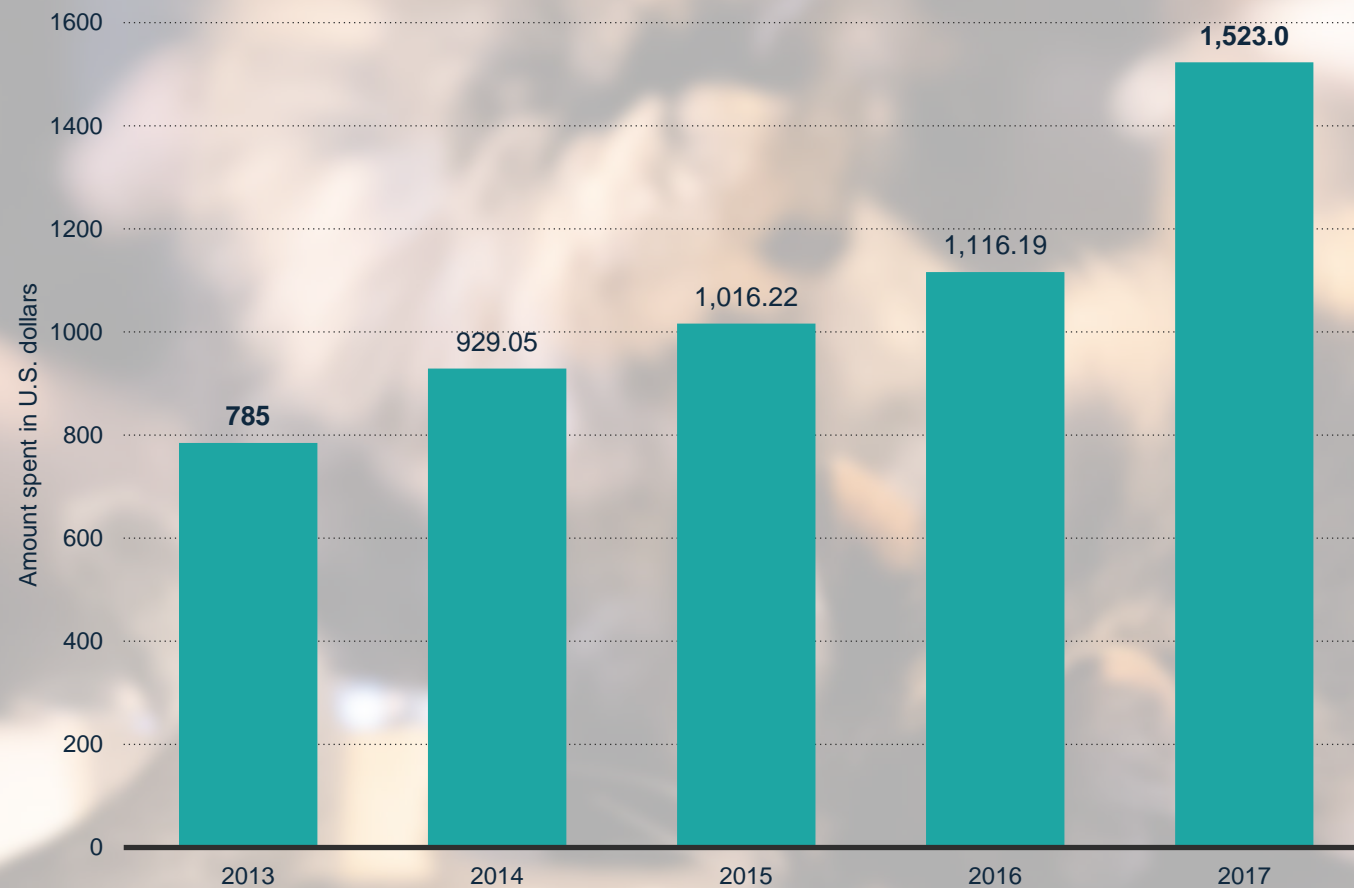


A woman with blonde hair, wearing a purple sweater, is holding a small white dog. She is looking down at the dog with a gentle expression. The background is a soft-focus outdoor setting with trees and a path.

People want to **keep connected** and **stay closer** with their pets, provide them **better living conditions** but avoid spending too much time doing **trivia** like handling cat litter. The future pet products would be more **caring**, more **functional** and more **intelligent**, they can create better **bonding experience** with human and pets.

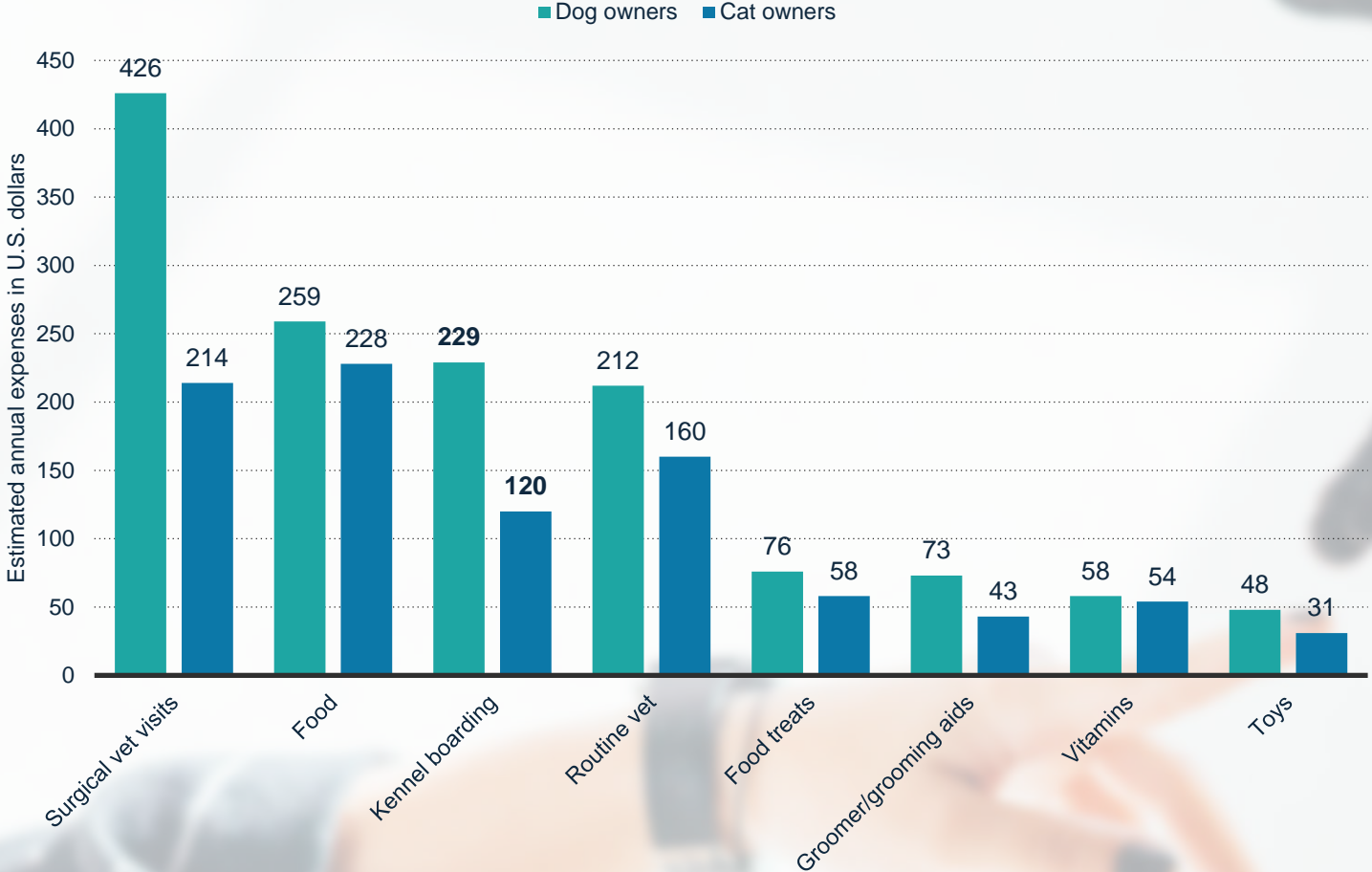
# Field Research

Average annual expenditure of affluent U.S. households on pets from 2013 to 2017



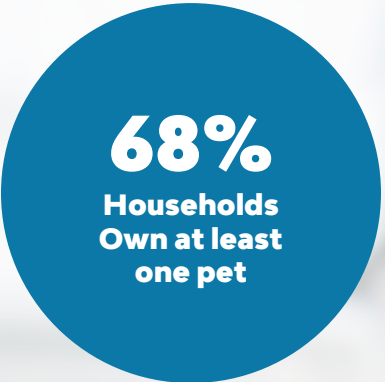
Annual expenditure on pets grows rapidly. The expenditure in 2017 is almost as **twice** as it in 2013.

# Estimated annual expenses for dog and cat owners in the U.S. 2019



Kennel boarding is the **third biggest expenses** for dog and cat

\*APPA; [ID 250851](#)

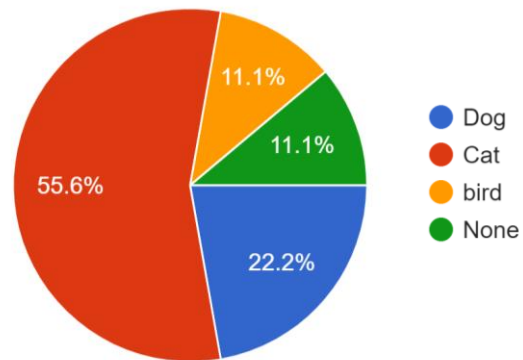


\*EVERY DOG HAS ITS HOLI-DAY: THE RISE OF PET TRAVELERS  
\*STATISTA: PETS IN THE U.S.

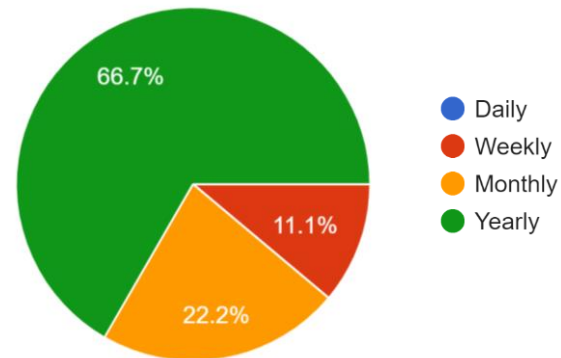
# Primary Research

---

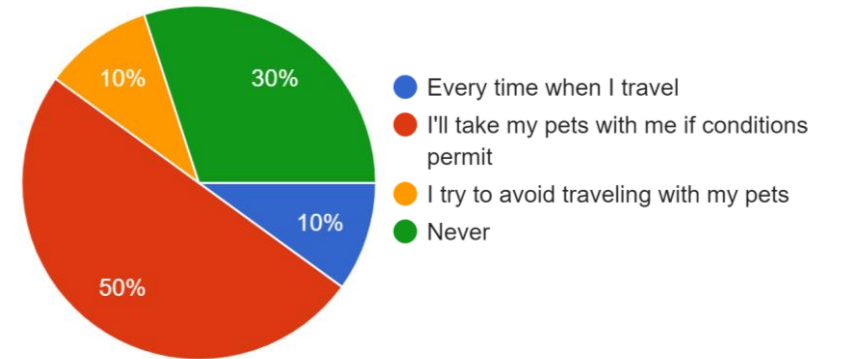
What kind of pets do(did) you have?



How often do you transport your pets?

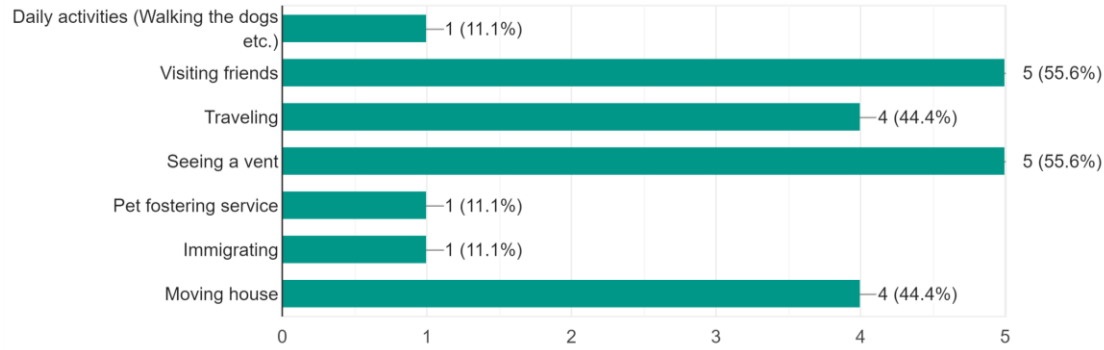


How likely would you travel with your pets?

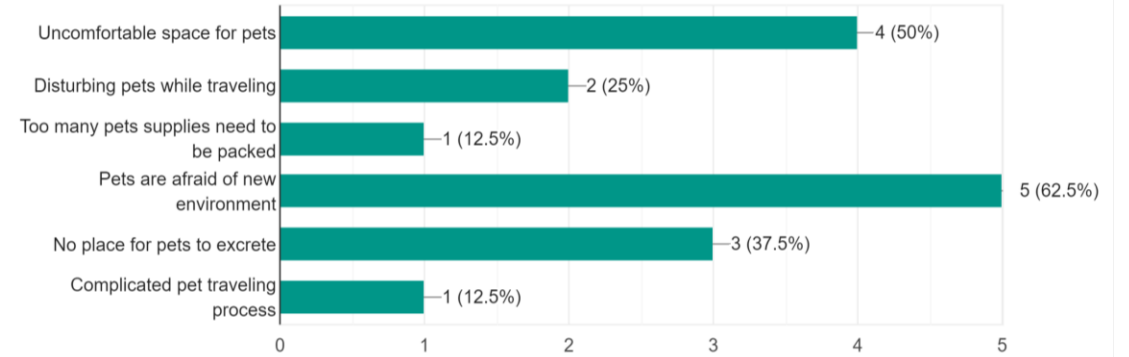


Most interviewees have **cat or dog**  
They transport their pets on **yearly basis**  
**Half** of them are willing to travel with pets

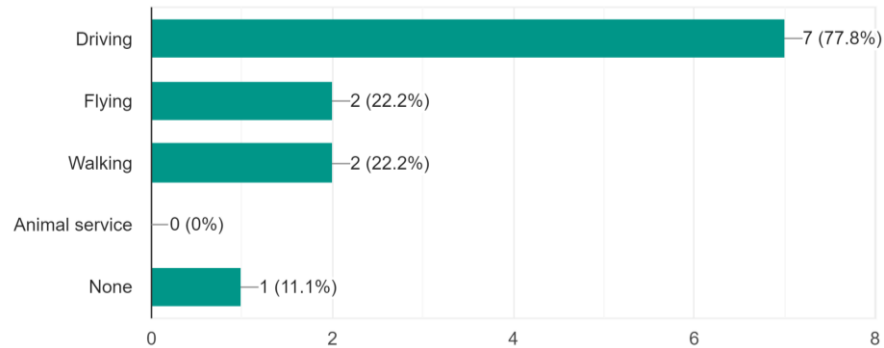
### Why do you transport your pet(s)?



### What's your biggest frustration of transporting pets?



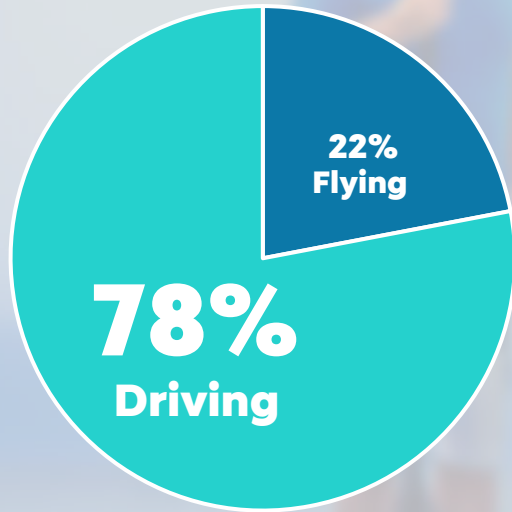
### How do you transport your pet(s)?



Visiting friends, seeing a vent, moving to a new house and traveling are main reasons of transporting pets.

Biggest frustrations are pets are afraid of new environment, uncomfortable space for pets and no place for pets to excrete.

Most interviewees transport their pets by driving.



Pets are **afraid** of new environment.

**Uncomfortable** traveling space for pets.

No place for pets to **excrete**.

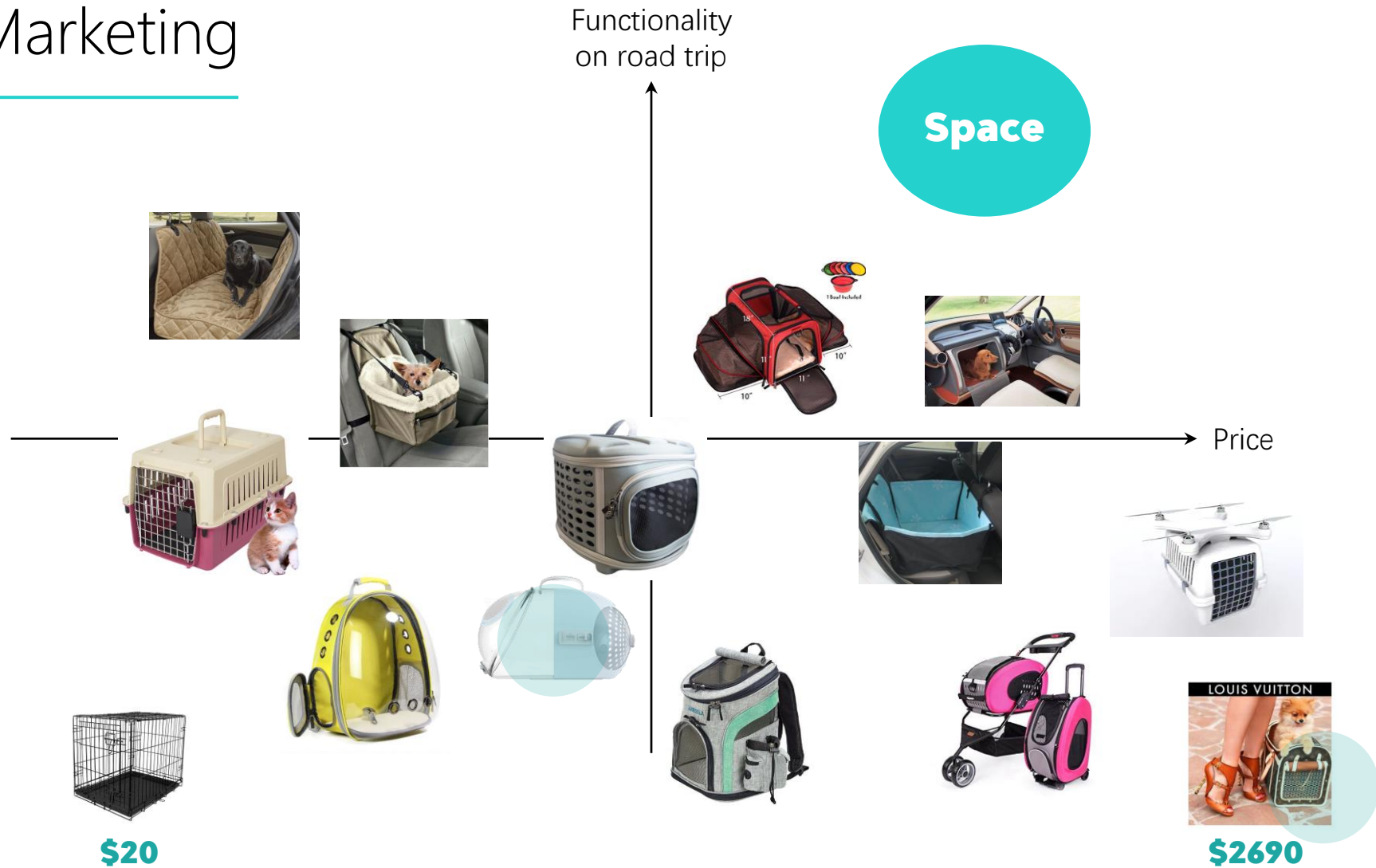
I would love to travel more often with my pet but it's crazy to pay \$300 round trip which is basically the cost of my airfare and well she certainly **doesn't get a seat**.

\*Online Survey

\*Interview

\*Nearly 20% pet owner can't travel with pets due to poor conditions

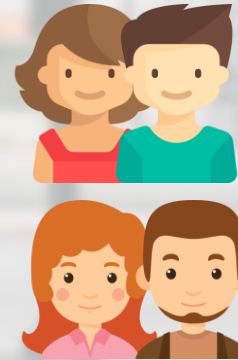
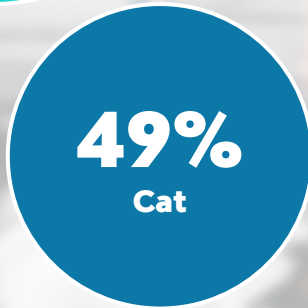
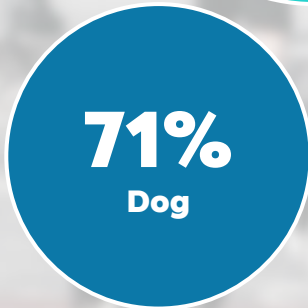
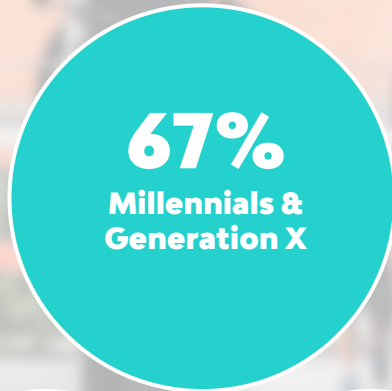
# Bench Marketing





# Persona

---



**5-10 years in the future**

**Age:** 20-54

**Income:** Highest 20 percent of earners in the U.S.

**Pet:** Cat or dog

**Expenditure on pets:** Over \$3000/Year

**Love to travel with pets but current experience is bad**

**Pursuit of high-quality life**

**Always willing to try new thing**

**Enjoy family, nature and friends**

\*Some have more than one pet

# William Brown

"The most satisfying moment in my life is to hug my cat after a day's work."



**Age** 23 years old  
**Job** Programmer  
**Income** 80,000\$  
**Location** New York & Savannah  
**Status** Single  
**Pets** Polydactyl cat



## Bio

William is a junior system programmer who **works in New York** for just a year. His **hometown is Savannah** and most of his families and friends live there. William is not a extrovert guy and it's kind of difficult for him to make **new friends**. To **avoid boredom**, he adopted a cat after he came to New York. Since his cat is too small, he needs to take his cat to **veterinary service** constantly. He loves to take his cat **outside** and enjoy sunshine together. When it's vacation, he always takes his cat to Savannah. But it's around **10 hours drive**, so the cat is very uncomfortable.

## Favorite Products



Collapsible Carrier  
\$50



DJ Robomaster  
\$549

# Emily Brown

"My pets are my families."



**Age** 48 years old  
**Job** Free Lance Designer  
**Income** 100,000\$  
**Location** California  
**Status** Married  
**Pets** Ragdoll cat and Pomeranian dog

## Bio

Emily grows in California and chooses to work here as a free lance designer. Now he lives with **husband and two kids**. She has one **Pomeranian dog** for 5 years and recently she bought a **Ragdoll cat**. Her families love to **travel** around with the accompaniment of these two pets, she is currently finding products which not only provide small pets an **ideal environment** to stay while travelling but can also help her **manage her pets**.



## Favorite Products



Luxury Carrier  
\$1000



Dyson Robot  
\$1000

# SWOT

---

## Strength

- All in one
- Automatic
- High functionality
- Self maintenance
- Remote control
- Remote interaction
- Safer & comfortable transportation

## Weakness

- High cost
- Large volume
- Reliance on technology

## Opportunity

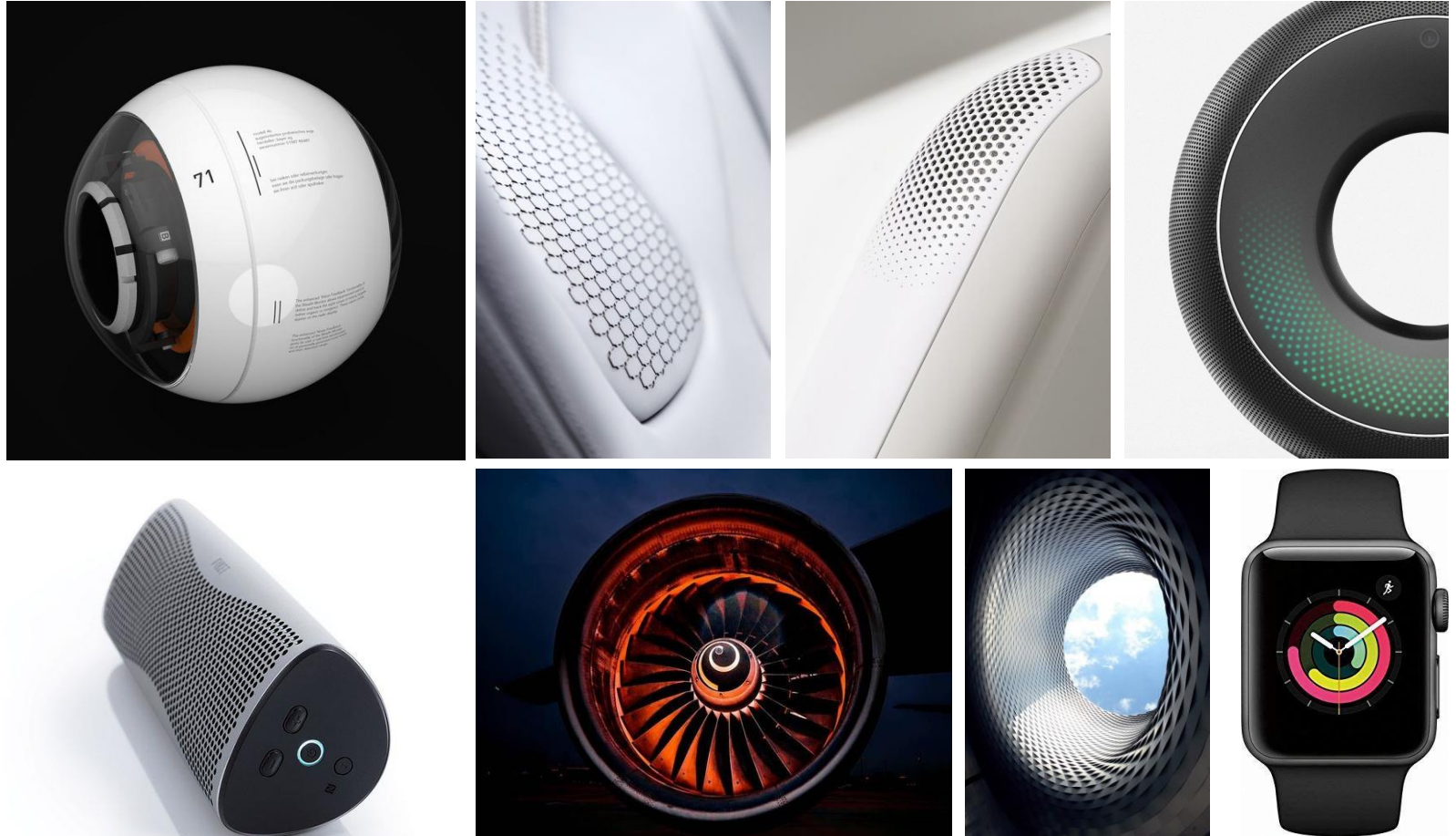
- Few similar competitors
- Emerging needs
- Unmet needs
- Upcoming tech.

## Threats

- Pet foster care service
- Road regulation
- Red ocean products

# Mood board

---



# Enabling Technology

---



**Smart Home Device**



**Body Condition Monitoring**



**Flexible LED light**



**Curved Edge Display**



**Remote Interaction Device**



**VR/AR**



**Smart following**



**Isofix**

# Design Brief Refinement

---

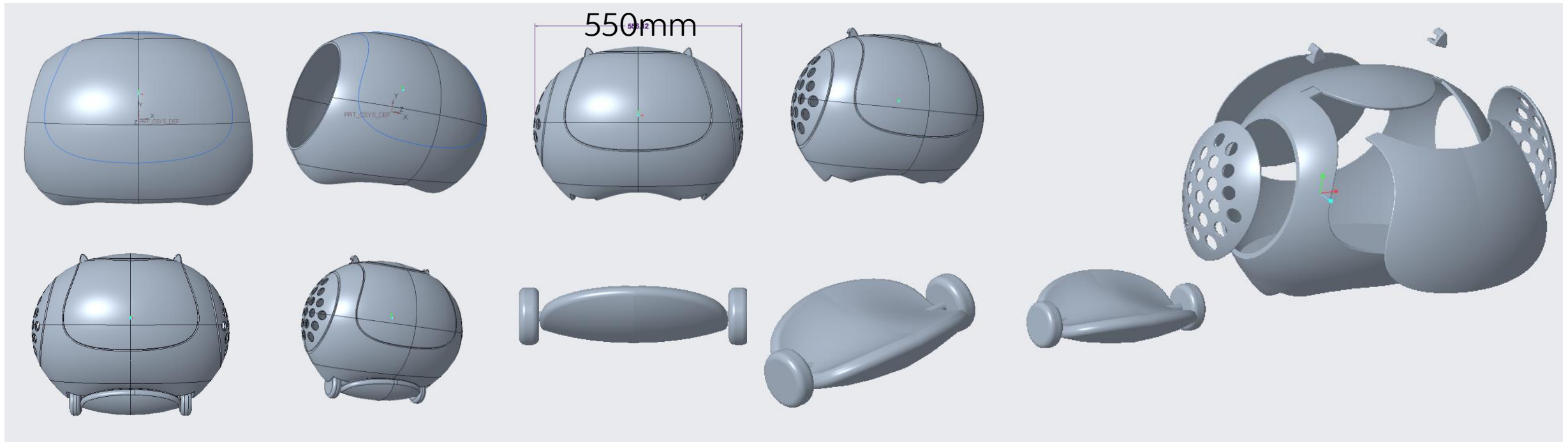
A pet transporter for **small dogs and cats**, which can not only provide pets a more **comfortable** and **safer traveling experience** but also allow pet owners have **more traveling choices** and **manage** their pets in a **more modern and smarter** way.

## **Key features:**

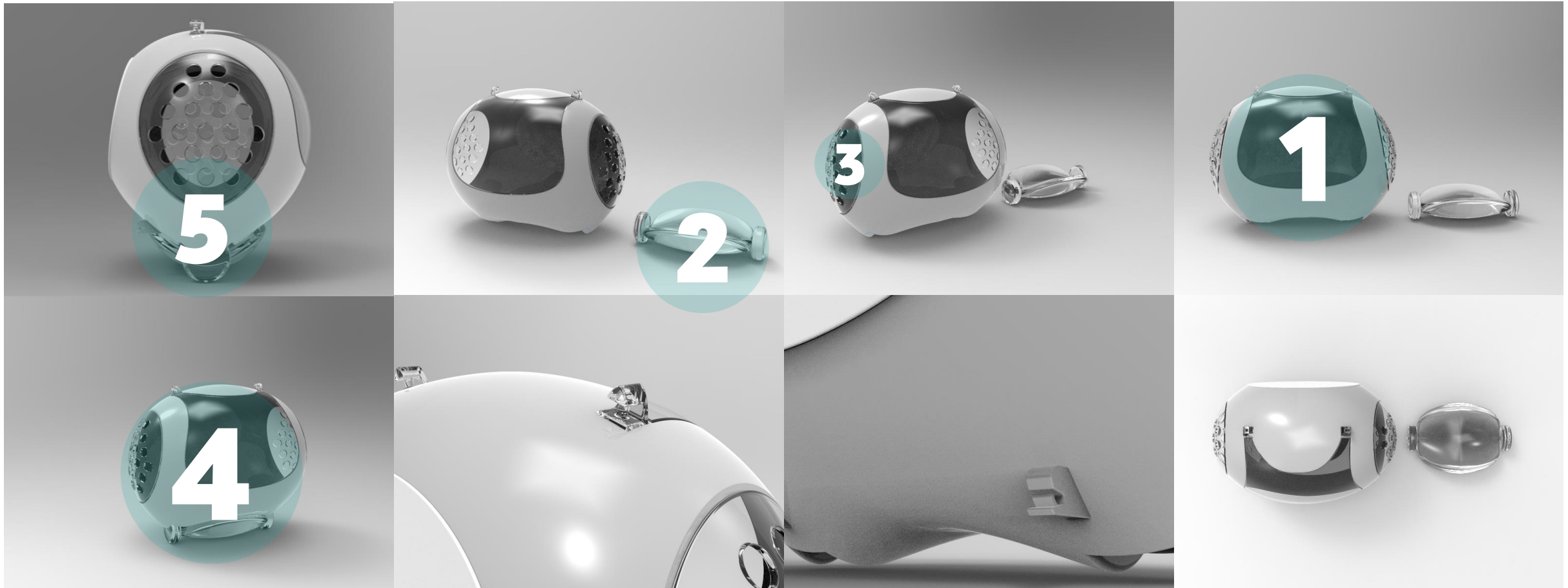
- 1. Pet carrier**
- 2. Face (Body condition indicator)**
- 3. Ear (Collapsible backpack belt)**
- 4. Space expansion**
- 5. Smart pet manager**

# Mockup-3D Model and test

---







#### Feedback

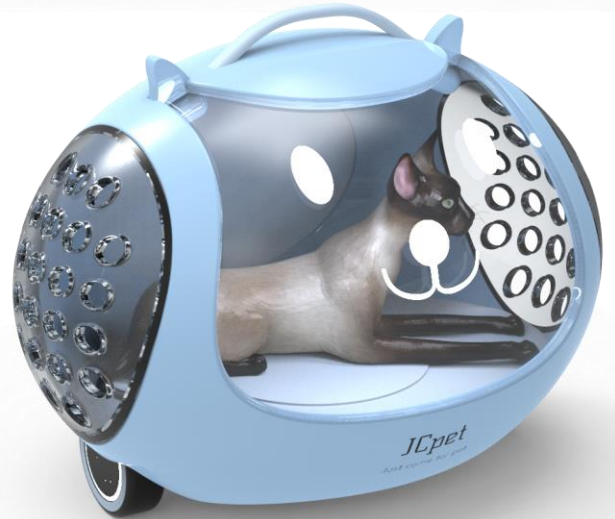
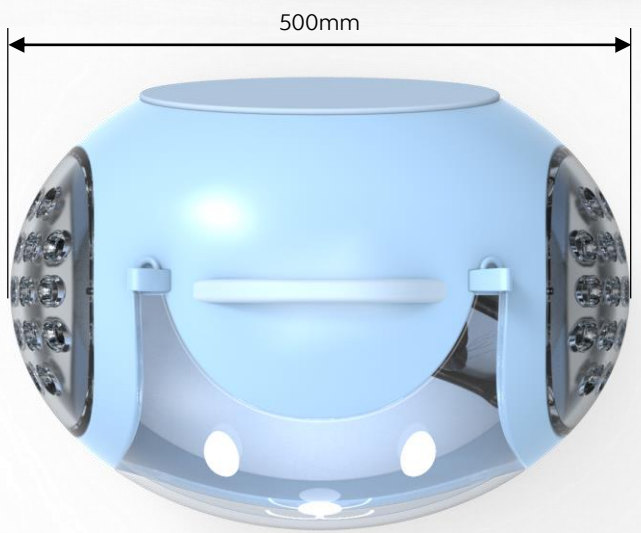
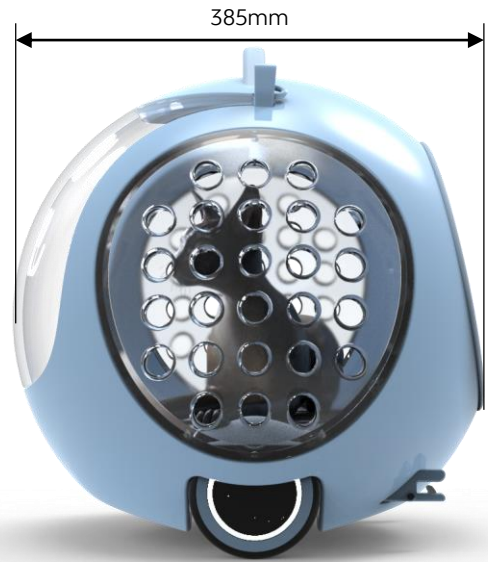
1. Front view, the **cat face** looks nice.
2. The **base is too small**.
3. The line where door and body connected can be modified to **fit the curve** of cat face
4. Overall form is **too high**.
5. Side view looks **unstable**.

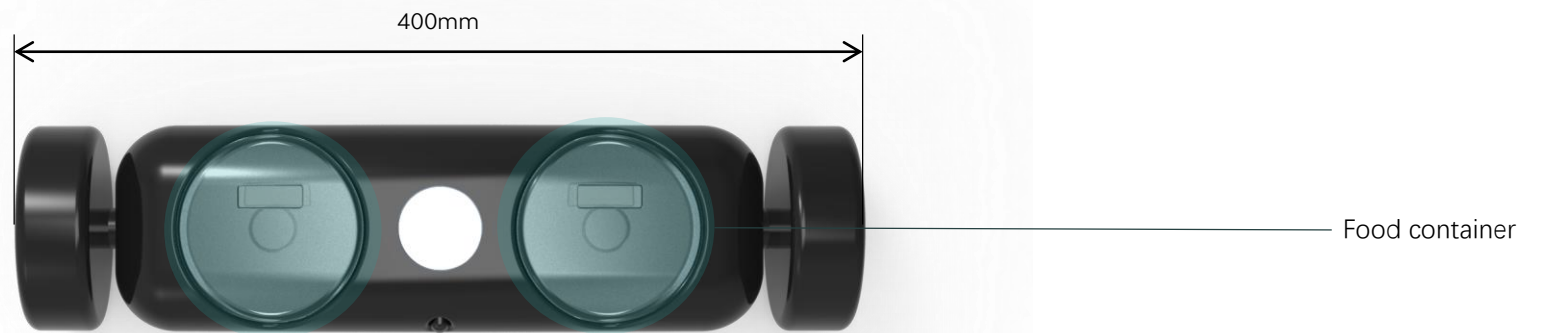
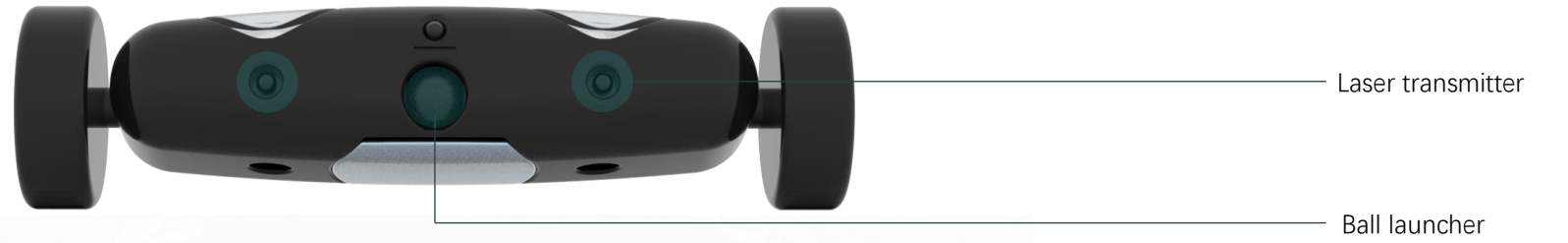
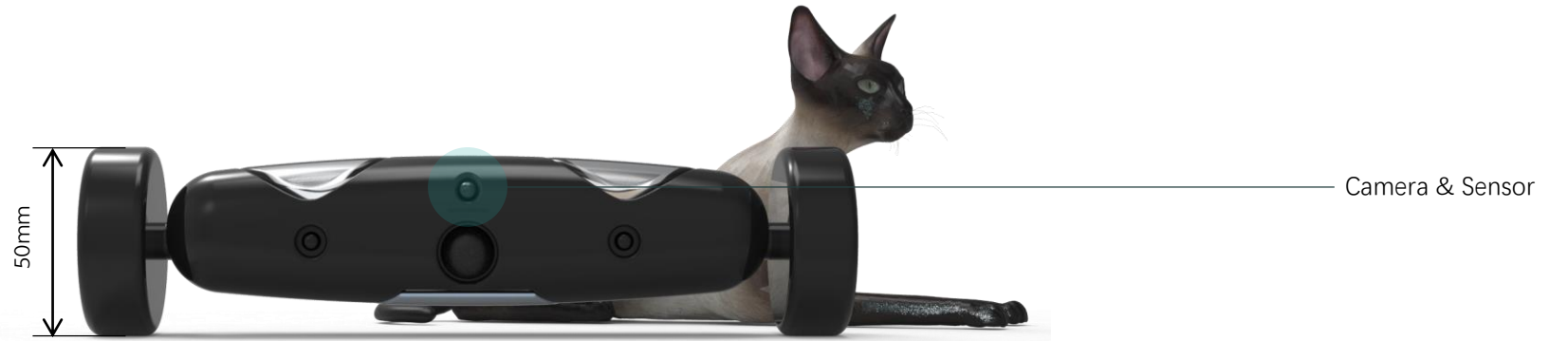
# 3D Model Refinement

---



1. Front view modified
2. Side view modified
3. Remade the base
4. Other detail improvement



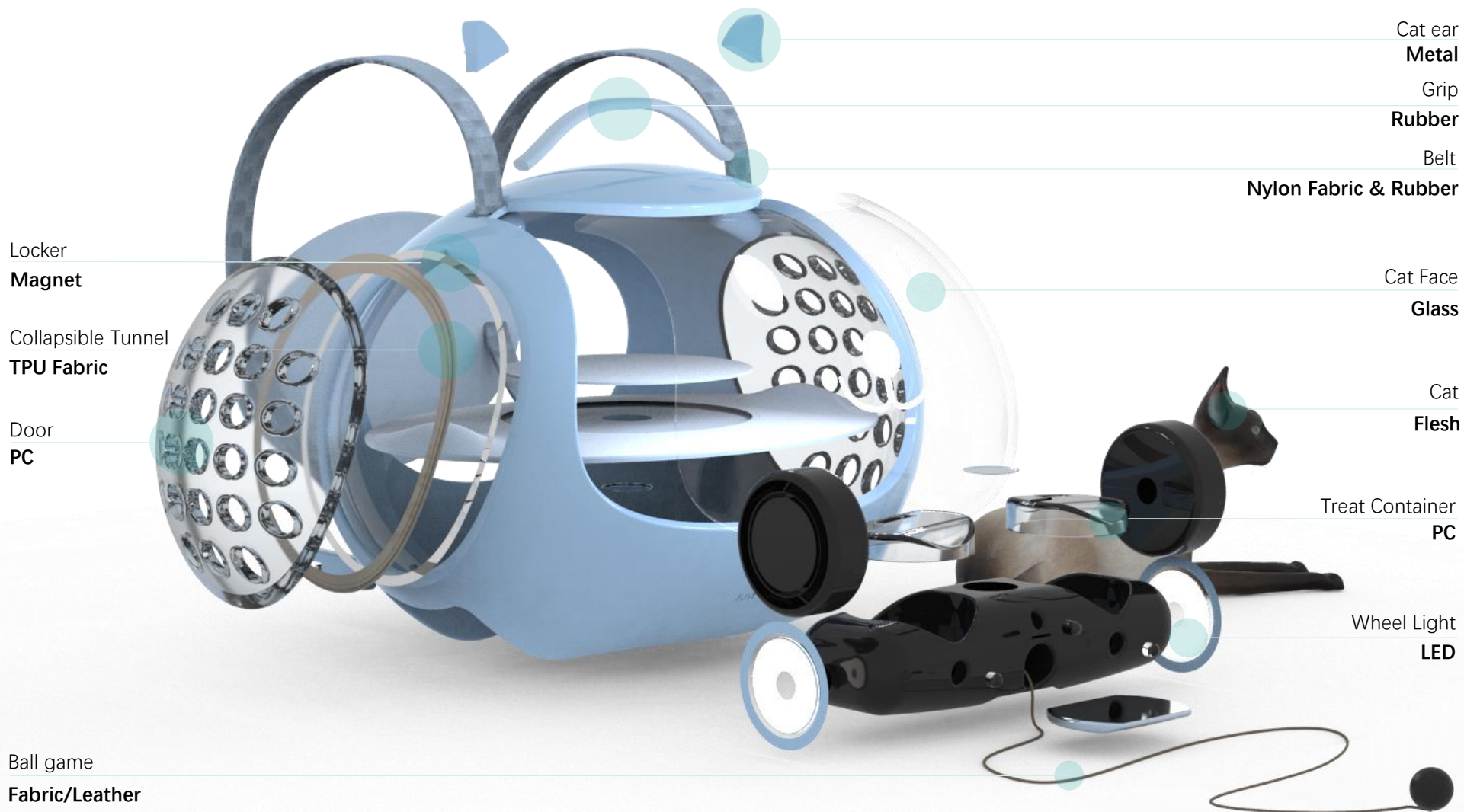




RISER ROOM

FDC

AUTO SPRINKLER



Locker  
**Magnet**

Collapsible Tunnel  
**TPU Fabric**

Door  
**PC**

Ball game  
**Fabric/Leather**

Cat ear  
**Metal**

Grip  
**Rubber**

Belt  
**Nylon Fabric & Rubber**

Cat Face  
**Glass**

Cat  
**Flesh**

Treat Container  
**PC**

Wheel Light  
**LED**

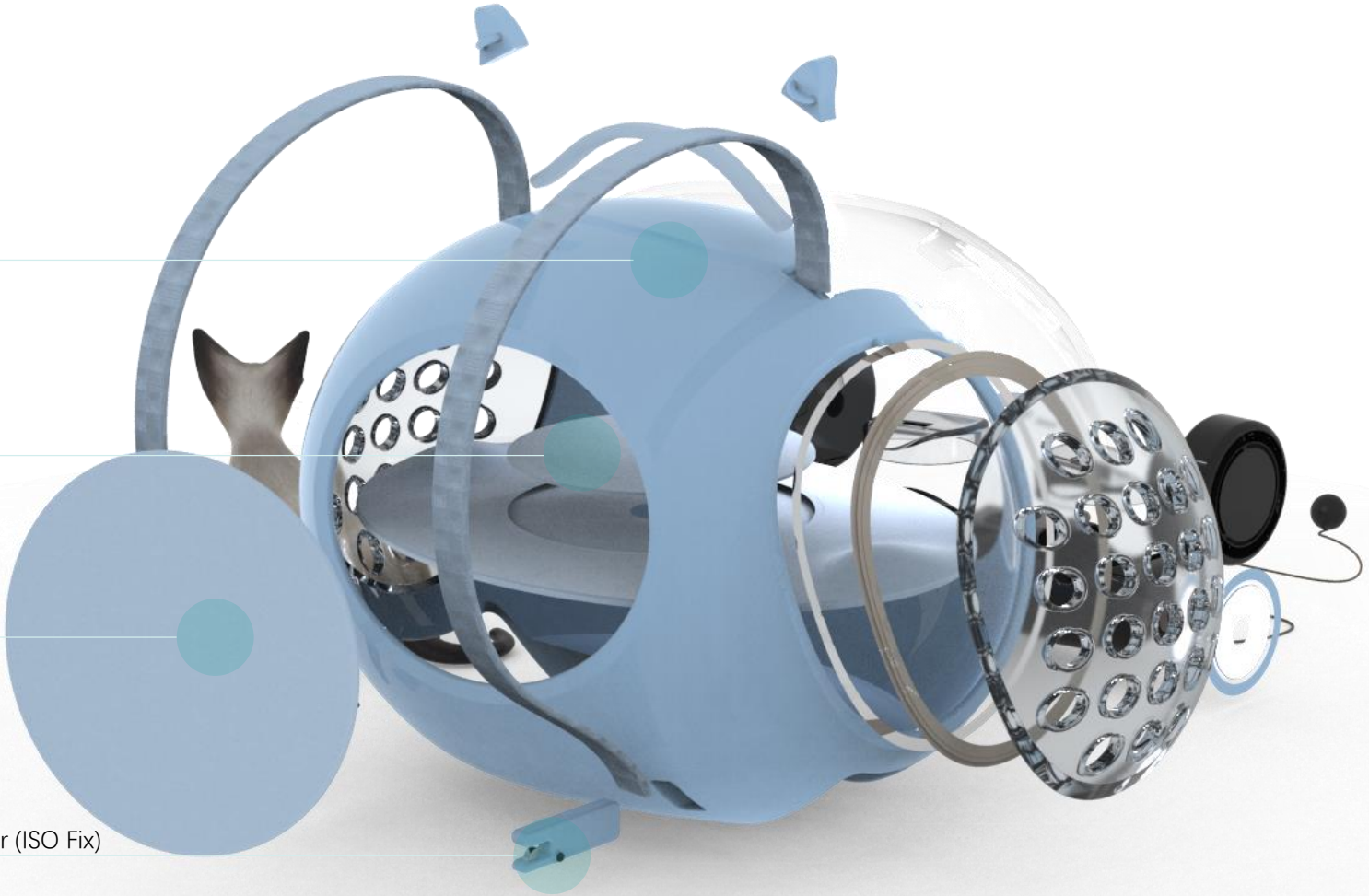
\*ABS(Acrylonitrile Butadiene Styrene)  
\*PC(Polycarbonate)

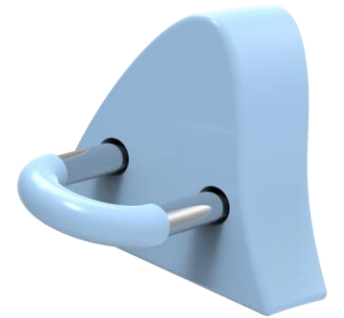
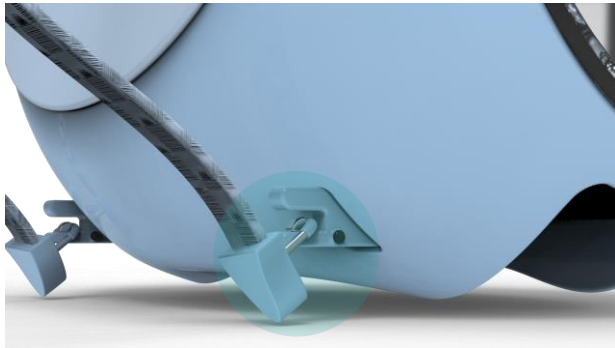
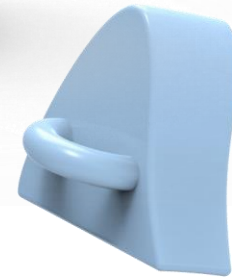
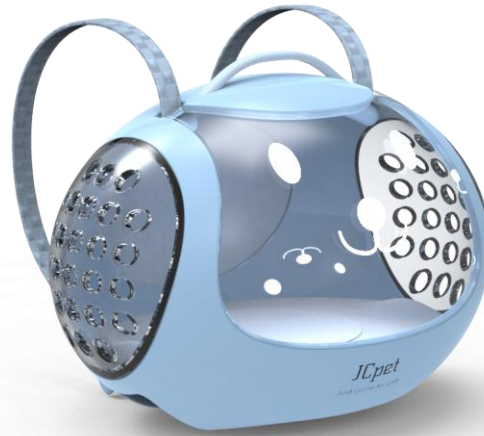
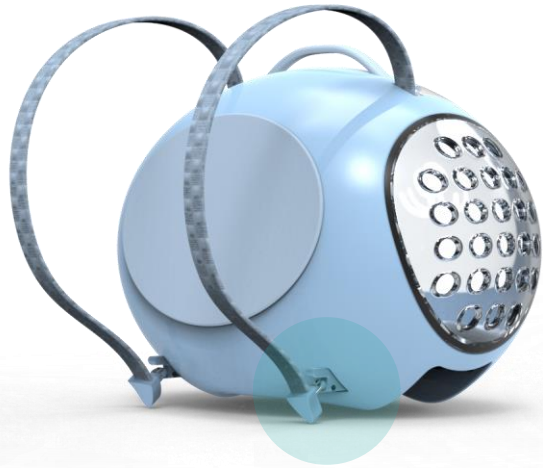
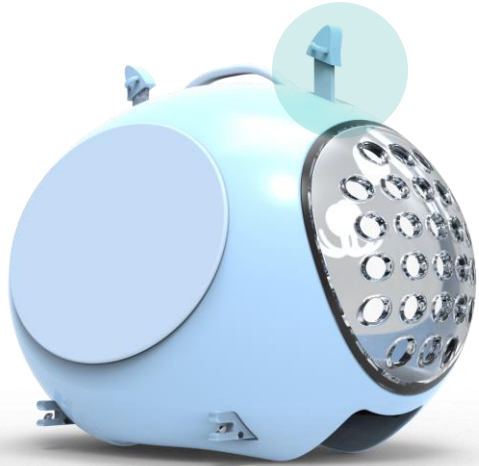
Body  
**ABS**

Monitor  
**Fabric**

Back  
**Nylon &  
Rubber**

Bottom Locker (ISO Fix)  
**Metal**











N/A

120-140/min

5%

10%

50%



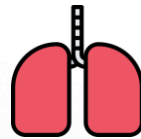
N/A

38-39.5°C

1%

2%

5%



N/A

20-30/min

20%

40%

100%





# Prototype-3D print (3/8)

---



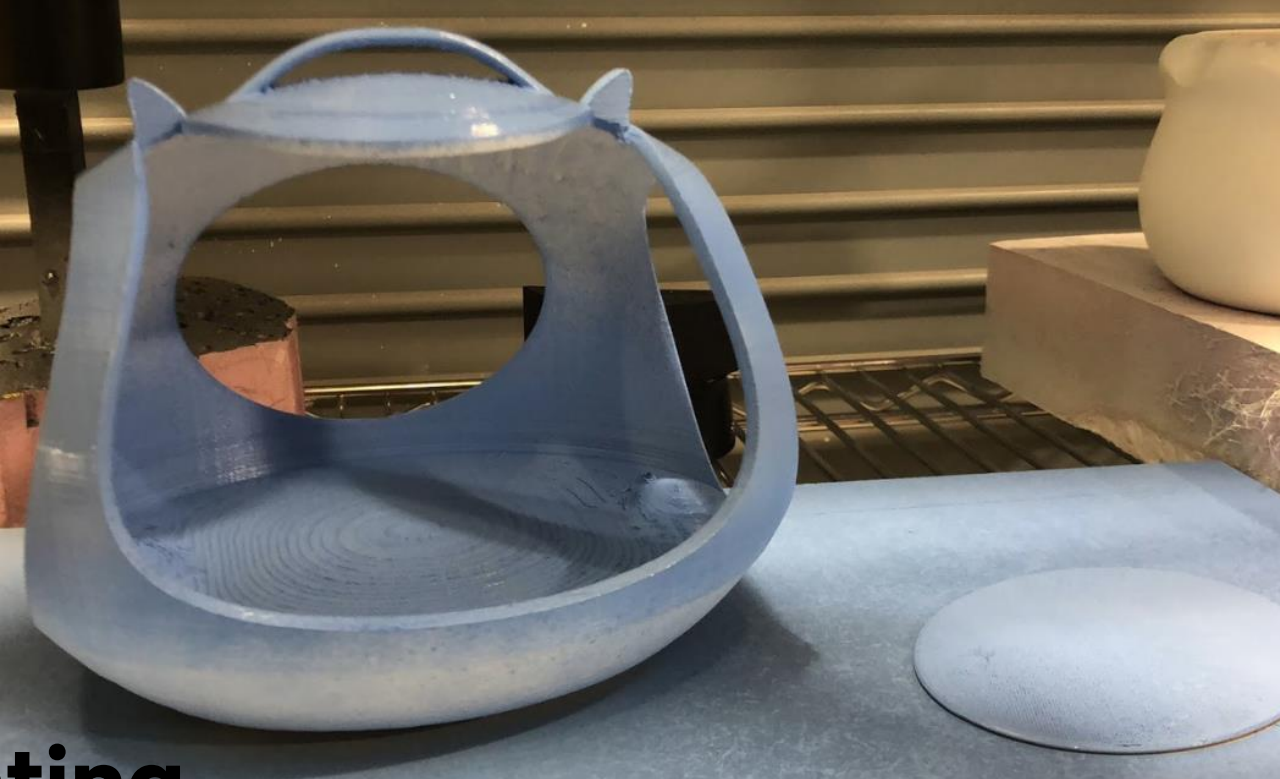
**Main body**  
**FDM**



**Face**  
**SLA**



**Door**  
**PLA**



**Painting**



