

DOGS' PARTICIPATION IN HUMAN SOCIAL LIFE  
FURNITURE DESIGN FOR DOGS

BY

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THESIS

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## **ABSTRACT**

A growing number of study has shown that dogs are considered as close family members and sometimes are embraced as surrogate children. With that, people like to provide them with the best affordable products in the available market. Before adopting a dog, the first thing that comes in one's mind might be the dog crate, not just a transportation method but a significant aid to creating a systematic structure for dogs and dog owners. However, few products meet the requirements of both functional and aesthetic need. Most available products offer practical solutions but lack comfort and compassion in function and look, while being incohesive with the current home décor trend. Moreover, misevaluation of the crate size by dog owners might result in undesired purchases as the dog grows with age.

"PUPZZLE" is the combination of "puppy" and "puzzle." The design goal is to create a modular dog furniture system. It has eight types of components for people to choose from to customize their own ideal dog crate/house/bed which can be adjusted. A wide range of patterns and colors collection are available as well. In this way, dog owners can always design what they want to suit their home and build a better harmony between them and their dogs.

## **ACKNOWLEDGEMENTS**

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## CHAPTER 1: Design background

### 1.1 Pet ownership and expenditure

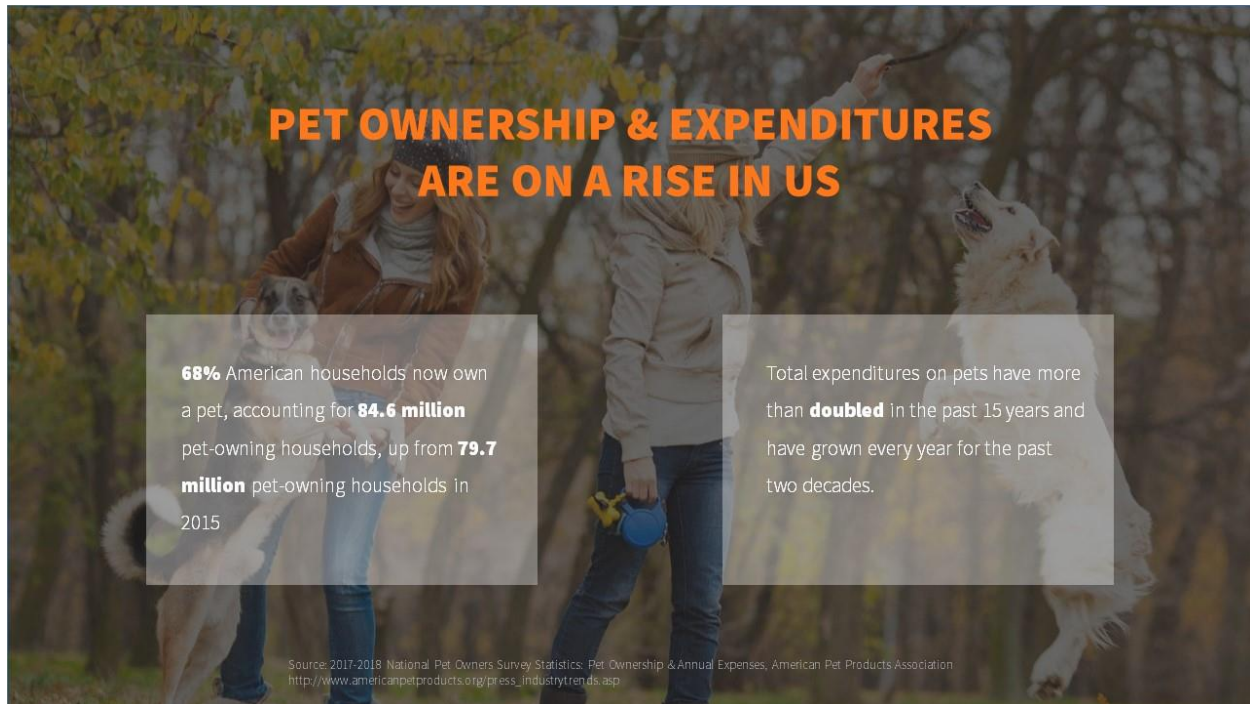


Figure 1.1: Pet ownership and expenditures in USA

According to 2017-2018 National Pet Owners Survey Statistics and U.S. Pet Ownership & Demographics Sourcebook, a rising number of people in America start to own pets recently, such as dogs, cats, fish, reptiles and so on. Over 68% American households now have a pet, accounting for 84.6 million pet-owning households, up from 79.7 million pet owning households in 2015. In fact, this number has begun to grow dramatically ever since 1994, even during the recession years of 2007-2009 when the global financial crisis hit, people's passion and enthusiasm of pets did not subside.

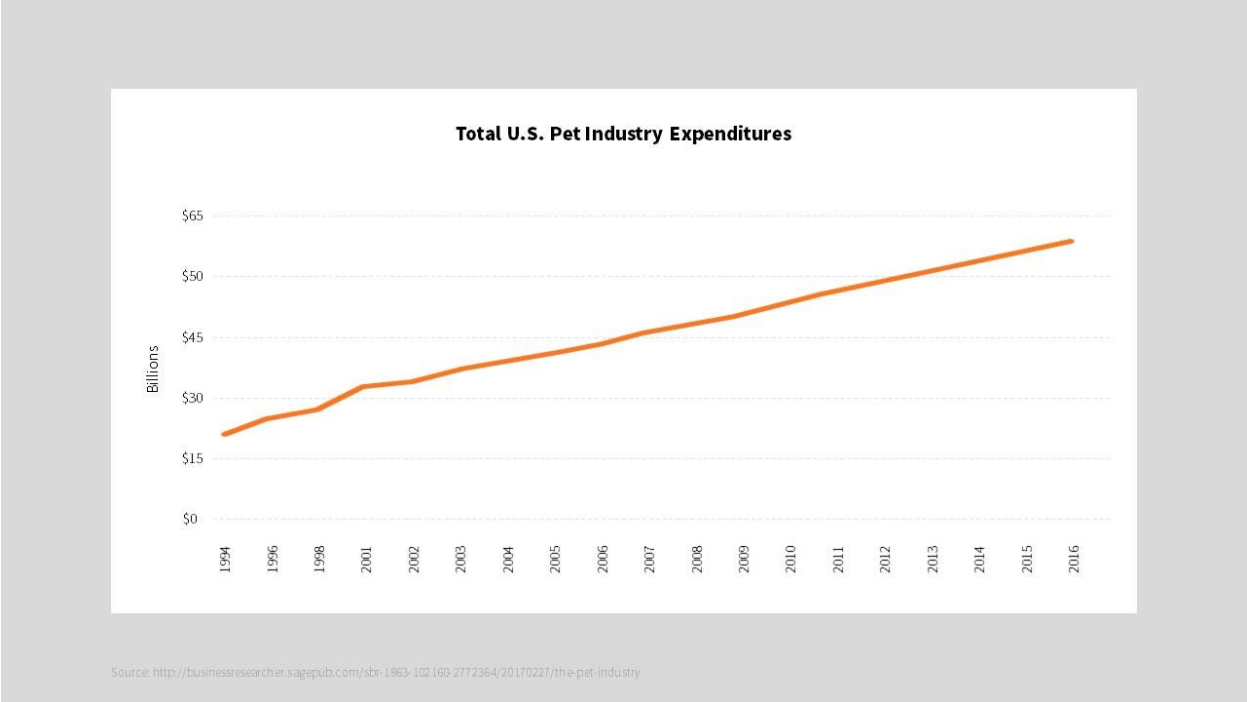


Figure 1.2: Total U.S. pet industry expenditures

The latest report (Figure 1.2) published by American Pet Products Association (APPA) has shown that in 2017 pet owners spent approximately \$69.5 billion on their companions for food, veterinary care, entertainment and other services. With the spending on pets in the United States rising annually, the pet industry is considered virtually recession-resistant by experts who study it. Being a developing and dynamic industry, huge potentials lies within this area.

**1.2 Study object**

Multifunctional products, adequate facilities and circumspect services in current pet market help solve a lot of problems and has gradually boost the quality of dogs' and dog owners' life. Issues still exist with undiscovered problems, which raises the following two critical questions: what are the problems and where to put the focus on?

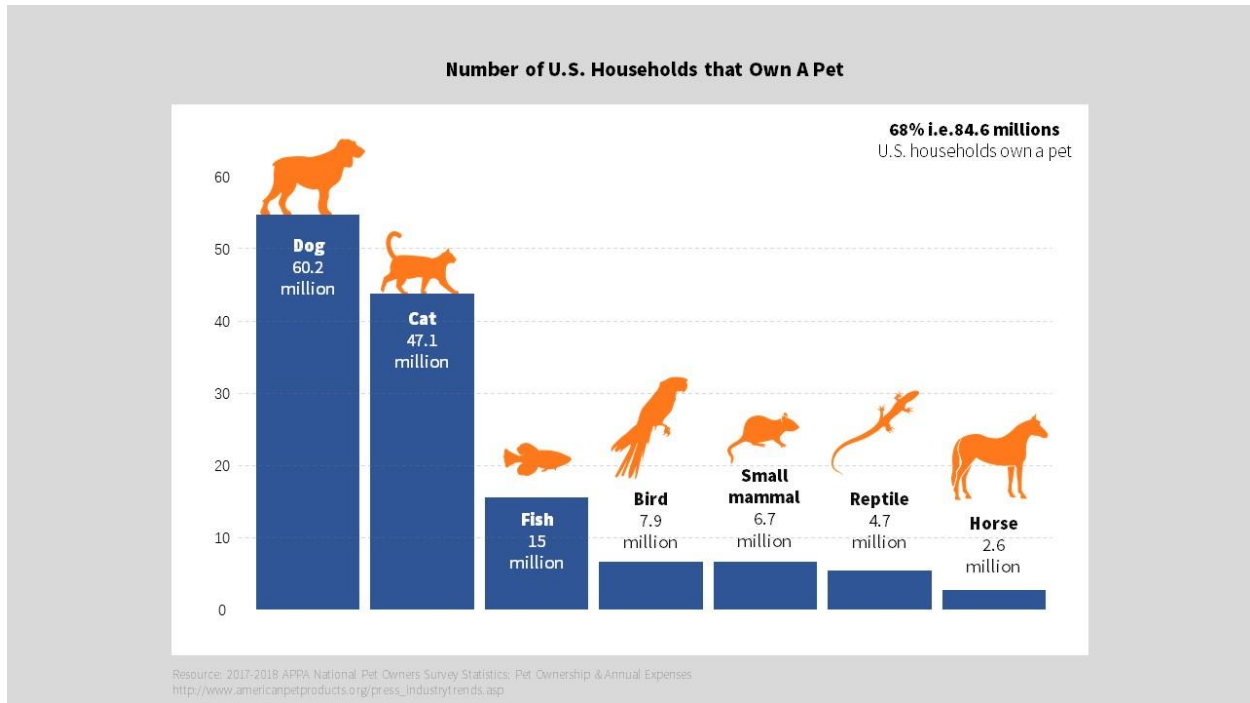


Figure 1.3: Number of U.S. households that own a pet

Research has revealed immense opportunities waiting to be discovered in the booming pet industry, especially for dogs and cats, which rank the first and second place among all the household animals in the chart of Number of U.S. Households that Own A Pet (Figure 1.3). Moreover, based on personal experiences with dogs, the researcher would love to move forward to dog industry and dig further into relevant supplies and services.

Prior to design phase, the researcher came up with these questions which should be paid attention to while doing general research and relevant academic reading.

- 1) How the status of a dog has changed in American's life?
- 2) What impacted the dog industry?
- 3) How did the retailers transform their marketing and sales strategy to meet people's needs?

4) What potential problems can be found in the market and the gap of the relation between people and dogs?



## CHAPTER 2: Companion dogs in U.S.

### 2.1 Literature Review

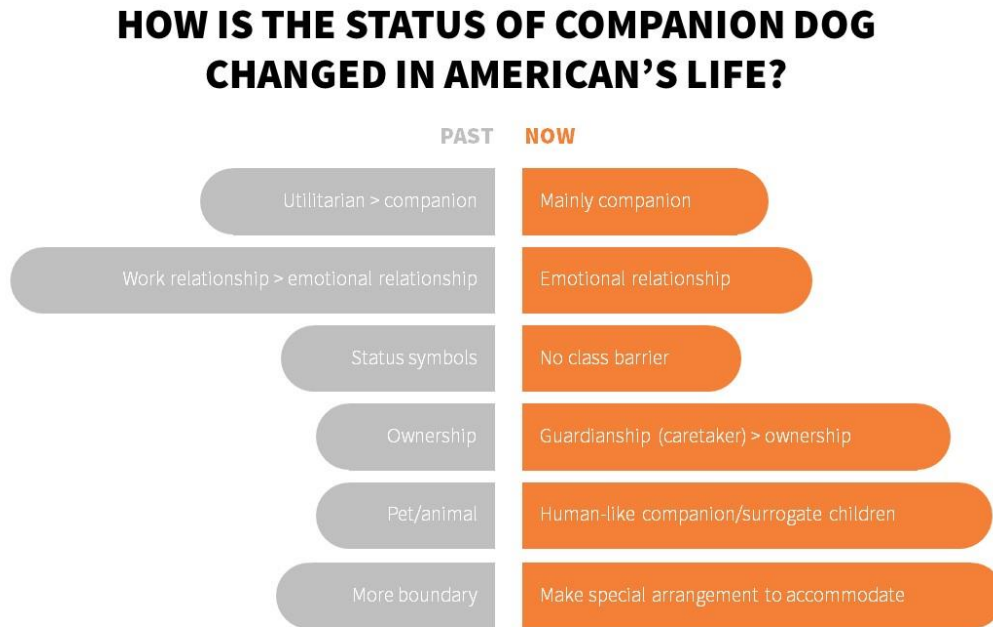


Figure 2.1: How is the status of companion dog changed in America's life

Dogs are the first domesticated animals. In the past, the role of dogs in people's lives, for most of the time, was a worker instead of a companion pet. They were kept because of practical uses such as livestock herding, hunting and guarding, etc. But sometimes based on their breeds, they could be a symbol of the social, economic and political status of the owners. On the other hand, throughout the years, with the elimination of the class barrier of owning a dog, the meaning of dogs to humans has been greatly changed.

Currently the number of dogs that serve in a variety of roles in different areas is thriving, such as armed force, hospitals and security check, etc. Oftentimes, the core function of dogs is to offer companion and support to their human friends. Under the influence of different level of education, household income and marital status, more people consider the dogs as their children and are willing to share personal space with them which induces the changing of living patterns and consumption to accommodate their dogs.

Besides the above comparison, there are 6 crucial factors playing important roles in how the relationship between human and dogs has changed the whole industry.

1) Humanization

It has been a long time that dog owners considered their dogs to be part of the family. In recent years many owners are considering themselves as parents. Their behaviors and attitudes can be translated to treating the dog more like a person. To catch up this trend, dog supply manufacturers changed their strategy to provide high-quality products.

2) Premiumization

As health-conscious customers' interest in their own health and wellness has snowballed in the past 20 years, human quality products and services are created to cater to the customers' elevated requirements for their dogs, such as organic and healthy foods/treats, high-tech medical medicines and luxury services, etc.

3) Demographics

Experts claimed that baby boomers and millennials largely drive the trend, which has been mentioned above. Millennials postpone the parenthood but still wish to have something to love and spoil. As for baby boomers, after their children grow up and leave

their home, dogs take the position where the children used to be and are heavily pampered by their human parents.

4) Economics

The considerable pace of growth in dog industry revenue indicates a strong current economic strength which foresees a continue-growing industry strength.

5) Lifestyle

The increasing mobile lifestyle makes dog owners reconsider the dogs' accommodation problem when they travel, with solutions of either leaving at friends' home or somewhere else. These worries and considerations lead to the establishment and development of dogs' daycares and hotels.

6) Health Benefits

A growing body of medical research points to the health benefits of pet ownership. According to the Human Animal Bond Research Initiative Foundation (HABRI), "People are happier and healthier in the presence of animals. Scientifically-documented benefits...include decreased blood pressure, reduced anxiety, and enhanced feelings of well-being."

People's notion towards family and lifestyle are changing the economic growth of the industry. As children surrogate, dogs have the same rights, privileges and even obligations in the family as our human children might have and the caretakers try to offer them the available best things in the market.

Last but not least, besides emotional attachment, companionship, friendship, unconditional love and affection, are the three major social functions.

1) Projective function

Where the pet serves as a symbolic extension of the social self.

Example:

- a. People choose the dogs that fit their personality and lifestyle.
- b. Dogs behavior problems mirror owners' emotional issues.
- c. Dog owners make purchase decisions for their dogs in similar way of making those decisions for themselves.

2) Surrogate function

Where the presence of the pet, who is anthropomorphized, serves as a surrogate for human companionship.

Example:

- a. Owners use "Motherese" or baby talk.
- b. Secure base effect (i.e., dogs interact with the environment by using the owner as a secure base) was found in dog-owner as it parallels child-caregiver relationships.

3) Sociability function

Where the pet facilitates interpersonal interaction by acting as social catalyst.

Example:

- a. Dogs are great ice breakers. People with or without dogs would love to stop and admire the dog and talk to the owner.
- b. Online social opportunities, such as forums, Facebook communities and Instagram, etc.

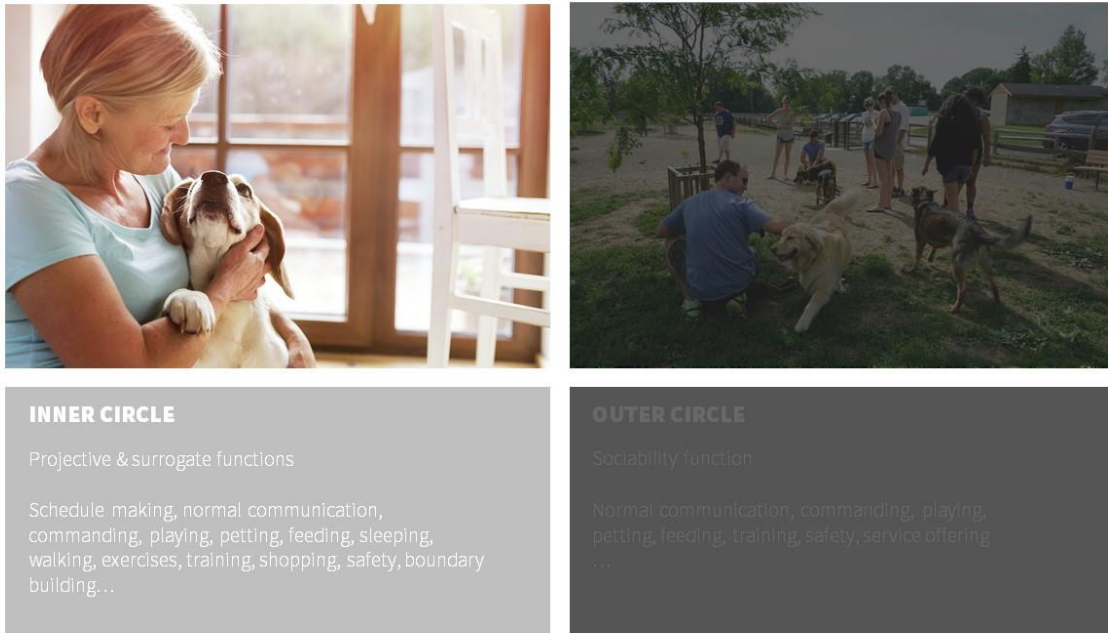


Figure 2.2: Inner circle and outer circle

These three crucial functions can be summarized into two circles. Projective and surrogate functions which mainly exist between dogs and dogs' owners belong to inner circle, and sociability function belongs to outer circle. Since the dog owner is the main person to purchase all the daily supplies for dogs, inner circle will be the researcher's major consideration. In the next chapter, the researcher will focus on the furniture and other products that are used at home.

## 2.2 Market review

Americans' deepening passion and identification with their pets creates a healthy and competitive environment for brands. Innovative marketers are responding to these phenomena by developing creative accommodations and a wider variety of activities for dog-owning households.

### 1) Normal segment

#### a. Health care

Veterinary exam, dental supplies/services, vaccinations, spaying/neutering

#### b. Supplies

Collar, leash, food/water bowls, grooming tools, fence, crate, shampoo

#### c. Food/treats

#### d. Toys

Distraction (food delivery/chew/puzzle), comfort (soft stuffed/dirty laundry)

#### e. Microchip identification

#### f. Insurance

#### g. Damage/protection cost

#### h. Training

### 2) High-end segment

Grooming, boarding, daycare, dog walking/sitting, license, transportation, party planning, dating, massage/spa, hotel

Even though the main portion of daily expense on dogs is for food, veterinary care and boarding, relevant reports point out the willingness of dog owners to indulge their furry babies in other ways. Dogs start to have their human-grade toys that aim at developing different skills, smart collar and even dog-friendly car.

The increasing popularity of high-end products and system shouldn't be neglected. Their common features are personalization, high tech, fashion and human-grade. These indicate the changing of dogs' social positions and the trend of being humanized and customizable in the industry.

## CHAPTER 3: Case study and research

### 3.1 Market research



Figure 3.1

Market research was conducted to get a clearer picture of how the products are designed to cover every basic need of dogs and dog owners. The retailers provide everything that dog owners expect to find, from toothbrush to carrier, from harness to safety gate.

There are some companies, while most of the manufacturers are still working on the traditional dog products, turn their glare to another interesting field and reconsider the relationship among dog owners, dogs and the environment. Examples are listed below.





## Product example 2: Architecture for dogs



Figure 3.3

### Summary

- 1) Customizable and easy to make
- 2) Owners can make the models following the blueprints offered online
- 3) Dog characteristics decided the looking and function of the design.

The exhibition, Architecture For Dogs, was held by Kenya Hara. A lot of famous designers and architects such as Kengo Kuma and Toyo Ito were invited to join the show. They designed the furniture based on the observations of different dog breeds behavior patterns. Dog owners can download the sketches and blueprints to make or customize the furniture for their dogs.

### Product example 3: Dog products from Nendo

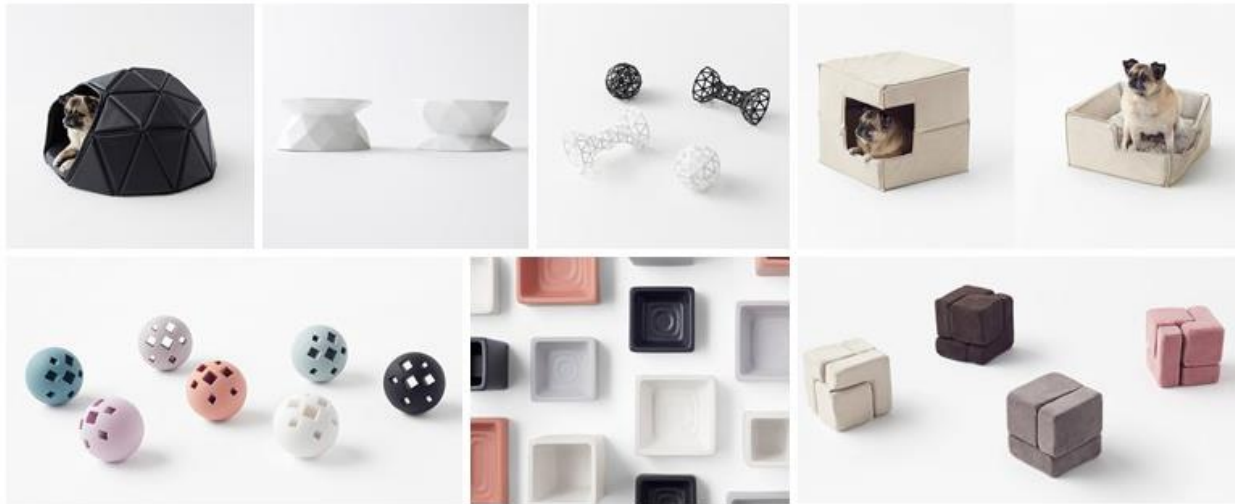


Figure 3.4

### Summary

- 1) One product has 2 or more forms to meet different requirements of use
- 2) Use soft and calm colors without high saturation
- 3) The combination of simple geometric elements makes it easier for the products to blend into the environment

Heads or Tails and Cubic pet goods are from Nendo. Their design notion is almost the same as IKEA and other designers in the furniture for dog exhibition - emphasizing multi-functions and compatibility with interior elements.

## **3.2 Users research.**

### **3.2.1 Online survey**

Aiming at getting more useful information from the target users and understand their potential demand, anonymous surveys were conducted about dog owners' experience with dogs and products that they used. 75 responses were received.

To make the results more convincing and conform to the market positioning, participants were from middle-class families with stable income, age between 22-60 years old. the survey is attached in the appendix.

The survey includes 2 parts – questions about general information and experience with their first dog. The purpose of second part is to understand dog owners' shopping experience and how they use the products to solve problems by reminding the dog owners of the happy, sad or angry moments in the past. The answers can help the researcher understand people's general approach to issues they have with dogs and household and figure out the pain points in the industry. Nevertheless, one important thing should be pointed out is that all the responses will only be considered as references and no conclusion will be drawn because under some circumstances consumers' behaviors are totally opposite to what they have said.

### **3.2.2 Shop visiting and observation**

Visiting some dog supplies shops is a good way to understand the differences of shopping experience of people who are living in cities and rural areas. During the research, the researcher

visited the pet section at Walmart, Meijer, Safeway and County Market and big box pet store chain such as PetSmart, PetSmart and Pet Food Express in New York, Illinois, Missouri, Colorado and California. Most of them share similar layout (Figure 3.5 & 3.6) but generally are not very friendly to new customers.



Figure 3.5

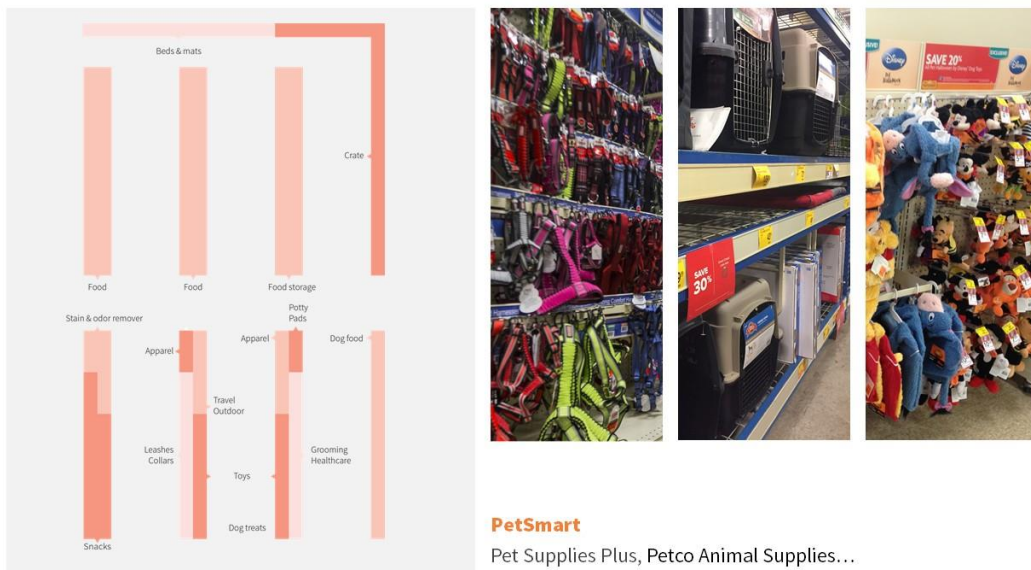
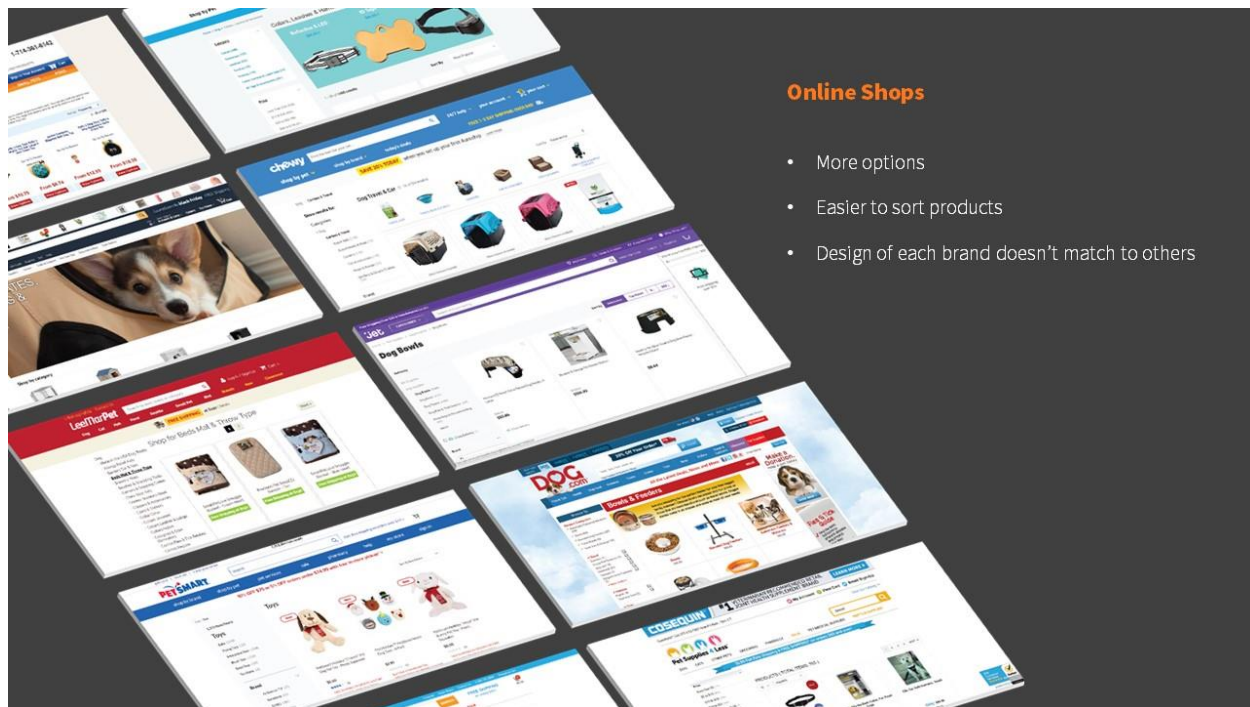


Figure 3.6

As for the online shopping, it, of course, has more options than the physical one. However, the shopping experience is still very confusing and frustrating. Because of the excitement of having a dog and being misled by a lot of puppy checklist and guides online, people tend to buy more than what they need and have to return or exchange them.



### Online Shops

- More options
- Easier to sort products
- Design of each brand doesn't match to others

Figure 3.7

### **3.3 Design definition**

Based on literature review, user and market research, the current design trend of dog products and people's long-term expectation towards market are listed as the following.

- 1) Reasonably priced but nice-looking
- 2) Offer a variety of functions
- 3) Emphasize compatibility with interior elements
- 4) The same design value used for products for humans will be applied for the products for pet
- 5) Basic customization and transformation

Price, function and aesthetics are always the three primary factors that decide the popularity and selling volume of the products. People prefer to purchase items with high price–performance ratio, which means that this kind of product may have longer-lasting durability, better functionality or more delightful looking, compared with other products at the same price. Of course, by considering the hierarchy, people still need to make decision on either function or aesthetics.

Most importantly, as dogs become an indispensable part, it cannot be denied that communication between dogs and dog owners is more like person-to-person instead of person-to-animal. Dogs are dog owners' babies. While getting inspiration from baby supplies, a lot of furniture, especially baby cribs and beds, allow parents play with their own color schemes and structures. They can decide what to buy and what doesn't need to buy. In dog owners' mind, besides being an ornament, it represents themselves, encourages them to rethink the connection of “home” and “house”, and engage in a more positive and mutual interaction with our beloved one.



### 3.4 Design guideline

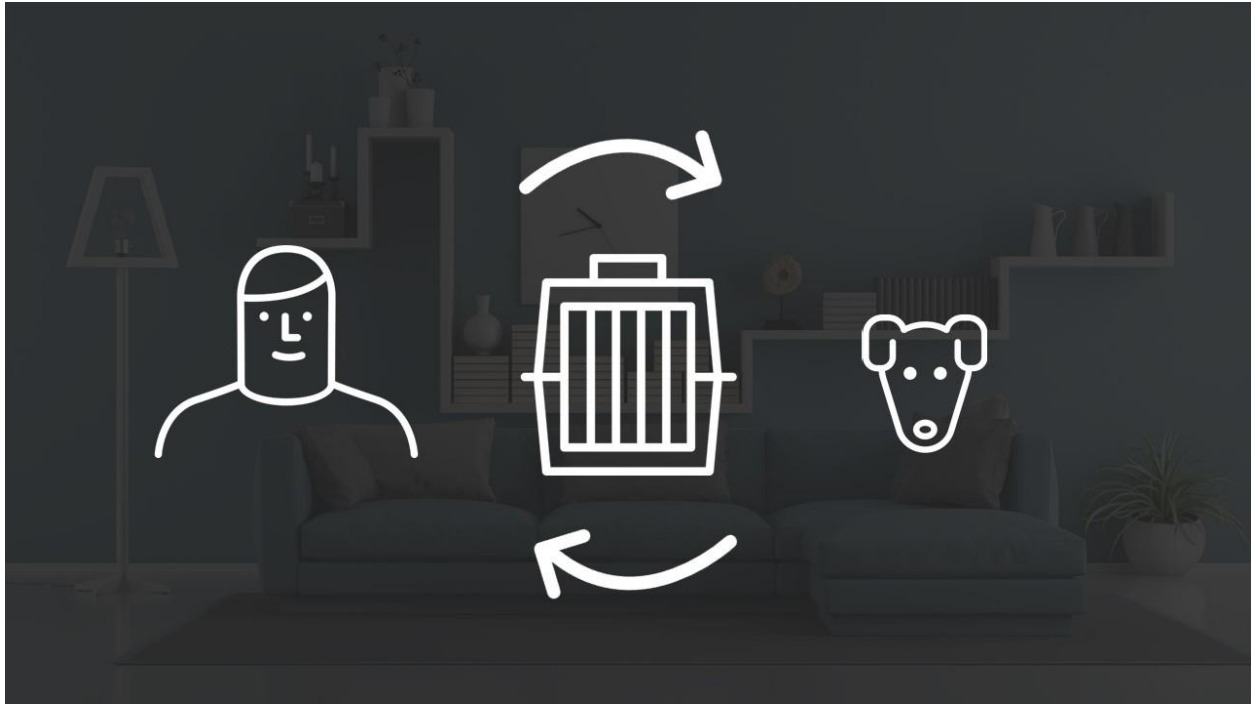


Figure 3.8: Interaction through the crate

Dog beds, carrier, playpen or crate?

Which is the most important item in dog life?

Based on the evidences found in the previous observation and research, a dog crate is the first thing that the dog owner will think of while shopping for the first time and it's a significant, effective and efficient aid to creating a systematic structure and routine for dogs and dog owners, for example potty training, house training, preventing destructive behavior, and teaching a dog to settle and relax, etc. None of the above can be achieved without a dog crate.



### 3.5 Current solution

## MAIN CRATE TYPES



### Wire

#### PROS

- Easy to clean
- Great airflow and visibility
- Foldable and portable
- Divider panel

#### CONS

- Visibility causes stress
- Less sheltered
- Heavy
- Look like a cage



### Plastic

#### PROS

- Light and portable
- More sheltered
- Less visibility for easily distracted dogs
- Attachable models

#### CONS

- Few visibility causes stress
- Hard to clean
- Need more storage space
- Reduced ventilation



### Wood

#### PROS

- Easily fit into a home
- Offer a usable surface
- More styles available

#### CONS

- Not good for destructive dogs
- Hard to clean
- Expensive



### Fabric

#### PROS

- Light and portable
- Easy to store
- Soft and flexible

#### CONS

- Not durable and long-lasting
- Difficult to keep clean
- Dog can easily escape

Figure 3.9: Chart of crate types

Metal, plastic and wood are the materials that manufacturers regularly use to make crates. From the customers perspective, wire crate is the most durable and practical one even though they dislike the heaviness and the uncomfortable cage-shape design; plastic crate is designed most for traveling and to meet the airline requirement; wood crate usually is more stylish and expensive with less portability; fabric crate is portable but not long-lasting. By comparing the specification, disadvantages and advantages of each material (Figure 3.9), the combination of metal and plastic will be applied to the future design.

## **3.6 Potential users**

### **3.6.1 Target groups**

According to a recent marketing study, people's heightened involvement with their dogs leads to this indisputable growth in dog-related consumption. This conclusion is particularly true for the following groups of people.

- 1) Women
- 2) Baby boomers
- 3) Empty nesters
- 4) DINKS (dual income/no kids)
- 5) Singles
- 6) Higher income households (middle-class and high-class)

Considering long-term benefit and sustainable product development, the potential users will be middle-class income households (\$39,000 to \$118,000) which comprise almost 50% of the nation's population, according to Pew Research Center report. Without limiting the potential users to the other five groups of people, the design can be more neutral, universal and adaptable.

### 3.6.2 Housing types

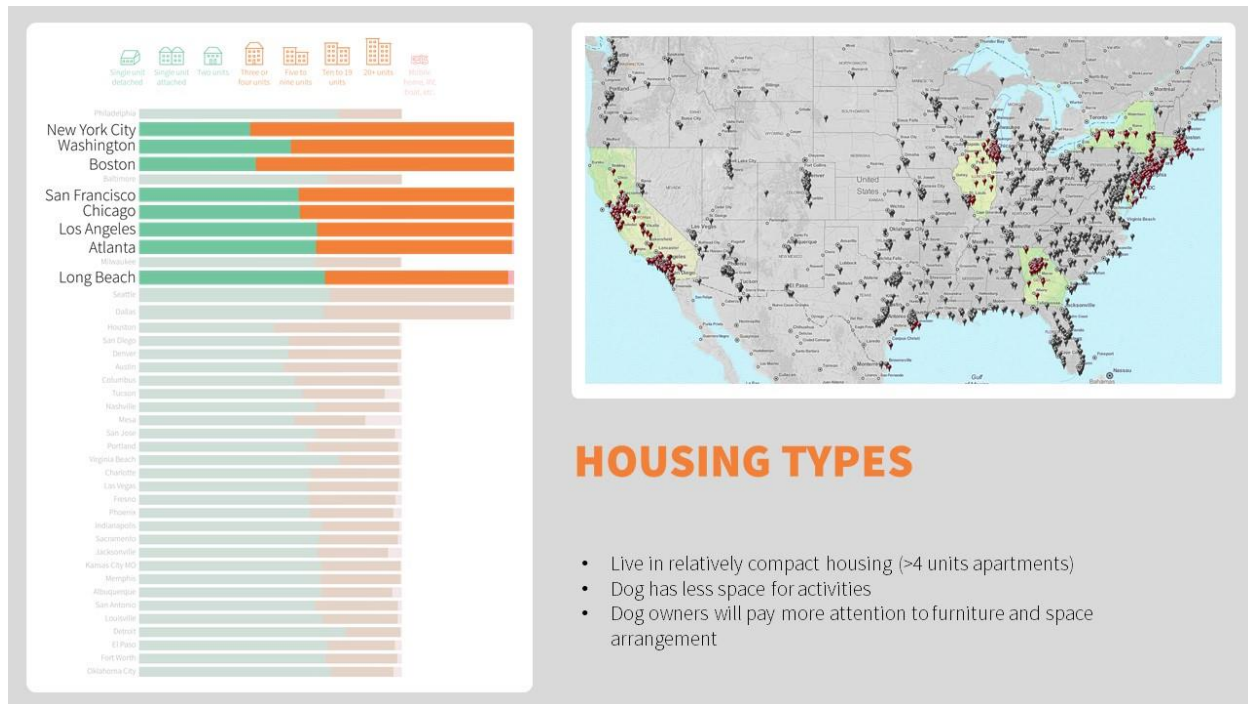


Figure 3.10: Housing types

From the location map of Petco in U.S, the researcher found that there are more stores in the cities which were highlighted in the chart of occupied housing units (Figure 3.10). They are New York city, Washington, Boston, San Francisco, Chicago, Los Angeles, Atlanta and Long Beach. Within these cities, people live in relatively compact housing with 3 or more units. Under this situation, in terms of sharing personal space with dogs and area for appropriate activities, people will pay more attention to the crate size, installation, storage and adaption to the existing environment.

Meantime, the researcher found out that people who own housing units are more willing to buy better and more stylish furniture to decorate their home. They don't have to worry about moving issues and the portability of the furniture. After browsing online real estate marketplaces (Figure

3.12, Figure 3.13), the researcher summarized the typical layouts of living room where people usually install the crate. From the drawings (Figure 3.11), we can see that shapes such as cube, cuboid and trapezoid will be more suitable to fit in the space.

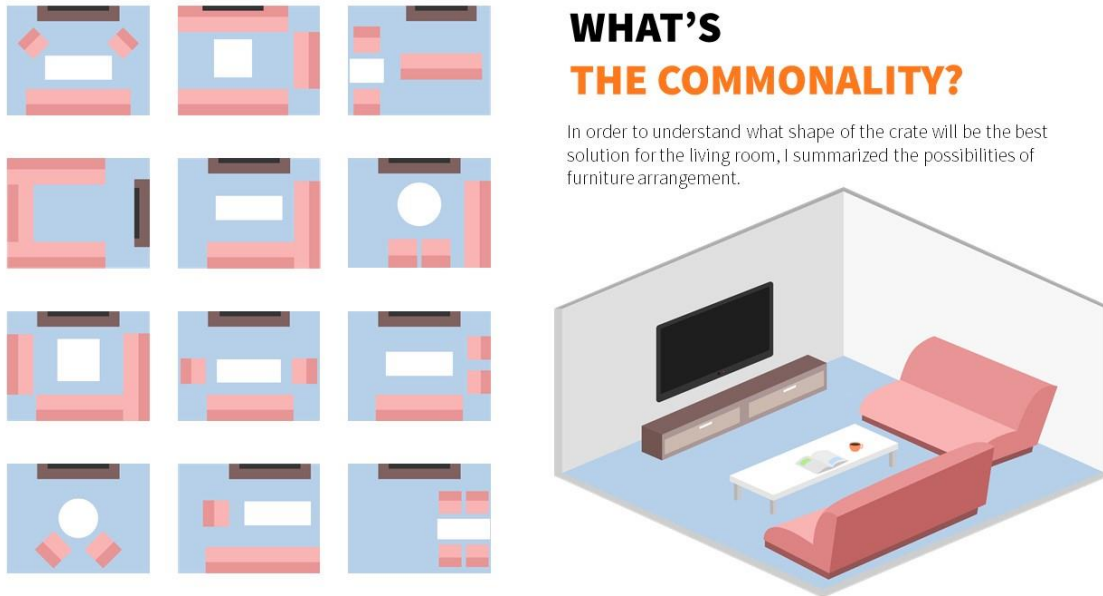


Figure 3.11: Commonality of living room

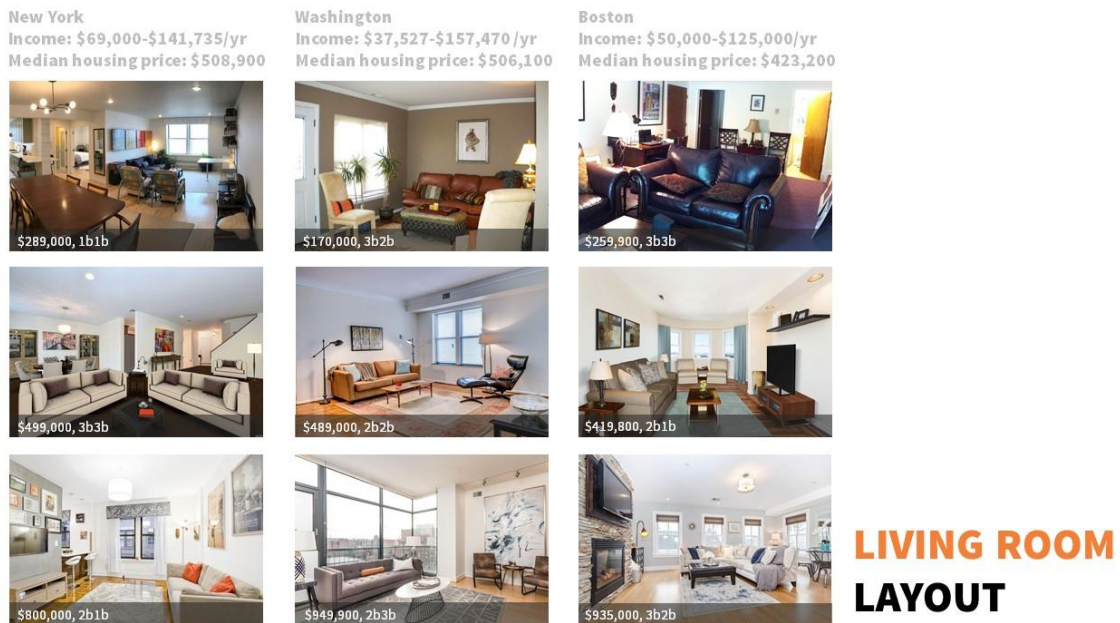


Figure 3.12: Living room in different housing

**Chicago**  
 Income: \$44,389 - \$133,170/yr  
 Median housing price: \$225,200



**San Francisco**  
 Income \$51,545 - \$153,866/yr  
 Median housing price: \$858,800



**Los Angeles county**  
 Income: \$36,477 - \$108,886/yr  
 Median housing price: \$465,000



**Atlanta**  
 Income: \$37,168 - \$110,948/yr  
 Median housing price: \$222,300



Figure 3.13: Living room in different housing

## CHAPTER 4: Design process

### 4.1 Brainstorming



Figure 4.1: Issues analysis and idea generation

The researcher analyzed the possible problems dog owners might have before and after using the crate. Before using the crate includes choosing the size and style and the way to install. After using includes training and extension of functions.



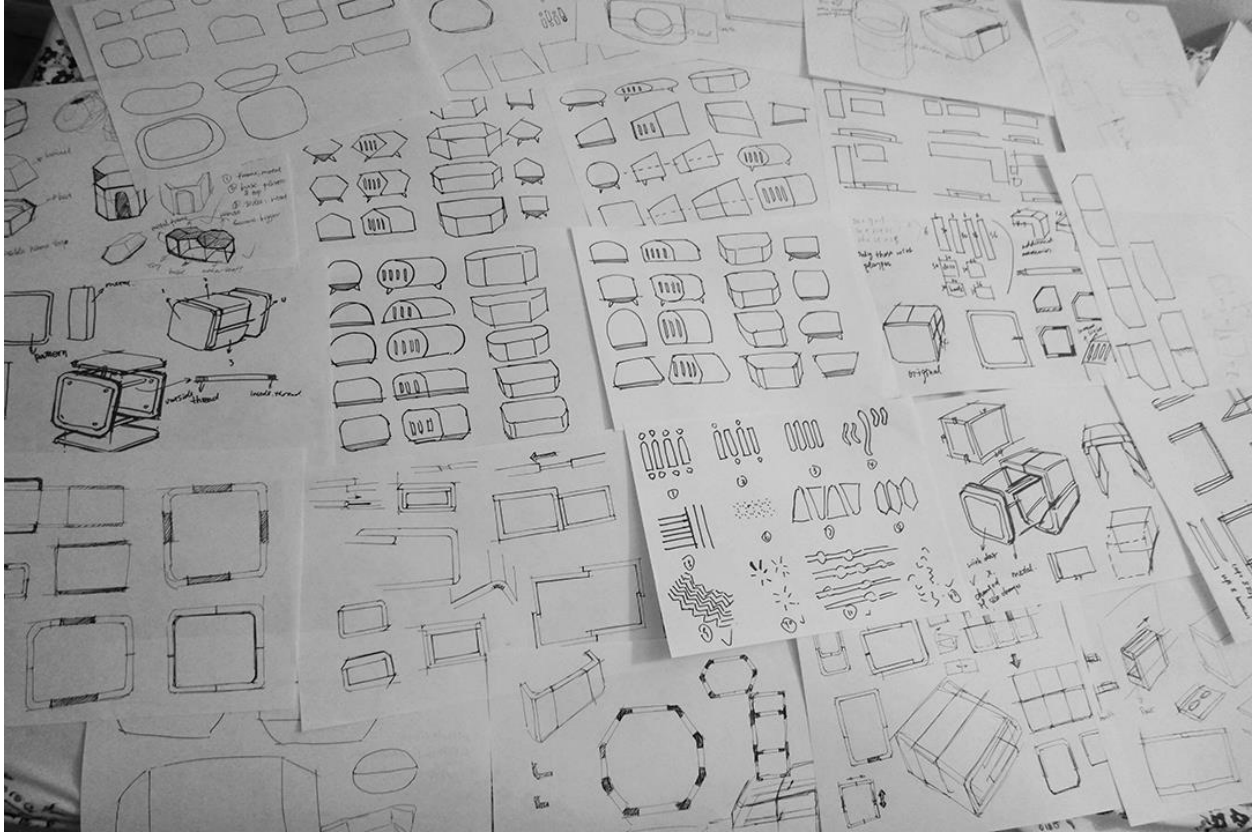


Figure 4.2: Shape exploration

All the possible shapes and ways to assemble were considered. The installation should be as simple as possible to reduce the manufacturing cost and maintain the stability of the product at the same time, but still able to leave enough space for dog owners to DIY in terms of their personal situations. However, aggressive and destructive dogs will not be considered in this design.

## 4.2 Low-fidelity model making



Figure 4.3: Structure confirmation

Foam boards, wood dowels and bolts were used to make low fidelity model to confirm the most reasonable parameters, mechanism and way to assemble the components. Various patterns were printed and pinned on the surfaces to see how the flows and patterns go together. The size of the model was 19"×19"×25" by referring to the general crate sizes that manufacturers use and the space of the final exhibition.



### 4.3 Final design

## COMPONENTS

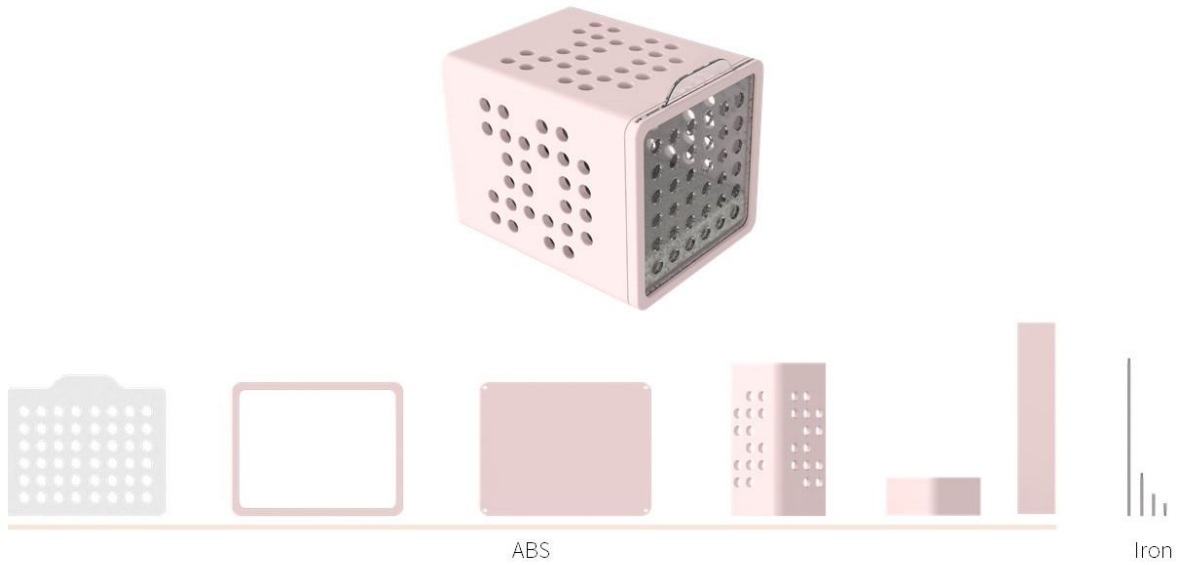


Figure 4.4: Introduction of components

This design includes eight parts. The material of main body is ABS and the metal dowels work as the skeleton which can make the structure more sturdy and substantial.

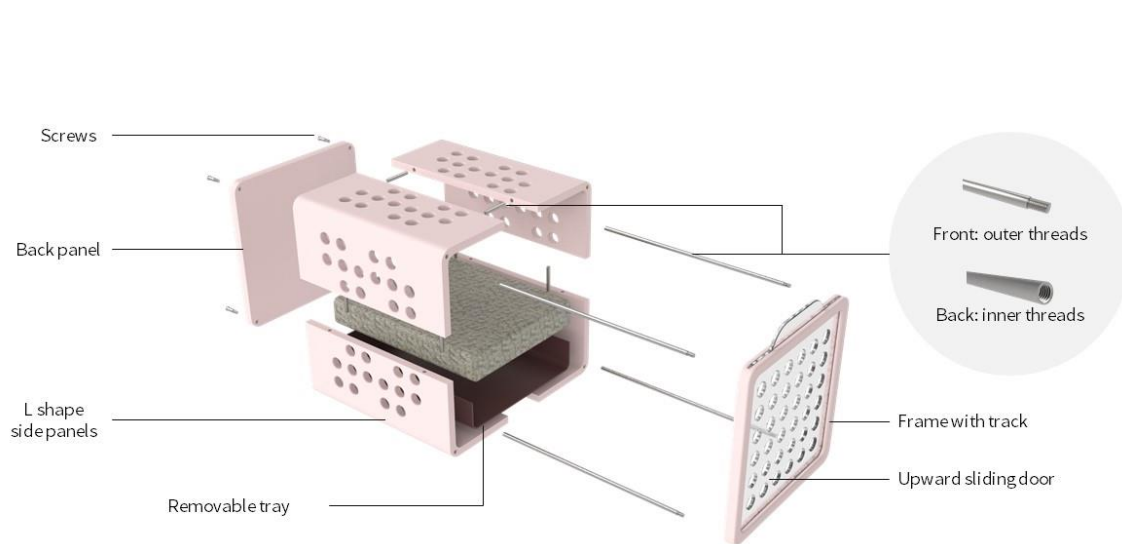


Figure 4.5: Structure of standard crate

1) Metal dowels (outer threads and inner threads on both ends):

a) Long dowels

Screw into the door frame, go through the hole on side panels and get fixed by the screws at the back panel of the crate.

b) Medium dowels

Mainly used for extension. Optional to buy if users want to expand the space of the crate.

c) Short dowels

Connect L-shape side panels.

2) L-shape side panels:

4 L-shape side panels are simply connected by 8 dowels (short) and form the main body of the crate. The round corners minimize the chance of dirt accumulation.

3) Screws:

4 screws offer strong physical support and make it easy to assemble.

4) Removable tray

Keeps dirt, spills and waste contained inside to maintain the cleanliness of crate and floor

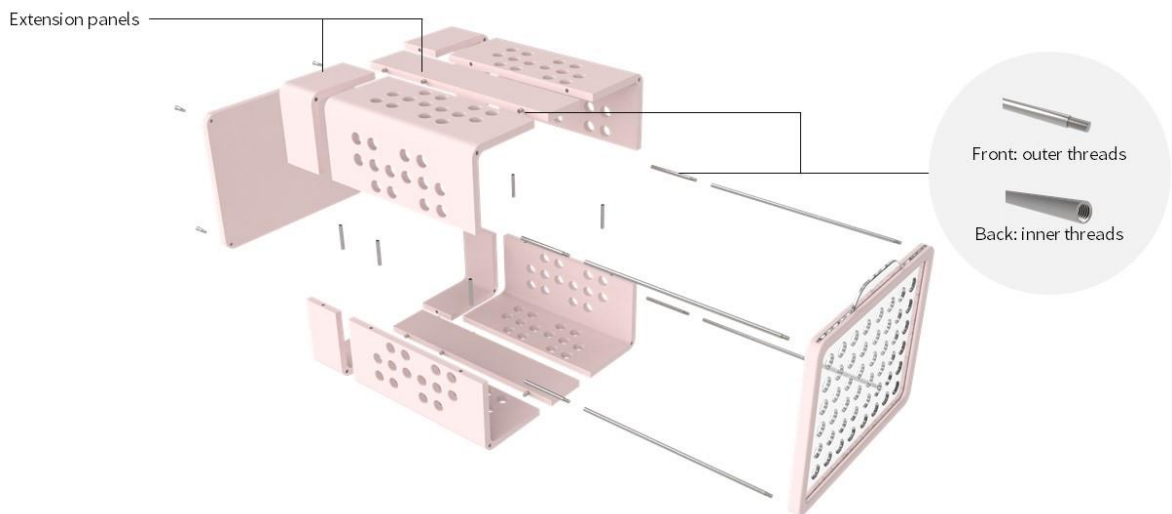


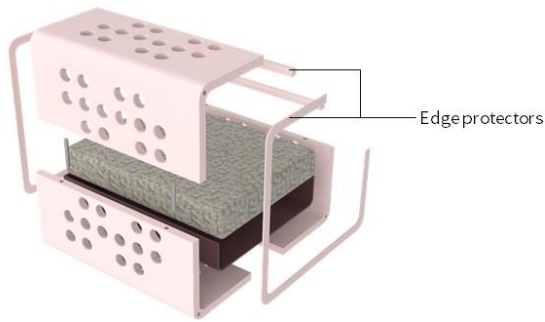
Figure 4.6: How to extend the crate

Users can expand the space either horizontally or vertically with the extension panels and medium dowels. In this way, people don't have to buy a new crate if the dogs grow bigger or wider beyond their expectation and need more space. What they need to do are to order optional extension panels and mail the original back panel and door frame to the company for recycling. New back panel and door frame will come with the additional panels and dowels.

## CUSTOMIZABLE STYLE

You have other options if you don't want to use the crate anymore

Semi-open dog house



Dog bed



Figure 4.7: Reuse the crate

If users don't need this crate any more, they can detach the back panel, one side panel and door frame and transfer the crate into either a semi-open dog house or a dog bed.

## **ADDITIONAL ACCESSORIES**

A drawer/ support for door and storages



Figure 4.8: Additional accessories

Users can also buy the drawer/support for the door and additional storages for toys, treats and other items. With the pocket, people can also buy another door with solid color based on their needs.

## SYSTEM

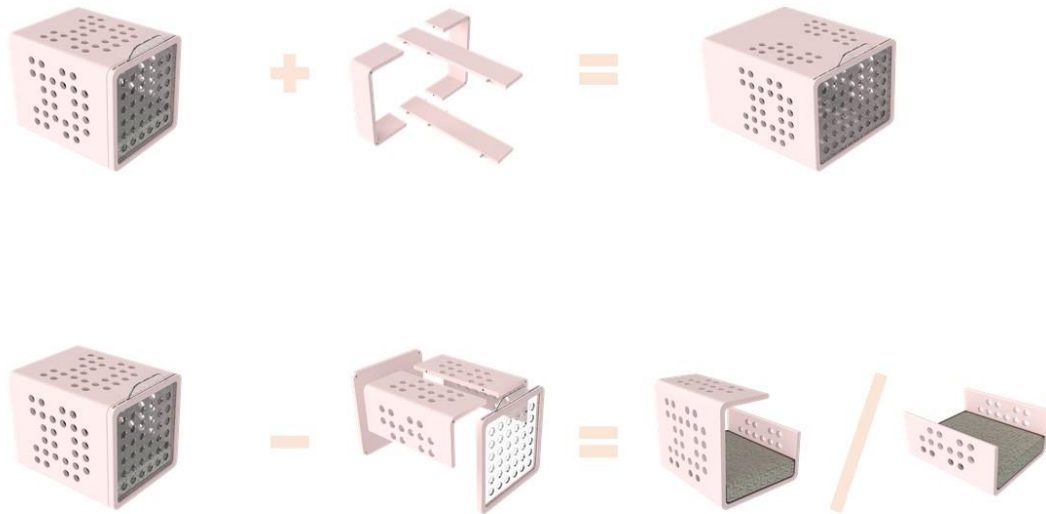


Figure 4.9: How does the system works

Modular customizable system effectively extends the life span of dog crate and makes it more user-friendly and simpler since the customers don't have to worry about misestimation of the space.

## WHAT'S MORE

There are a wide range of colors and patterns to choose online. Also, they can customize the name tag on the door and order additional components. If one module is broken, they can order one to replace it instead of buying a new crate.

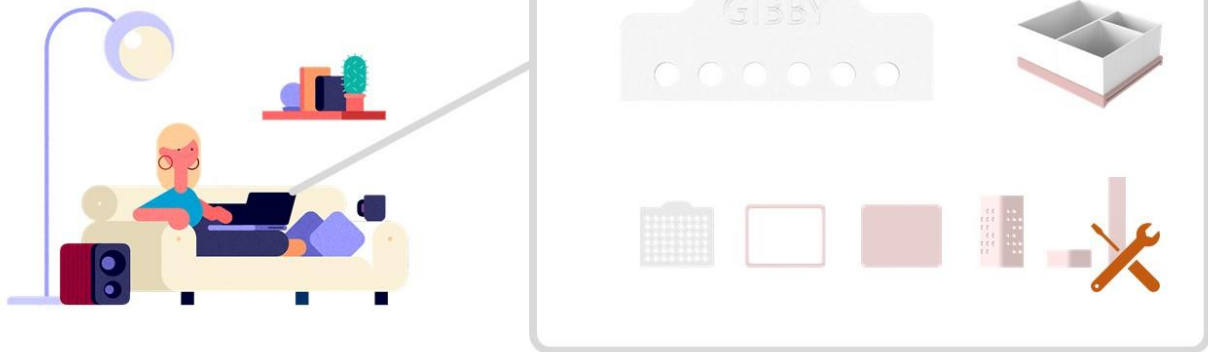


Figure 4.10: Other customization options

People can choose the pattern from the pattern chart online to match the environment at home. Also, laser engraving will be available for the door. If any component is broken, they can mail it to the company and get a new piece. As a result, we can help save a lot of materials and protect the environment.

#### 4.4 Final model and exhibition



Figure 4.11: Removed the components from the material

To make the round corners of the model, each L shape panel was split into 3 parts - 1 round corner bar and 2 flat panels with patterns instead of steam bending the wood. Based on the capability of the CNC router, each round corner was composed of 12 parts. They were aligned by 14" wood dowel before being glued.



Figure 4.12: Glued 3 parts for L-shape side panels





Figure 4.13: Assembled all the bodies

Simply applied wood glue on the edges and clamped the side panels, back panel and door frame together. After 36 hours, used wood filler and Bondo to fill the gaps. Then sanded the whole model following these steps:

- 1) Used palm sander with 50 and 150 grit sand paper (2-3 times).
- 2) Sanded the model by hand with 200, 250 and 300 grit sand paper sanding paper (1-3 times).
- 3) Checked the surface and filled the noticeable flaws with small amount of Bondo.
- 4) Repeated step 2 and 3 until unable to find any uneven spot and crack.



Figure 4.14: Applied primer, sanded and spray paint

- 1) Cleaned the surface with wet cloth and air compressor.
- 2) Applied a thin layer of primer and 30 minutes later applied the second layer.
- 3) Checked the surface. Used small amount of putty to fill some holes and cracks if needed.  
Then sanded with 250 and 300 grit sand paper to make the surface more even.
- 4) After 1.5 hours, repeated step 2 and 3 until the surface became flawlessly smooth (6-8 times).



Figure 4.15: Final model



Figure 4.16: Exhibition

## **CHAPTER 5: Conclusion**

My thesis focuses on how a piece of furniture reflects the changing of the relationship between dogs and dog owners. Through the observation, academic study and user research, I investigated potential needs of my target users. After brainstorming, sketches and modeling, eventually I designed a modular customizable furniture for dogs that offers good user experience and can easily integrate into the home environment.

This project lets me take a new look at the market, dog and dog owner. When each micro environment at home start to seamlessly merge together, we can essentially call it “home”. How to break this barrier -- it’s the topic that we should think more about it.

PUPZZLE is not only a simple furniture for dogs. It could be the starting point of modular furniture designed for dogs.

In the future, PUPZZLE itself will be better organized and easier to understand. More accessories such as door lock, convertible playpen and water/food bowls will come out. New dog owners just need to follow the simple steps to prepare every necessary supply for their furry babies through Internet. They can decide every detail of the product to match other furniture at home! Moreover, different kind of wood will also be available as a high-end option to meet the requirement from high-class income household.

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## **Appendix A: User Research Materials**

### **Experiences with dog(s) questionnaire**

#### **Part 1. Basic information**

What's your gender?

- A. Female
- B. Male

Do you currently have children under the age of 18 living in your household?

- A. Yes
- B. No

What region are you from

- A. East coast
- B. Midwest
- C. South
- D. Southwest
- E. West
- F. West coast

What type of housing do you live in?

- A. Single-family house

- B. Apartment
- C. Multi-family house
- D. Other (please specify)

What was the size of your dog when\_\_\_\_?

	Small	Medium	Large
You first got it			
It was fully grown			

**Part 2. Experience with your first dog**

Please write down the general daily routine within one year when the dog came to your home.

Where did the dog spend most of its time?

Where did the dog spend most of its time?

- A. Balcony
- B. Bathroom
- C. Bedroom
- D. Front/backyard
- E. Kitchen
- F. Laundry room
- G. Living room
- H. Other (please specify)



What behaviors of the dog did you have to correct when you first got your dog

- A. Chewing inappropriate objects
- B. House soiling
- C. Leash pulling
- D. Jumping up
- E. Separation anxiety
- F. Playing too roughly
- G. Nipping/mouthing
- H. Barking/howling
- I. Digging
- J. Begging
- K. Stealing food, clothing, or other objects
- L. Aggression towards people or other dogs
- M. Gulping food
- N. Chasing
- O. Mounting and masturbation
- P. Biting
- Q. Guarding food
- R. Other (please specify)

If you used any tool during the correction, please specify.

When you first became a new dog owner, what were the first thing(s) you did to prepare?

- A. Buy dog supplies
- B. Make your house safe for dogs
- C. Show the dog tis potty place
- D. Set up a crate
- E. Set up boundaries
- F. Establish a routine
- G. Start the training
- H. Give the dog time to adapt
- I. Other (please specify)

Did you try to figure out what personalities your dog had before you got it?

- A. Yes
- B. No

Did you choose the products based on your first observation of your dog?

- A. Yes
- B. No

The first time when you went to a pet supply shop, what did you feel?

- A. It was clear what I needed to buy.
- B. I was not sure if I had gotten everything my dog needed.
- C. I was confused due to the variety of products

D. It was hard for me to make a choice because I didn't like the products (e.g., materials, design, colors).

How many times did you go to the shop to finish the early-stage preparation?

- A. 1-2 times
- B. 2-4 times
- C. More than 4 times

Can you rank in chronological order what you first looked at to buy, except for food and treats?

- A. Beds & mats
- B. Carriers & travel
- C. Cleaning & potty
- D. Collar, leads & leashes
- E. Crates & house
- F. Feeders & waterers
- G. Grooming
- H. Storage
- I. Toys

What kind of items did you have to buy again

- A. Beds & mats
- B. Carriers & travel
- C. Cleaning & potty

- D. Collar leads & leashes
- E. Crates & house
- F. Feeders & waterers
- G. Grooming
- H. Storage
- I. Toys
- J. Other (please specify)

What products did you think were unnecessary for your dog?

What products did you think were useful but it was difficult to find in the current market?

How important is it to you that your dog product design matches the existing decor of your home?

Do you think that the products you have purchased match the decor of your home?

What aspect(s) of the dog products are you unsatisfied with?

- A. Color
- B. Consistency
- C. Customization
- D. Durability
- E. Function

- F. Modularity
- G. Price
- H. Shape
- I. Size
- J. Structure
- K. Style
- L. Sustainability

## Appendix B: IRB APPLICATION



### NEW PROTOCOL APPLICATION

Application for Review of Research Involving Human Subjects

This Section is for Office Use Only	
University of Illinois IRB Protocol No. <u>18173</u>	Track: _____
Exempt under 45 CFR §46.101(b) <input type="checkbox"/> (1) <input checked="" type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) <input type="checkbox"/> (6)	Reviewer 1: _____
Expedite, Category <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) <input type="checkbox"/> (6) <input type="checkbox"/> (7) <input type="checkbox"/> (8) <input type="checkbox"/> (9)	Reviewer 2: _____

All forms must be completed, signed by the RPI, and submitted via email to [irb@illinois.edu](mailto:irb@illinois.edu).

- Initial Submission, date of submission 9/13/2017  
 Revised New Protocol Application, date of revised New Protocol Application 11/7/2017

**1. RESPONSIBLE PROJECT INVESTIGATOR (RPI)** The RPI must be a nonvisiting member of the University of Illinois faculty or staff who will serve as project supervisor at Illinois. **For other research team members [including those from other institutions], please complete the Research Team Attachment and provide with the completed application.** Include all persons who will be 1) directly responsible for the project's design or implementation, 2) recruitment, 3) obtain informed consent, 4) involved in data collection, data analysis, or follow-up.

Last Name: Sung Soo		First Name: Shin		Academic Degree(s): Master	
Dept. or Unit: Art & Design		Office Address: 143 School of Art & Design Bldg		Mail Code: 590	
Street Address: 408 E Peabody Dr		City: Champaign		State: IL Zip Code: 61820	
Phone: (217)333-0855		Fax:		E-mail: <a href="mailto:thecliff@illinois.edu">thecliff@illinois.edu</a>	
Urbana-Champaign Campus Status: Nonvisiting member of (Mark One)					
<input checked="" type="checkbox"/> Faculty <input type="checkbox"/> Academic Professional/Staff					
Training					
<input checked="" type="checkbox"/> CITI Training, Date of Completion, October 5 <sup>th</sup> , 2017					
<input type="checkbox"/> Additional training, Date of Completion <sup>1</sup> ,					

### 2. PROJECT TITLE

Dog's participation in human social life

<sup>1</sup> Additional CITI modules may be required depending on subject populations or types of research. These include: (i) research enrolling children; (ii) research enrolling prisoners; (iii) FDA regulated research; (iv) data collected via the internet; (v) research conducted in public elementary/secondary schools; and, (vi) researchers conducted in international sites

3. **FUNDING** Indicate whether this research is funded by, or application has been made for, a grant, contract, or gift.

- 3A. **STATUS**  Research is **not funded** and is **not pending** a funding decision (Proceed to Part 4).  
 Research is **funded** (funding decision has been made).  
 Funding decision is **pending**. Funding proposal submission date: \_\_\_\_\_

3B. **SOURCE(S)** If the research is funded or pending a funding decision, mark and name all sources:

Type of Funding—check all that apply	Name of Source
<input type="checkbox"/> <b>University of Illinois Department, College, or Campus</b> (includes Research Board and Campus Fellowship Training Grants)	
<input type="checkbox"/> <b>Federal</b> (from federal agencies, offices, departments, centers)	
<input type="checkbox"/> <b>Commercial Sponsorship &amp; Industry<sup>23</sup></b> (from corporations, partnerships, proprietorships)	
<input type="checkbox"/> <b>State of Illinois Department or Agency</b> (from any state office or entity)	
<input type="checkbox"/> <b>Gift or Foundation (including UIF)</b> (public or private foundations, not-for-profit corporations, private gifts)	

→ Check here if the funding is through a Training Grant:

3C. **PROPOSAL** Attach a complete copy of the funding proposal or contract.  Attached

Sponsor-assigned grant number, if known: \_\_\_\_\_

Title of Funding Proposal or Contract, if different from Project Title in Part 2:

3D. **FUNDING AGENCY OFFICIAL, IF ANY, TO BE NOTIFIED OF IRB APPROVAL**

Last Name:	First Name:	Salutation:
Agency:	Office Address:	Mail Code:

<sup>2</sup> Clarify whether or not sponsor requires specific language in the contractual agreement that impacts human subjects research<sup>2</sup>

<sup>3</sup> Clarify whether or not the sponsor requires the protocol adhere to ICH GCP (E6) standards

Street Address:		City:	State:	Zip Code:
Phone:	Fax:	E-mail:		

**4. FINANCIAL INTERESTS:** Indicate below if any investigators or any members of their immediate families have any relationships, commitments, or activities with the sponsor of this research that might present or appear to present a conflict of interest with regard to the outcome of the research. (If a financial conflict of interest exists, please submit the University of Illinois approved conflict management plan. If you have questions about conflict of interest contact the Office of the Vice Chancellor for Research at 217-333-0034.)

- Ownership, equity or stock options
- Has been disclosed to the Illinois campus OR  has not been disclosed to the Illinois campus
  
- Personal compensation such as royalties, consulting fees etc.
- Has been disclosed to the Illinois campus OR  has not been disclosed to the Illinois campus
  
- Intellectual property such as patents, trademarks, copyright, licensing, etc.
- Has been disclosed to the Illinois campus OR  has not been disclosed to the Illinois campus
  
- Other conflict of interest:
- Has been disclosed to the Illinois campus OR  has not been disclosed to the Illinois campus
  
- No conflicts exist

**5. SUMMARIZE THE RESEARCH.** In LAY LANGUAGE, summarize the objectives and significance of the research.

My thesis is to focus on dogs' participation in human social life, mainly on people first experience with their first dog and their shopping experience of dog-related products.

In this case, I could see that there is a huge gap in the market for new dog owners-too many options but low consistency of design and with the existing décor at home. This is a very common problem in low/mid-end market. When people went to the market, they usually felt confused and made improper decision that wasted a lot of money on useless dog products. Thus, my purpose of the research is to understand what people needed when they first got their dog and what problem they had. For the final outcome of the project, I will design a series of dog supplies for new dog owners which are new-customer friendly and have high capability to adapt to the house where they live in.



**6. PERFORMANCE SITES**

Including Urbana-Champaign sites, describe ALL the research sites for this protocol. For each non-Urbana-Champaign site, describe: Whether the site has an IRB. Whether the site has granted permission for the research to be conducted. Contact information for the site. If the site has an IRB, whether the site's IRB has approved the research or planned to defer review to a University of Illinois IRB.		For non-Illinois sites, documentation of IRB approval is:
1 .	https://www.surveymonkey.com	<input type="checkbox"/> Attached <input type="checkbox"/> Will Follow <input checked="" type="checkbox"/> N/A
2 .		<input type="checkbox"/> Attached <input type="checkbox"/> Will Follow <input type="checkbox"/> N/A
3 .		<input type="checkbox"/> Attached <input type="checkbox"/> Will Follow <input type="checkbox"/> N/A

List and describe any additional Performance Sites information on an attachment and check here:

**7. DESCRIBE THE HUMAN SUBJECTS**

People who have dog(s) at home. They might have a lot of experience of purchasing different products for their dogs and interacting with these items.

**7A. SECONDARY DATA ONLY?** If this research *only* involves the analysis of data that *has already been collected* from human subjects and *no new data collection will occur*, check here:

**7B. MATERIALS OF HUMAN ORIGIN?** Will this research involve the collection, analysis, or banking of human biological materials (e.g., cells, tissues, fluids, DNA)?  Yes  No  
If yes attach Appendix C, the [Biological Materials Form](#).

**7C. ANTICIPATED NUMBERS** How many subjects, including controls, will you study in order to get the data that you need?

If you plan to study disproportionate numbers of a given sex, race, or minority group, provide scientific rationale in Part 11.

Performance Site	# Male	# Female	Total
1. Google/survey monkey	25	25	50
2.			

3.				
<b>TOTALS</b>				

List Anticipated Numbers for additional Performance Sites on an attachment and check here:

**7D. AGE RANGE** Mark all that apply. Researchers planning to include children in research projects involving *more than minimal risk* must provide written documentation of the benefits that are likely to accrue to a child participating in the project. This should include information gathered on adults, if it exists, or an explanation about why it does not exist.

- 0–7 years   
 8–17 years   
 18–64 years   
 65+ years  
→  If applicable, written documentation of benefits for including children in *more than minimal risk* research is attached.

**7E. SPECIAL OR VULNERABLE POPULATIONS** Mark groups that will be targeted by design. Also indicate groups likely to be involved in the research even though they are not targeted by design.

None of the following special populations will be targeted

- |  |   |
|--|---|
| <input type="checkbox"/> Children (age < 18)                         | <input type="checkbox"/> Mentally disabled or cognitively impaired persons            |
| <input type="checkbox"/> Neonates                                    | <input type="checkbox"/> Adults with legal guardians                                  |
| <input type="checkbox"/> Fetuses ( <i>in utero</i> )                 | <input type="checkbox"/> Persons with limited civil freedom (e.g., prisoners)         |
| <input type="checkbox"/> <i>in vitro</i> fertilization               | <input type="checkbox"/> Specific racial or ethnic group(s)— <input type="text"/>     |
| <input type="checkbox"/> Pregnant or lactating                       | <input type="checkbox"/> Low income or economically disadvantaged persons             |
| <input type="checkbox"/> Inpatients                                  | <input type="checkbox"/> Illinois Students—name subject pool, if <input type="text"/> |
| <input type="checkbox"/> Outpatients                                 | <input type="checkbox"/> Other College Students—name subject <input type="text"/>     |
| <input type="checkbox"/> Elderly (age > 65)                          |   |
| <input type="checkbox"/> Other (describe here): <input type="text"/> |   |

**7F.** if you checked any of the groups in question 7E, describe additional safeguards included in the protocol to protect the rights and welfare of special or vulnerable populations.

## 8. RECRUITMENT

**8A-1 RECRUITING PROCEDURES** specifically describe the systematic procedures for finding and recruiting subjects or requesting pre-existing data or materials. 1) State whether any of the

researchers are associated with the subjects (e.g., subjects are students, employees, patients). 2) Name any specific agencies or institutions that will provide access to subjects or subject data. 3) Who will contact the prospective subjects? 4) Who gives approval if subjects are chosen from records? 5) Describe solicitation through the use of advertising (e.g., posters, flyers, announcements, newspaper, radio, television, Internet), face-to-face interaction, direct mail or phone contact, classrooms, subject pools, health care registries, patient referrals, and institutional "gatekeepers," as applicable.

- 1) The survey will be posted on social media and researcher will ask friends to share this post.
- 2) No
- 3) Researcher
- 4) No subject will be chosen from records
- 5) Survey will be shared on social media including basic introduction of the research and the link of the online survey.

**8 A-2 Attach final copies of recruiting materials** including the final copy of printed advertisements and the final version of any audio/taped advertisements and check here:

Attached  Will Follow

**8B. WITHHELD INFORMATION** Do you propose to withhold information from subjects prior to or during their participation?

Yes  No

If yes, describe what will be withheld, justify the withholding (address risks, provide rationale), describe the debriefing plan, and attach a labeled copy of a written debriefing form, to be provided to subjects.  Debriefing Attached  Will Follow

**8C. PROTECTED HEALTH INFORMATION (PHI)** The IRB must address the privacy and use of health information that is created, received, or housed by health care providers, health plans, or health care clearinghouses and that identifies or could be used to identify an individual. During *either recruiting or data collection*, will you use or have access to such information that is related to the past, present or future health or conditions of a *living or deceased* individual, provision of health care to the individual, or the payment for the provision of health care to the individual?  Yes  No

**8D. SCHOOL-BASED RESEARCH** If subjects will be recruited from Illinois public or private elementary or secondary schools, additional deadlines and procedures apply. Criminal background clearances might be required. Special consideration must be given to the exclusion of protected populations. Please contact the Office of School–University Research Relations (OSURR) (217.244.0515 or <http://www.ed.uiuc.edu/BER/OSURR.html>) for more information. Mark one:

Illinois schools **will** be used

Illinois schools **will not** be used

**9. INCLUSION AND EXCLUSION CRITERIA** Address all four of the following items in explaining who will and will not qualify for participation and how that determination will be made: (1) Describe procedures to assure equitable selection of subjects. Justify the use of any special or vulnerable groups marked in Part 7E. Selection criteria that target one sex, race, or ethnic group require a clear scientific rationale. (2) List specific criteria for inclusion and exclusion of subjects in the study, including treatment groups and controls. (3) Name and attach copies of measures and protocols that will be used to screen applicants. (4) Explain how the inclusion/exclusion criteria will be assessed and by whom. If special expertise is required to evaluate screening responses or data, tell who will make this evaluation and describe their training and experience.

- 1) 18 years or older inclusion criteria will be assessed in the consent form
- 2) People who age from 18-64 y/o have or used to have dog(s) at home. This information that the interviewee has or used to have dog(s) will be confirmed before conducting the survey.
- 3) Question will be asked before conducting the survey: Have you ever had dog(s)?
- 4) The inclusion/exclusion criteria that if the interviewee has or used to have dog(s) or not will be assessed by researcher and people who know the research. If the interviewee doesn't have a dog, he/she will not be considered in this survey/research.

**10. RESEARCH PROCEDURES: Using LAYMAN'S LANGUAGE,** specifically describe what the participants (treatment groups and controls) will do and where the research activities will take place. Give approximate dates and durations for specific activities, including the total number of treatments, visits, or meetings required and the total time commitment. (For schools-based research where class time is used, describe in detail the activities planned for nonparticipants and explain where (e.g., in a classroom, in a private area) both participants and nonparticipants will be located during the research activities. Include a concise description of procedures, locations, time commitments, and alternate activities on the relevant consent and assent forms.)

Interviewees will receive an anonymous survey. The questions include

- (1) Single choice (Yes/No/N/A, scale...)
  - Basic formation for example gender, age, marriage, having children or not, general income, etc.
- (2) Multiple choices
  - Relationship between dog owners and dogs/attachment to dogs
  - Expenditure ranking
  - Dog-related products in the market
- (3) Short answer questions
  - Daily routines with dogs
  - Dog owners and other people interact with dogs
  - Dog-related products in the market

Time frame: survey will conduct after the IRB approval and ends before December  
Duration: 15 minutes

11. **EQUIPMENT** Will any physical stimulation or physiological data acquisition equipment be used with the subjects?

Yes  No If yes, attach **Appendix A**, the *Research Equipment Form*.

12. **DEVICES** Will any devices be used with the subjects?

Yes  No If yes, attach **Appendix B-1**, the *Device Form*.

**13. DRUGS AND BIOLOGICS** Will any drugs or chemical or biological agents be used with the subjects?

Yes  No If yes, attach **Appendix B-2**, the *Drug and Chemical Usage Form*.

**14. MRI AT BIC** To use the Beckman Institute Biomedical Imaging Center (BIC) in human subject's research, you must obtain *prior approval* from the BIC (217.244.0600; [bmrf@bmrl.bmrf.uiuc.edu](mailto:bmrf@bmrl.bmrf.uiuc.edu)) and use BIC-approved screening and consent forms. Attach:

BIC approval  Attached  
BIC screening form  Attached  
BIC consent form  Attached

**15. MEASURES** If subjects will complete questionnaires, surveys, interviews, psychological measures, or other measures, however administered, the IRB must review and approve the measures. List all such measures here and attach complete, labeled copies (including translations, if applicable) to this application:

Measure 1:	Dog owner survey	<input checked="" type="checkbox"/> Attached <input checked="" type="checkbox"/> Will Follow
Measure 2:		<input type="checkbox"/> Attached <input type="checkbox"/> Will Follow
Measure 3:		<input type="checkbox"/> Attached <input type="checkbox"/> Will Follow
Measure 4:		<input type="checkbox"/> Attached <input type="checkbox"/> Will Follow

List additional Measures on an attachment and check here:

**16. SUBJECT REMUNERATION**

Will subjects receive inducements or rewards before, during, or after participation?

Yes  No

If yes, will payment be prorated for partial participation?

Yes  No

If remuneration will be given, for each subject group:

(1) Specify the form of remuneration, including \$, course credit, lottery, gift certificate, or other;

(2) State the \$ amount or the approximate \$US value, or the course credit and its percentage of the final grade;





No identifiable information will be asked in the survey for example name, race, photo number, address, etc.

**18C. DATA SECURITY** Describe how and where the data be kept so that the data remain confidential.

Google or survey monkey. These websites will help researcher summarize all the data and present them with chart, graph, etc. The data will be kept in the cloud database of these websites and password-protected.

**18D. STAFF TRAINING** Describe the training and experience of all persons who will collect or have access to the data.

The research who will collect the data has been trained in data collection in human ergonomic engineering course. A structured data collection form was used for human data collection and a variety of methods were used to collect kinematic parameter including measurement, observation and survey.

**18E. DATA RETENTION** How long will the data be kept?

3 years

**18F. DISSEMINATION OF RESULTS** what is (are) the proposed form(s) of dissemination (e.g., journal article, thesis or academic paper, conference presentation, sharing within industry or profession)?

Thesis



**18G. PRIVACY** Describe provisions to protect the privacy interests of subjects.

No identifiable information will be asked and all the data will only be used in my personal thesis.

**18H. INDIVIDUALLY IDENTIFIABLE INFORMATION** Will any individually identifiable information, including images of subjects, be published, shared, or otherwise disseminated?  Yes  No

If yes, subjects must provide explicit consent or assent for such dissemination. Provide appropriate options on the relevant consent documents.

**19. INFORMED CONSENT:** University policy requires the execution of a comprehensive, written document that is signed by the subject (or the subject's authorized representative) as the principal method for obtaining consent from subjects. The language in the document must be understandable to the subject or the subject's legally authorized representative.

An investigator may request a Waiver or Alteration of Informed Consent or a Waiver of Documentation of Informed Consent (e.g., online consent, oral consent). If requesting a waiver please complete the appropriate waiver form at: [www.irb.illinois.edu](http://www.irb.illinois.edu) and submit it with the New Protocol Application form for review.

**Children must assent** (or, voluntarily agree) to participation and a parent must separately consent on behalf of their child (*i.e.*, two different forms are generally required). Children under age 8 may assent either orally or passively, depending on their level of maturity. Children 8–17 years old should sign a written form unless the University of Illinois at Urbana-Champaign IRB approves a different process.

**19A. TYPE OF CONSENT** Check all that apply and attach one copy of each relevant form, letter, or script on university letterhead. Include translations, if consent will be obtained in a foreign language. Use headings, headers, or footers to uniquely identify each document and associate it with the subject group for which it will be used.

- Written informed consent (assent) with a document signed by**  
 adult subjects  parent(s) or guardian(s)  adolescents aged 8–17 years
- Waiver or Alteration of Informed Consent (Attach waiver form.)**  
 adult subjects  parent(s) or guardian(s)  adolescents aged 8–17 years
- Waiver of Documentation (signature) of Informed Consent (Attach waiver form.)**  
 adult subjects  parent(s) or guardian(s)  adolescents aged 8–17 years

**19B. USE OF PROXY** Will others (e.g., next of kin, legal guardians, powers of attorney) act on behalf of adult subjects in giving consent to participate in this research?  Yes  No (if yes, describe in Section 20D.)

**19C. USE OF PROXY OUTSIDE THE UNITED STATES** If a proxy is used in research conducted outside Illinois, provide justification (e.g., statement of an attorney or copy of applicable law) that the proxy is authorized under the laws of the jurisdiction in which the research will be conducted to consent to the procedures involved in this protocol.

No proxy

**19D. CONSENT PROCESS** Describe when and where voluntary consent will be obtained, how often, by whom, and from whom. If cognitively impaired subjects (including children under age 8) will be involved, explain how the subject's understanding will be assessed and how often; include the questions that will be asked or actions that will be taken to assess understanding.

Describe any waiting period between informing the prospective subject and obtaining the consent. Describe steps taken to minimize the possibility of coercion or undue influence. Indicate the language used by those obtaining consent.

Indicate the language understood by the prospective subject or the legally authorized representative.

If the research involves pregnant women, fetuses, or neonates, indicate whether consent will be obtained from the mother, father, or both. If the research involves children, indicate whether consent will be obtained from: Both parents unless one parent is deceased, unknown, incompetent, or not reasonably available, or when only one parent has legal responsibility for the care and custody of the child; or from one parent regardless of the status of the other parent.

I will attach the consent at the beginning of the survey and get the consent with the result of the survey from October to December. The waiting period should be from the time when the prospective subject receives the survey to the time when they submit the survey. Since no gender information is needed, any special status of prospective subject will remain unknown. The online consent will be used due to the anonymity of the research and survey.

Consent form:

You are invited to participate in a research study on **Dogs' participation in human social life**. This study is conducted by **professor Sung Soo Shin from School of Art and Design** from the University of Illinois Urbana Champaign.

This study will take approximately 15 minutes of your time. You will be asked to complete an online survey about your experience with your first dog.

Your decision to participate or decline participation in this study is completely voluntary and you have the right to terminate your participation at any time without penalty. You may skip any questions you do not wish to answer. If you do not wish to complete this survey just close your browser.

Although your participation in this research may not benefit you personally, it will help us understand the potential problems that the new dog owners have when they start to do the shopping. There are no risks to individuals participating in this survey beyond those that exist in daily life.

Your decision to participate, decline, or withdraw from participation will have no effect on your current status or future relations with the University of Illinois.

**Will my study-related information be kept confidential?**

Faculty, staff, students, and others with permission or authority to see your study information will maintain its confidentiality to the extent permitted and required by laws and university policies. The names or personal identifiers of participants will not be published or presented.

When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

If you have questions about this project, you may contact **<list the RPI's name and contact information (both phone number with area code and email address)>**. If you have any questions about your rights as a participant in this study or any concerns or complaints, please contact the University of Illinois Office for the Protection of Research Subjects at 217-333-2670 or via email at [irb@illinois.edu](mailto:irb@illinois.edu).

## 20. RISKS

**20A. DESCRIPTION** specifically describe all known risks to the subjects for the activities proposed and describe the steps that will be taken to minimize the risks. Include any risks to the subject's physical well-being, privacy, dignity, self-respect, psyche, emotions, reputation, employability, and criminal and legal status. Risks must be described on consent forms.

There are no risks to individuals participating in this study beyond those that exist in daily life.

**20B. RISK LEVEL:**  **No more than minimal risk**  
(The probability and magnitude of harm or discomfort anticipated for participation in the proposed research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests).

**More than minimal risk**

**20C. Data Monitoring Plan:** If you checked that the research is more than minimal risk, describe the provisions for monitoring the data to ensure the safety of subjects (Who will periodically monitor harms and benefits experienced by subjects to ensure that the relationship of risks to potential benefits remains unchanged? How often will monitoring occur? What analyses will be performed? If appropriate, what criteria will be used to stop the research based on monitoring of the results?)

21. **BENEFITS** Describe the expected benefits of the research to the subjects and/or to society.

Help you realize the potential problems among the products that you have purchased, the living environment and your dogs.

22. **RISK/BENEFIT ASSESSMENT** Weigh the risks with regard to the benefits. Provide evidence that benefits outweigh risks.

This would be very helpful for the market and customers. The products might make it easier for the new dog owner to transit and adapt to the new life with dogs.

If additional Risk/Benefit information is attached, check here:

23. Is this a multi-center study in which the Illinois investigator is the lead investigator of a multicenter study, or the University of Illinois at Urbana-Champaign is the lead site in a multi-center study.

Yes  No

If yes, describe the management and communication of information obtained that might be relevant to the protection of subjects, such as: unanticipated problems involving risks to subjects or others, interim results and protocol modifications.

24. **INVESTIGATOR ASSURANCES:** The signature of the Responsible Project Investigator is required (scanned or faxed signatures are acceptable). Other investigators are also responsible for these assurances and are encouraged to sign.

I certify that the information provided in this application, and in all attachments, is complete and correct.

I understand that I have ultimate responsibility for the protection of the rights and welfare of human subjects, the conduct of this study, and the ethical performance of this project.

I agree to comply with all Illinois policies and procedures, the terms of its Federal Wide Assurance, and all applicable federal, state, and local laws regarding the protection of human subjects in research.

I certify that

- The project will be performed by qualified personnel according to the University of Illinois at Urbana-Champaign IRB-approved protocol.
- The equipment, facilities, and procedures to be used in this research meet recognized standards for safety.
- No change will be made to the human subjects protocol or consent form(s) until approved by the University of Illinois at Urbana-Champaign IRB.
- Legally effective informed consent or assent will be obtained from human subjects as required.
- Unanticipated problems, adverse events, and new information that may affect the risk–benefit assessment for this research will be reported to the University of Illinois at Urbana-Champaign IRB Office (217.333.2670; [irb@illinois.edu](mailto:irb@illinois.edu)) and to my Departmental Executive Officer.
- I am familiar with the latest information concerning IRB regulations and policies available at [www.irb.illinois.edu](http://www.irb.illinois.edu), and I will adhere to the policies and procedures explained therein.
- Student and guest investigators on this project are knowledgeable about the regulations and policies governing this research.
- I agree to meet with the investigator(s), if different from myself, on a regular basis to monitor study progress.
- If I will be unavailable, as when on sabbatical or other leave, including vacation, I will arrange for an alternate faculty sponsor to assume responsibility during my absence. I will advise the Illinois IRB by letter of such arrangements.

I further certify that the proposed research has not yet been done, is not currently underway, and will not begin until IRB approval has been obtained.

