

Project Title:

DryZero-Self-Drying Umbrella Sleeve System

SELF-DRYING ABSORBENT UMBRELLA COVER SYSTEM

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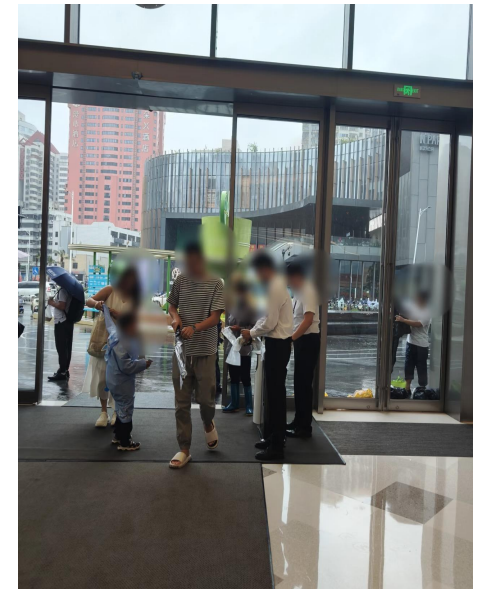
C O N T E N T S

- Research
- Precedents & Field Notes
- Creative Techniques
- Concept Development
- Business Framework
- Branding
- Final Reflection

Research 1

Problem background

- When a wet umbrella enters the room, it will bring some trouble:
- The floor is very slippery and easy to slip.
- Bags, clothes and other personal belongings may get wet.
- Disposable umbrella bags will only cause unnecessary waste and pollution.
- Content reflection
- This part showed me how chaotic people's umbrella habits are actually. I thought the problem was just that my hands were wet, but in fact, it was more of a little trouble of dripping water everywhere. This made me realize that the solution must be stopped quickly.



Research 2

problem statement

- On rainy days, commuters often face the trouble, embarrassment and safety hazards caused by dripping umbrellas. At the same time, the current solutions are unsustainable, environmentally friendly, and usually provide poor user experience.



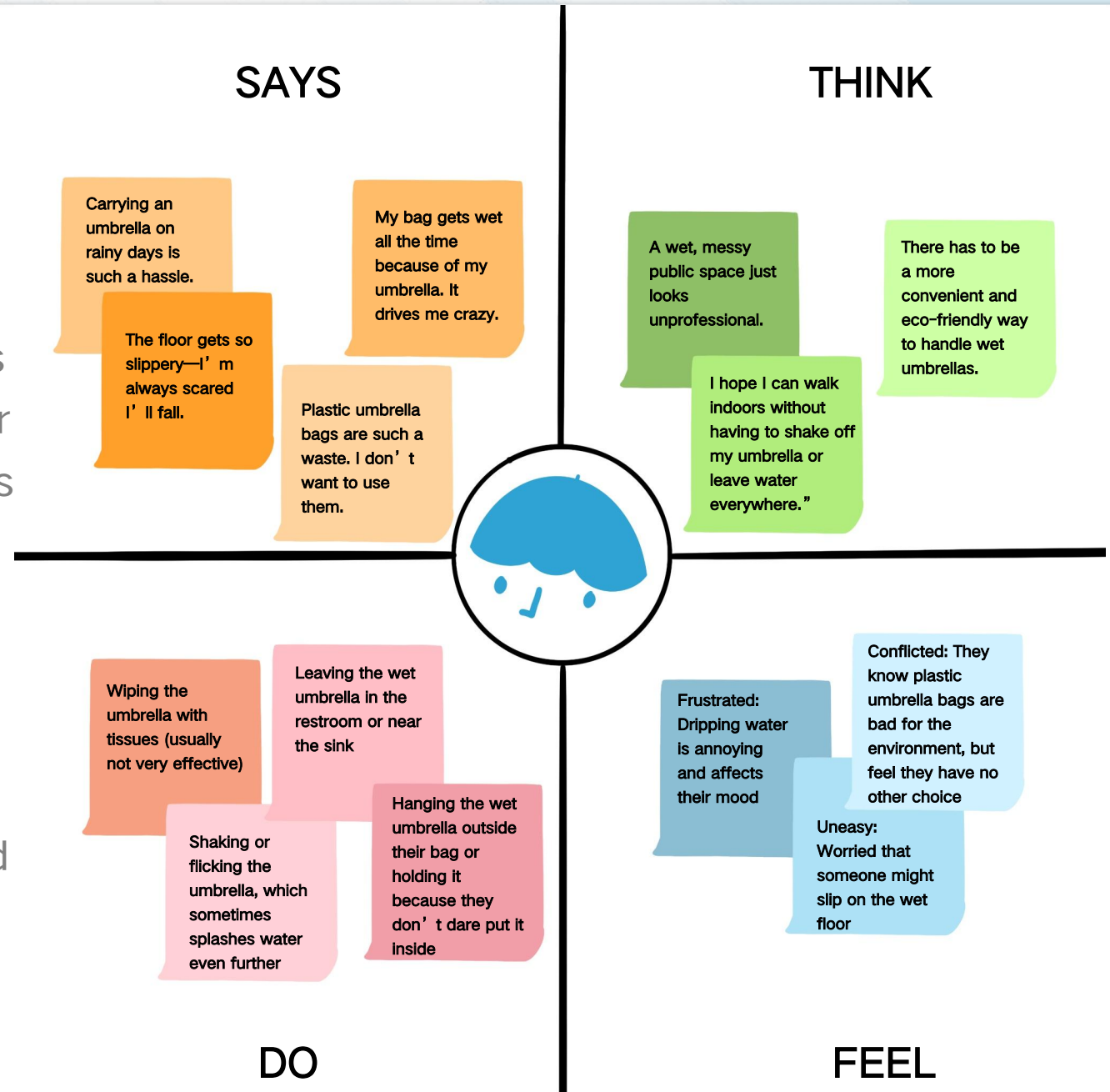
Research 3

Empathy Map

- On rainy days, people will feel annoyed and embarrassed because the umbrellas are soaky, use embarrassing quick repair methods, and sincerely hope that there is simpler, safer and more environmentally friendly way to deal with them.

Content reflection

- After reviewing all the interviews again, I saw a pattern: people just want to get rid of umbrellas quickly and move on. This prompted me to pay more attention to speed and convenience, not just absorption.



Research 4

Main Pain Points:

- The indoor floor is wet and slippery, which may not be safe.
 - There is no simple, fast and environmentally friendly way to deal with wet umbrellas.
 - Plastic umbrella bags are unsustainable and will cause waste.
 - Bags, books and other items are easily wet by umbrellas.
 - Rainy days will hurt people's mood and make the whole experience worse.
-
- **Content reflection**
 - Putting all the pain points together will help me to maintain clarity and stability when making design decisions in the future.



Hard to carry



Not sustainable



Gets things wet

Precedents & Field Notes 1

Precedent Comparison

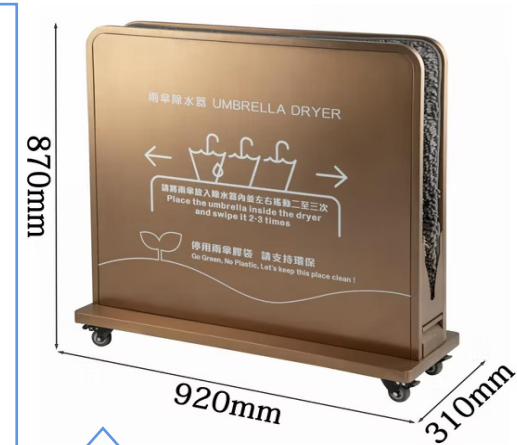
Self-Adaptive Dryer:

dries quickly → but noisy,
expensive, and takes up spa

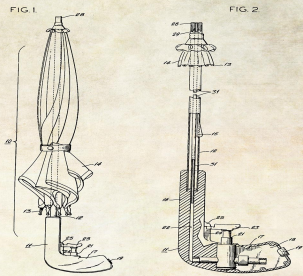


Umbrella Drying Machine:

very professional → but costly,
not portable, and not for daily
use

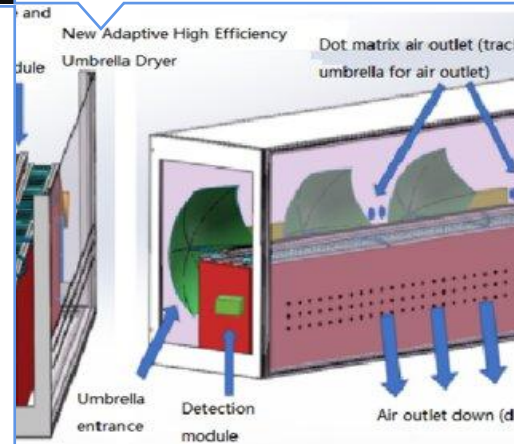


UNITED STATES PATENT OFFICE.
LEONARD ALTHOFFER, OF NEW YORK, NEW YORK.
COMBINATION UMBRELLA AND WATERPISTOL.
Patented June 12, 1902. No. 3,038,463.



Umbrella Bag Dispensers

fast and familiar → but uses
plastic and isn't sustainable



Umbrella Drip Collector (patented):

Simple and portable → Can only
be collected, not dried. →
Suitable for personal use.

Content Reflection

- A lot of existing products look smart but don't match real habits. This reminded me to design something simple enough for people to use without thinking.

Precedents & Field Notes 2

Field Notes

Umbrella Bag Dispenser

Observation

- ① People don't want it, have to use.
- ② Feeling bad about disposable items
- ③ Breaks or falls
- ④ Not breathable → stinks
- ⑤ Cleaning cost



Reflection

- ① People don't want it, have to use
- ② Feeling bad about disposable items, but need drives use.
- ③ Strong tech feeling, but users impatient

Drying Machine

Observation

- ① Turned "hand dryer" by accident, **Beep!**
- ② Child scared by noise
- ③ Many people leave after 6-10s **"saying too slow"!!**
- ④ Vent looked dirty perceived as



Why it fails:

- Unsustainable
- ① Unresolved ecological issues
- ② High breakage rate
- ③ Failure to solve real problem

Unable to resolve real question!!

Patent drip device

- Pros: ① Simple structure
- ② cheap
- ③ easy to clean



- Cons: ① Only solves the problem of water collection "not drying"
- ② The container is often overflowing causing secondary water accumulation

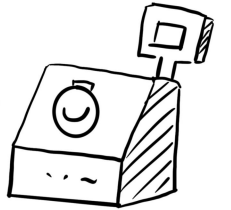
Why it fails:

- ① only collects water - does not dry the umbrella
- ② Users still need to shake the umbrella, causing water splashes.
- ③ Bucket must be emptied often; otherwise it starts to smell.



Research-Grade Dryer

- Pros: ① Professional functions
- ② Controllable drying speed and even set temperature



- Cons: ① Expensive not portable
- ② requires power supply

Why it fails

not suitable for daily life users will not go to "research laboratory level" equipment just to dry an umbrella

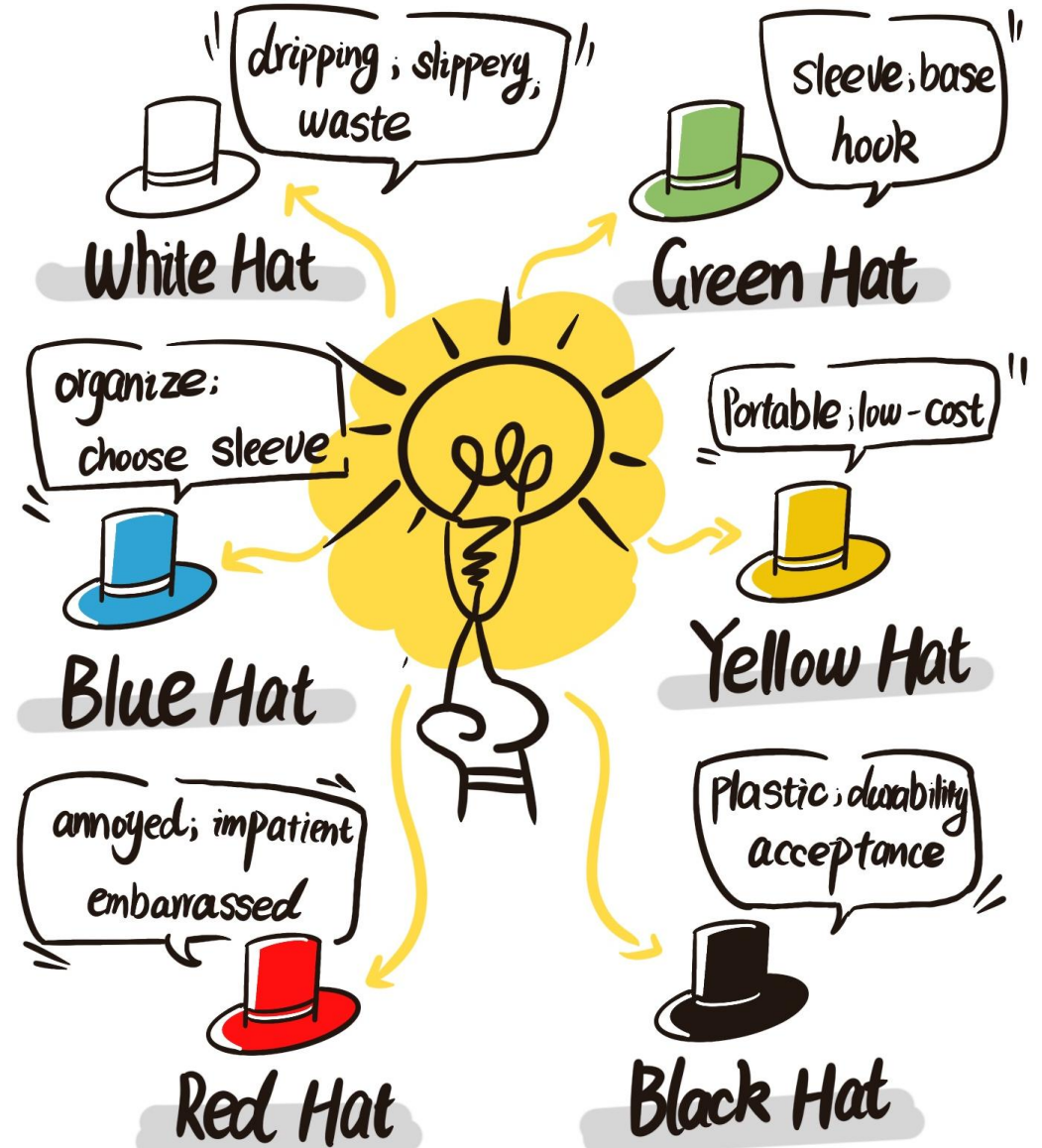
Content Reflection

- These examples helped me see what doesn't work. Anything that adds extra steps is ignored by users. That made me aim for a design that fits naturally into daily behaviour.

Creative Techniques 1

Six Thinking Hats

- I use six thinking hats to analyze the problem in a structured way:
- White hat (fact): Wet umbrellas are dripping everywhere, the floor becomes slippery, and plastic bags produce a lot of waste.
- Red Hat (feeling): Users feel annoyed, embarrassed and impatient.
- Black hat (risk): plastic use, product durability and market acceptance.
- Yellow hat (advantages): The protective cover can be more portable, more environmentally friendly and cheaper.
- Cuckold (idea): three solutions: sleeve, base and hook.
- Blue Hat (Control): Organizational logic and direction → Select the umbrella cover as the main path.



Creative Techniques 2

Mashup

Content Reflection

- The mashups felt random at first, but they helped me break out of the usual umbrella shape. Even the weird ideas pushed me toward the cone idea later.

01

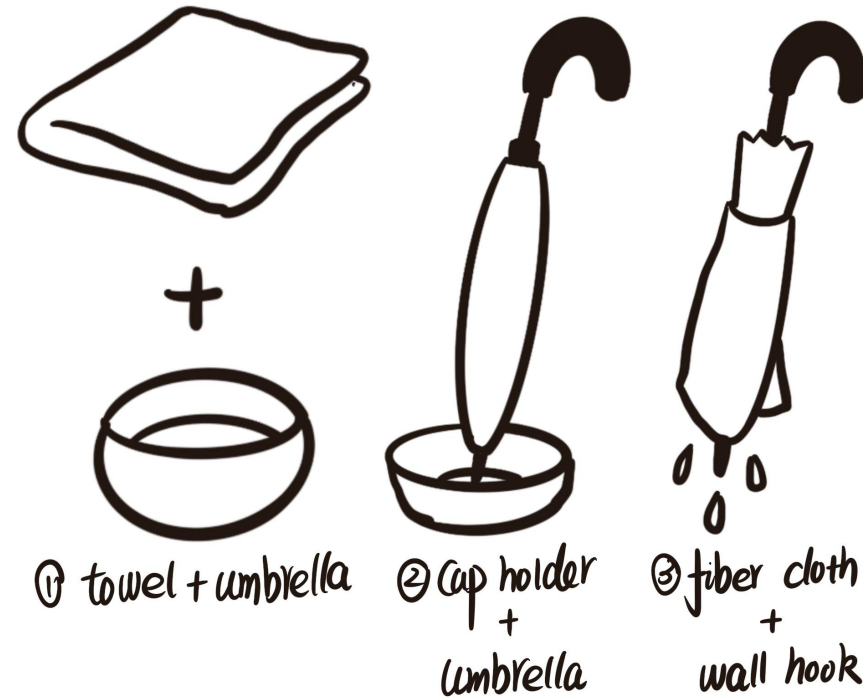
towel + umbrella → absorbent sleeve,

02

cup holder + umbrella → water base

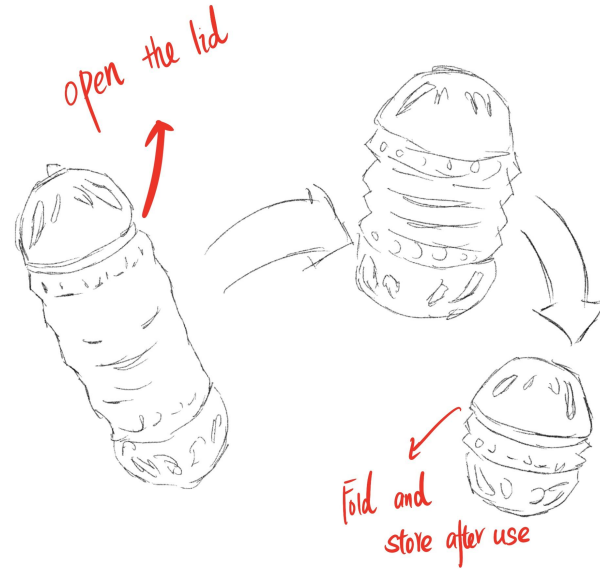
03

fiber cloth + wall hook → absorbent
hook

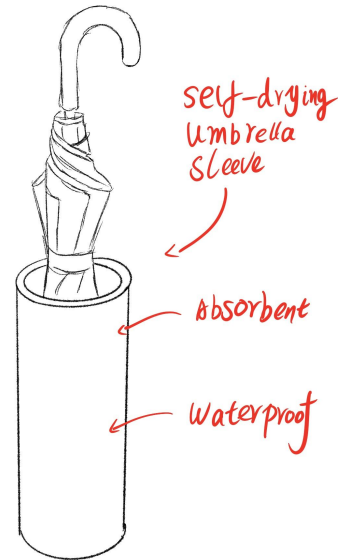


Concept Development & Prototyping 1

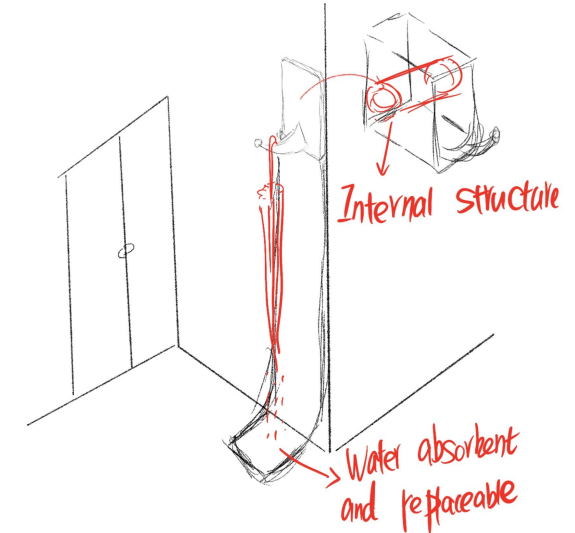
Concept



Umbrella cover: microfiber waterproof, quick-drying, lightweight, washable umbrella cover, portable, environmentally friendly and water-absorbing.



Dripping base: The base can receive water, but it is not easy to carry. It can only be used indoors and is not suitable for personal use.



Wall Hook: The hook can be used at home or in the office, but you can't carry it with you, and it can't solve the problem of mobile use, so it's just a backup option.

Content Reflection

- It is not clean to choose a concept. But when comparing them, the simplest "direct" idea always wins. This shows me how much people value simplicity rather than complexity.

Concept Development & Prototyping 2

Why Choose the Sleeve

Reasons for choosing the umbrella cover:

The best portability

Really solve the problem of wet umbrellas

Environmentally friendly and sustainable

Low cost and easy to produce

Zero energy use

Supported by user interviews

It can be sold separately or with an umbrella.

Content reflection

After checking all the options, I realized that the umbrella cover is not only the best choice for users, but also the most practical choice for business.

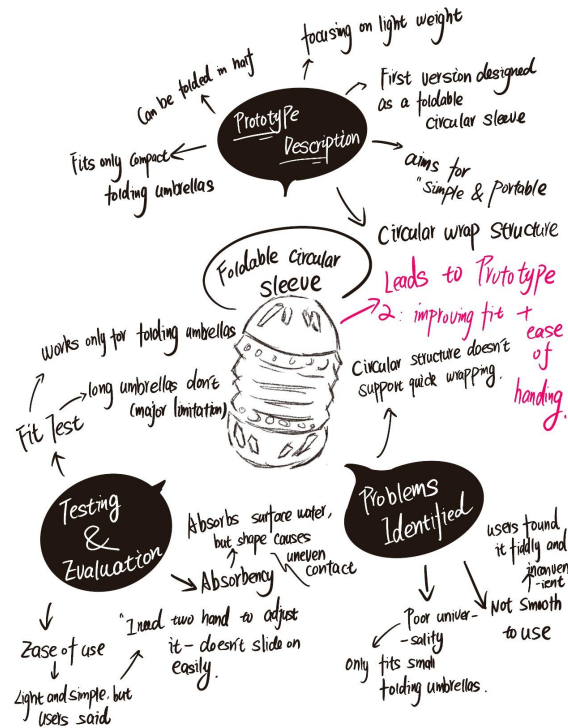


Concept Development & Prototyping 3

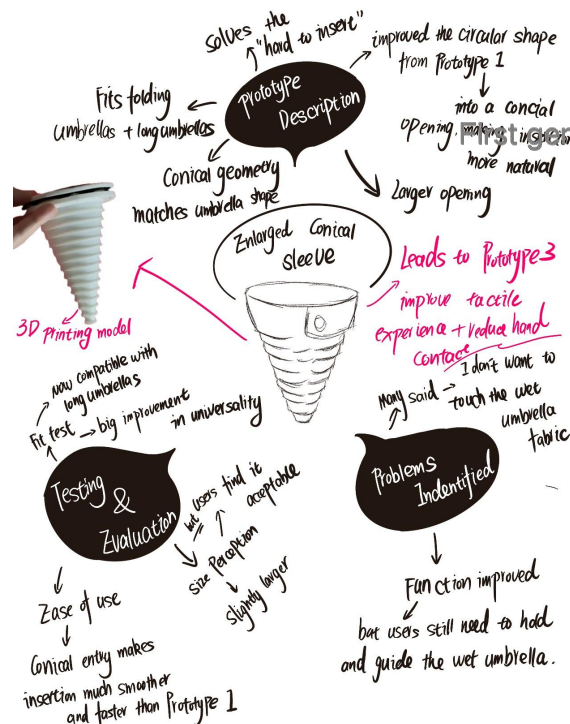
Prototype Iterations 1

Each prototype has been tested by real users to improve fit, ease of use and comfort.

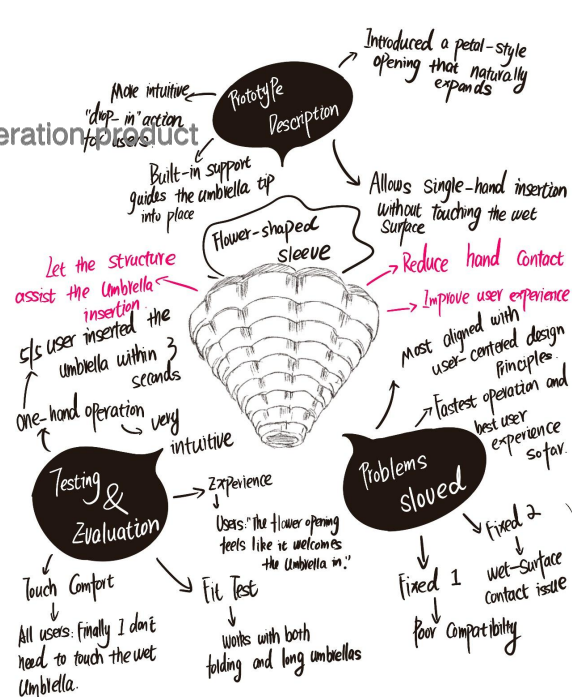
1. Prototype 1 explores a simple round sleeve, but it is only suitable for small umbrellas and requires two-handed operation.
2. Prototype 2 introduces a conical opening that matches the umbrella shape, which improves universality and inserts it more smoothly.
3. The prototype 3 adopts the flower-shaped structure of the automatic guide umbrella, which can be used with one hand without touching the wet surface.
4. Each round of user feedback and test evidence directly affects the next version, thus forming the final user-friendly solution.



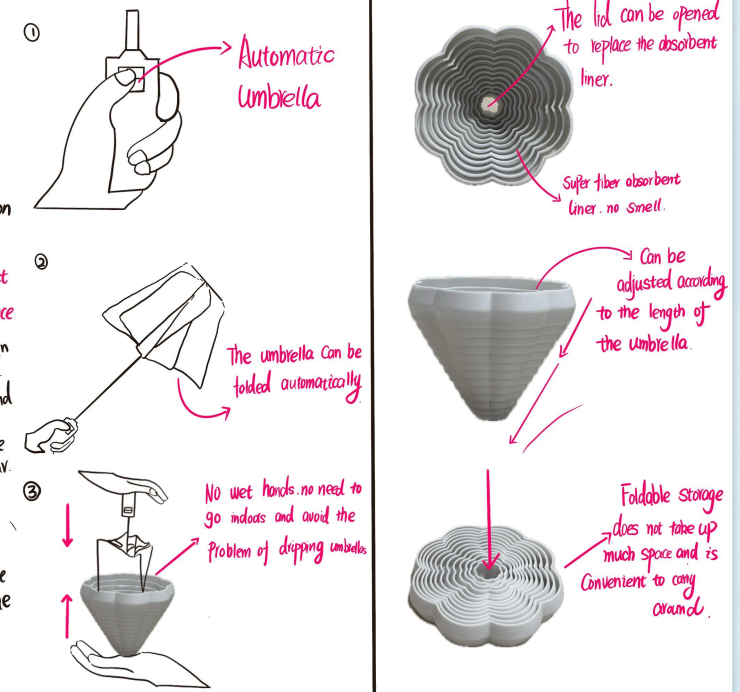
First generation product



Second generation products



Final product



Use and introduction

Concept Development & Prototyping 4

Material Test

Material Type	Water Absorption (ml/g)	Weight (g/m ²)	Drying Speed (min)
Ordinary Cotton Fabric	0.8	200	35
Microfiber	1.5	120	15
Polyester Fiber	0.5	150	25

Three key material factors:

Absorption (main function)

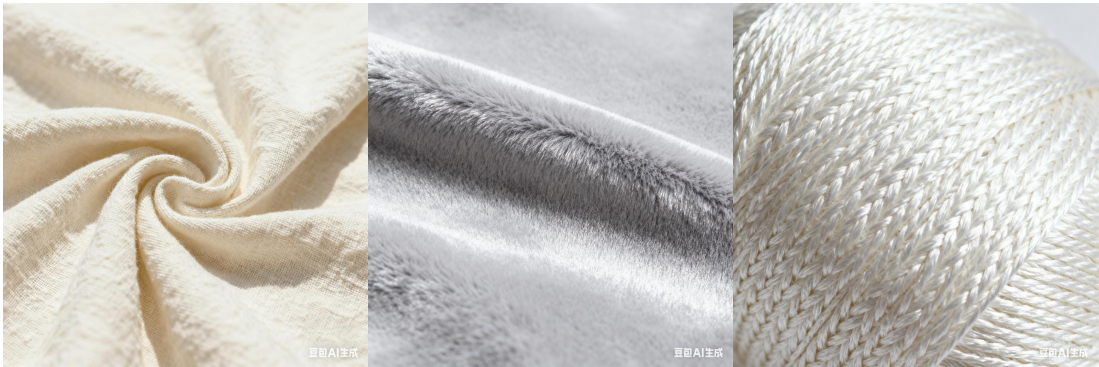
Weight (the key to portability)

Drying speed (important to user experience)

The microfiber has the best overall performance.

Content reflection

I was surprised by the test materials. I expect that some fabrics that can be used will not absorb much at all. Trying them helps me focus on what actually performs well, not just guess.



Ordinary Cotton
Fabric

Microfiber

Polyester Fiber

Business Framework 1

Values / Vision / Mission

Core values

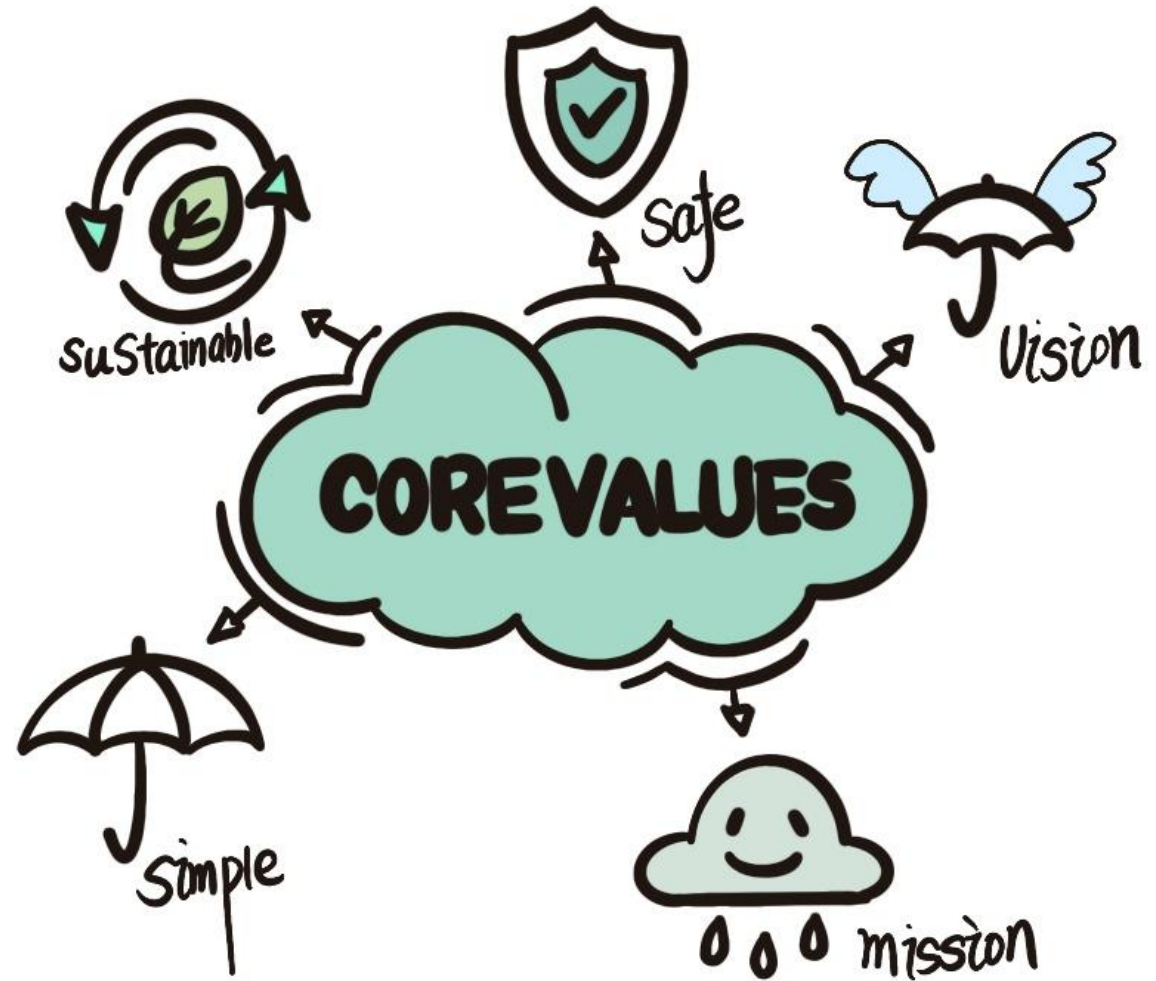
Our core values guide every decision in our project. We believe in creating a sustainable, safe and simple solution – improving daily life while reducing the impact on the environment.

Aspiration

Manage wet umbrellas by promoting environmental protection to make the rainy day experience easier and cleaner.

Mission

Design a portable, reusable and highly absorbent umbrella cover to keep people, items and indoor space dry while reducing disposable plastic waste.



Business Framework 2

Lean Canvas

Content Reflection

- It's a little strange to fill this, but it shows me the gaps that I didn't consider, such as who will buy it first and how it reaches them. It helps me to think more practically.

		Lean Canvas		
PROBLEM <i>List your top 1-3 problems.</i> Commuters and office workers struggle with wet umbrellas dripping water indoors. Plastic umbrella bags cause waste and environmental pollution. Lack of convenient, compact, and sustainable drying solutions.	SOLUTION <i>Outline a possible solution to each problem</i> A Self-Drying Umbrella System combining: Absorbent umbrella sleeve (quick-drying microfiber) Portable drip-collecting base (compact, foldable) Smart wall hook with absorbent pad (for organized drying) All designed for everyday convenience and sustainability. IS IT CIRCULAR?	UNIQUE VALUE PROPOSITION <i>Single, clear, compelling message that states why you are different and worth paying attention to</i> A portable, eco-friendly, and elegant umbrella system that keeps users and shared spaces clean and dry — eliminating plastic waste and promoting sustainable habits in rainy-day routines. HAVE YOU CONSIDERED THE UNIQUE VALUE OF... YOUR TEAM BUSINESS VALUES WORKPLACE CULTURE PRODUCT FEATURES NETWORKS	UNFAIR ADVANTAGE <i>Something that cannot easily be bought or copied</i> Integrated multifunctional design (sleeve + base + hook) not found in current products. Sustainable materials and circular use model. User-centered design based on real interviews and behavioral research. IS POSITIVE IMPACT AT THE CORE OF YOUR BUSINESS?	CUSTOMER SEGMENTS <i>List your target customers and users</i> Urban commuters and office workers University students and staff Eco-conscious consumers Building managers for offices, schools, and public spaces EARLY ADOPTERS <i>List the characteristics of your ideal customers.</i> Environmentally aware young professionals and students who value design and sustainability. ARE YOU TARGETING UNDERREPRESENTED CUSTOMERS? EG: REFUGEES, MINORITIES, EMERGING MARKETS
EXISTING ALTERNATIVES <i>List how these problems are solved today.</i> Disposable plastic umbrella bags in shopping malls. Bulky electric umbrella dryers. Simple umbrella stands or holders without drying function DOES IT ADDRESS A SUSTAINABILITY DEVELOPMENT GOAL?	KEY METRICS <i>List the key numbers that tell you how your business is doing</i> Number of users adopting the system Reduction in plastic waste Customer satisfaction and return rate Social media engagement (awareness & advocacy) HOW ARE YOU MEASURING YOUR IMPACT?		CHANNELS <i>List your path to customers (inbound or outbound)</i> Online retail platforms (Amazon, Etsy, company website) Partnerships with schools, offices, and shopping centers Pop-up design markets and exhibitions DO YOU HAVE AN ETHICAL SUPPLY CHAIN?	
COST STRUCTURE <i>List your fixed and variable costs</i> Materials: microfiber fabric, recycled plastic base Production and packaging Marketing and online platform costs Logistics and distribution ARE YOUR WAGES FAIR AND EQUITABLE?		REVENUE STREAMS <i>List your sources of revenue</i> Direct sales (umbrella + system package) Replacement parts (pads, sleeves) B2B partnerships (office or school bulk orders) IS YOUR REVENUE COMING FROM AN ETHICAL SOURCE?		

Business Framework 3

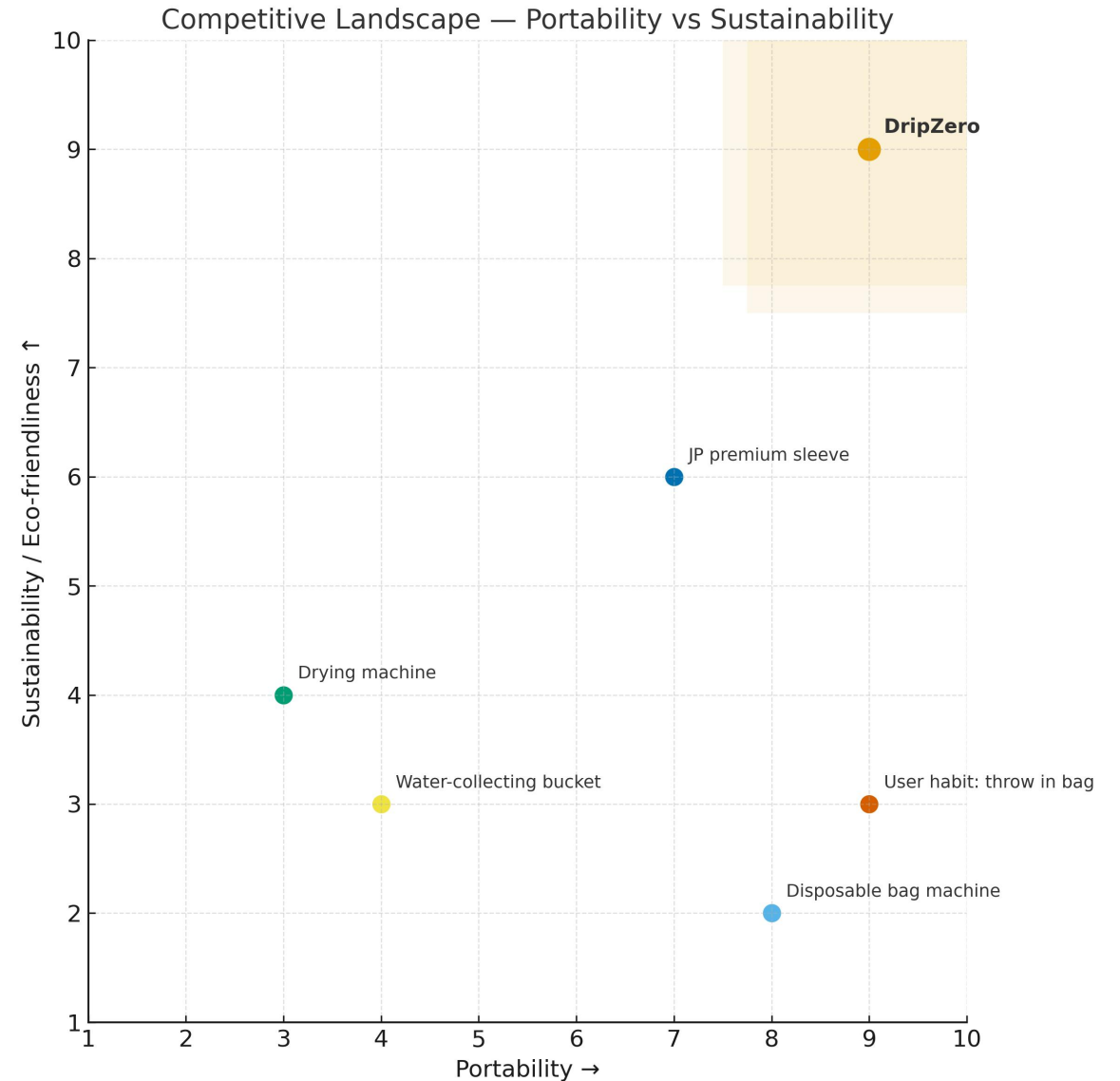
Competitive Landscape

Analysis perspective: portability (x-axis) × environmental protection (y-axis).

Main points: The umbrella cover is located in the best quadrant – high portability and high environmental protection.

Content reflection

Comparing products made me realize that the advantage of my design is the "non-touch" experience. Most products don't pay attention to this, so this has become a clearer direction for me.



Business Framework 4

Business Model



Sell on its own

direct to
consumers



Partner with umbrella brands

B2B co-branding or bundled
sales



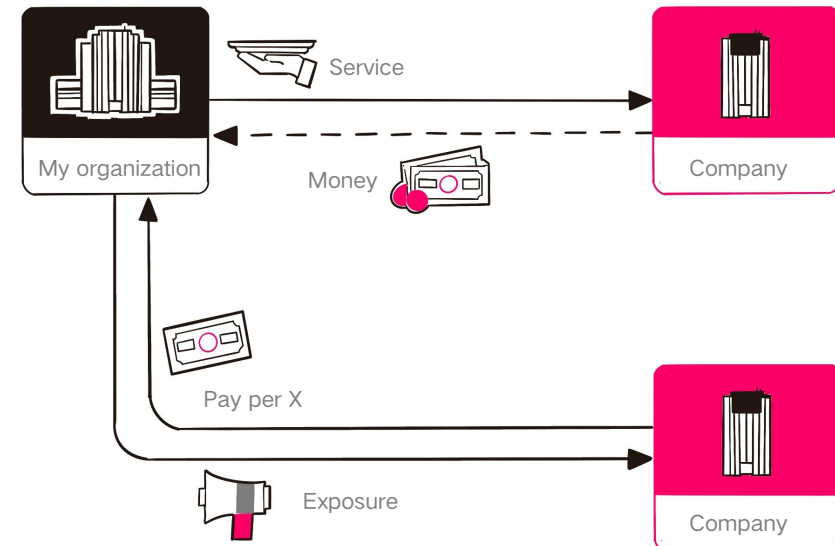
Replaceable inner layer

refill + repeat
purchase model

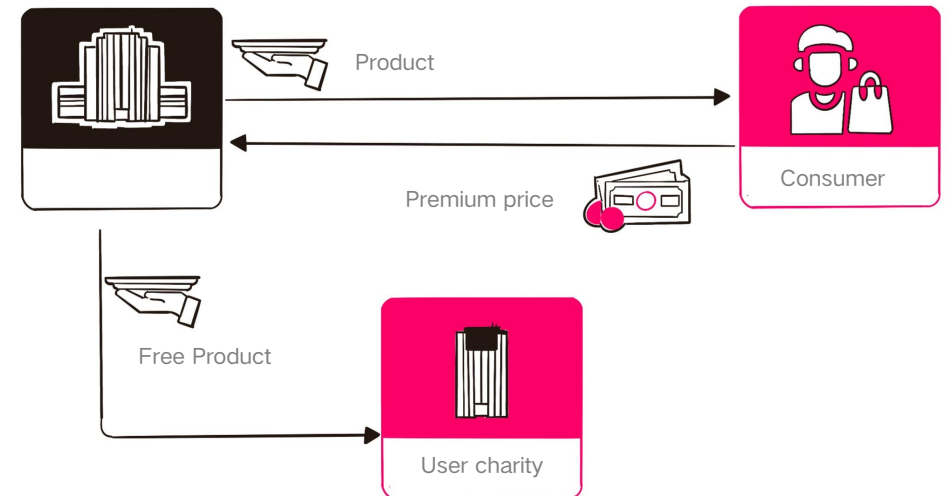


Expand product line

other rain-day items



B2B



B2C

Business Framework 5

Precedent Reflection

The umbrella bag machine of Japanese department stores relies on a large amount of disposable plastic, which is contrary to the core value of the sustainable development of our brand. Therefore, this business model cannot be duplicated – we need to insist on making profits in an environmentally friendly way.

Content reflection

Observing other brands helps me notice how the tone and shape affect the feeling. This influenced my choice of softer curves and calmer visual effects.



Japanese umbrella bag machine

Business Framework 6

Organisational Structure

1. Founder/CEO

Role: Set up visions, strategies and key partnerships.

Why is it necessary: make the product conform to the values of sustainability + portability + low energy consumption.

2. Product designer

Role: Lead the prototype, user experience and manufacturability.

Why do you need it: make sure that the sleeve is light, absorbs water and is easy to use.

3. Materials engineer

Function: develop microfibers, select materials, and test performance.

Why: core functions – absorption, drying speed, portability – depend on materials science.

4. Marketing and brand leadership

Role: Establish brand image, promote promotion, and manage channels.

Why it is necessary: Strong storytelling can promote the adoption of lifestyle + sustainable products.

5. Operation/Supply Chain Manager

Role: Manage the factory, quality control, procurement and logistics.

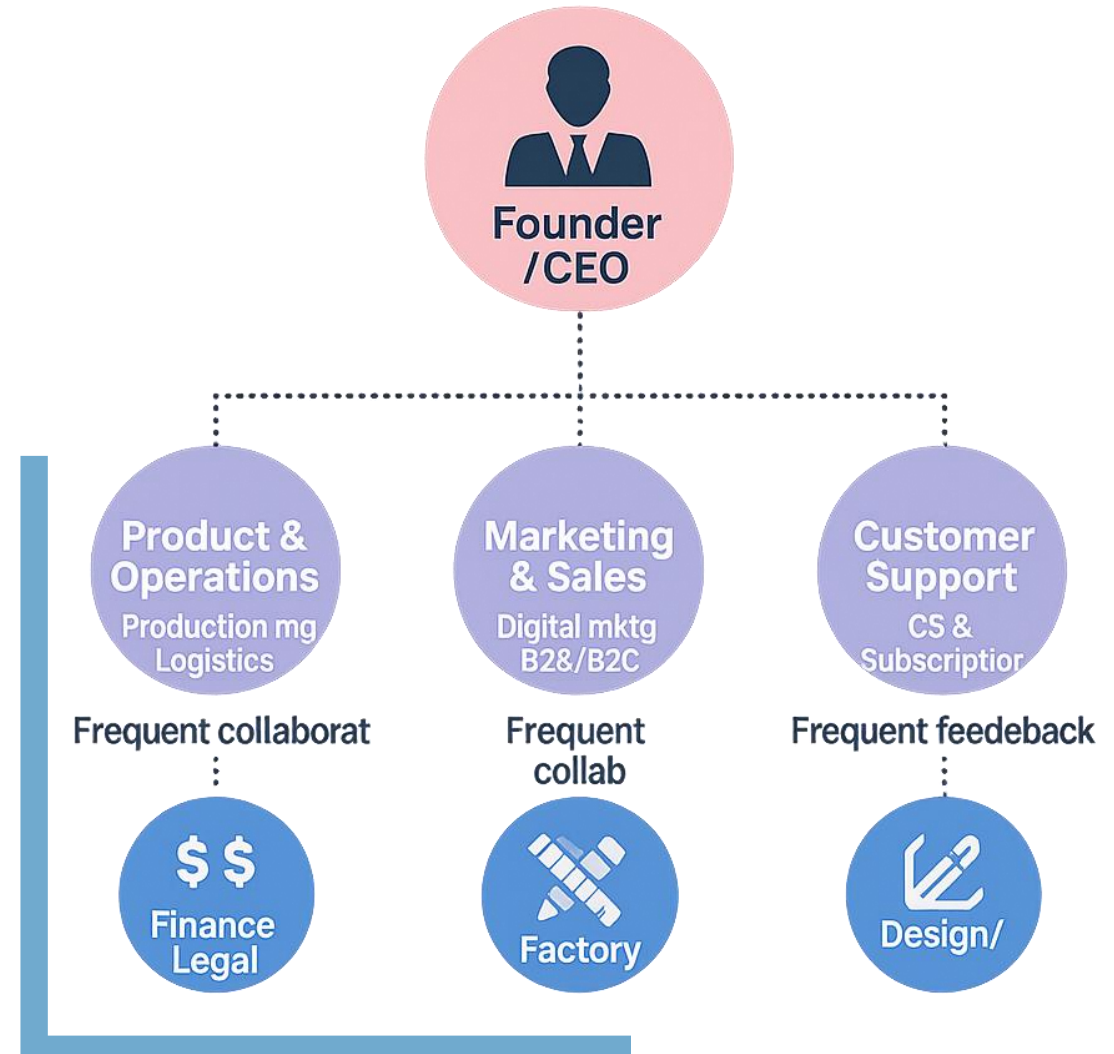
Why: to ensure stable, efficient and cost-effective production.

Reflection

- Thinking about a team helped me see which skills this project actually needs. It also made me notice where my own weaknesses are, especially in technical areas.

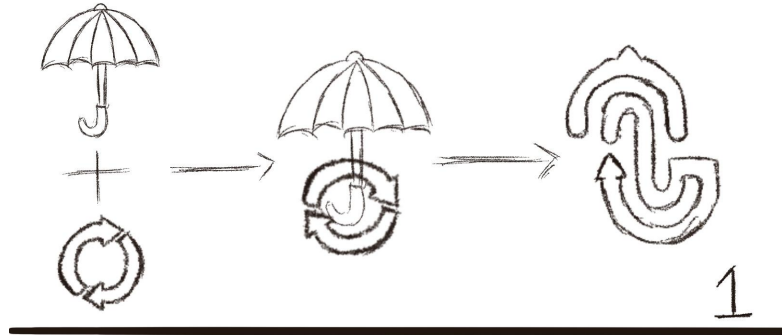
Core Team Structure

Hybrid Horizontal + Light Hierarchy



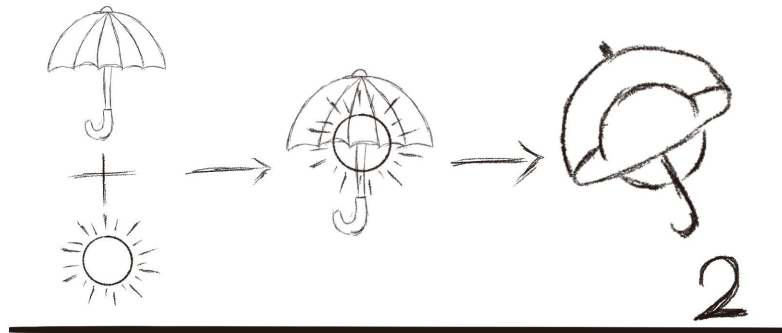
Branding 1

Logo Exploration



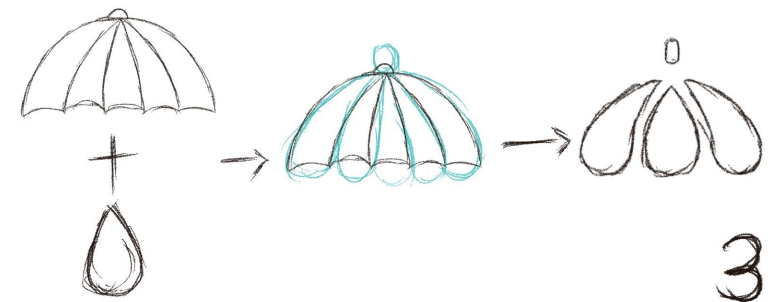
DryLoop

A circular arrow is wrapped around the umbrella shape. The arrow shows "sustainable reuse", and the umbrella makes the product category clear. The whole design directly reflects the concept of reusable environmental protection sleeves.



UmbraDry

A simple umbrella icon with an abstract sun line at the top. The sun represents "dryness", and it also gives people a warm and comfortable feeling after the rain. Make the concept of "umbrella + sun drying" simple and friendly.



DripZero

A closed umbrella describes a falling drop of water, with a small "0" next to it. This highlights the promise of "zero drops of water". The image of the umbrella catching water droplets clearly shows the leak-proof and dry function of the product.

Branding 2

Logo Final Choice

DripZero

A closed umbrella describes a falling drop of water, with a small "0" next to it. This highlights the promise of "zero drops of water". The image of the umbrella catching water droplets clearly shows the leak-proof and dry function of the product.

Content reflection

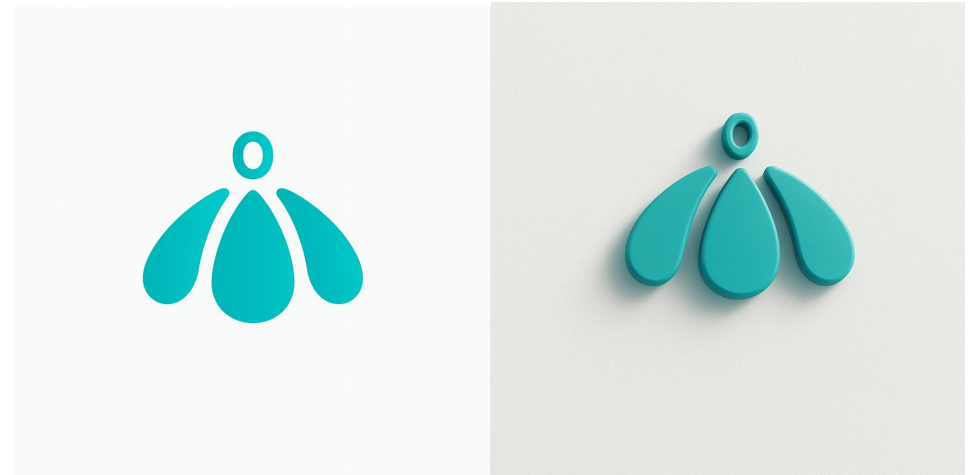
S: Need a clear logo to fit "zero drip"

T: Choose the products that can best display functions and brands

A: DripZero = umbrella + water drop + "0" → direct. DryLoop = loop (weak function). UmbraDry = Sun (fuzzy)

R: DripZero wins → Users quickly get "no drip"

Several attempts have been made to select the logo. The softer curve and flower reference feel are closest to the behavior of the product, so I stick to this direction.



Branding 3

Brand Identity

Primary Colors

Ocean Blue

HEX 3486EF
RGB 58,134,255

Represents water/clean/dry;
use as dominant accent color

Aqua Green

HEX 44C3C9
RGB 68,195,201

Represents eco/
sustainable/fresh

Secondary Colors

Deep Teal

HEX 135D66
RGB 19,93,102

Use for headings
or dark backgrounds
to add weight

Sky Blue

HEX 8EC6FF
RGB 142,198,255

Use for light
graphics,
backgrounds,
and icons

Mint Light

HEX D9F3F4
RGB 217,243,24

Use for light
backgrounds
and content areas

Functional Colors

Success Green

FOR 5ECB5

For success
messages,
data growth

Warning Orange

HECFF85A

For caution, alerts

Error Red

HEX FF66B

For errors,
negative metrics

Key keywords:

Clean, Simple, Sustainable

Color system:

Blue, white, and green (matching rain, cleanliness, and eco-friendly themes)

Font choice:

Sans-serif fonts (fit a simple and modern brand style)

Branding 4

Extended Narrative

When I started thinking about the branding, I didn't want it to feel too "high-tech" or complicated, because the product itself is quite simple. Most people only care about one thing: "Can it keep my space dry without making my hands wet?"

So I tried to build the brand around that feeling — clean, light, friendly, and not too serious.

At the beginning I explored a few different directions. Some looked too much like cleaning supplies, some felt too "medical," so I quickly put those aside. I realised the product works best when it feels soft and approachable, because rain is already annoying. A calmer tone makes the whole experience feel less stressful.

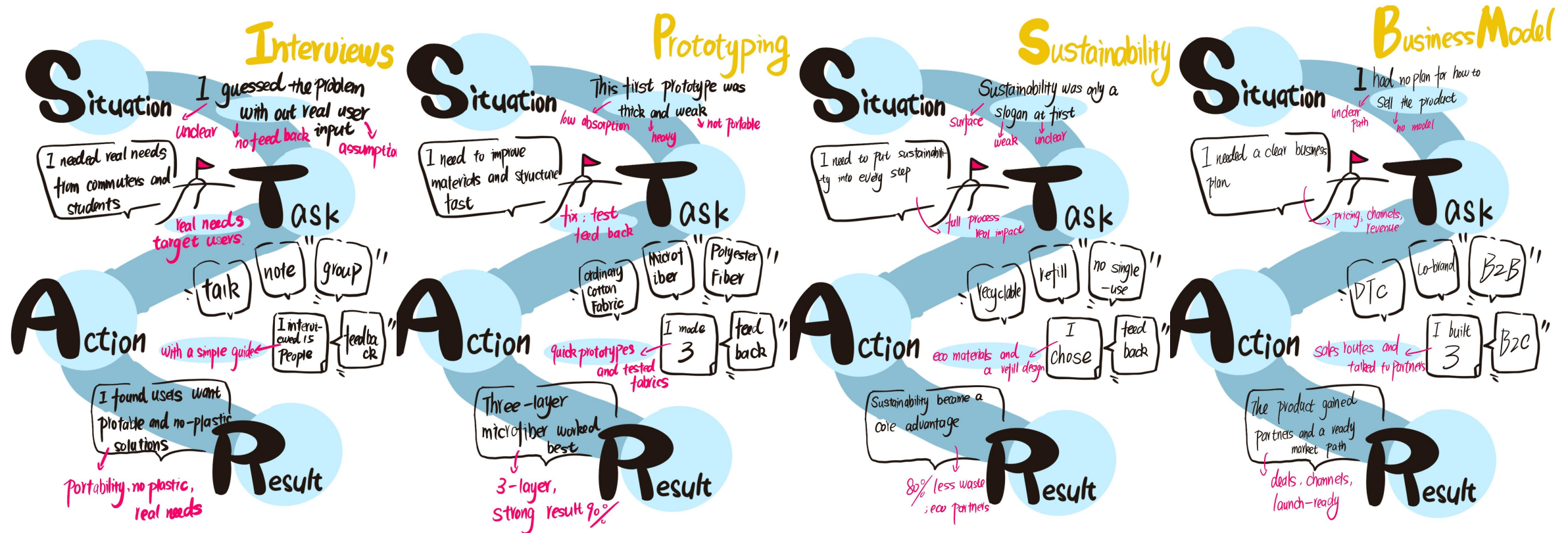
The shapes and colours mostly came from the product form. Originally it was a simple circle, but later when the structure changed into the flower shape, it actually made more sense visually — the petals echo the top view of an umbrella, and it feels like the umbrella just "drops in" naturally. No extra adjusting or fixing. That idea of easy, natural fitting influenced the logo too. I ended up choosing simple curved lines, almost like a ripple or petal, nothing sharp or mechanical.

Overall, the branding is meant to feel practical but comforting. Not flashy, just clear and easy to recognise. It should sit quietly beside the product instead of fighting for attention. The goal is for users to look at it and instantly feel, "OK, this will keep things dry," without needing much explanation.



Reflection 1

Final Reflection



Content Reflection

- Looking back, the direction of the project has changed beyond my expectations. The biggest change is to understand how much users hate touching wet umbrellas. This insight shapes most of the designs. Testing some small things, such as whether the umbrella is easy to fall in, taught me more than I thought. The process was not smooth, but each step made the idea closer to reality.

Reflection 2

Appendix- User Interview Notes (Text)

Respondent A - Commuter student (female, 21 years old)

The last experience on a rainy day?

It rained last time, and my umbrella kept dripping. After walking in, the floor was wet all over.

What's the biggest problem for you?

There is always a lot of water near the door, which really bothers me.

The damp floor feels dangerous, especially on the bus or in the school corridor.

What do you usually do with wet umbrellas?

I shook it at the door to remove most of the water, but it often wets my arms.

At home, I open it and put it in the bathroom to dry; at school, I can only fold it up and put it on the carpet.

What situation don't you like?

Rainy days make me feel irritable, and I feel wet wherever I go.

My bag is often wet by umbrellas. I really hate it.

Interviewee B - Office worker (male, 27 years old)

What's bothering you on your way to work?

When I got on the bus, everyone's umbrella was dripping. There are wet footprints everywhere - dirty and slippery.

What do you think about the current solution?

There are disposable umbrella bags in the mall, but they cause a lot of waste. I really don't want to use them.

When the umbrella is left in the bag for too long, it will smell bad, and the umbrella is still not really dry.

Interviewee C - Classmate (female, 20 years old)

What do you usually do with wet umbrellas?

If I'm in a hurry, I'll fold it up and put it in my bag, and then my bag will get wet.

If I'm not in a hurry, I'll put it in the corner of the classroom, but it's not good to drop it on the carpet.

How do you feel on a rainy day?

Rainy days make my mood worse. I feel embarrassed and troubled.

Interviewee A — Commuting Student (Female, 21)

Last experience on a rainy day?

Last time it rained, my umbrella kept dripping. After I walked inside, the floor everywhere was wet.

What was the biggest problem for you?

There's always a lot of water near the doorway, and it really annoys me.

Wet floors feel dangerous, especially on the bus or in school hallways.

How do you usually handle a wet umbrella?

I shake it at the door to get most of the water off, but that often gets my arm wet.

At home, I leave it open in the bathroom to dry; at school, I can only fold it and put it on the carpet.

What situations do you dislike?

Rainy days make me feel irritated—everything feels wet wherever I go.

My bag often gets wet from the umbrella, and I really hate that.

Interviewee B — Office Worker (Male, 27)

What bothers you during your commute?

When I get on the bus, everyone's umbrellas keep dripping. There are wet footprints everywhere—dirty and slippery.

What do you think of current solutions?

Malls have disposable umbrella bags, but they create so much waste. I don't really want to use them.

When the umbrella stays inside the bag for too long, it smells bad, and it still doesn't actually dry the umbrella.

Interviewee C — Classmate (Female, 20)

How do you usually deal with a wet umbrella?

If I'm in a hurry, I just fold it and put it in my bag, and then my bag gets wet.

If I'm not in a hurry, I leave it in the corner of the classroom, but dripping on the carpet isn't good either.

How do rainy days make you feel?

Rainy days make my mood worse. I feel embarrassed and bothered.

① shake umbrella outside

② hate touching the wet part

③ bag always gets wet

Circular sleeve

only small umbrellas

one shoe
!! more size / can change

umbrella size
=> avoid water contact

Reflection 3

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- **AI Assistance Statement**
 - This project used AI assistance (ChatGPT) for grammar checking, wording improvement, and idea clarification only.
 - No AI-generated content has replaced mandatory design research, user testing, or personal reflection.

THANK YOU

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