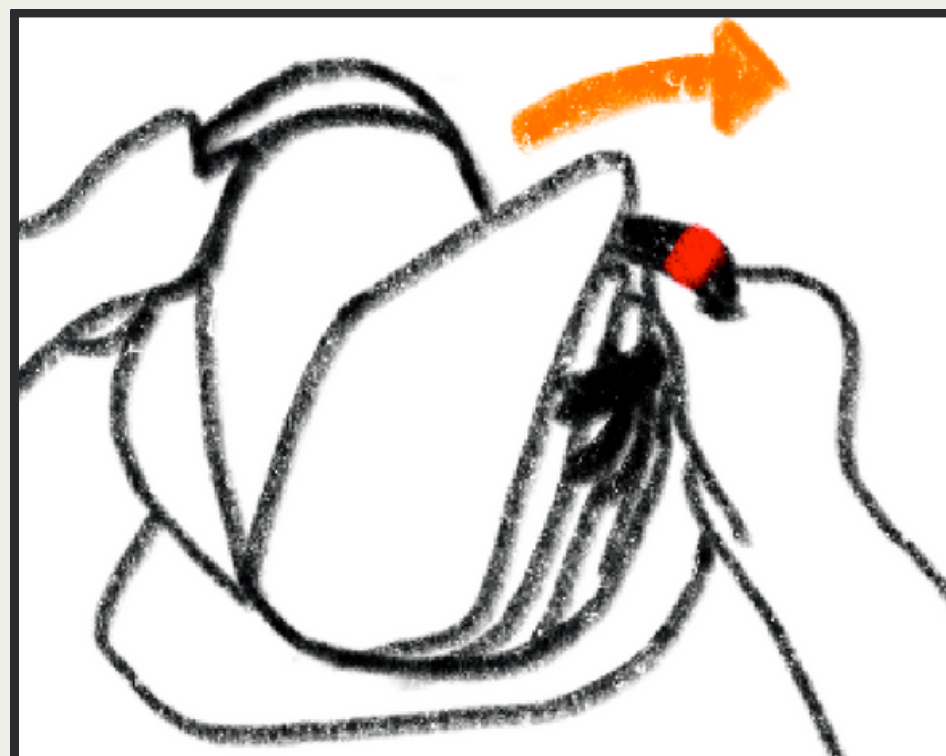


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STEP 4: UNPACK ITEMS



DESIGN GOALS

help user **remember**
what items to pack

help items **take up**
space more efficiently

improve the **internal**
organization of items

allow the user to
easily access items
during travel

maintain **organization**
when the user is at
their **destination**

remain **lightweight** and
easily **transportable**

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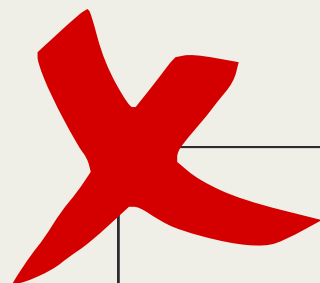
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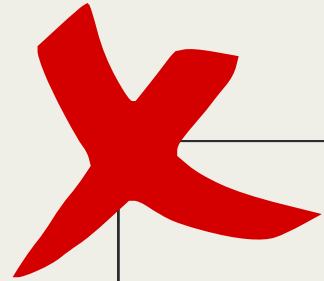
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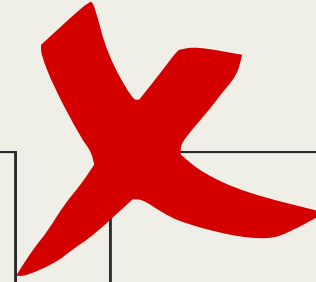


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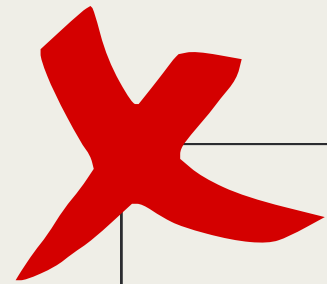


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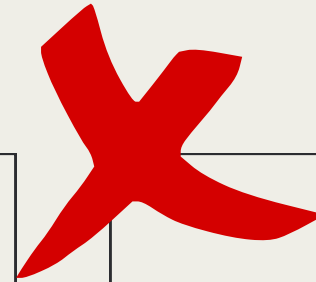


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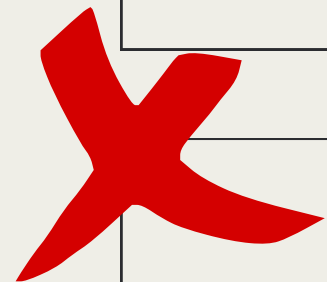
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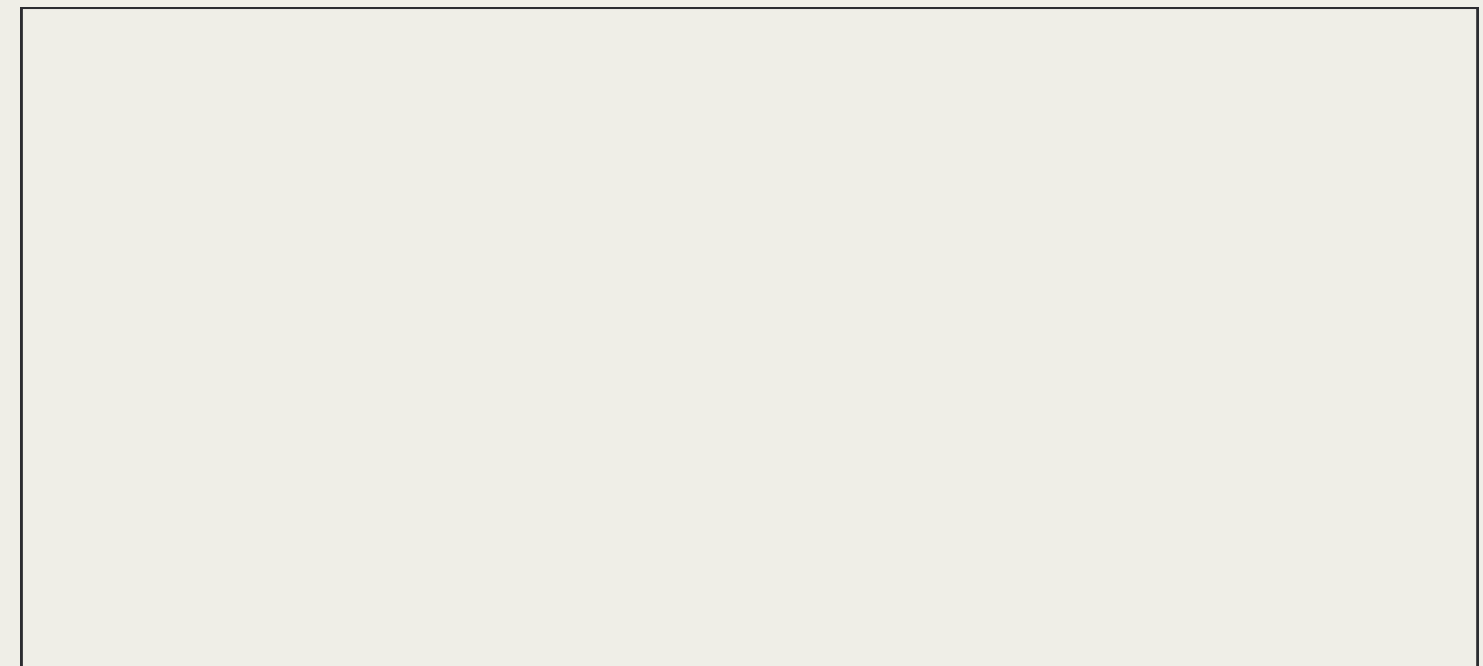
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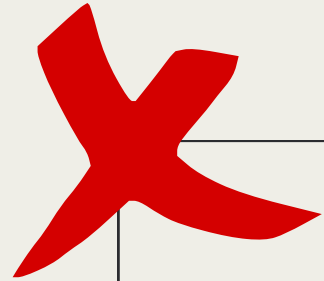
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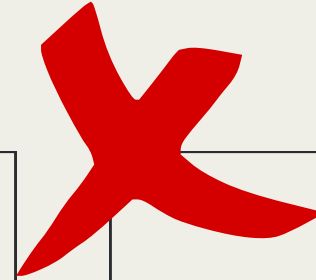
the rigid dimensions of the files themselves means that they **may not match the width and height** of the inside of some backpacks



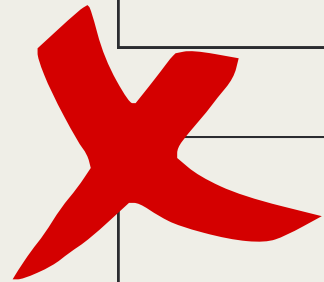
PRELIMINARY CONCEPT WEAKNESSES



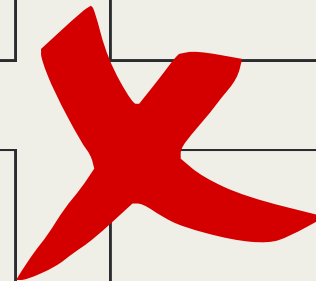
the variance in depth between files (or of items within the same file) could make it **hard to pack them parallel** to each other efficiently



files are designed so specifically that there is **not much room for customization** in terms of pocket size, material type, etc. based on what the user is packing



the rigid dimensions of the files themselves means that they **may not match the width and height** of the inside of some backpacks

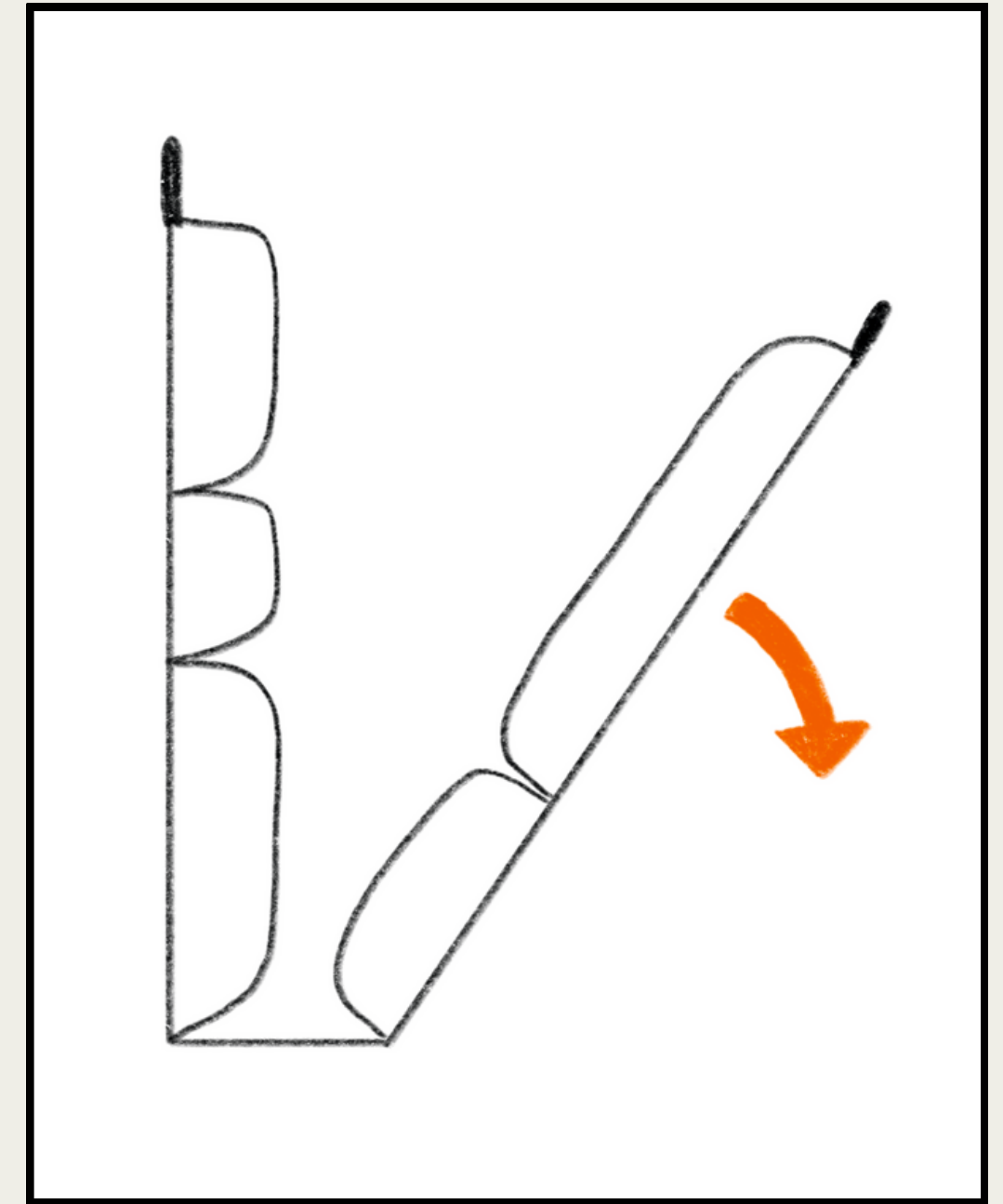
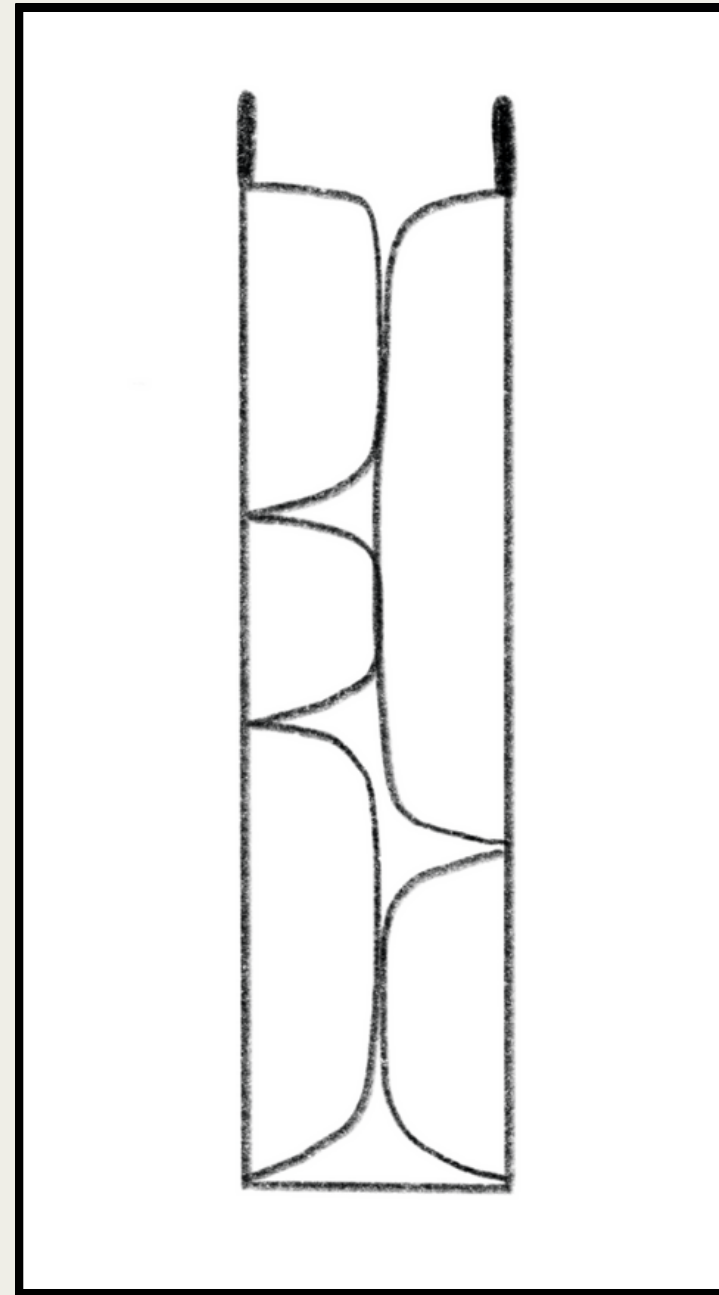


user may want to pack items that **don't match the established categories** of the existing files

Refined Concept

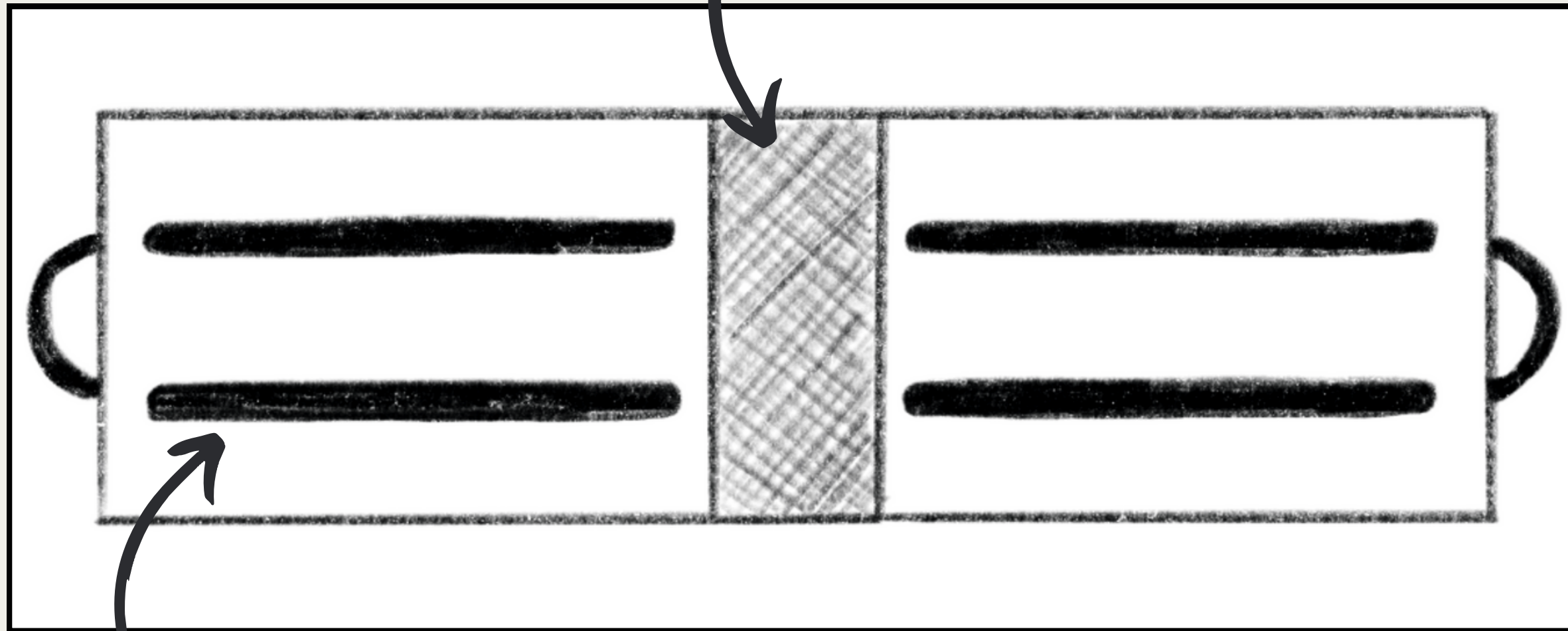
REFINED CONCEPT: THE BINDER

improves upon the preliminary concept by taking the same idea of internal structure and reshaping it to act as a modular, all-in-one binder instead of individual files.



REFINED CONCEPT: THE BINDER

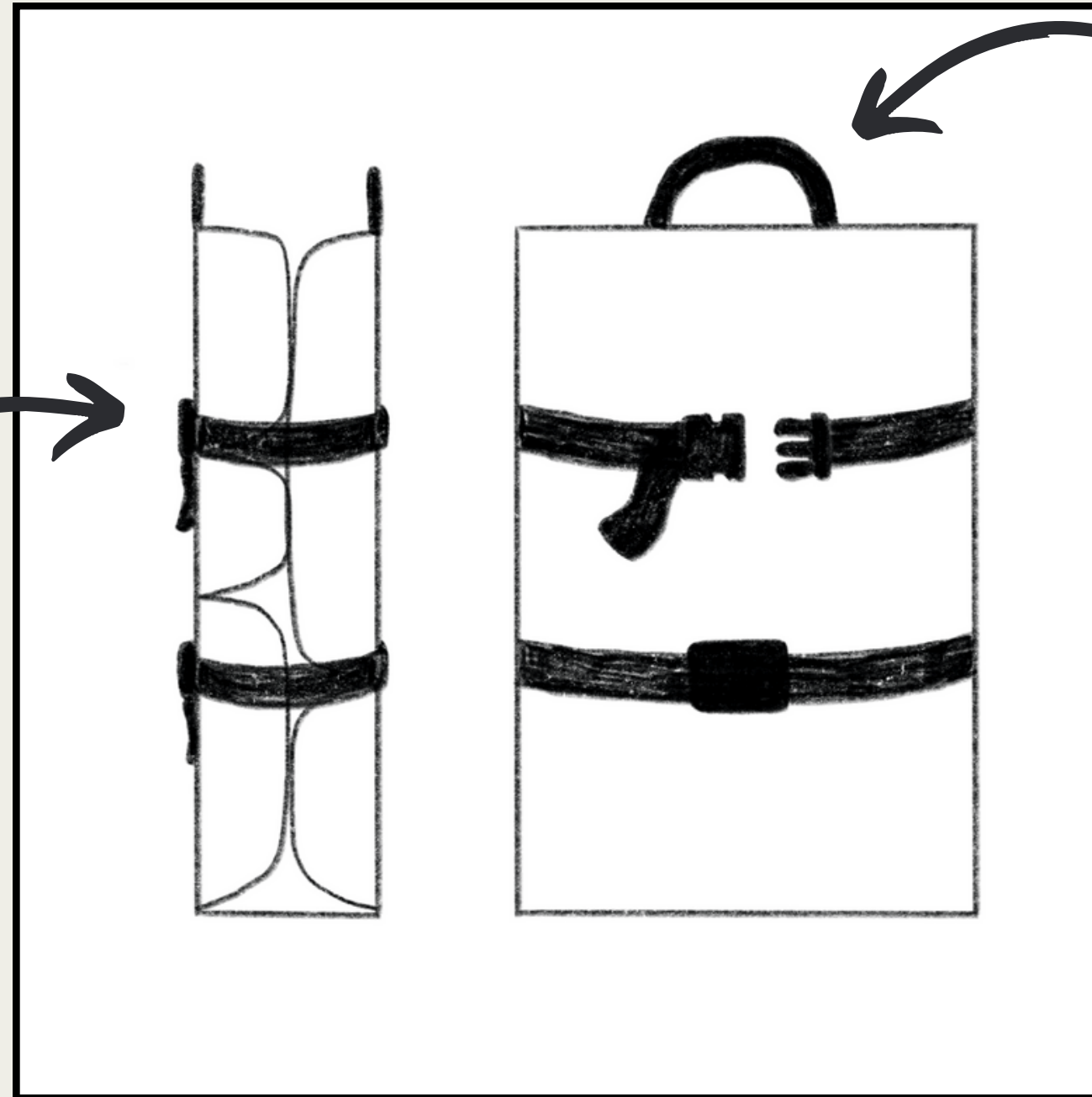
4" elastic band, allows for depth of binder to expand if needed after packing pieces are put in



velcro on inside of both faces
for packing pieces to attach to

REFINED CONCEPT: THE BINDER

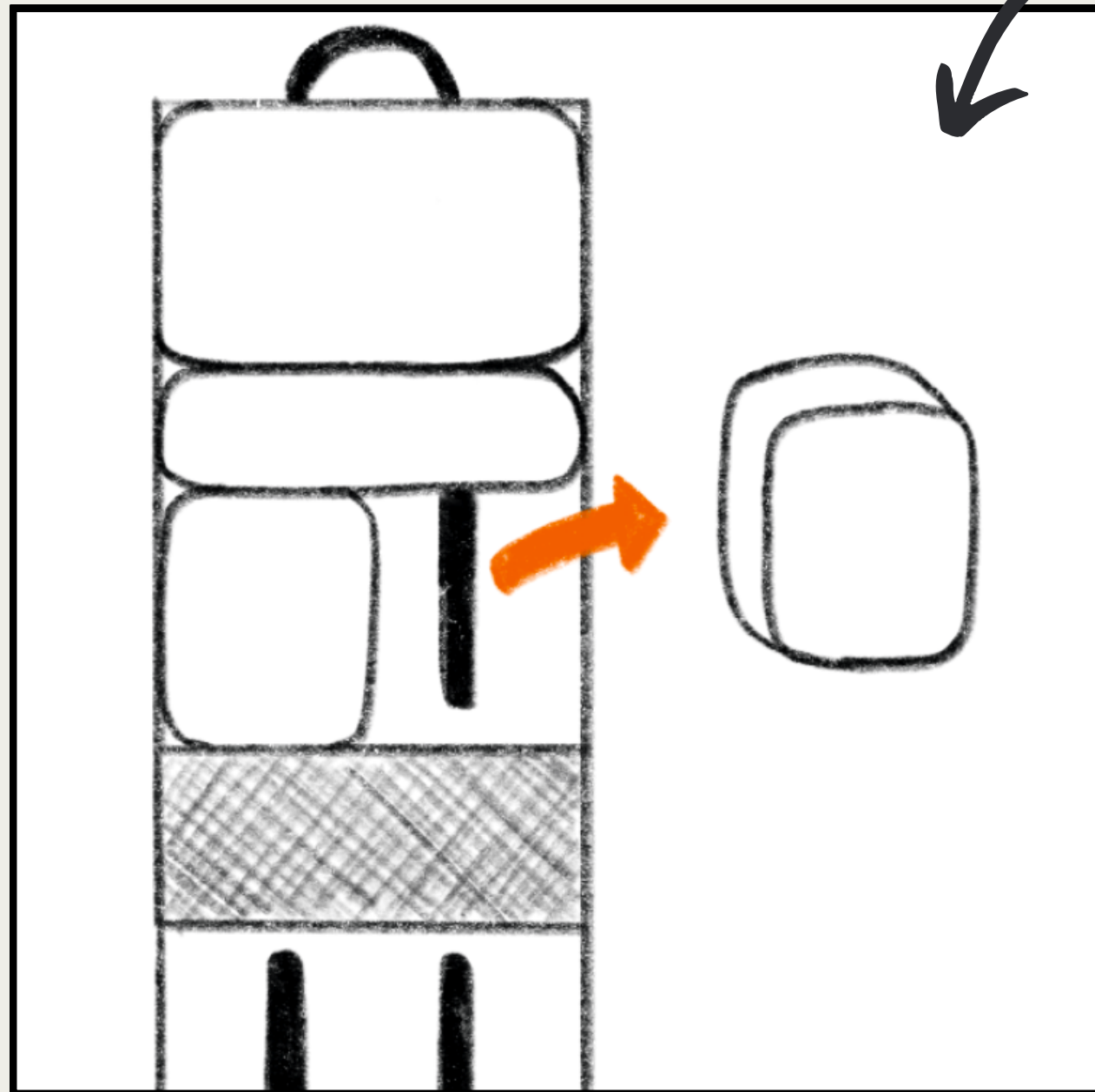
buckle straps around
outside to hold the binder
together and compress
depth to minimize space
taken up inside backpack



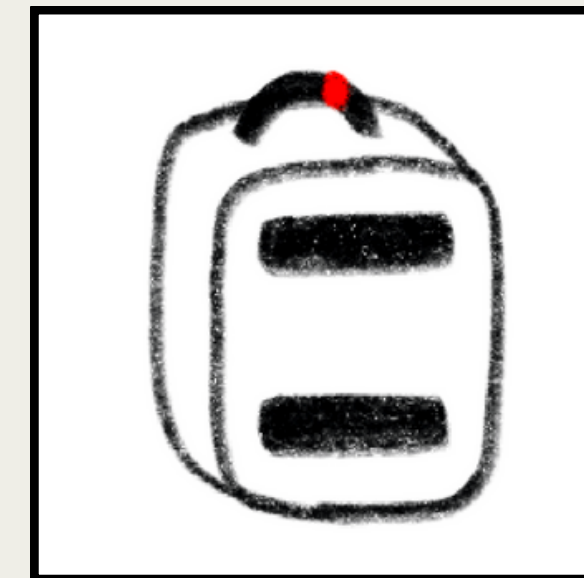
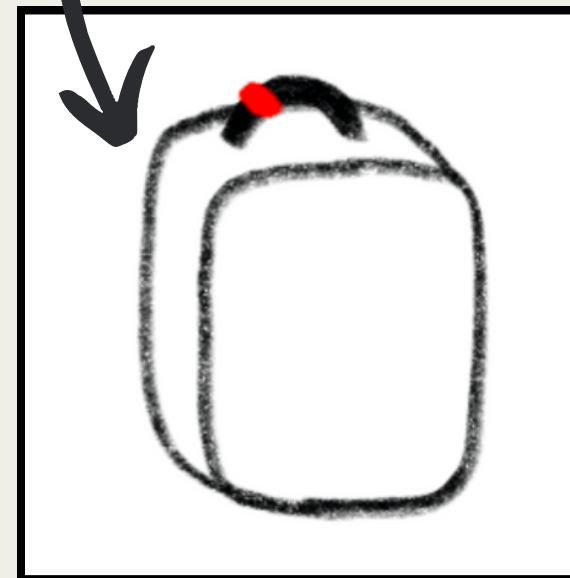
handles on top to easily
grab, and to easily hang it
up at campsite

REFINED CONCEPT: THE BINDER

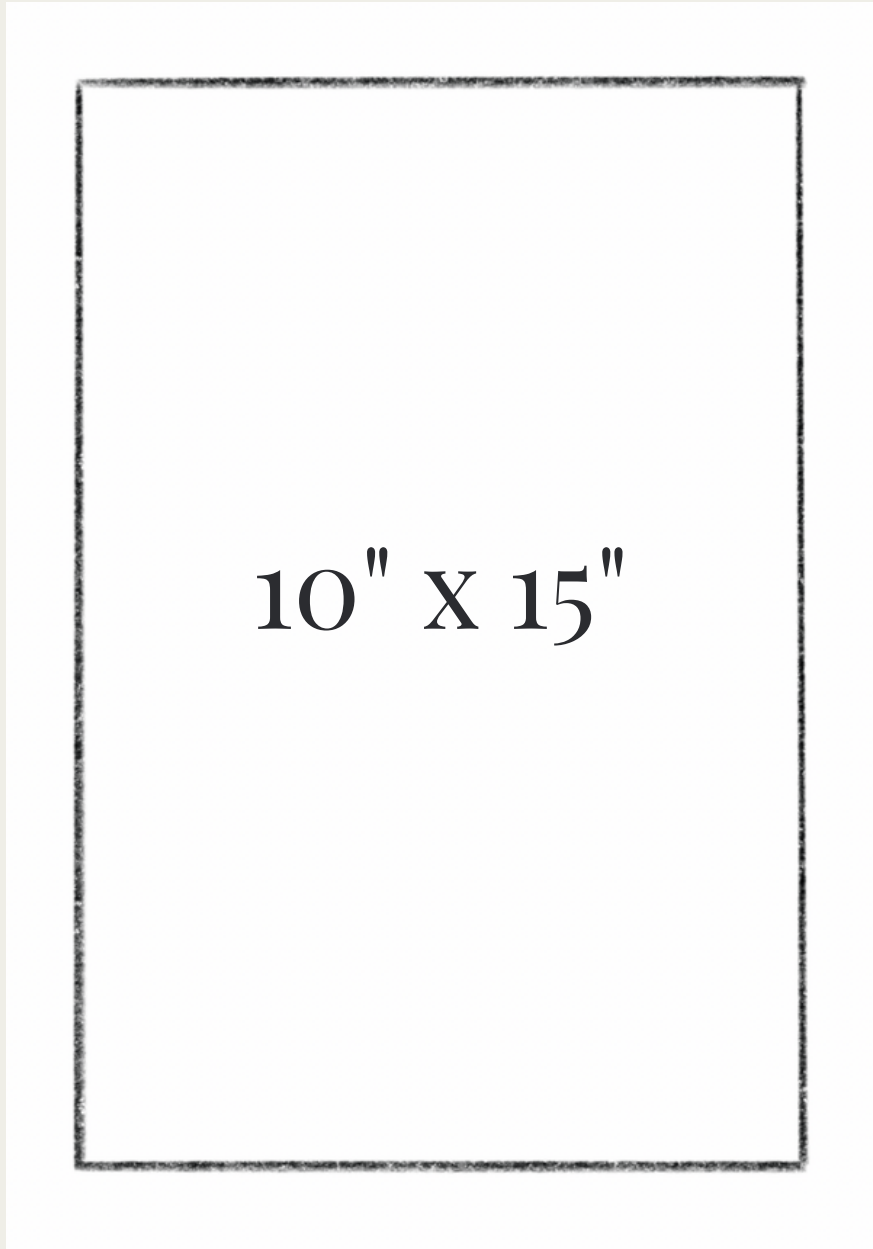
modular packing pieces can easily
be taken in and out of the binder



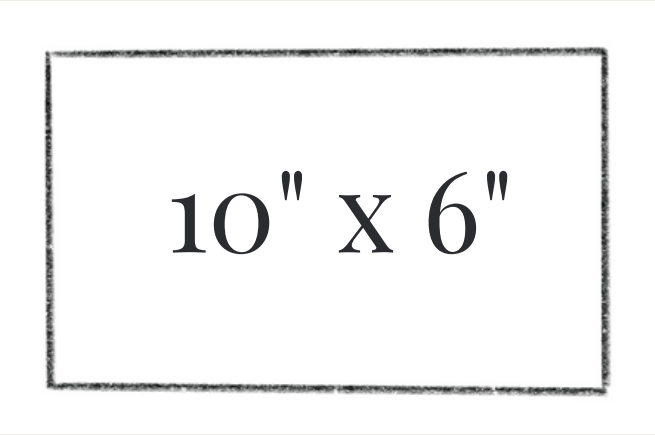
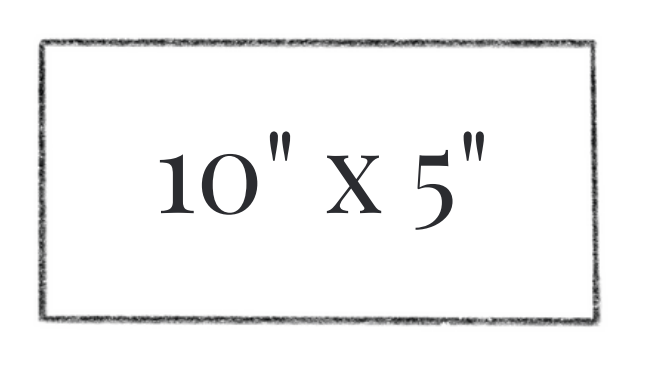
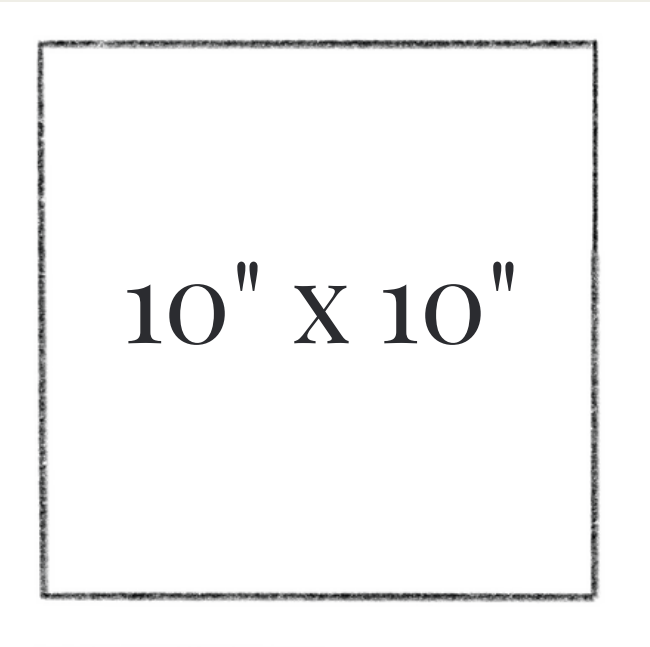
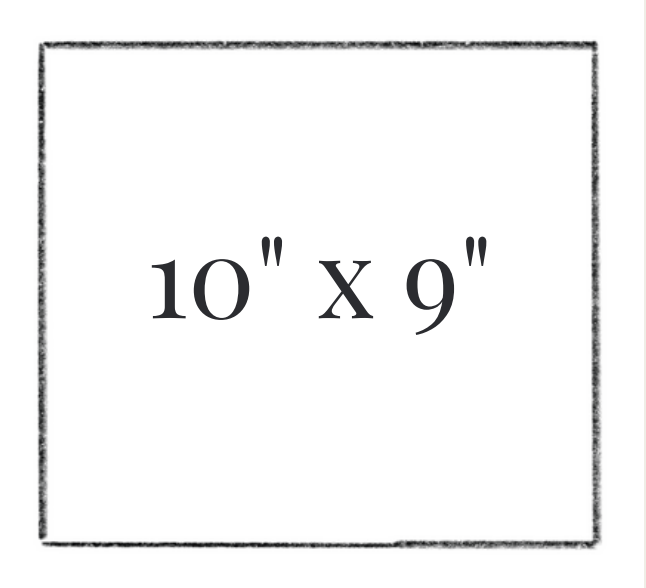
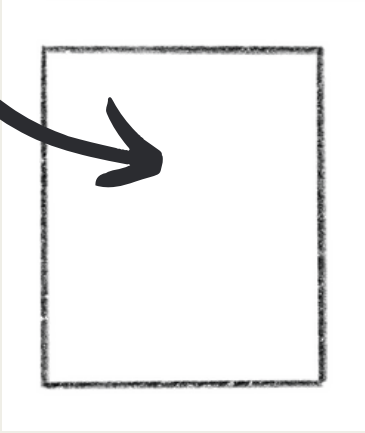
handles for individual hanging, color
tabs on handles for quick identification



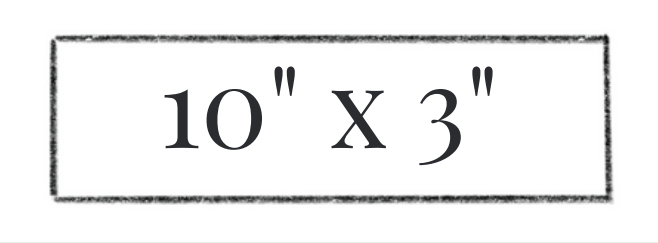
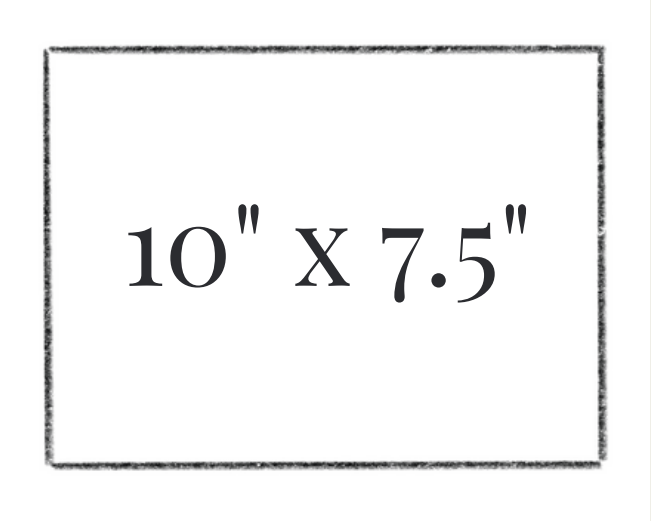
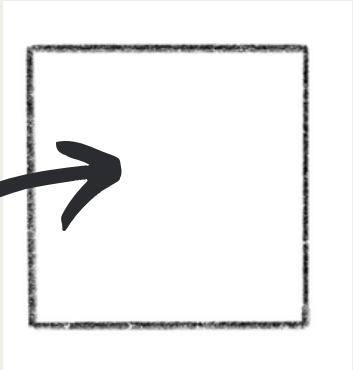
MODULARITY



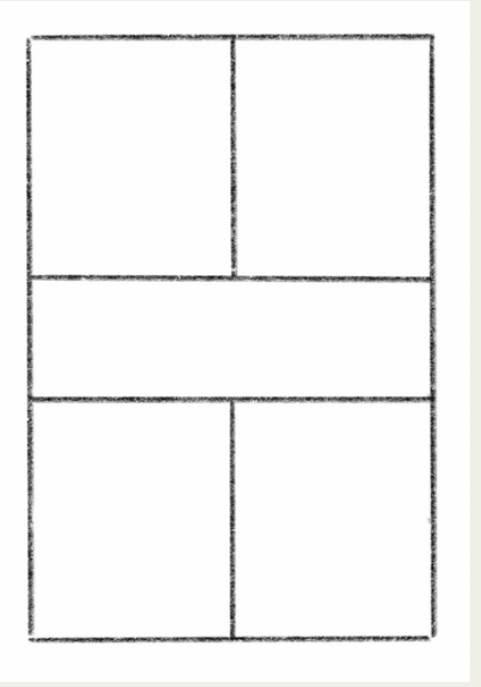
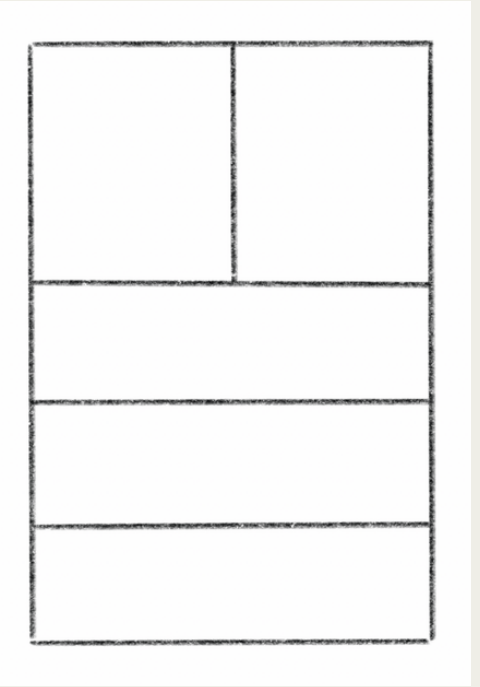
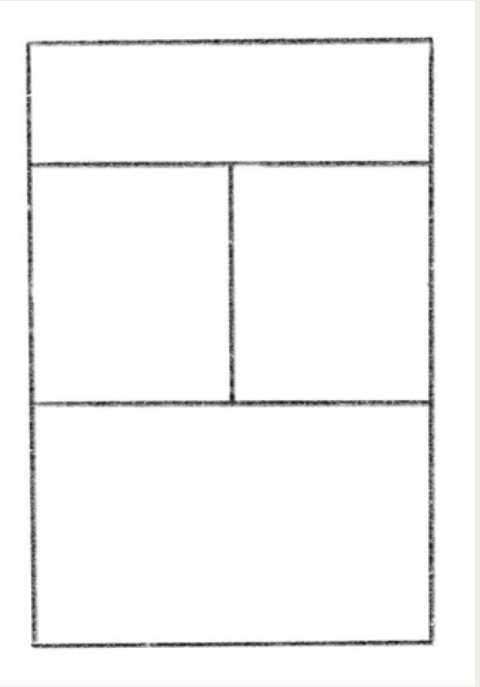
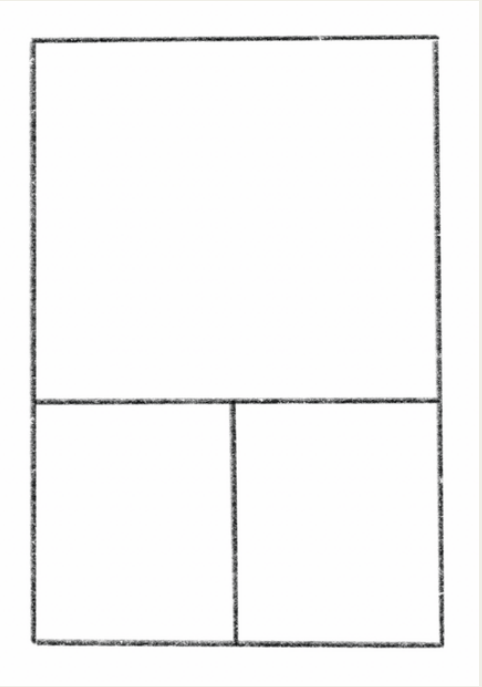
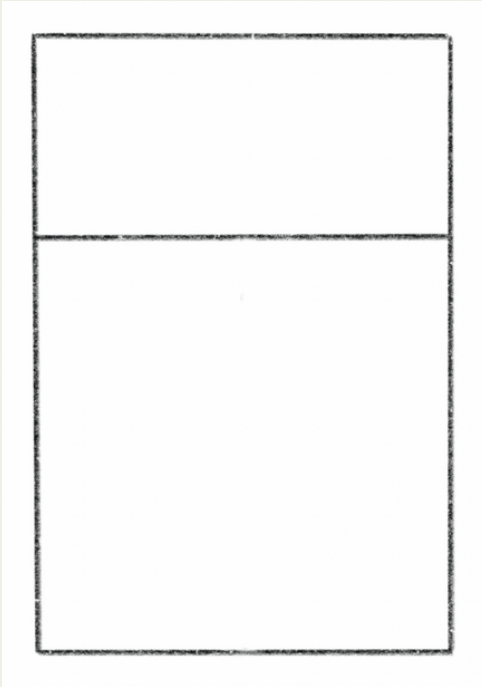
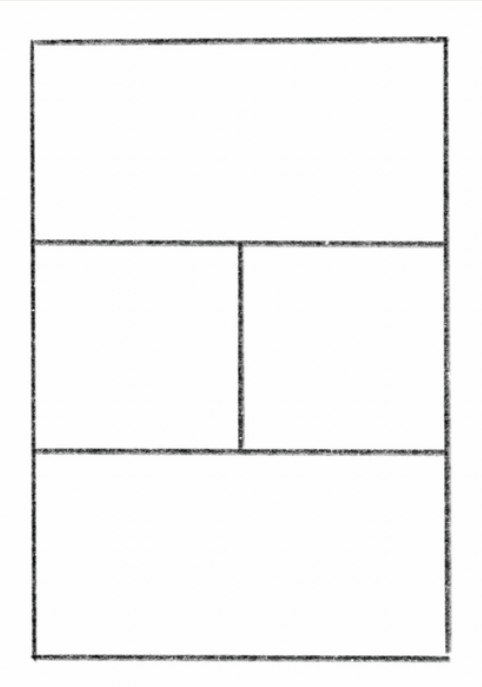
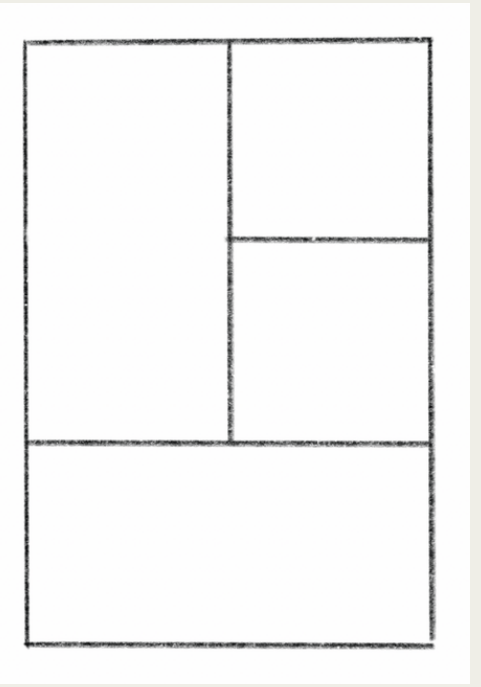
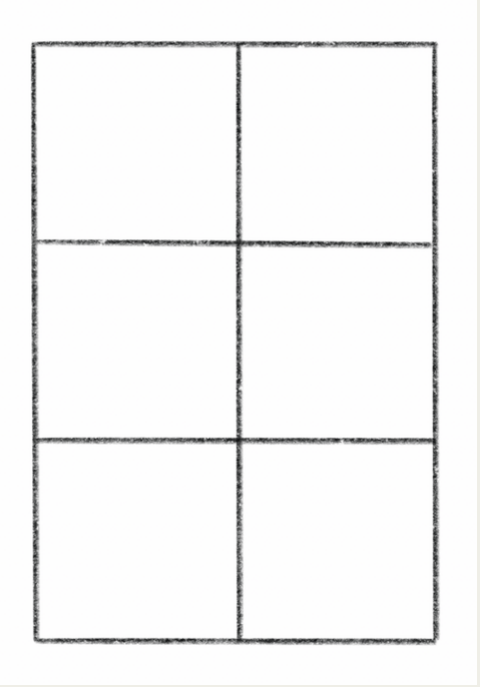
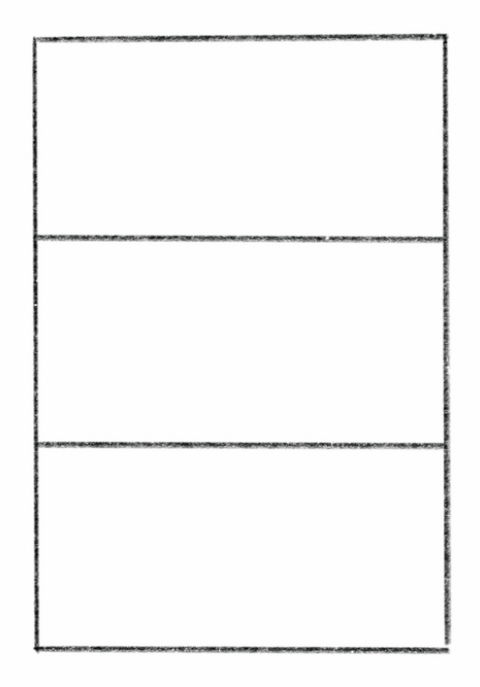
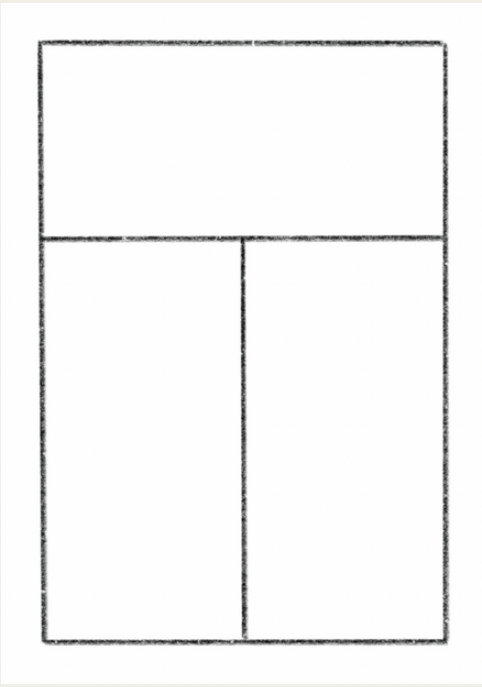
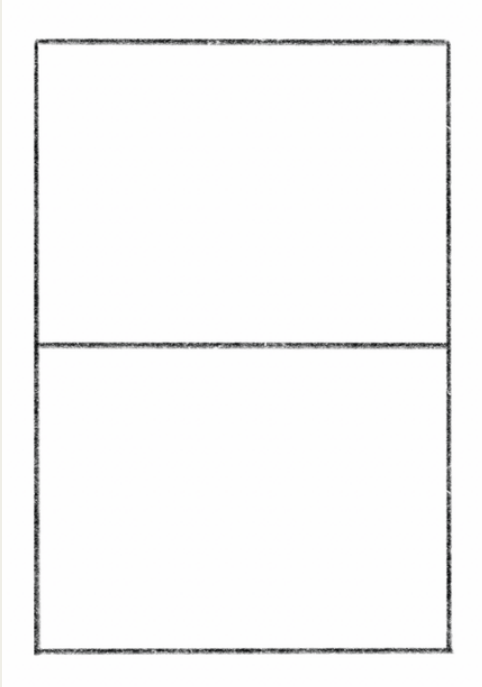
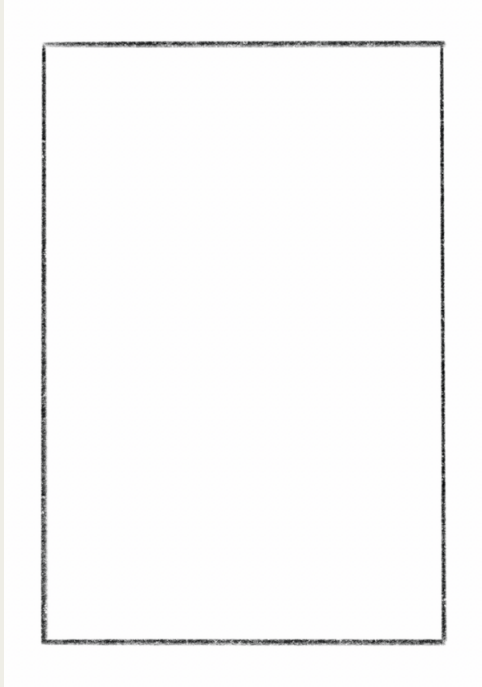
5" X 6"



5" X 5"

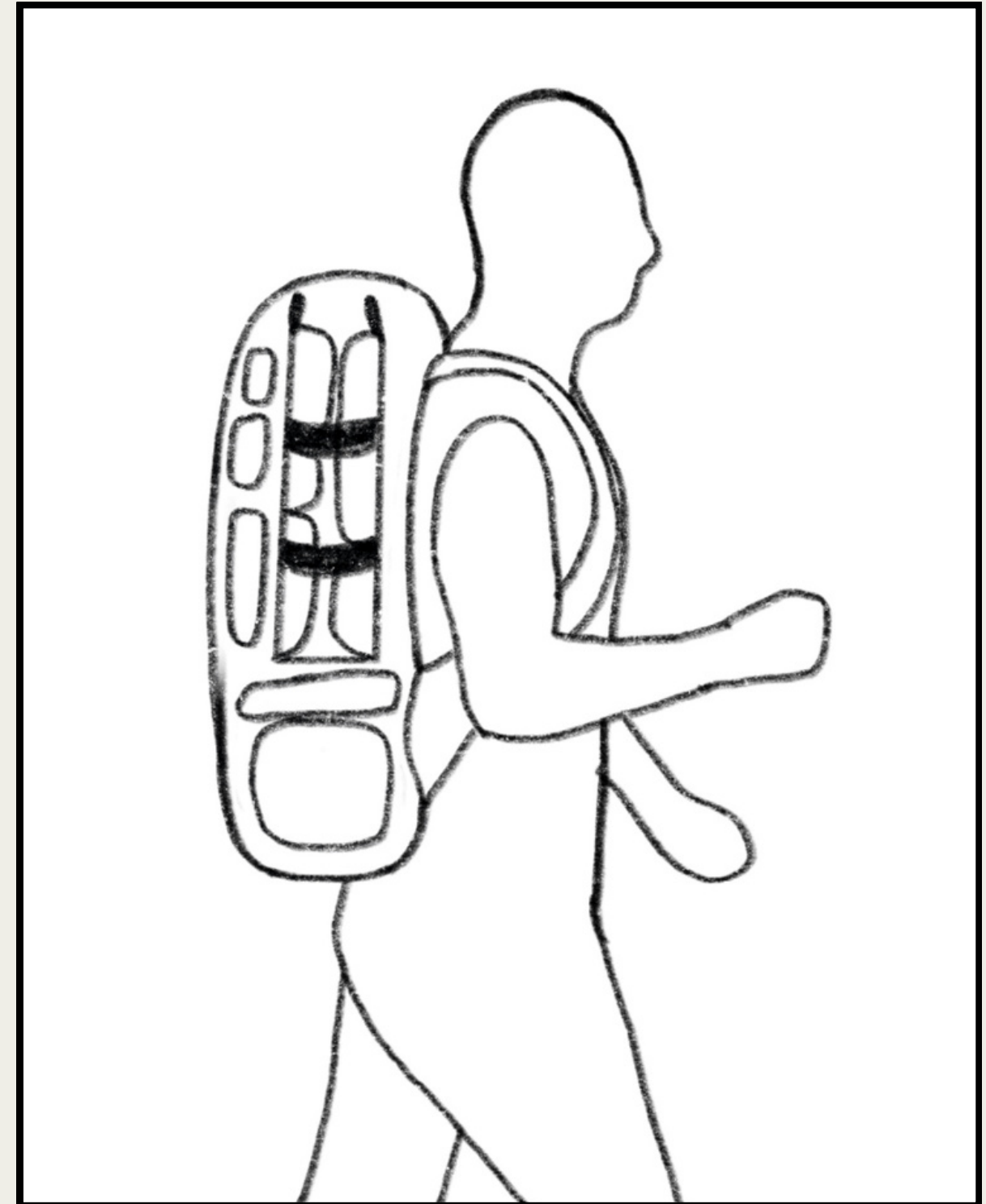


MODULARITY



REFINED CONCEPT: THE BINDER

- fits better into the hiking backpack since it is one single unit
- user can also take smaller module pieces and put them loosely into backpack if needed
- still allows user to quickly access items since items that may need to be accessed can be positioned at the top of the binder and pulled out of the velcro binder



DESIGN GOALS

help user **remember**
what items to pack

help items **take up**
space more efficiently

improve the **internal**
organization of items

allow the user to
easily access items
during travel

maintain **organization**
when the user is at
their **destination**

remain **lightweight** and
easily **transportable**

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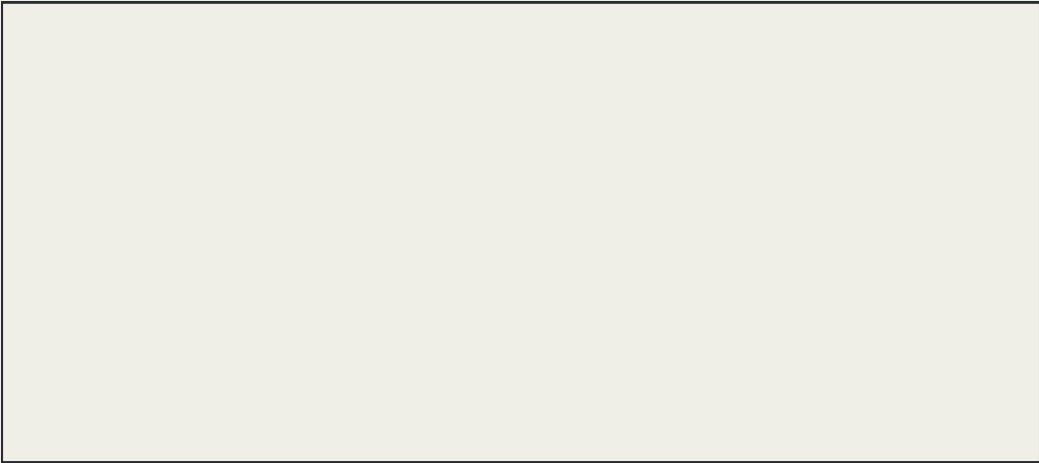
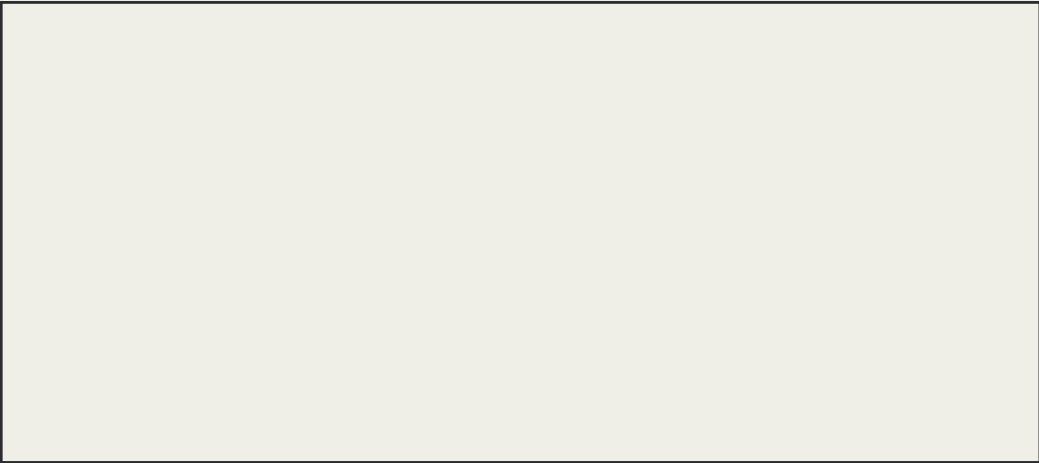
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easily **transportable**

IMPROVEMENTS

IMPROVEMENTS



customizable
packing experience
due to modularity



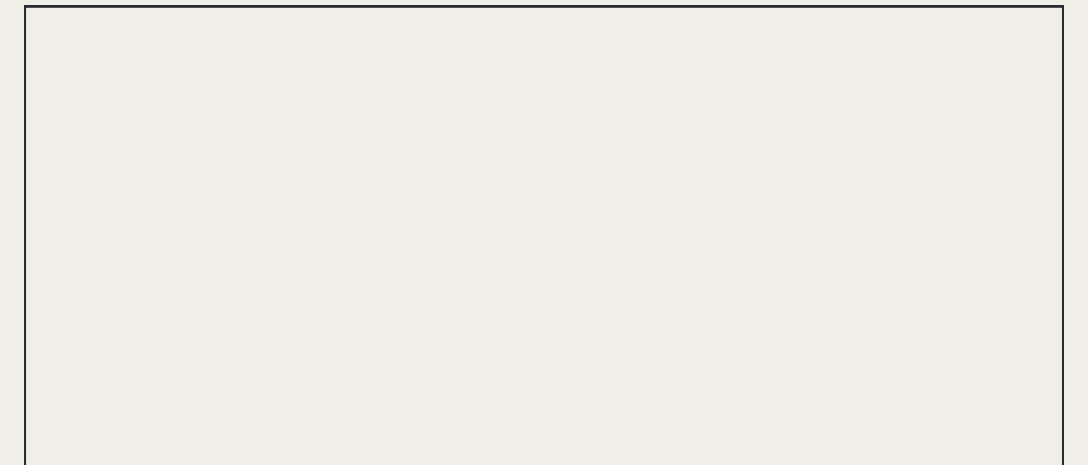
IMPROVEMENTS



customizable
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fits better into a
variety of backpacks



IMPROVEMENTS



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option to **pack**
individual pieces
without the binder