

# redefining the reusable bag

industrial design thesis alexa valore



## special thanks.

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**Angela Clark.** Innovative Product Design Professional and Educator.

**Joanna Celestina.** Senior Industrial Designer, Energizer Holdings.

**Doug Paige.** Professor of Industrial Design, the Cleveland Institute of Art.

*and to all of my classmates who have been there along the way*

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statement

## what's the situation?

grocery shopping comes in at the top of the list of our repetitive and boring weekly chores, but it's a lot more complicated than just that.

check around your home and take a look at how many plastic or paper shopping bags you have saved to use again. how many of them do we really reuse?



## user journey.



**erin.** she/her, 26, nurse practitioner. nyc, ny.

shares an apartment with two roommates. **walks almost everywhere.**  
goes out to a few different grocery stores/markets **multiple times** a week.  
**frequent trips allocate for a smaller haul.**

stage.

**01**

gets off work, walks to nearest grocer.

**02**

searches for shopping basket on arrival.

**03**

goes to produce, then dry goods, then deli.

**04**

heads to self checkout.

**05**

begins twenty minute walk home.

mood.

painpoints.

reusable bags were **left at home.**

store is **busy**, leaving baskets dirty/unorganized.

tomatoes get **smashed** in bottom of basket.

faced to use **plastic bags.**

two of the bags **tear** due to items inside.



01.



02.



03.

## single-use waste.



## plastic bags.

- + convenient,  
water-proof,  
low in cost
- create excess landfill waste  
do not decompose, but become microplastics,  
use of excess materials to produce in order to  
meet high demand

## paper bags.

- + can be repurposed,  
easily recyclable
- break down when holding wet/cold items,  
very short-lived due to lack of durability,  
requires four times more water than plastic

know the stats.

**100 billion. 1%.**

plastic bags used in America annually.

amount of plastic bags recycled yearly.

**1500. 14 = 1 mile.**

plastic bags used by the average family.

number of bags equivalent to gas use of driving one mile.

**80%. 500 years.**

ocean plastic comes from land.

amount of time it takes for a plastic bag to break down.

## reusable bag specifics.



## reusable bags.

+

can use more than once,  
easily accessible

-

too simple in form to be memorable,  
break down easily and need replaced,  
takes a lot of energy to produce and export

what now?

# ▷ sustainability

*noun*

the ability to be maintained at a certain rate or level

- avoidance of the depletion of **natural resources** in order to maintain an **ecological balance**.

# sustainability.

**01**

economic  
viability.

**02**

environmental  
protection.

**03**

social equity.

why is it so important?

in order to have **healthy communities**, we need clean air, natural resources, and a nontoxic environment.

sustainability aims to **use our resources efficiently** to benefit our campus and community.

## user survey.

“I will never remember reusable, but I realize that plastic bags are not the answer.”

“I try to carry a bag that can fold up and fit in my purse so I rarely forget it.”

“Normally, I end up using plastic bags because they’re the most convenient option.”

# environment profile.



## the grocery store.

almost all grocery stores are set up in the same order, to appeal to the consumers senses.



**01**  
plants and floral  
arrangements.



**02**  
fresh produce.



**03**  
dry goods and  
personal care  
items.



**04**  
proteins and  
refrigerated or  
frozen foods.



**05**  
fresh baked  
goods.

# COVID and grocery shopping.

our new normal; but a lot of these changes may stick around.



**01**  
less trips, while  
accomplishing  
more.

**02**  
people are  
turning to online  
shopping.

**03**  
store layout is  
reconfigured.

**04**  
consumers are  
more conscious  
of cleanliness.

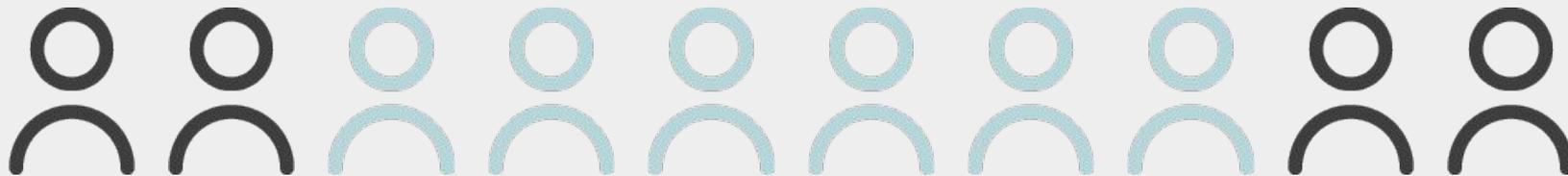
**05**  
the weekly trip  
has become a  
bigger deal.

A person wearing glasses and a white face mask is visible on the laptop screen. They are holding their hands near their face, possibly adjusting the mask. The background of the screen shows a plain wall.

**everything is new and  
changing, but it's up to us on  
how we **adapt**.**

## target consumer.

looking at the person who is familiar with climate change, but doesn't really know **where to start** or **how to make a change**.



**20%**

not concerned about  
the environment at all.  
no conscious efforts  
made to be sustainable.

**60%**

**somewhat concerned**  
about the environment.  
some conscious efforts  
made to be sustainable.

**20%**

very concerned about  
the environment.  
almost all conscious  
efforts made to be  
sustainable.

**significance.**

**01.**

**single use is detrimental to the environment.**

**02.**

**reusable bags do not fit our needs accordingly.**

**03.**

**the pandemic has greatly changed how we shop.**

## problem.

single use bags, such as paper or plastic, are not sustainable for consumers or the planet we inhabit. reusable bags do not fulfil our needs; as they are easily forgotten and wear out quickly. the current pandemic has also transformed the grocery experience.

## opportunity.

to find a more durable and sustainable alternative to our disposable or standard reusable bag; we would be more organized, complete errands more efficiently, and be keeping our planet as a priority.

## design brief.



### **adaptable**

change as needed to fit user and environment.



### **portable**

able to move easily whether compacted or expanded.



### **convenient**

fits into the user's routine without any extra hassle.



### **accessible**

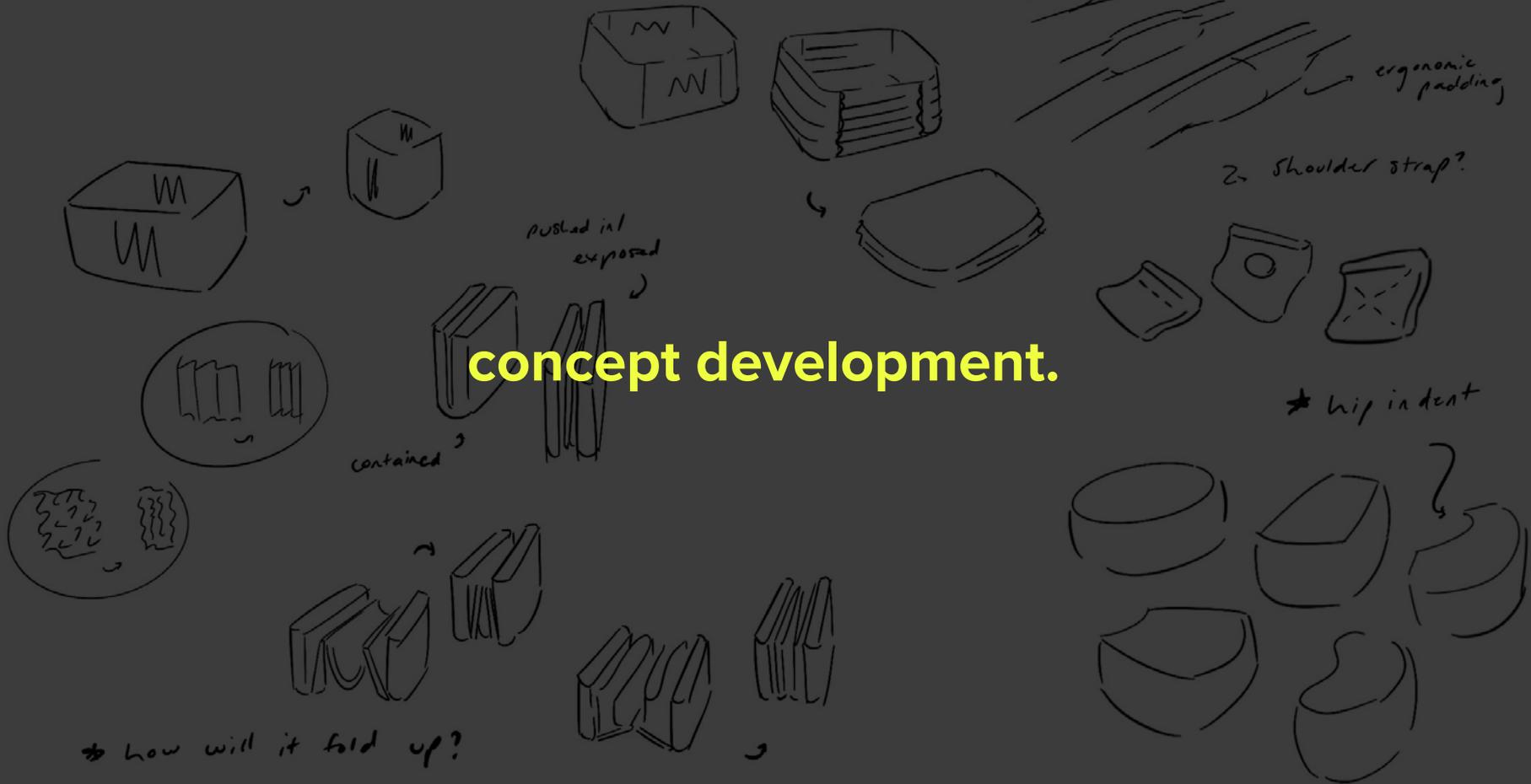
available to a wide range of users for different issues.



### **personal**

individualized to cater the best experience for the user.

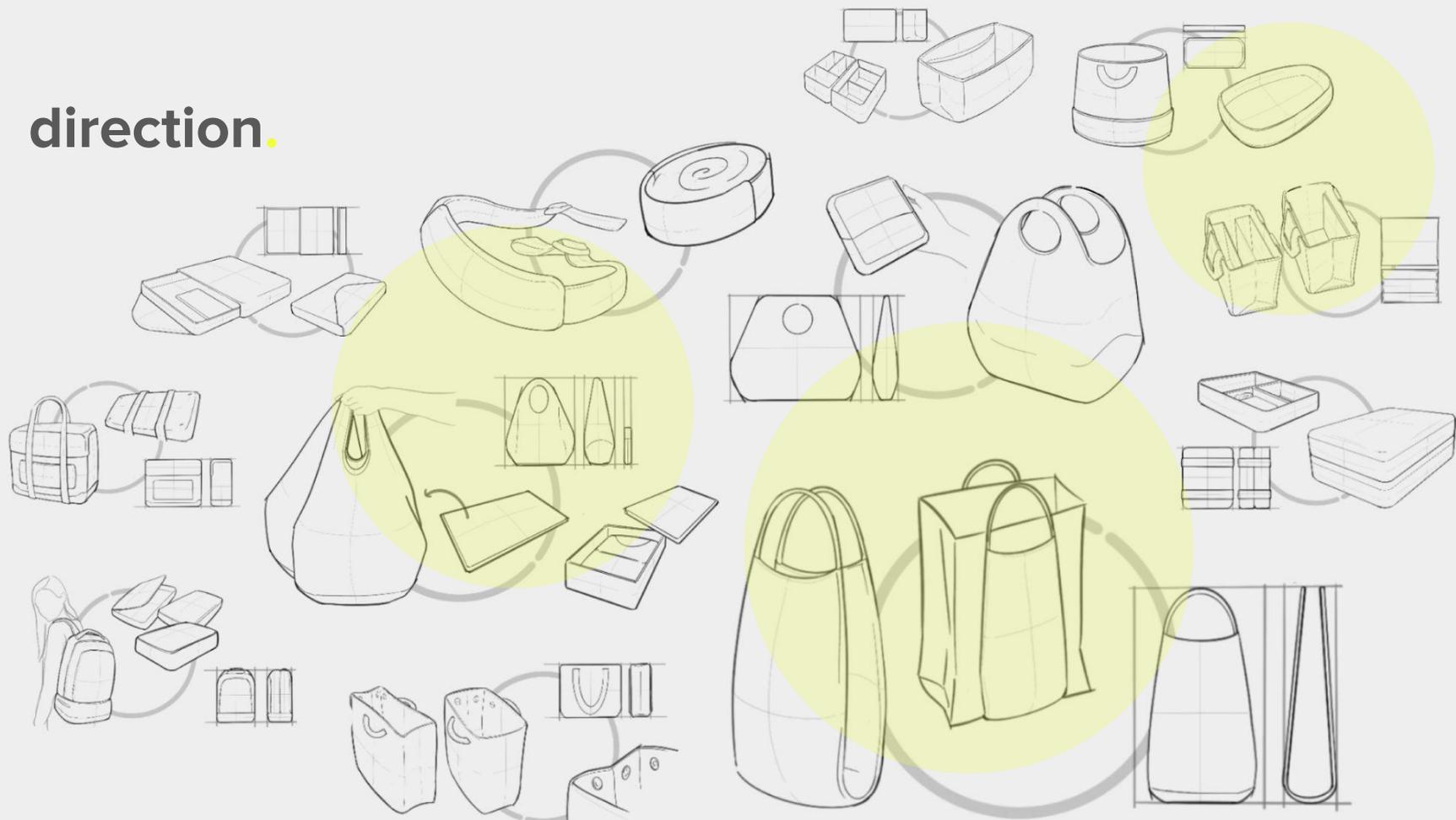
How will it collapse?



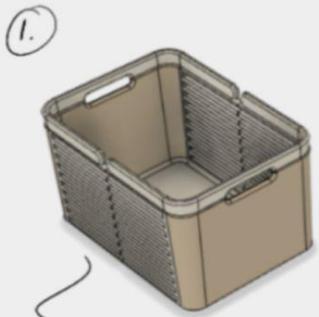
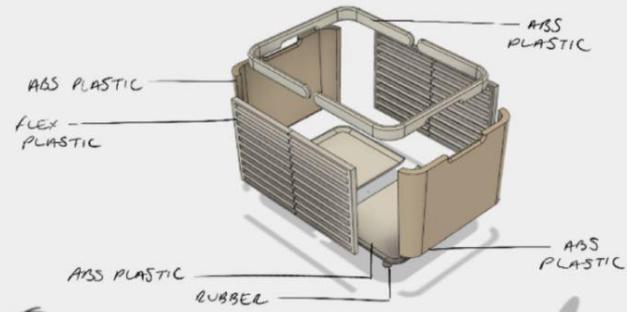
concept development.

How will it fold up?

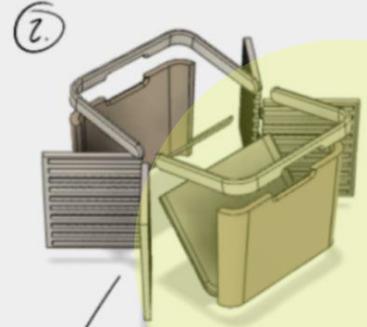
# direction.



# reflection.



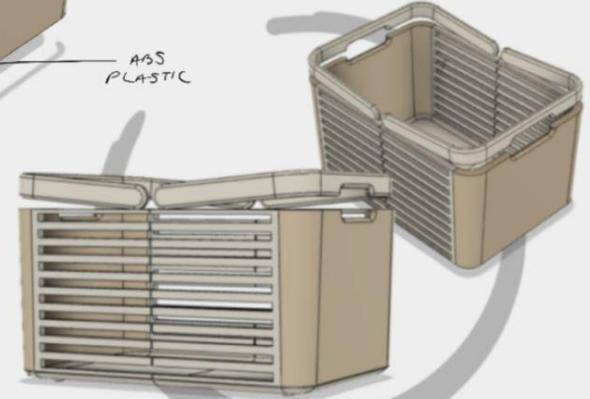
PRODUCT IS EXPANDED FULLY FOR OPTIMAL USE.



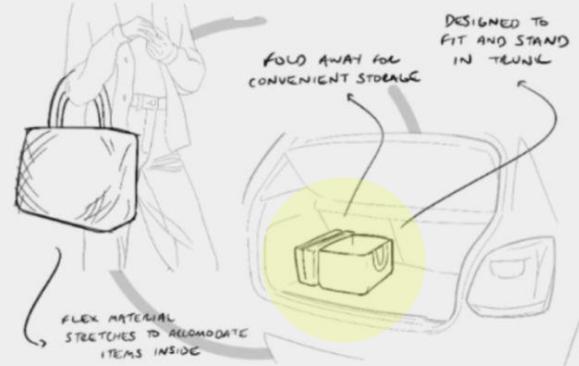
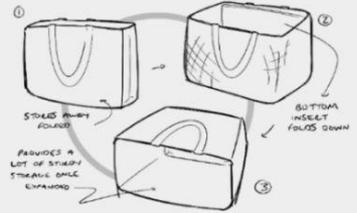
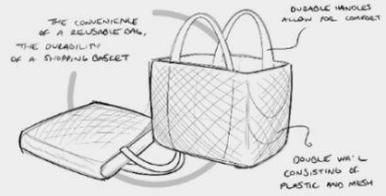
PRODUCT COLLAPSES AND BREAKS DOWN FOR STORAGE



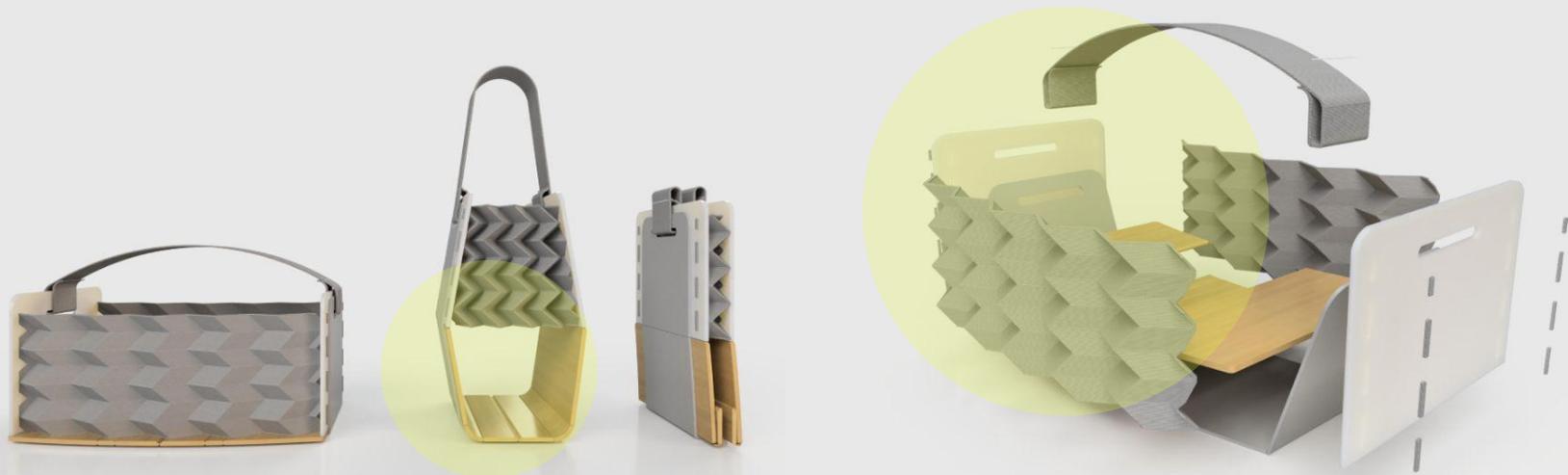
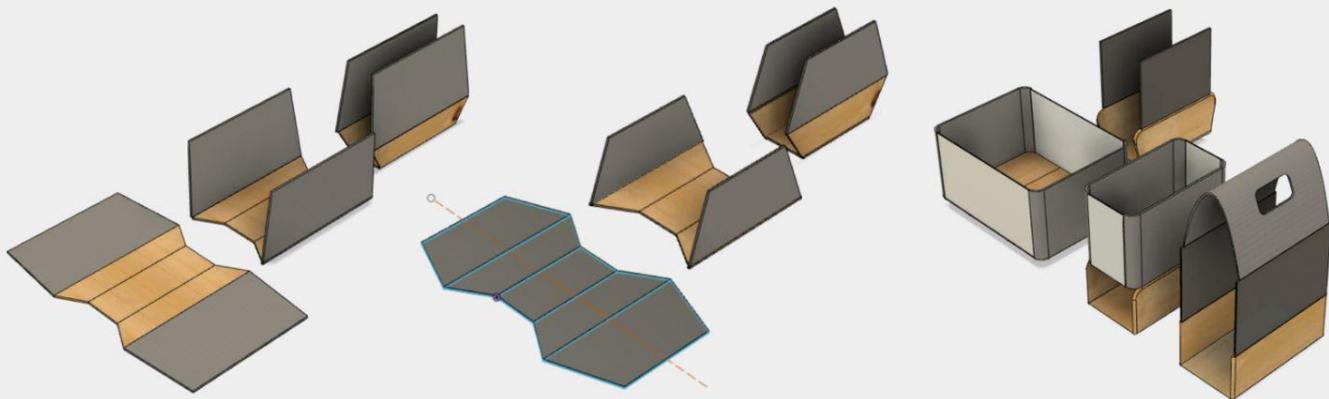
PRODUCT FOLDS UP FOR STORAGE



FOLD AWAY FOR CONVENIENT STORAGE  
DESIGNED TO FIT AND STAND IN TRUNK



refinement.



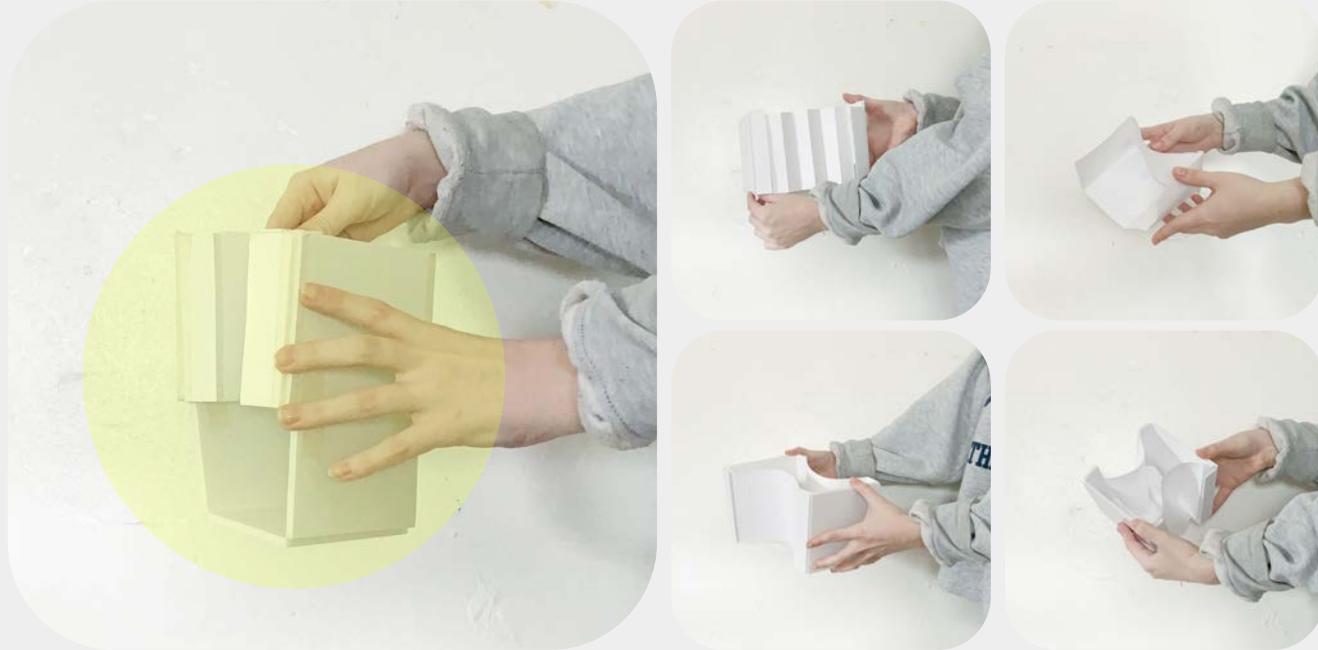
## user survey.

“It would be super useful for me, if the bag could somehow fold away for storage.”

“My reusable bags get really dirty, it would be nice to have something easy to clean.”

“I wouldn't mind spending more on a product like this if I knew it would last for awhile.”

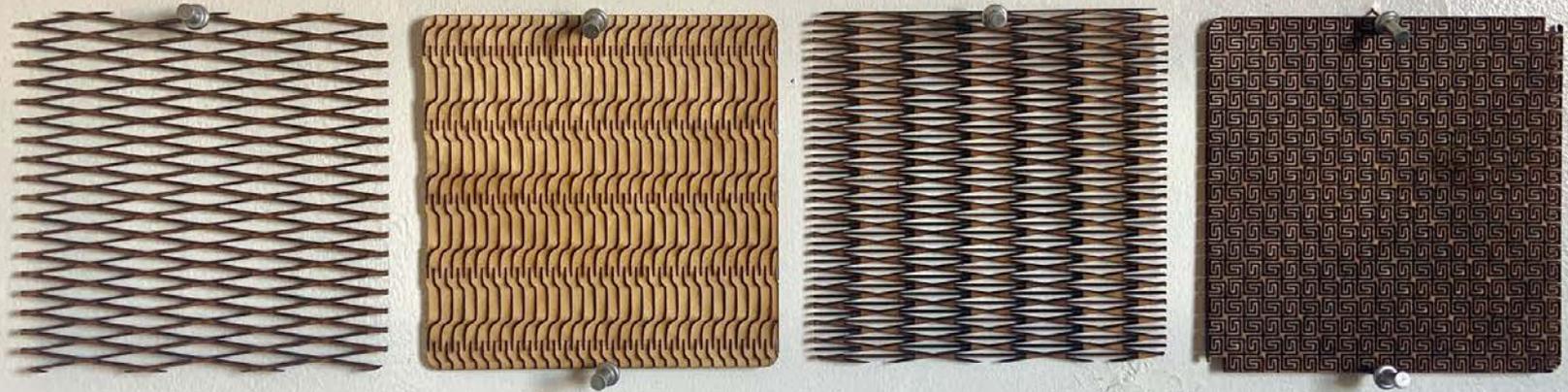
## functional sketch models.



## sizing sketch models.



# material tests.

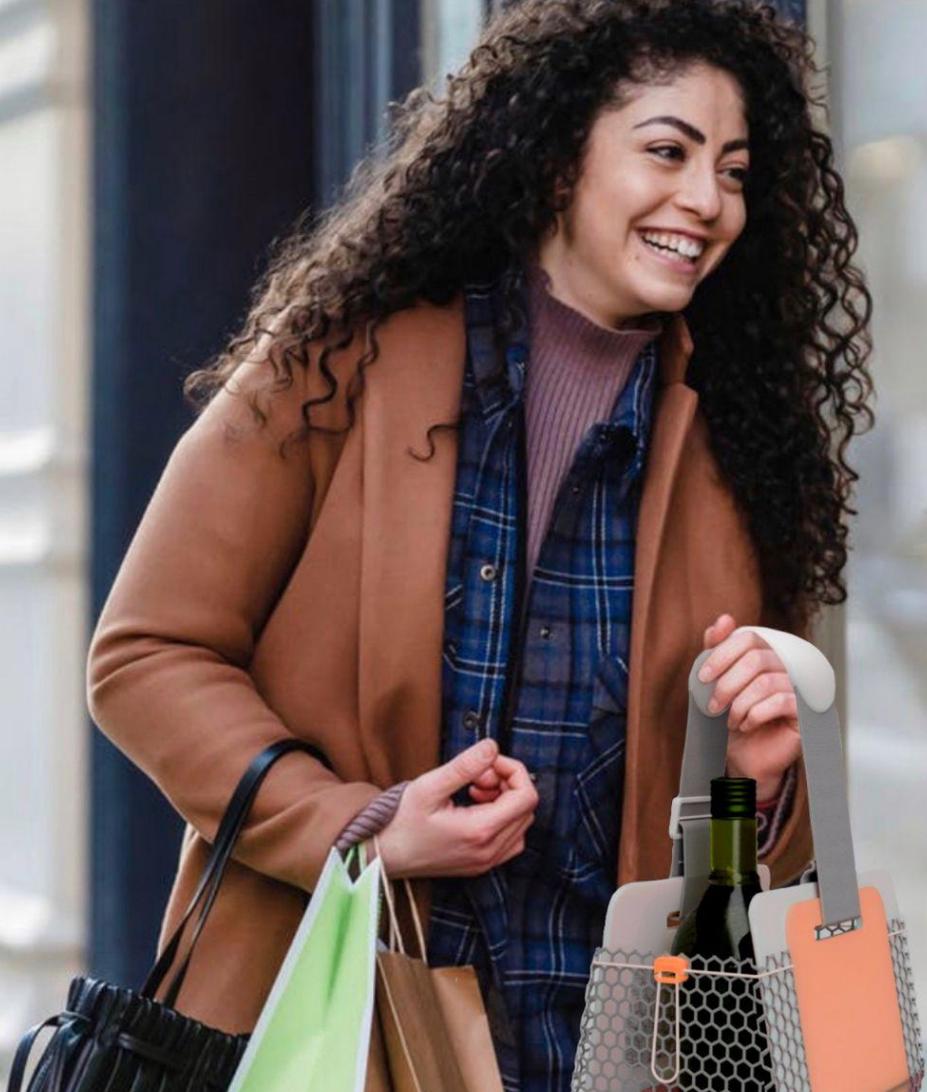


## scale model.



## cmf inspiration.





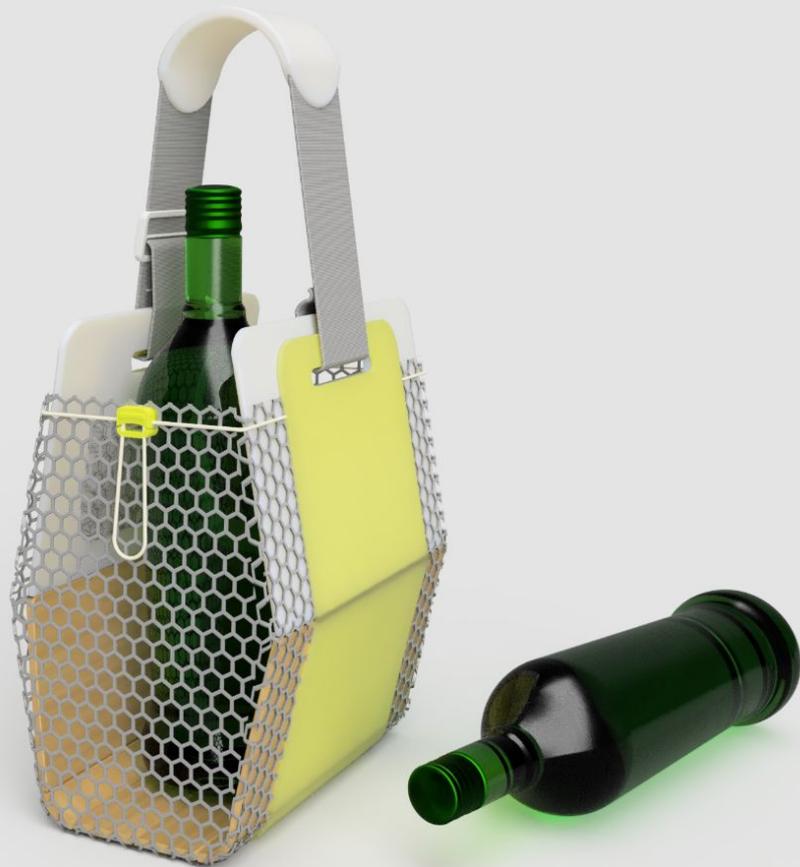
**teneo.**

redefining the reusable bag

## meet teneo.

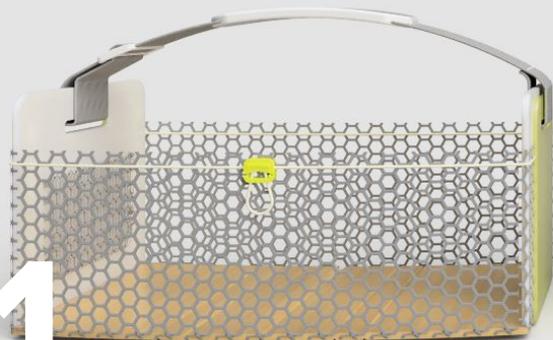
teneo provides the user with a **simple**, yet **effective** and **sustainable** solution for holding and transporting their belongings.

this helps the user to have a cleaner and **streamline experience**; whether it be used for assisting in the weekly grocery trip or for a couple bottles of wine.



stages of use.

01.



02.



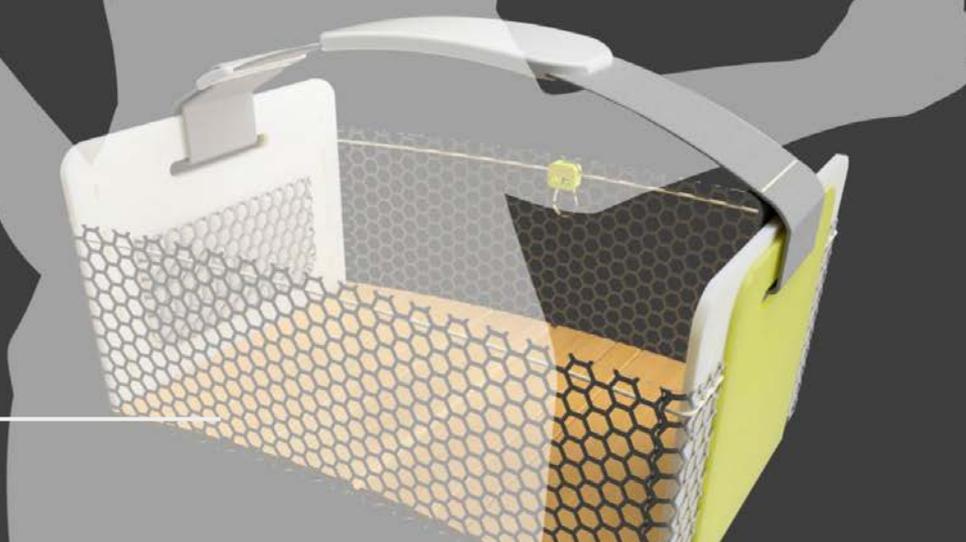
03.



## ergonomics.

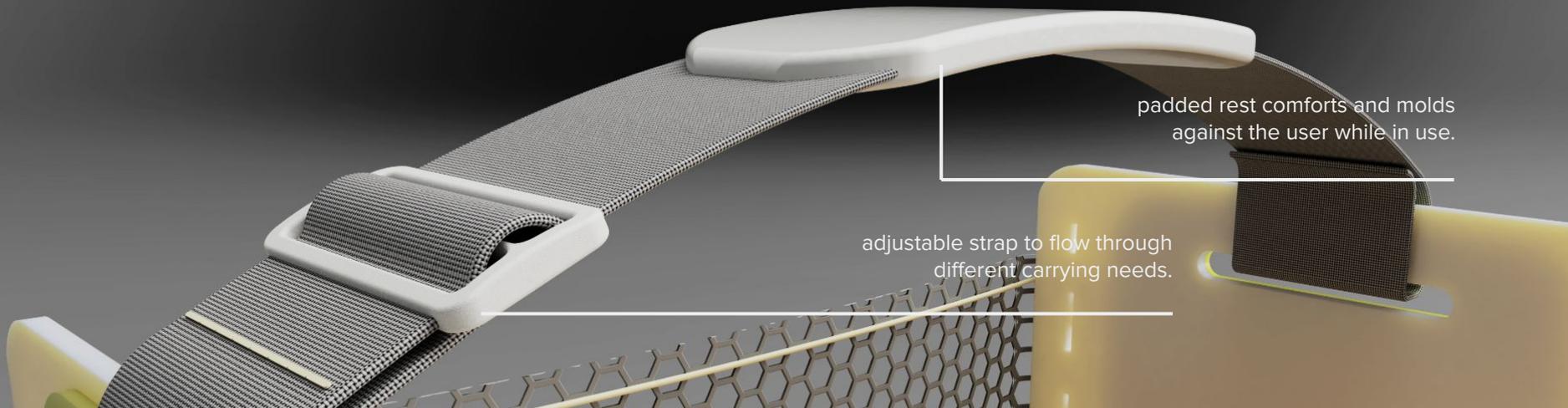
concave shape to form with the body's natural curvature.

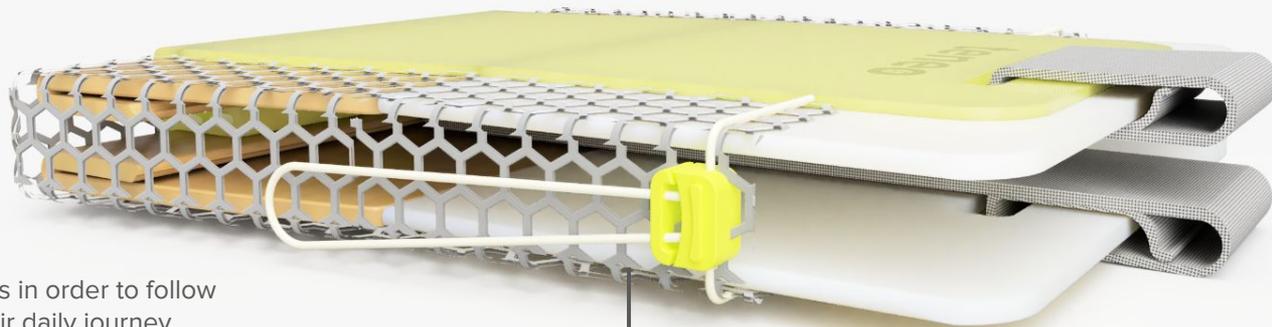
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padded rest comforts and molds against the user while in use.

adjustable strap to flow through different carrying needs.





teneo compacts in order to follow the user on their daily journey.



mesh inner pocket gives your phone or wallet a place to stay, to make things easier.

**habit-focused details.**



01.



02.

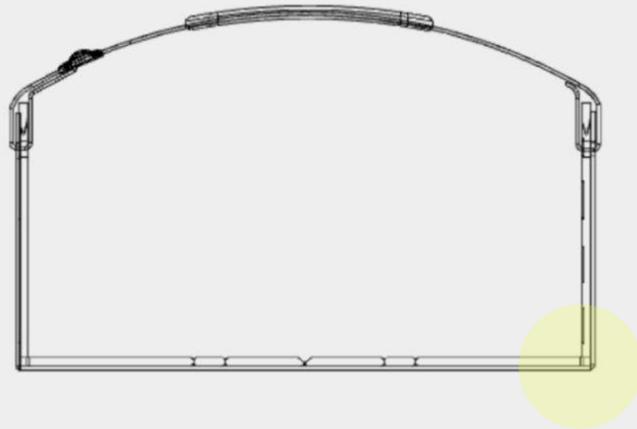
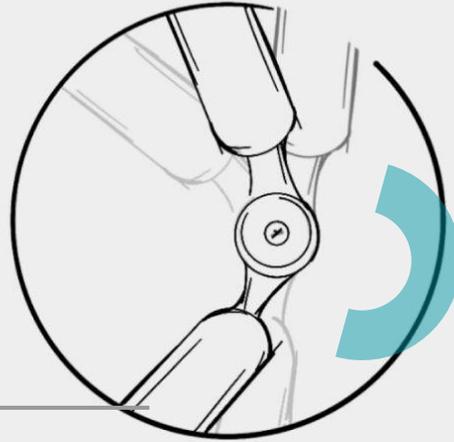


03.

## mechanics.

a pivoting hinge is used to change the orientation of teneo.

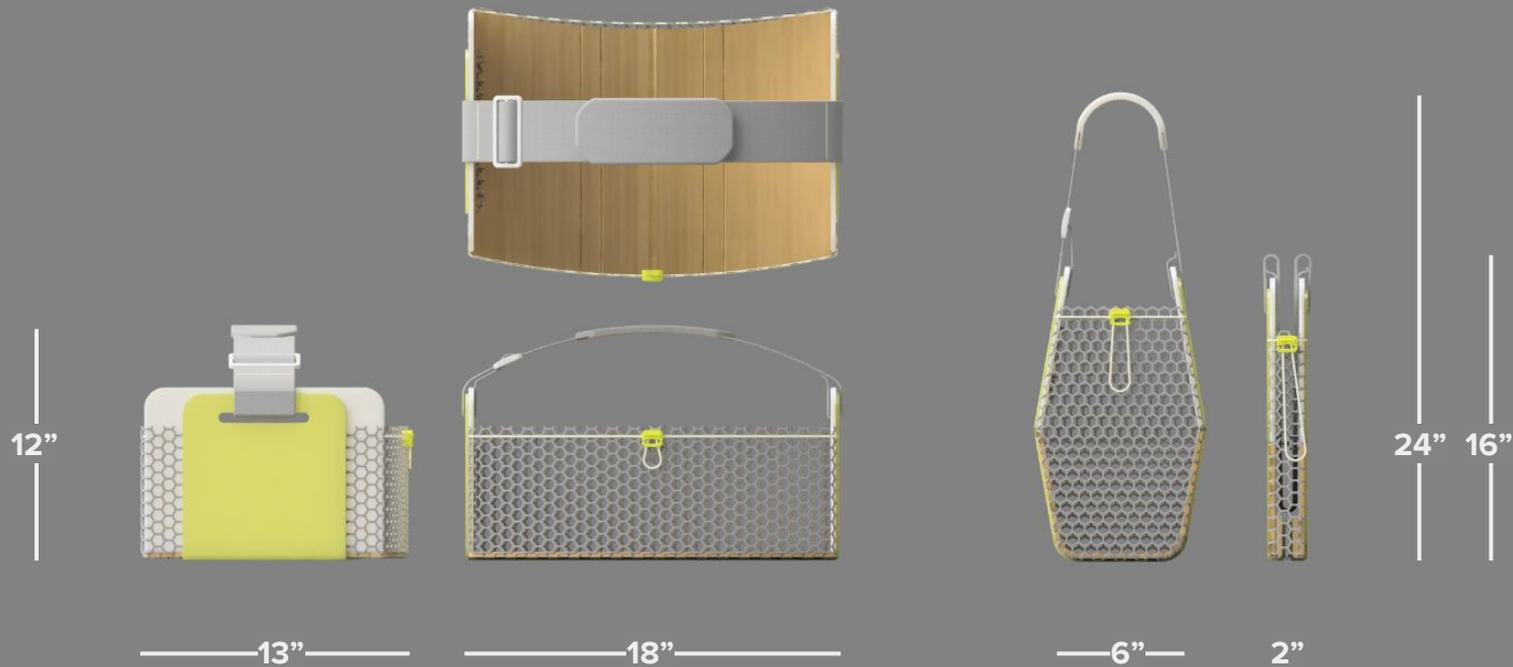
the user can easily pop the joint, as it locks in and out of place.



colorways.



# orthographics.



polyurethane foam



# exploded view.

injection-molded abs



industrial hemp

elastic cord

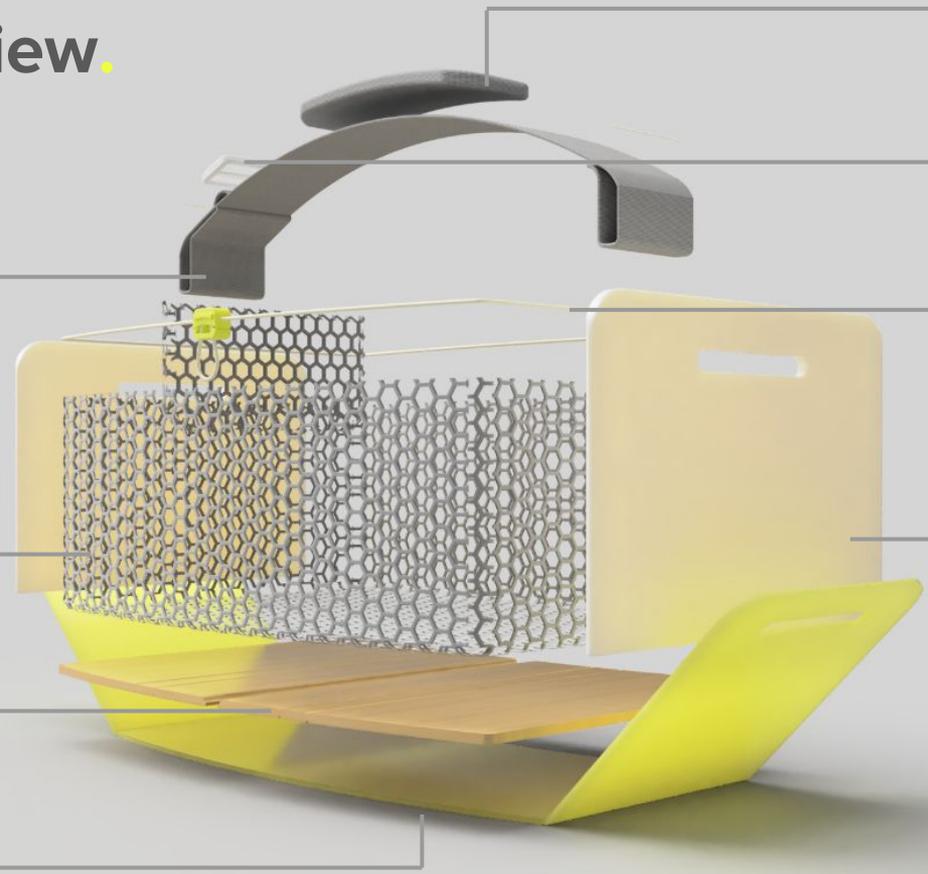
bio-knit mesh fabric

high-density polyethylene



layered bamboo

silicone



## material background.



### **bio-knit fabric**

recycled plastic bottles and CiCLO® technology, carbon neutral product is free from formaldehyde and toxic dyes.



### **bamboo**

bamboo can be a very sustainable crop: a fast-growing grass, it requires no fertiliser and self-regenerates from its own roots, so it doesn't need to be replanted.



### **hemp**

hemp fabric is not susceptible to shrinkage, and is a natural fiber. a typical cotton t-shirt lasts 10 years at the most, a hemp t-shirt may last 2-3x that time.

# ▶ teneo

*verb*

latin word for “to hold, to have.”

## brand background.

+

**teneo** holds and carries your belongings with intention and care.

+

with a focus on sustainability, the brand keeps product longevity and quality in mind, with strong material consideration.

# product lifecycle.

## the return.

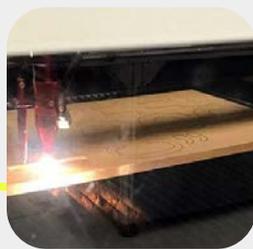
as a sustainable product, the lifecycle of **teneo** was heavily considered throughout its development.



**01**  
raw materials are  
harvested.



**02**  
production into  
manufacturable  
materials.



**03**  
product goes  
into production.



**04**  
product is used  
as intended by  
user.



**05**  
product is able to  
return to raw  
material state.

## improved user journey.



**erin.** she/her, 26, nurse practitioner. nyc, ny.

shares an apartment with two roommates. **walks almost everywhere.**  
goes out to a few different grocery stores/markets **multiple times** a week.  
**frequent trips allocate for a smaller haul.**

stage.

**01**

gets off work, walks to nearest grocer.

**02**

searches for shopping basket on arrival.

**03**

goes to produce, then dry goods, then deli.

**04**

heads to self checkout.

**05**

begins twenty minute walk home.

mood.

solution.

**teneo** is already waiting in erin's bag.

hybrid bag and basket? erin skips the hassle.

adjustable orientation allows for organization.

items are already bagged and waiting to go.

**teneo** keeps items safe, whatever they may be.

## product summary.



### **adaptable**

change as needed to fit user and environment.



### **portable**

able to move easily whether compacted or expanded.



### **convenient**

fits into the user's routine without any extra hassle.



### **accessible**

available to a wide range of users for different issues.



### **personal**

individualized to cater the best experience for the user.

## **alexandra valore** **redefining the reusable bag** **thesis statement**

### **background:**

in our everyday lives, we always have something to do; or somewhere to go. our complex, busy lifestyles lead us, and sometimes we end up prioritizing convenience over what makes the most sense. one days' itinerary may consist of going to class, then to the grocery store, then to the pharmacy, and then to a friend's house. we have a lot of things to carry around and transport on a day like this, for each task. this leads to us using many different bags throughout the day; whether they are paper, plastic, or even marketed as reusable. excessive bag use eventually leads to clutter in our lives, and a negative impact on our planet. paper bags are not as durable and can clutter the same way that plastic bags do. reusable bags can be forgotten, lost, damaged; and essentially are not as effective as they are made out to be. it can be stressful trying to gather all of one's reusable bags for a days' different uses. almost all types of single-use bags end up in landfills, as only one percent of these bags are actually recycled.

### **problem statement:**

single use bags, such as paper or plastic, are not sustainable for consumers or the planet we inhabit. reusable bags do not fulfil our needs; as they are easily forgotten and wear out quickly. the current pandemic has also transformed the grocery experience.

### **hypothesis:**

to find a more durable and sustainable alternative to our disposable or standard reusable bag; we would be more organized, complete errands more efficiently, and be keeping our planet as a priority.

**alexandra  
redefining the reusable bag  
sources**

[https://www.biologicaldiversity.org/programs/population\\_and\\_sustainability/sustainability/plastic\\_bag\\_facts.html](https://www.biologicaldiversity.org/programs/population_and_sustainability/sustainability/plastic_bag_facts.html)

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**thank you.**

industrial design thesis **alexa valore**



alexa valore



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