

AGOS

AH-GOS

[TAGALOG]: FLOW



**“MORE TROPICAL CYCLONES ARE ENTERING THE PHILIPPINE
AREA OF RESPONSIBILITY THAN ANYWHERE IN THE WORLD.”**

Philippine Atmospheric, Geophysical and
Astronomical Services Administration

USER GROUP

Elderly Filipinos



PROBLEM OVERVIEW

The Philippines has been experiencing typhoons and super typhoons annually in the recent years. During natural calamities like typhoons, residents in coastal areas and those who live close to a body of water are prone to flooding forcing them to evacuate to government evacuation centers. With the growing concern of typhoons every year, the need to evacuate has been heightened. Communities like those who are sick, families with children, and the elderly must be able to carry their necessities and set up camp in these evacuation areas until further notice, never with the guarantee that they will be able to live in their own house again.

TASK AT HAND:

Evacuation & Seeking Refuge

PAIN POINTS:

Packing Up •

Packing - worrying about what to carry
Systems - battle between valuables vs necessities

Setting Up Area - (usually classrooms, basketball courts) •

Comfort - floor is a sleeping area
Temperature/Environment - people usually bring small appliances like fans
Power - access to electricity is scarce
Public Area - privacy, personal space might be invaded

Waiting for Further Notice •








Usual house tools are not available
Medicine - if on prescription, access to medicine would be harder.
Information - Radios, Cellphones, technology is needed to keep updated.

TASK ANALYSIS



KEY INSIGHTS	STORAGE	COMFORT	INFORMATION
CURRENT PROBLEM	storage systems are cumulative and there is high chance that it gets heavy	sleeping on hard surfaces can increase body pain and temperatures on evacuation areas are not centralized	access to information is indefinite and elderly are not technologically kept up
CURRENT SOLUTION	Bringing only valuables and necessities. (Go Bags, Med Kits, Tarp Bags)	Bringing a mat and stand fan. (poses a problem with storage and access to electricity)	Radio and Cellular Phones to keep track of updates and news.
AREAS FOR INNOVATION	integration of multi purpose storage systems into one.	A portable solution for sleeping and temperature regulation	elder friendly product that integrates news and information.

CURRENT SOLUTIONS:

 <p>Go Bag - carry items in cases of emergency</p>	 <p>Mats - woven mats used for sleep and rest</p>	 <p>Stand Fans - Basic stand fans for temperature</p>	 <p>Tarp Bags - common bag for bringing large amount of items</p>	 <p>Power Banks - temporary source of power</p>	 <p>Medicine Kit - Portable medicine storage</p>	 <p>Cellphones - Keep updated with news and notices</p>
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THE MAIN ISSUES USERS EXPERIENCES:

STORAGE

COMFORT

INFORMATION

Product Comparison	Go Bag	Tarp Bag	Medicine Kit	Mat	Stand Fan	Power Bank	Cellphone
Weight	20-30 lbs	30-50 lbs	5-10 lbs	1-3 lbs	6-8 lbs	0.4-0.75 lbs	0.3-0.4 lbs
Portability	✓	✓	✓	✗	✗	✓	✓
Durability	✓	✓	✓	✓	✗	✗	✓
Storage	✓	✓	✓	✓	✗	✗	✗
Aid To Comfort	✗	✗	✗	✗	✓	✗	✓
Elder Friendly	✗	✗	✗	✗	✗	✗	✓
Power Supply	✗	✗	✗	✗	✗	✓	✓

REFERENCES:

Al Jazeera. "Trail of Destruction as Super Typhoon Man-Yi Lashes the Philippines." Youtu.be, 17 Nov. 2021, youtu.be/j9RQCarThH4?si=2QzE_meBgkEOs7sE. Accessed 31 Mar. 2025.

Associated Press. "Tropical Storm Battering Philippines Leaves at Least 24 People Dead." YouTube, 23 Oct. 2024, www.youtube.com/watch?v=nhlwN5w3X6s. Accessed 30 Mar. 2025.

Flores, Dominique Nicole. "Proposed Law to Build Evacuation Center in Each City Awaits Presidential Approval." Philstar.com, 4 Nov. 2024, www.philstar.com/headlines/2024/11/04/2397601/proposed-law-build-evacuation-center-each-city-awaits-presidential-approval.

GMA Integrated News. "24 Oras Weekend: (Part 1) Super Typhoon Pepito, Peligro Ng Daluyong: Sapilitang Paglilikas." YouTube, 16 Nov. 2024, www.youtube.com/watch?v=okYZ_pWN6ZY. Accessed 31 Mar. 2025.

Heath, Victoria. "Why Is the Philippines Experiencing so Many Typhoons?" Geographical, 28 Nov. 2024, geographical.co.uk/science-environment/why-is-the-philippines-experiencing-so-many-typhoons.

PAGASA. "Tropical Cyclone Information." DOST, 2021, www.pagasa.dost.gov.ph/climate/tropical-cyclone-information.

Ward, Taylor, et al. "Philippines Evacuates Half a Million People as Super Typhoon Man-Yi Makes Land-fall." CNN, 16 Nov. 2024, www.cnn.com/2024/11/16/asia/super-typhoon-man-yi-philippines-intl/index.html.

USER GROUP LIMITATION

Mobility
Weight Restriction
Range of Motion

KEY BODY PARTS

HANDS ●

HEAD ●

POSSIBLE GRIP POSITIONS



Power Grip



Pinch Grip



Hand Length

99% Male
193.0 mm
1% Female
149.0 mm



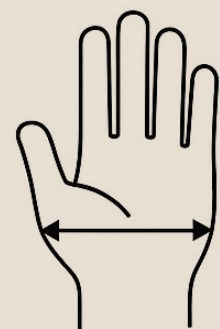
Hand Circumference

99% Male
218.0 mm
1% Female
160.0 mm



Hand Depth

99% Male
35.0 mm
1% Female
26.0 mm



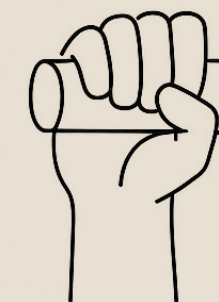
Hand Breadth

99% Male
91.0 mm
1% Female
68.0 mm



Grip Width

99% Male
205.0 mm
1% Female
155.0 mm



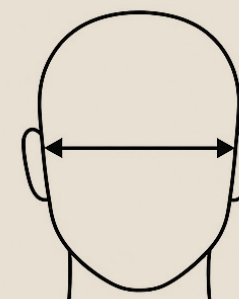
Grip Diameter

99% Male
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1% Female
48.0 mm



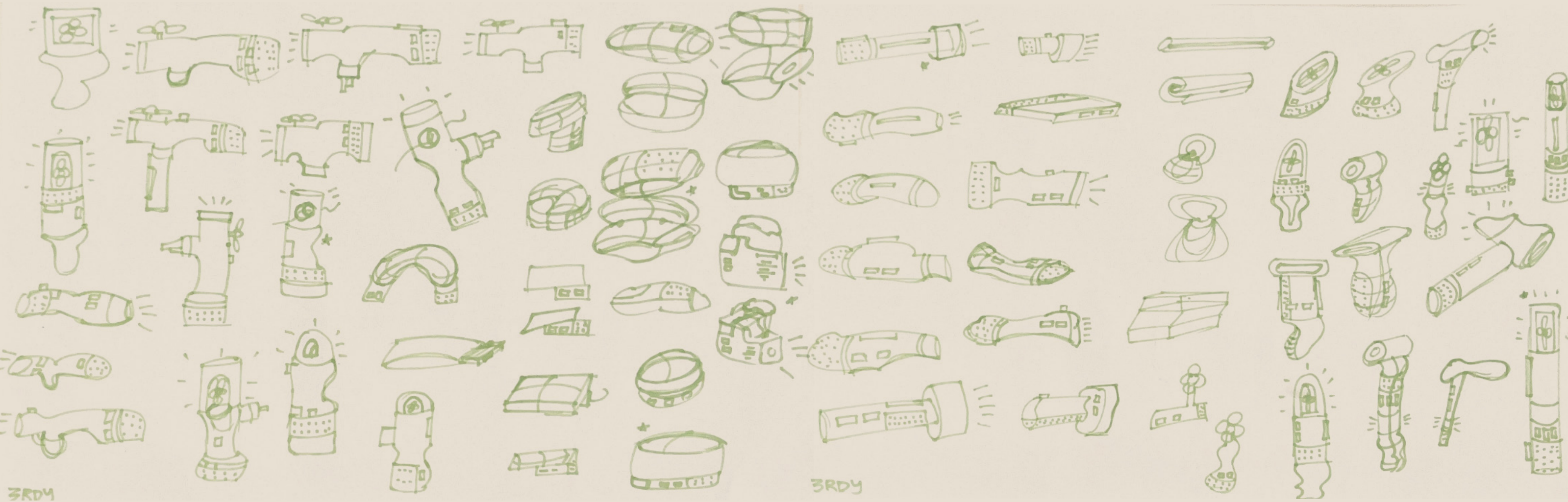
Head Length

99% Male
196.1 mm
1% Female
160.4 mm



Head Width

99% Male
156.8 mm
1% Female
127.8 mm



RADIAL DIAGRAMS

CRITERIA

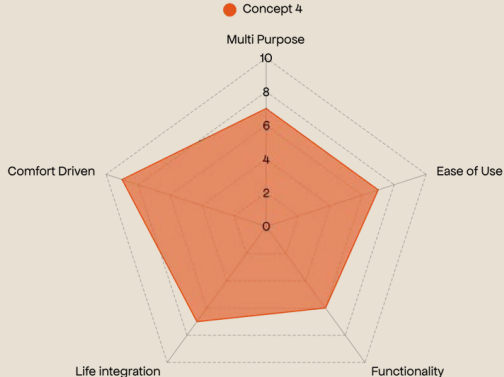
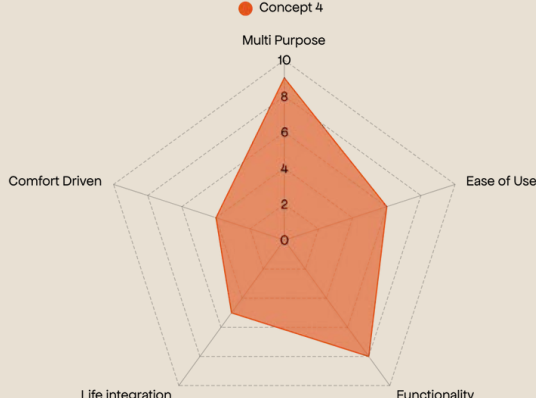
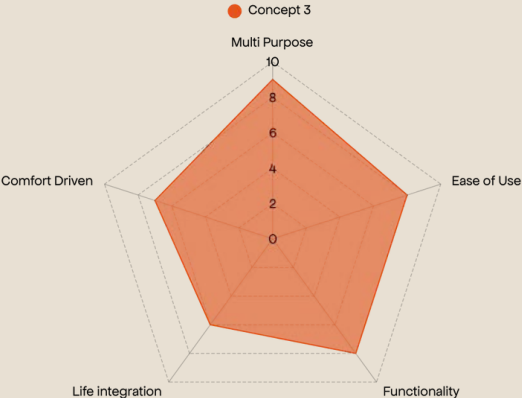
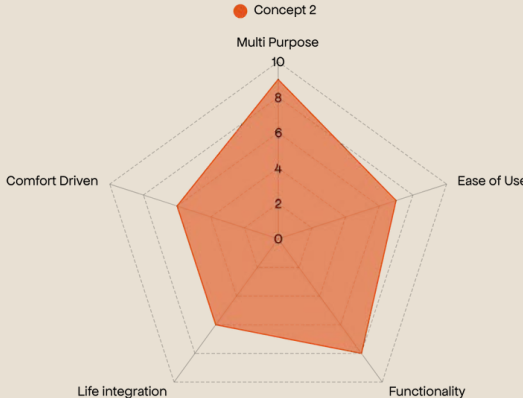
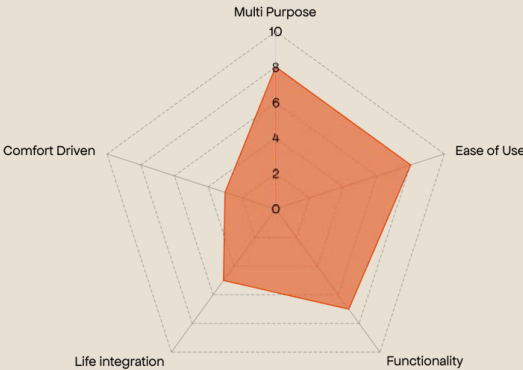
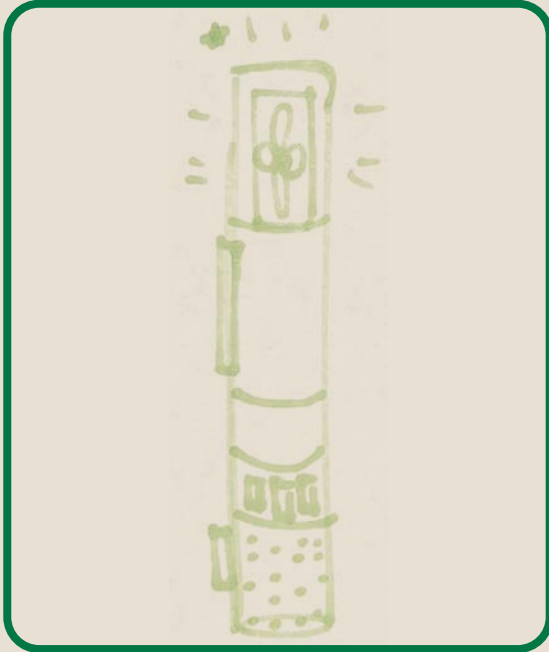
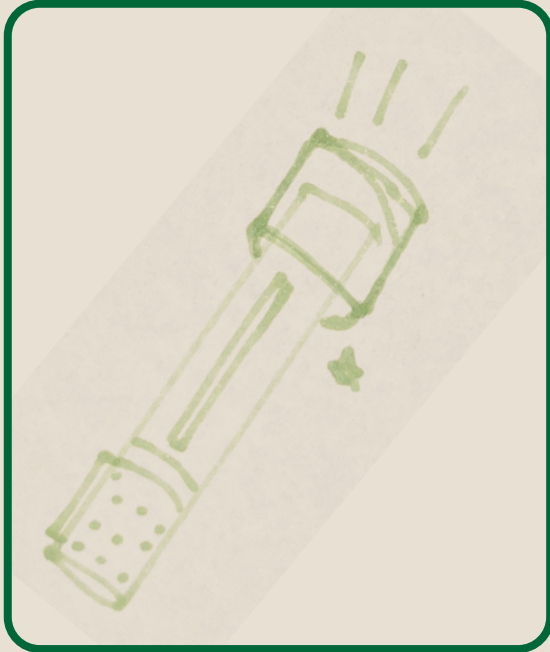
Multi Purpose Use

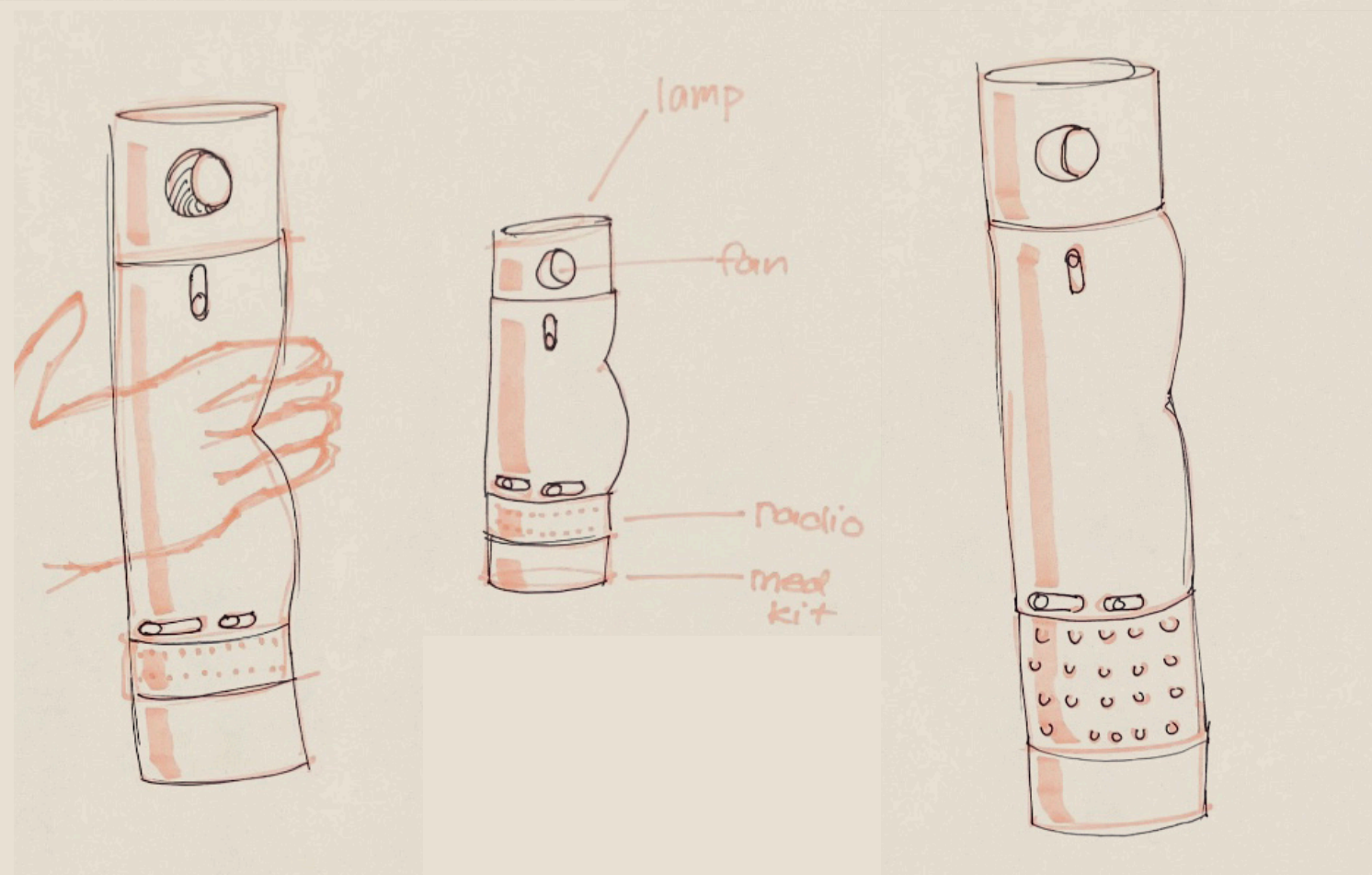
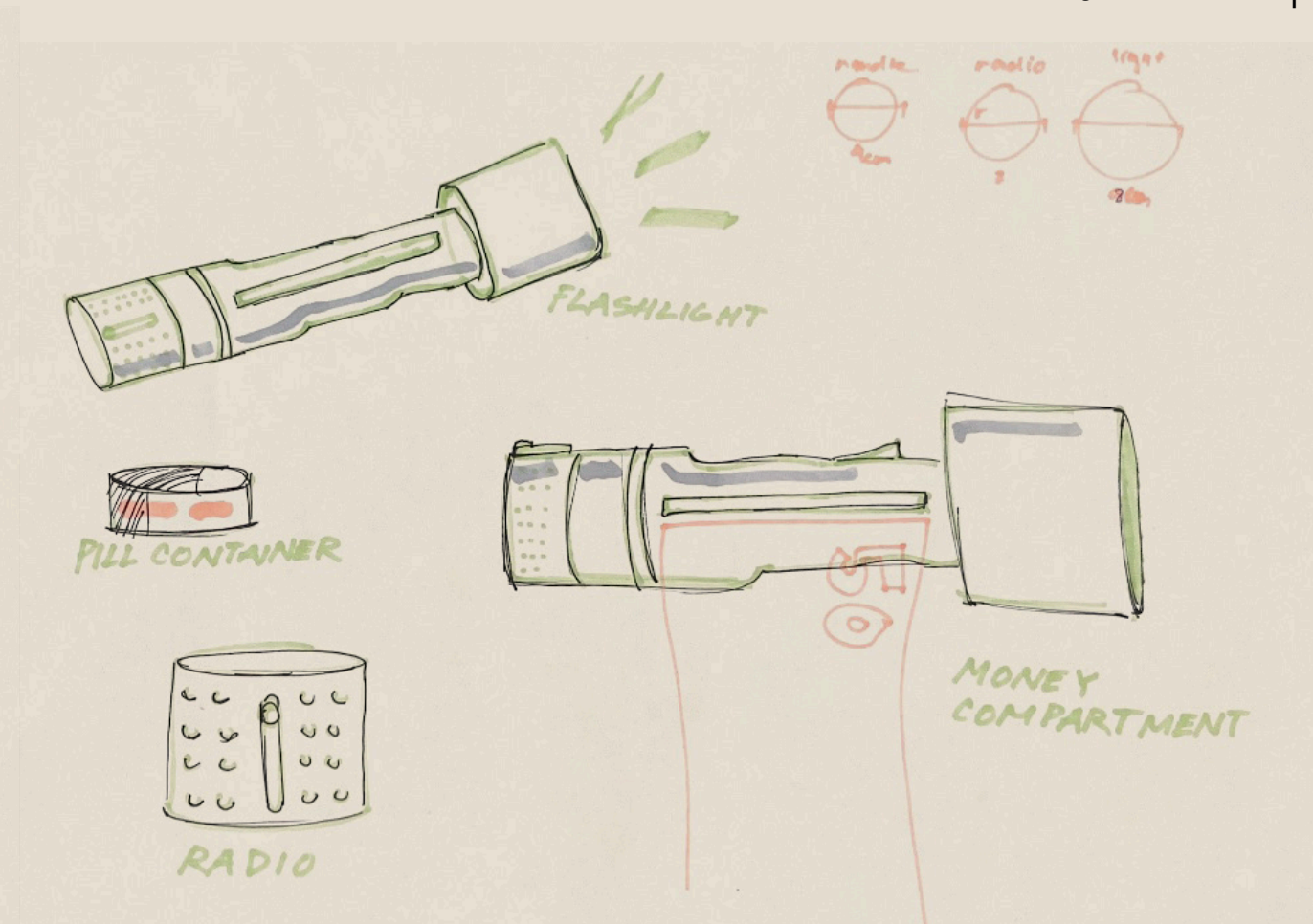
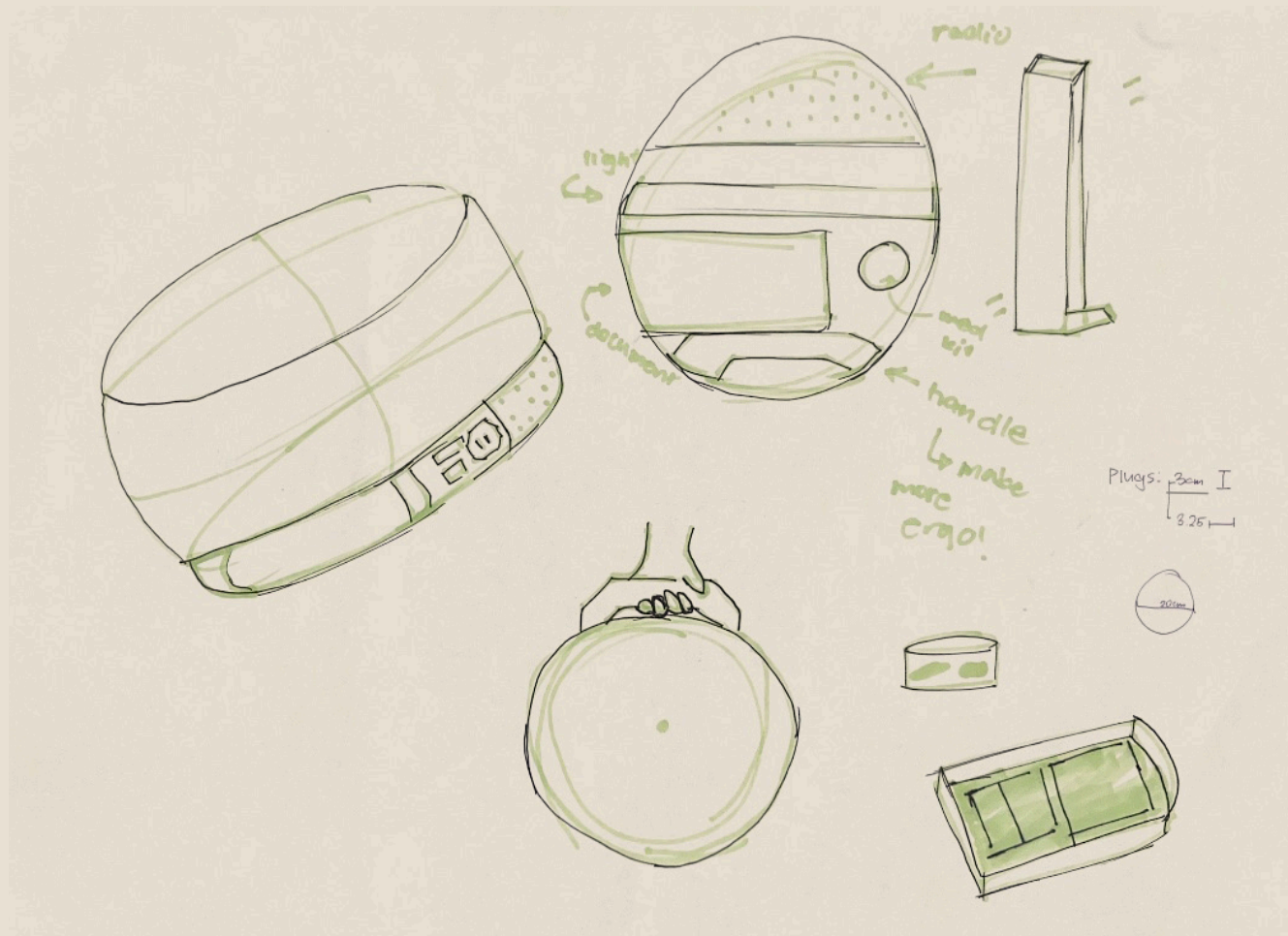
Ease of Use

Functionality

Life Integration

Comfort Driven







STUDY MODELS



AGOS

USER TESTING

ROUND 1



COMMON WORDS:

comfortable grip, good resting position, move button placement, handle is small, more palm support.

COMMON EMOTIONS:

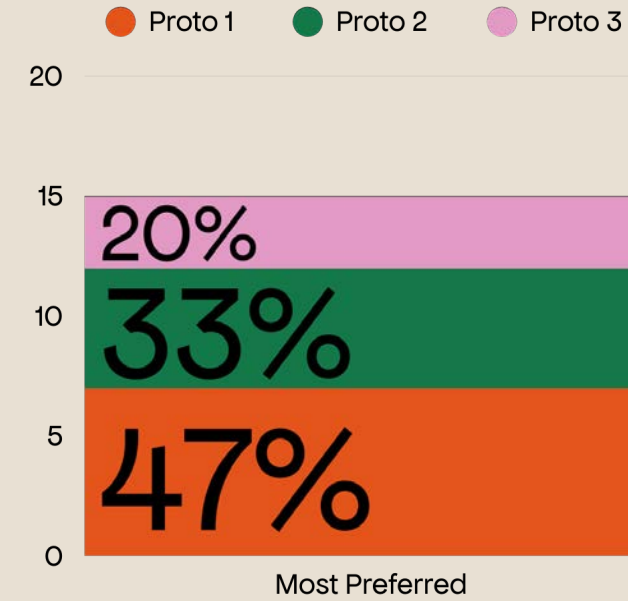
defense, security, stable, ready, weapon, survival, dependable, practical.

USER PREPAREDNESS

91%

KEY INSIGHTS:

- recognizable form made more preferable by users.
- handle portion can be revised to fit more people.
- button placement can be replaced.
- good balance of comfort and function.



COMMON WORDS:

thick, consistent, bulkier, grooves are comfortable, longer, fits hands better.

COMMON EMOTIONS:

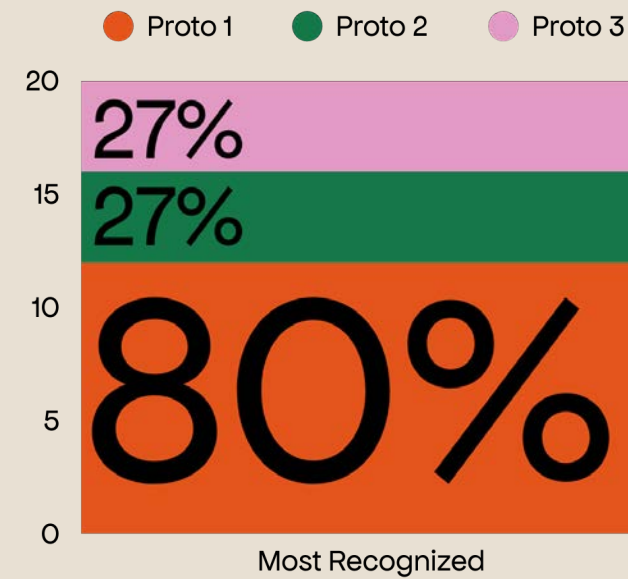
happy, kinetic, secure, substantial, intrigued, leader-like, confused.

USER PREPAREDNESS

59%

KEY INSIGHTS:

- bulkier form can be accepted by users if functionality is stronger.
- streamlined form is preferred by users.
- best ergonomics amongst all three prototypes.
- substantial size provides added internal security.



COMMON WORDS:

smooth, round, huggable, big, can't hold, futuristic

COMMON EMOTIONS:

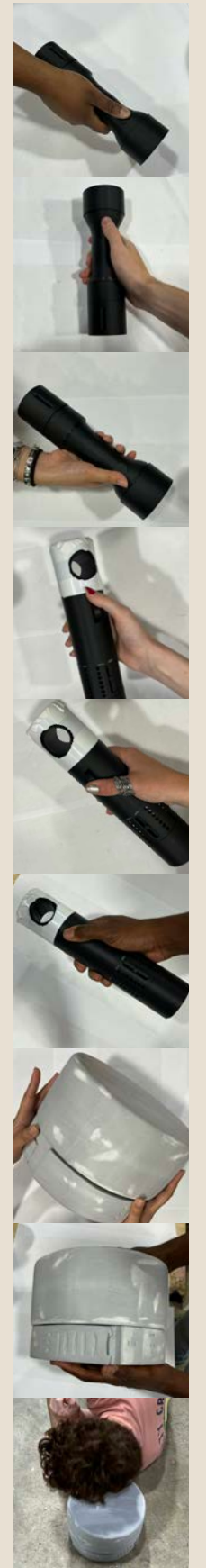
defense, security, comfortable, protection, fun, in-charge, enough, annoyed, inviting,

17%

USER PREPAREDNESS

KEY INSIGHTS:

- poorest ergonomics out of all prototypes.
- highest functionality out of all prototypes
- lack of intuitiveness is not preferred by users.
- handle incorporation is greatly requested by users.



5 KEY FEATURES OF HUMAN FACTORS

INCLUSIVITY

With a focus on Elderly Filipinos, any disaster related evacuation can be used with this product.

USABILITY

Intuitiveness is pushed with the devices design.

UNDERSTANDABILITY

Easy life integration is taken into account for users to keep and use device.

FUNCTIONALITY

Device supports multi functionality for different purposes.

SUSTAINABILITY

product consumption is low for it has a specific purpose for specific scenarios.

7 FACTORS OF UNIVERSAL DESIGN

EQUITABLE USE

Device is intended to be used by a wide range of users in specified user group

Device is modular.

FLEXIBILITY IN USE

SIMPLE & INTUITIVE

Different product functions are of existing products.

Product supports users with impairments due to distinct functions of device.

PERCEPTIBLE INFORMATION

TOLERANCE FOR ERROR

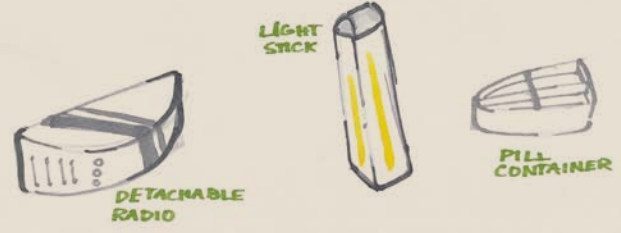
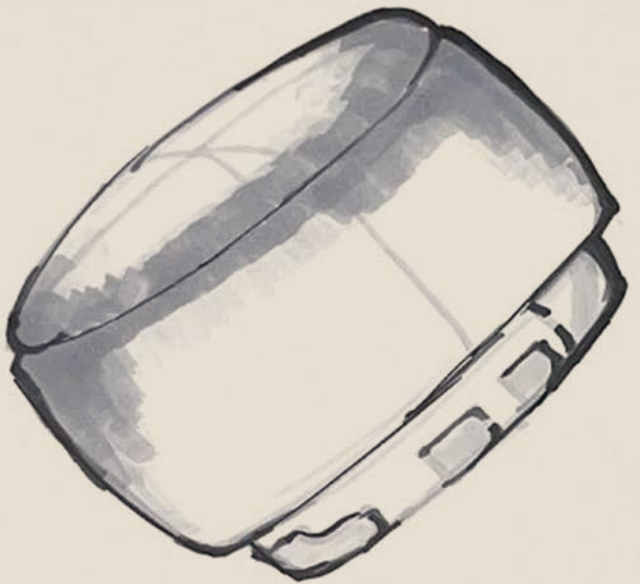
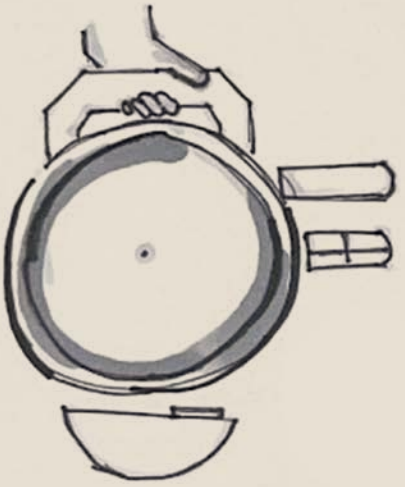
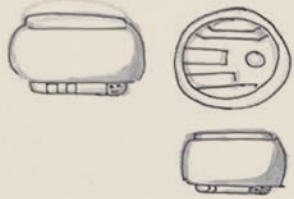
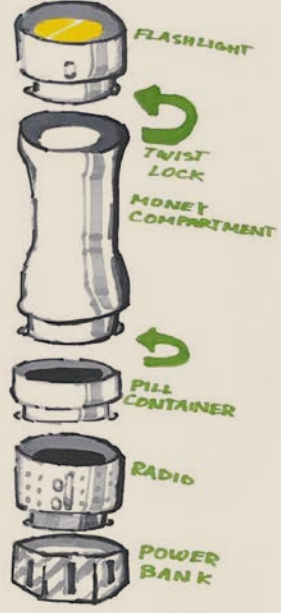
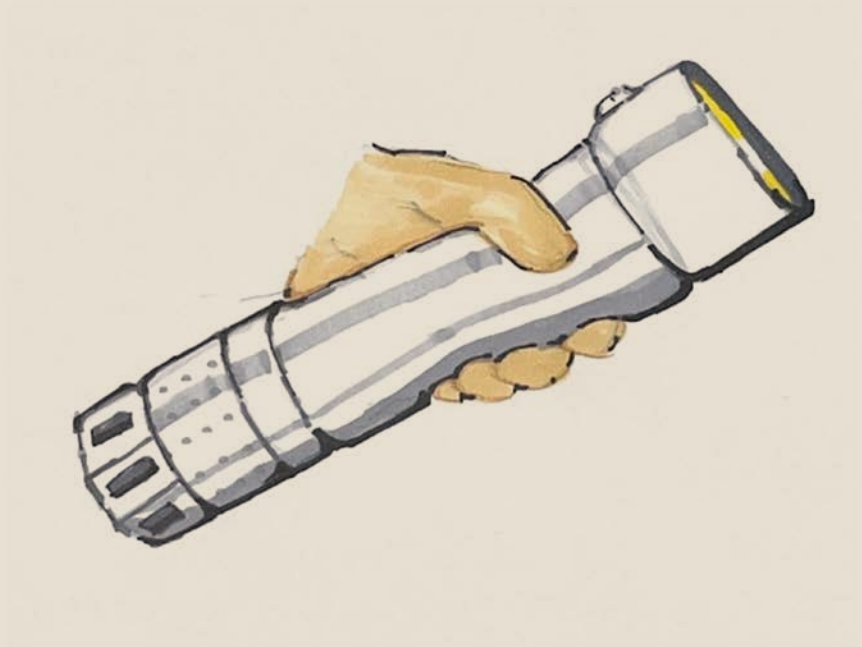
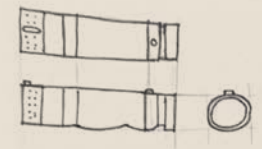
User error would cause little to no damage to product when put in specified situation.

Modular aspect of device is designed to be as low effort as possible.

LOW PHYSICAL EFFORT

SIZE AND SPACE FOR APPROACH IN USE

Size of device and function takes into account heads, and hands of users. A portable size gives space for more tasks.





USER TESTING ● ● ●

ROUND 2



COMMON COMMENTS

tricky mechanism. thick grip. uneven weight distribution. high button placement.

COMMON WORDS

functional. grip. comfortable. better. long.

KEY INSIGHTS

- function dependent fluxion for torch/lamp aspect.
- handle variant is the most preferred.
- weight distribution could be improved.



COMMON COMMENTS

mechanism visual indicators. good to look at. sleek design. steep handle

COMMON WORDS

big. thick. color suggestion. aesthetically pleasing. refined.

KEY INSIGHTS

- handle size was good but design could be improved.
- back handle support bumps redesign needed.
- size yield contrasting results.
- grips could improve handling.



COMMON COMMENTS

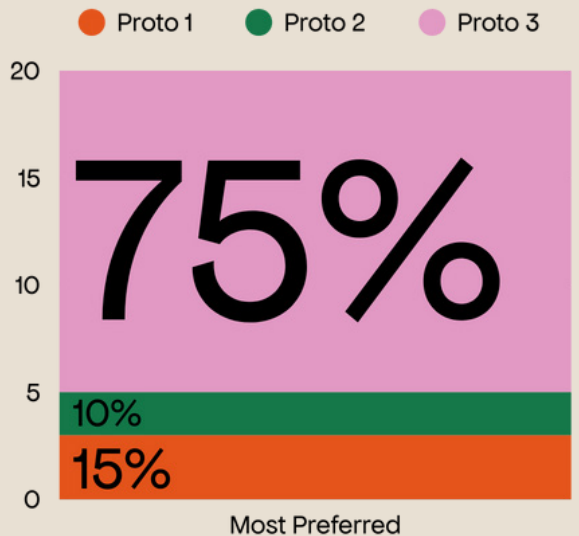
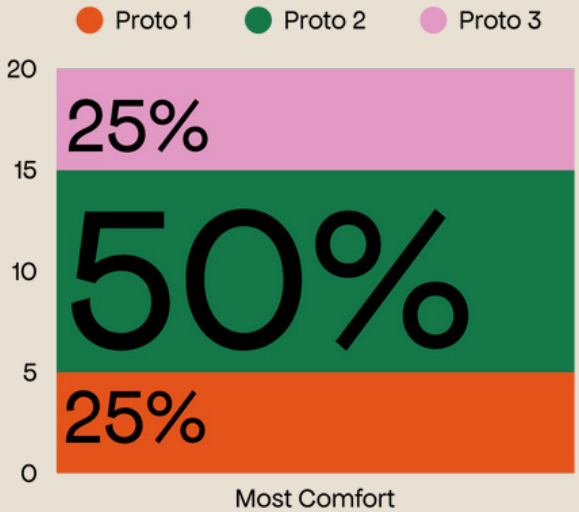
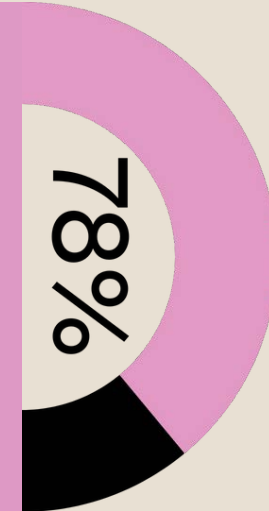
handle redesign. short handle. bigger medicine storage. divider medicine storage.

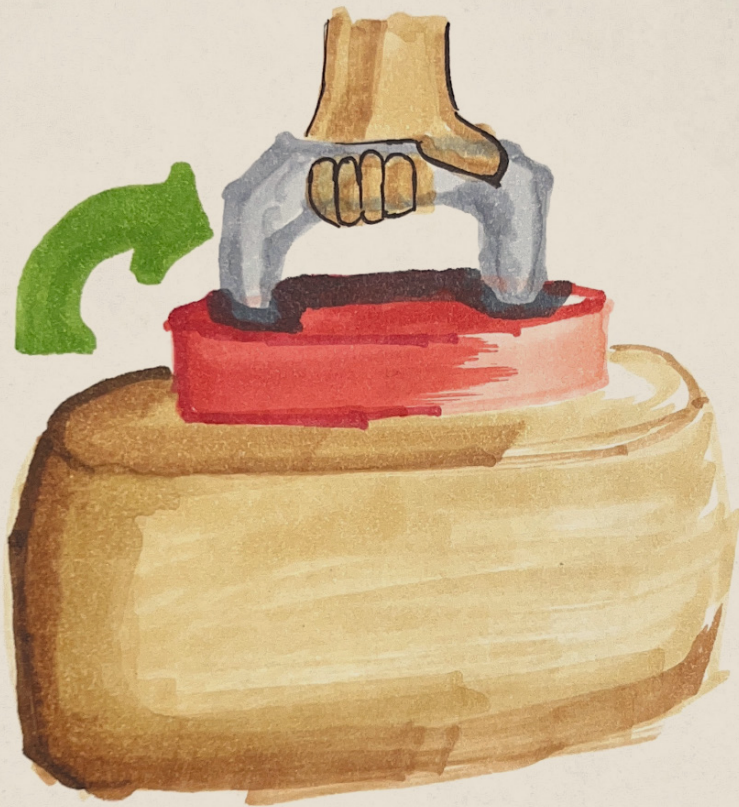
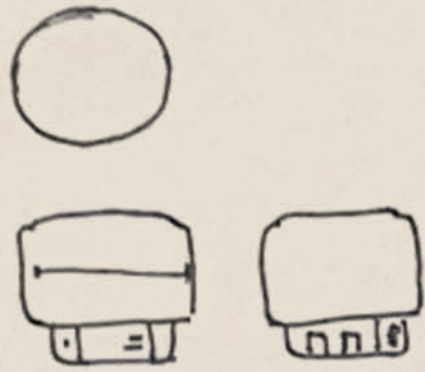
COMMON WORDS

storage. functional. comfortable. comforting.

KEY INSIGHTS

- cushion storage, viewed as very multi functional.
- covered 3 key points greatly. (comfort, storage, information)
- handle could be reimagined in different ways.
- most preferred overall.

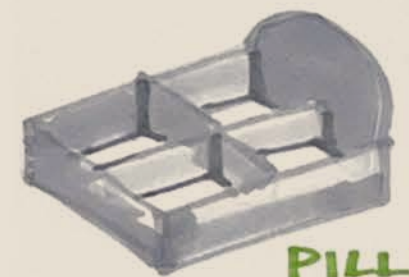




RADIO



LIGHT
STICK



PILL BOX

