marijuana storage

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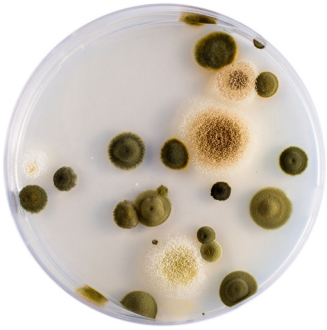
Marijuana is increasingly accessible & attractive to children.

"Colorado experienced a 34% increase in kids hospitalized from marijuana ingestion while the rest of the U.S. saw a 19% increase.
In most cases, poor child supervision or product storage was reported." (Forbes)

"Edibles will be a big deal, and when you extend into vaporizable oil, from what we've seen in U.S. states where those products exist, it can be upwards of 50% of the market."

"In the U.S. states where recreational marijuana is already legal, edibles are the fastest growing segment of the market." (marijuana business daily)

Incorrect storage can affect quality & be harmful to the user.



Humidity has a significant influence on mold growth, shelf life, flavour, fluctuating thc/cbd levels, and quality of smoke.

All of these parameters are of interest to medical and recreational users.

Current solutions to these problems:

$175

$519

$100

$70

$275

All products on the market that claim to have humidity control use Boveda beads or a competitor of theirs. These need to be replaced and thrown into the landfill every month.

$5/month

conclusion: most solutions are re-branded cigar humidors and all focus on bud storage.

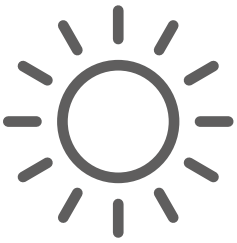
Research Insights

portability is an important aspect to users. They've taken existing products and repurposed packaging to satisfy this need. A popular solution is Altoid containers. Pocketable, yet able to hold enough product/accessories for an outing.

" It would be helpful to have a preperation tray that also came with his storage container, I'm often searching for a book or plate to do the job"

airtight environment to prevent loss of flavour and containing aroma.

the legal amount of marijuana to posses is constantly fluctuating since the laws governing the product are currently being made and refined. 1 ounce of product is often an amount discussed across the north american markets and a reasonable amount to have on you at home. 1/3'd of canadian consumers buy more than a 1/4 ounce of bud everytime they visit a dispensary, this does not include edible purchases. (diginsights)



Dark environments protect THC and CBD from UV light

55%-65%

Cannabis is best kept between 55% to 65% RH provide the smoothest smoke, and minimize chances of mold growth.

The opportunity

a holistic approach to marijuana storage with a focus on:

- child safety

- both edible/concentrate & bud forms of marijuana

- 2-way humidity control without monthly repurchase of beads

- portability

- mid level price point $100

An extensive list of critical project drivers were determined after the initial research phase was completed. Throughout the ideation and concept development process, these drivers were continually referenced to make sure the project stayed on track and solved the problems identified through the various forms of research.

CPDs - Critical Project Drivers
Project Description:

A premium marijuana storage solution that places an emphasis on childproofing (under 8 years old), climate control, edibles, and portability. This product would be targeting consumers (~ 25 +) and is focused on the North American market.

Currently on the market there are storage solutions, but they are mainly rebranded cigar humidors. They lack the need for storage of edibles, 2 way humidity, and portability.

Must Have:

Safety: electrical, fire, heat, locking for children (under 8 years old)

The project must be completed by Dec 8th (10 weeks total) for the International housewares competition. Allocating 12 hours per week to the project.

Regulations: USA and CSA (Canadian Standards Association) standards, CE, UL

Climate control: (62%) Humidification / dehumidification and UV protection

Air tight container

Store marijuana in it's natural state (buds) as well as in a modified state (edibles, oils, concentrates)

Intuitive to use, easy to understand how to maintain climate (refilling humidifier, dehumidifier)

Portable (fit into a handbag or backpack) (able to be put upside-down/ sideways)

Easily cleaned

Can store the average amount held or prescribed for a ~ 3 months. (legally we can posses 1 ounce)

Stored or displayed in an appropriate fashion

Cord mgmt

MSRP: $100 cost to produce: $25 maintenance cost: $0

Volume: 10,000 units/year

Durability: will not open from a 9 ft (wood floor)

Should Have:

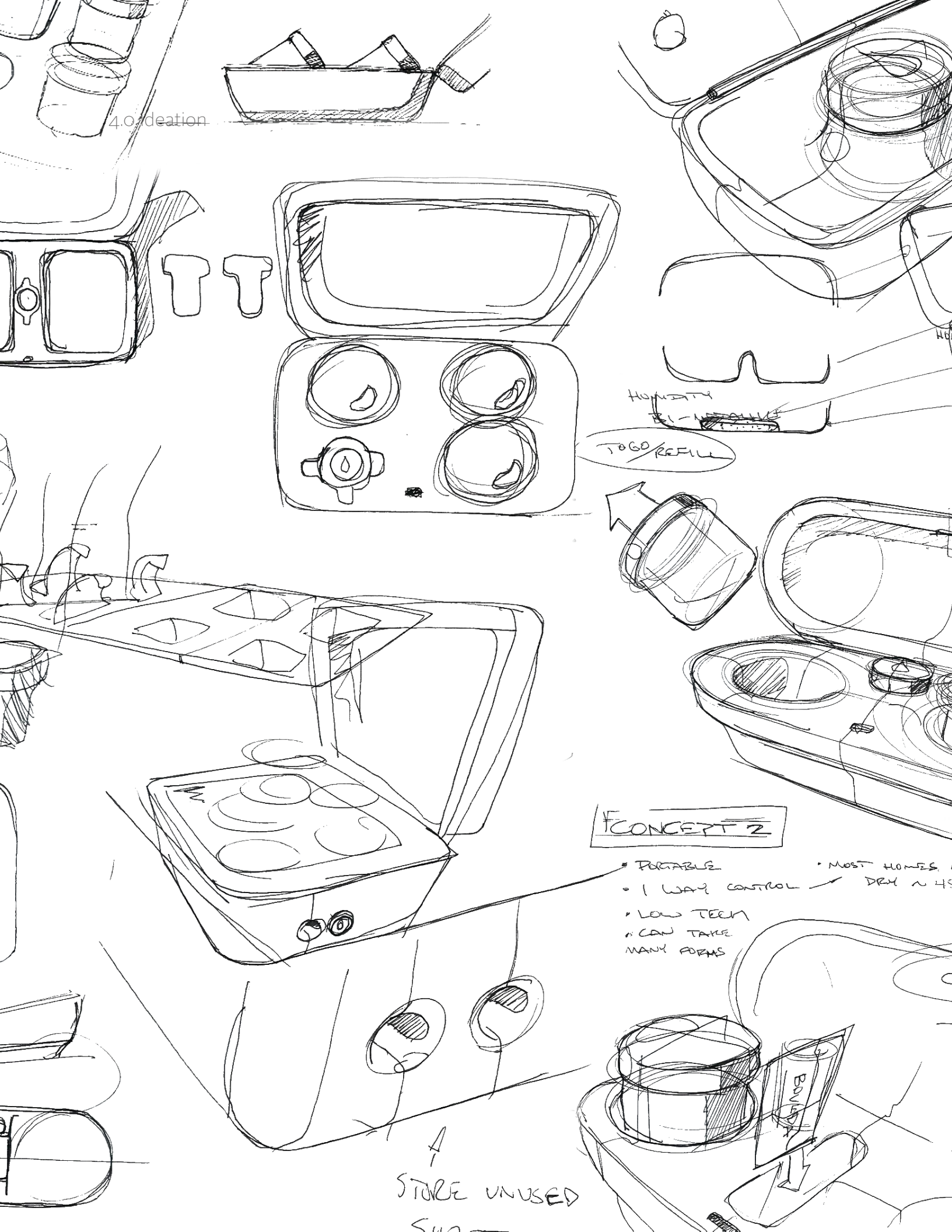
Fit with the aesthetics of the modern home environment (looks like it belongs with furniture and housewares)

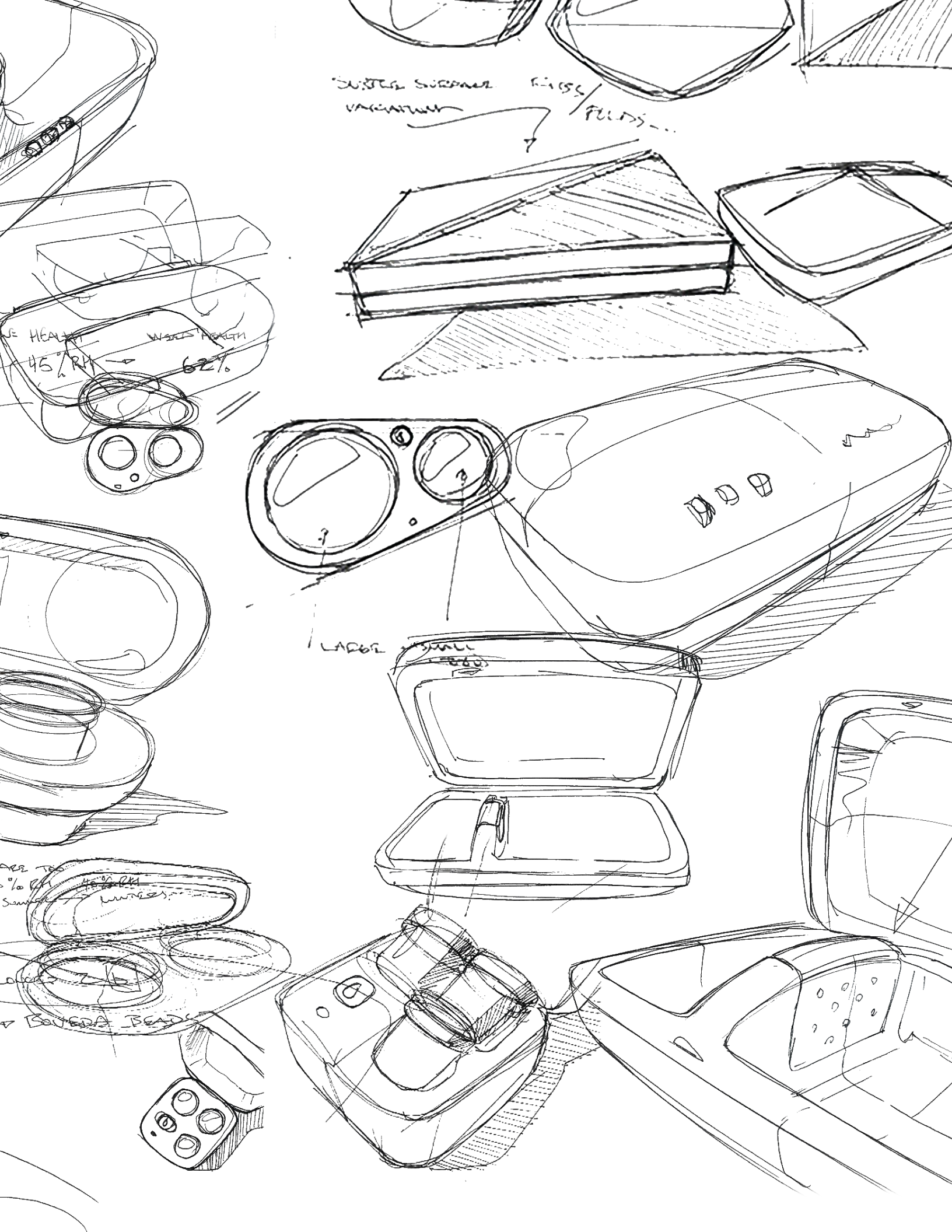
Feel like a premium product, a mature approach to marijuana accessories

Dishwasher safe (depending on architecture explored)

Nice to Have:

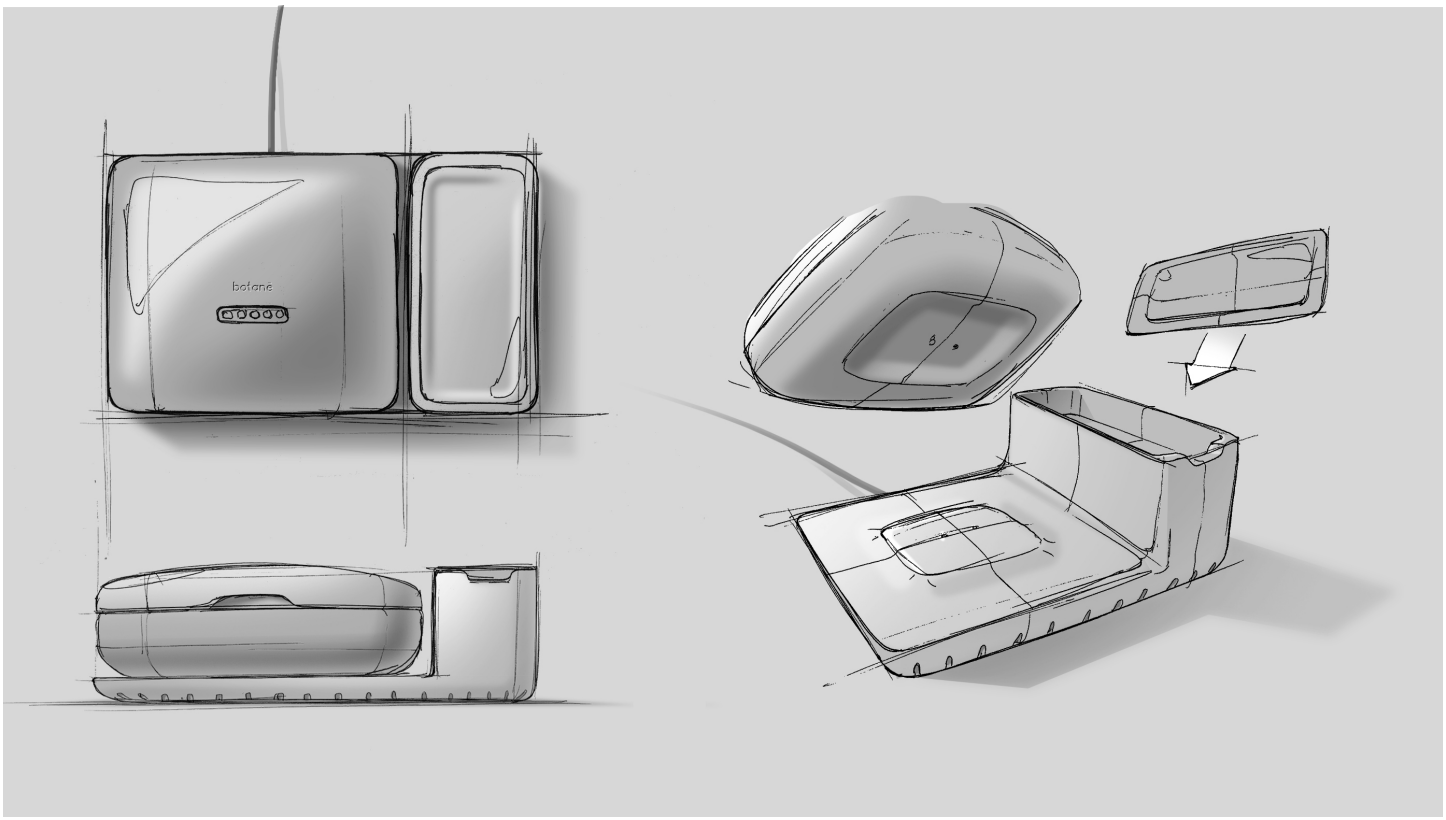
Preparation surface (for rolling, grinding, etc)


HUMIDITY
TOGO/REFILL
CONCEPT 2
• PORTABLE
• 1 WAY CONTROL
• LOW TECH
• CAN TAKE MANY FORMS
• MOST HOMES
DRY N
STORE UNUSED

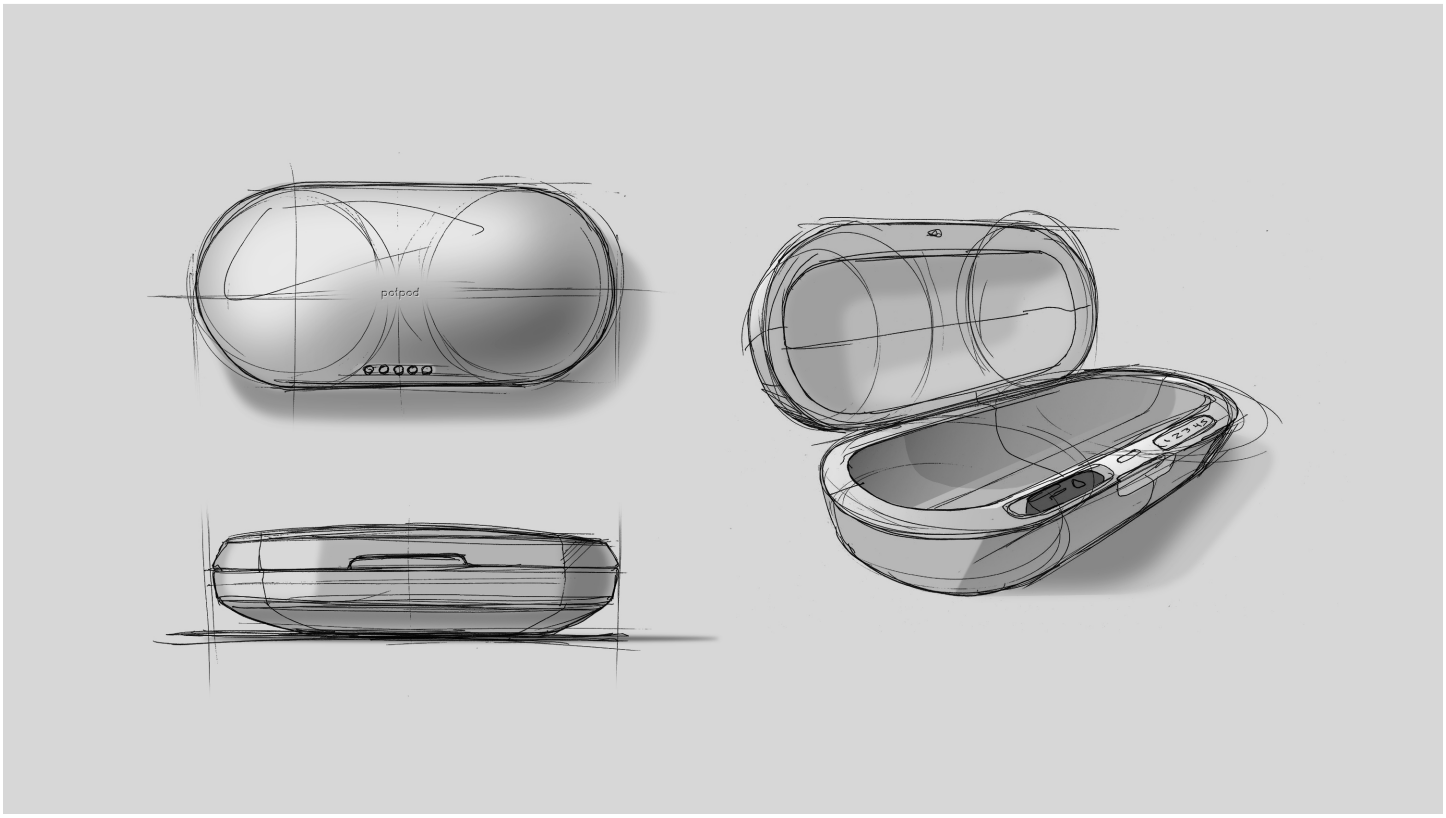

45% RH
62%
LARGE

above: these mock ups were used to act through the steps required for each concept. Giving these mock up's to other people uncovered ergonomic issues and provided a deeper understanding of scale.

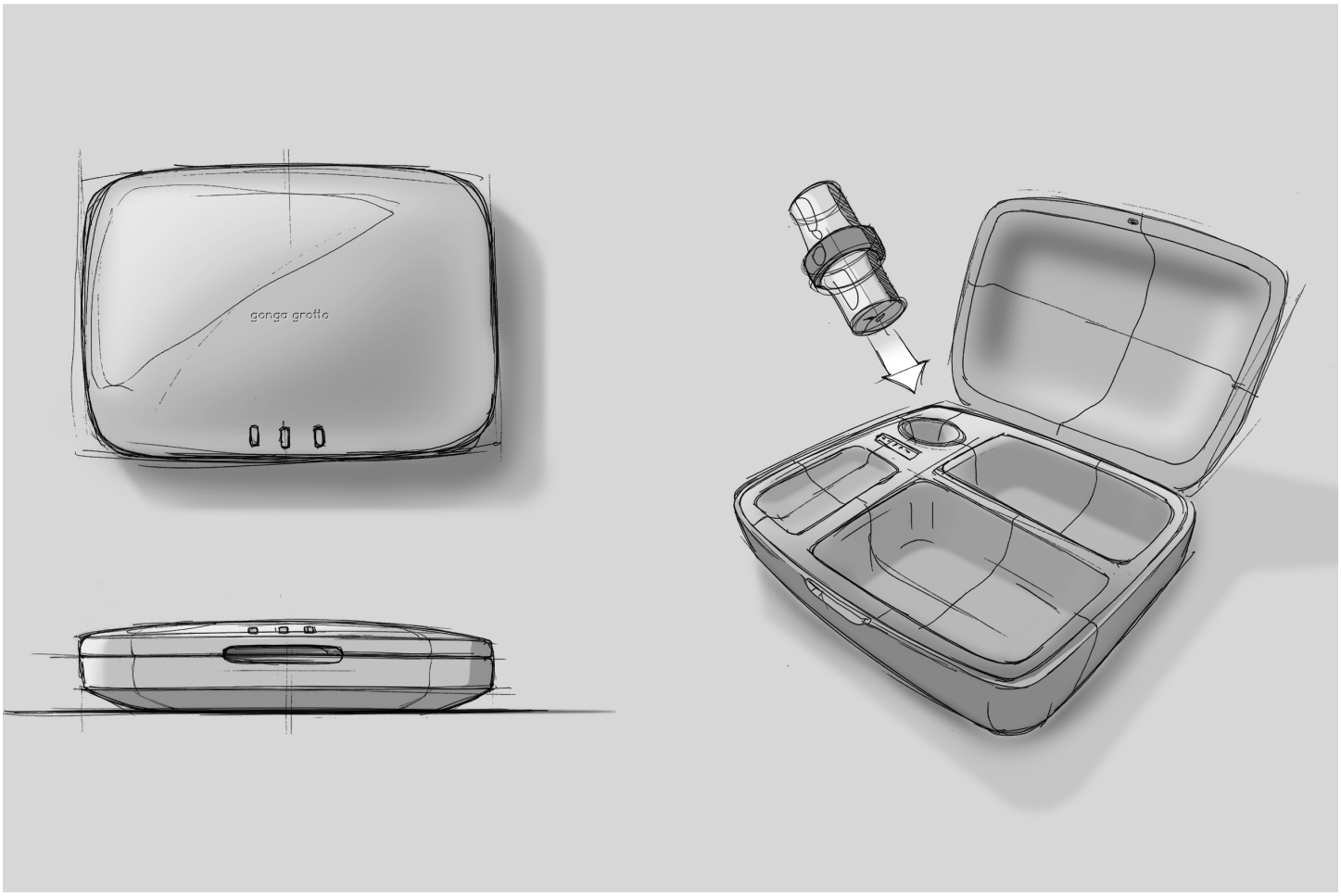
architecture 1: high tech/precision station



architecture 2: portable system



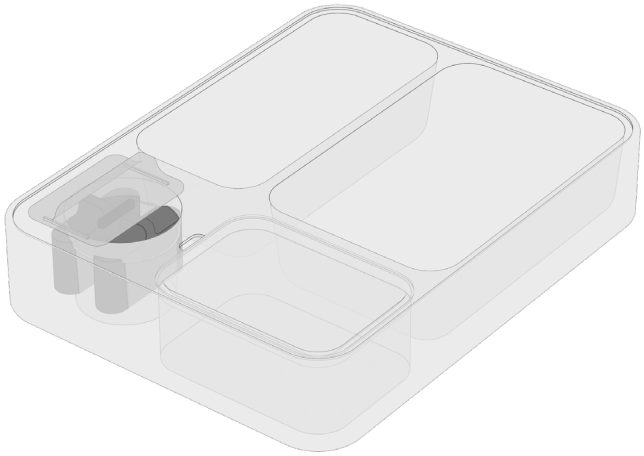
chosen architecture: simple kit

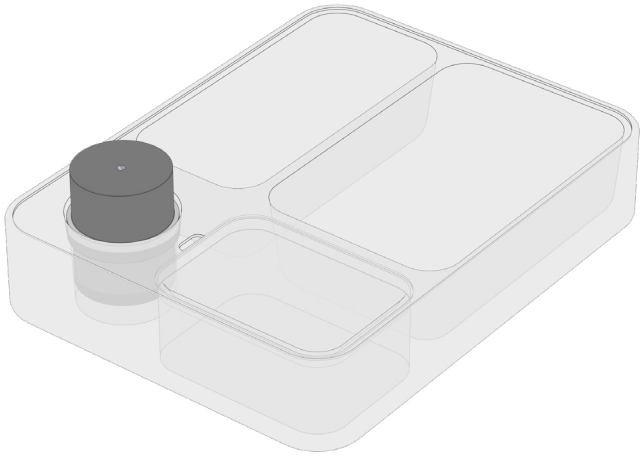


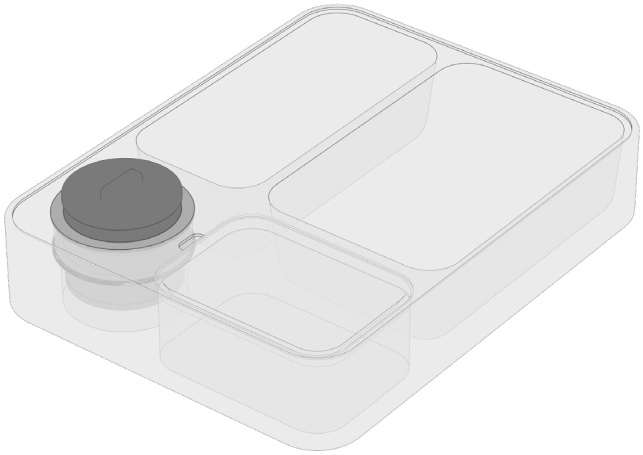
After gathering the opinions from marijuana users that are part of the target audience and opinions from the studio class during a formal review, the above architecture was chosen to continue to develop.

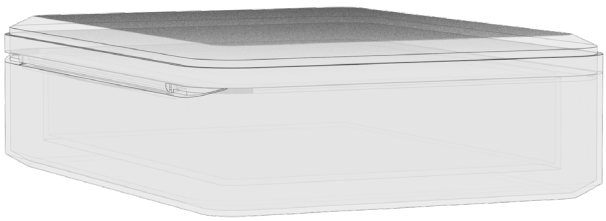
This system was chosen because it solved most of the critical product drivers in the most efficient way. A simple programmable combination lock and using ceramics to balance humidity are the defining features of this architecture. This ceramic system will be explained later in this booklet.

A simple functional prototype was created to test the humidity system. This helped define how large the ceramic pieces needed to be to work for at least a month before having to be rejuvenated. The prototype also identified that balancing humidity accurately is more difficult than originally thought and that a more nuanced system was needed. This lead to the following ‘dial’ solution.





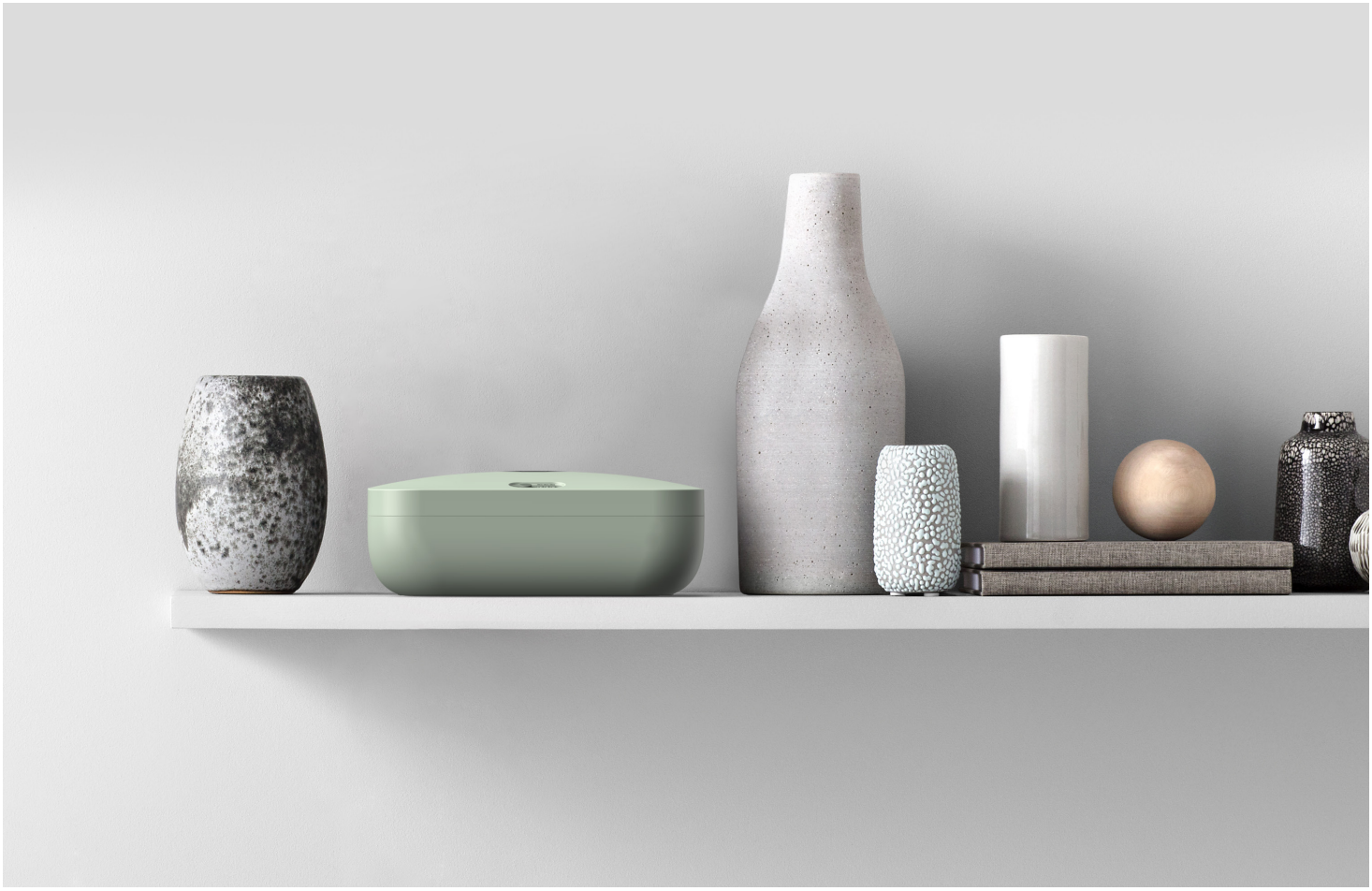




hinges were explored. First exploring integral hinges and later moving to a more premium material I had to find a better solution that was airtight, cost effective, and aesthetically pleasing. A solution to this was to extend the overmolded gasket and fasten it to the lid by pinching it in-between in the lid's inner and outer housings.

the final solution

botany
marijuana storage solutions

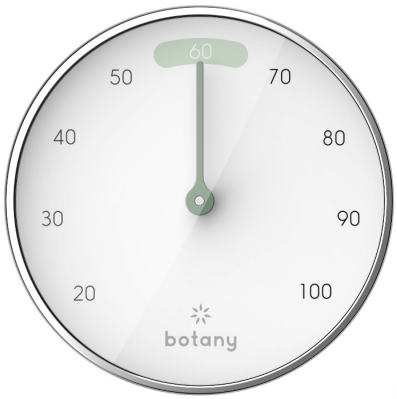


Programmable slam lock to ensure security. The distance between the edge of the product the lock is short enough to allow people to use it to help pull the lock pin.

Dividers for splitting different types of products/accessories.

A contemporary form was created to fit into a home environment without attracting unwanted attention.

climate control



The ceramic system works by having two types of reusable ceramics. One that releases humidity (a common earthenware) and one that absorbs humidity (earthenware with food safe silica beads inside). This system was proven to work with a functional prototype.

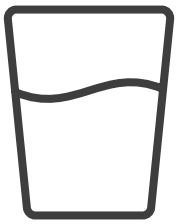
neutralized

adding humidity

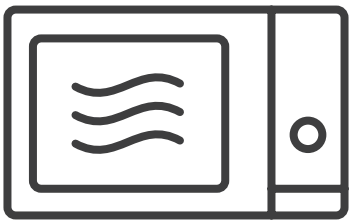
subtracting humidity

Depending on what the hygrometer reads, the user may need to increase, decrease, or maintain the current humidity levels. Simply turn the cap to reveal the + or - ceramic to adjust as needed.

The ceramics last about a month before they must be revitalized. This is better than the competitor solutions that require repurchasing bead packs and throwing the old spoiled one(s) into a landfill.



The + ceramic gets placed in a glass of water for 5 minutes



The - ceramic gets microwaved for 5 minutes.

portability and preperation

After studying the most popular marijuana accessories people own, it was realized that portability and preparation are important parts of ownership.

Adding these components to this storage unit makes for a holistic solution that took at all parts of the experience - something that competitors have yet to do.

botany

botany

injection molded abs plastic
overmolded TPC (hytrel)
ceramics
snap fit assembly

40
50
30
70
20
80
botany
90

thank you

botany

marijuana storage