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Master's Thesis
Academic Year 2021

A Furry Family Member: A Pet-Raising
Education Game



Keio University
Graduate School of Media Design

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A Master's Thesis
submitted to Keio University Graduate School of Media Design
in partial fulfillment of the requirements for the degree of
Master of Media Design

Yuxi Yan

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Abstract of Master's Thesis of Academic Year 2021

A Furry Family Member: A Pet-Raising Education Game

Category: Design

Summary

Nowadays, from pet expressions to pet videos, more and more pet images appear on the internet, and go to one of the most popular content on all major social platforms. At the same time, more and more people want to satisfy themselves by owning a pet. However, while the pet economy is rising rapidly, China is lacking supervision over pet breeding, sales, and abandonment. Some pet's owners' failure to fulfill their pet keeping responsibilities. If pet owners can acknowledge and consider about situations before have a pet, they might choose not to have a pet until they are truly ready to make a long-term commitment.

This research aims to design a pet raising simulation to help pet lovers to be prepared to make a long-term commitment before keeping pets. People can use this simulation to practice the pet raising experience, learning basic knowledge about pets' behavior and health issues, and perceive if pet can fit in their daily routine. Unlike the pet-simulations that only show the benefits of having a pet, such as adorable, reassuring, and accompanying, the pet-raising simulation that will focus on the difficulties that pet owners might face. Such as shed hair, mess up the room, urinate in wrong places, or sickness, etc. After experiencing this pet-raising simulation, the users are able to have a basic pet raising knowledge, and users might reconsider if they have the ability to keep a pet.

Keywords:

design, mobile game, education, cat raising

Keio University Graduate School of Media Design

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Chapter 1

Introduction

As one of the world's largest economies, China's pet market has been expanding in recent years. However, as a new industry in China, the pet market still has many shortcomings and deficiencies, and often does not provide pet owners with the necessary knowledge and assistance on how to care for their pets. This research is aim to help pet lovers to be prepared to learn necessary knowledge about this social problem of understand how to make a long-term commitment with pets by design a pet raising simulation game.

In this Chapter, the background of A Furry Family Member will be discussed. This chapter will be divided into three main sections:

- Background
- Research Goal
- Thesis Structure

1.1. Background

1.1.1 Chinese Pet Market

As the world's most populous country, China's pet market is huge and growing rapidly. According to Pet Fair Asia's Whitepaper 2019, the number of pet dogs and cats in China in 2019 reaches 99.15 million, increasing by 7.66 million year on year. From 2018 to 2019, pet dogs number increased 8.2%, from 50.83 million to 55.03 million. The number of pet cats increased 8.6%, from 40.64 million to 44.12 million [1].

In Chinese huge and rapidly increasing pet market, the generation of pet owners is very different than many countries. For example, in America, most pet owners are over 40 years old. They have stable home, stable relationships and stable income. However, Chinese pet owners are way younger than America. In 2019, 35.6% of pet owners are under 25 years old in China. [1]The number in America is only 11%. [2]For pet owners over 40 years old, in China is about 25%; while in the United States, the number is twice that of China which is about 50% [1] [2].

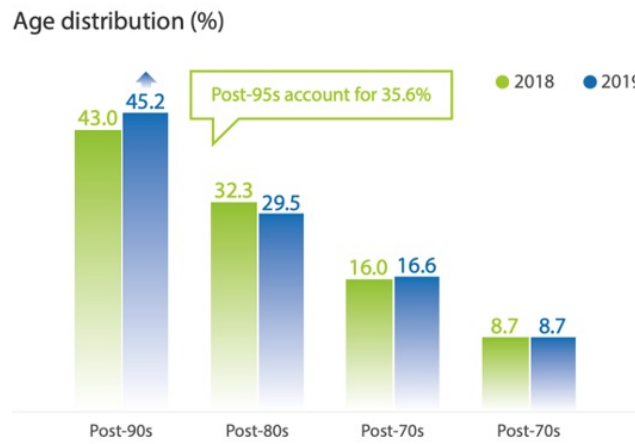


Figure 1.1 Chinese pet owners generation

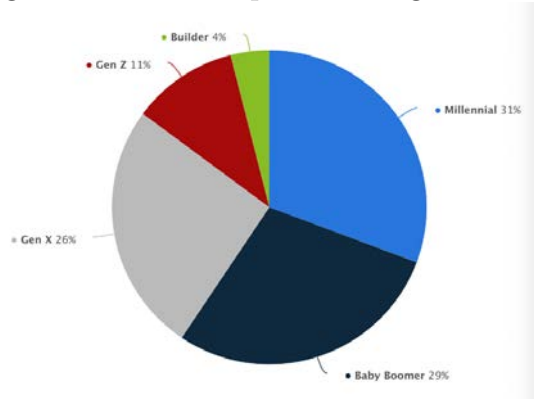


Figure 1.2 American pet owners generation

1.1.2 Chinese youth and pets

According to my interviews, the one of the reasons of Chinese pet owner's generation composition is, hundreds of millions of young people leave their hometowns to go to big cities alone. Without the company of relatives and the huge pressure of work, many of them hope that by raising a pet to relieve their pressure, and to bring them company and comfort to alleviate loneliness. Cats are fluffy antidepressants for urban shoveling officials. In foreign countries, cats are often even used as "therapeutic" pets. For example, studies have found that getting along with cats does improve social attention, behavior, interpersonal relationships and emotions, as well as reduce stress. [3]

The other reason is from the influence of social media. Only on Weibo alone, there are 27 pet KOLs with more than 5 million fans, of which seven of them have more than 10 million fans. [4] Pet topic is becoming one of the most popular topics on social media. Young people often see videos, pictures, emojis of many cute pets on the social media, and many people also want to raise a pet by themselves. The other reason is when more and more young people have their own pets, their friends will also hope that they can also have their own pets. Even the pets are becoming to a social tool between some young people's groups.

1.1.3 Chinese Animal protection Law

With this huge and increasing rapidly pet market, and this huge amount of young pet owners, pets are in the stunningly danger situations. Until now, China doesn't have any act or law to protect pet's welfare. America signed the Animal Welfare Act for animals stored at zoos and utilized in laboratories, and in addition to animals who're commercially bred and sold. [5] Japan also has The Act on Welfare and Management of Animals. [6] In contrast to China, currently there is only a wildlife protection law. Which means people can abuse, abandon, or even killing pet without receiving any punishment.

1.1.4 Commercially bred and sold pet's situation in China

The consequences of this situation cause many irresponsible sellers. For example, recently, mystery box is very famous between Chinese youth. The buyers will

not know what is inside the box. At first, the mystery boxes are only for toys or clothes. However, some unscrupulous merchant launches pet mystery boxes. They put pets into small express boxes, and directly ship them as other common express items. Many of them died during the mailing process, and most of them were dying after they were shipped and lived less than a week.

Many pet traders breed pets in bad accommodation factories. These animals usually die within a short period of time because they are not well taken good care. Those animals usually sold in very cheap price: 100 yuan to 200 yuan (15-30 US dollar); and will sold both pet shops and new owners.

Due to the lack of market supervision, youth can easily buy cats or dogs in very cheap price. These behaviors of merchants will make many young people lack respect for lives. They might just buy a pet for fun and abandon the pet when they get tired, but not making long-term responsibility for their pets.

Those abandoned pets become to stray dogs and cats. Now stray dogs and cats are becoming serious problem of all big cities in China. According to CAWA, only in Beijing, there are about 200,000 stray cats, and even more stray dogs in 2017. [7]

1.2. Research Goal

This research aims to design a pet raising simulation to help pet lovers to be prepared to make a long-term commitment before keeping pets. People can use this simulation to practice the pet raising experience, learning basic knowledge about pets' behavior and health issues, and perceive if pet can fit in their daily routine. Unlike the pet-simulations that only show the benefits of having a pet, such as adorable, reassuring, and accompanying, the pet-raising simulation that will focus on the difficulties that pet owners might face. Such as shed hair, mess up the room, urinate in wrong places, or sickness, etc. After experiencing this pet-raising simulation, the users are able to have a basic pet raising knowledge, and users might reconsider if they have the ability to keep a pet.

1.3. Thesis Structure

This research aims to help Chinese youth to learn how to take care of pets and to evaluate themselves if they are ready to take the responsibility for their pets through a mobile based game. Among the many type of pets, this research will focus on cats only.

Chapter 1: Introduction and background about the research.

Chapter 2: Literature review and related works about cat raising, andragogy, and game/simulation as a learning tool.

Chapter 3: Design process of A Furry Family Member.

Chapter 4: Evaluation results about A Furry Family Member based on interviews and observation.

Chapter 5: Conclusion and possible future works.

Chapter 2

Literature Review and Related Works

In this Chapter, the three process which are most important literature review for Meet Your Cat project will be discussed. Therefore, the five section of this chapter will be:

- Studies on responsible cat ownership
- Studies on Andragogy
- Studies on simulations/games as a learning tool
- Studies on books/videos of feline behavior and health
- Studies on related games

The first section discussed how to identify a responsible cat ownership. The second section reviews about adult learning theory-andragogy. The third section talks about simulations, games, experiences-based learning. The fourth section shows the defining of leaning materials of cat raising for new cat owners. The last section shows about related pet raising games.

2.1. responsible cat owner

Cats' welfare is deeply engaged with owners' behavior. Cats' welfare requires owners engage in responsible cat ownership practices. Not only keeping cats away from physical injury and health problem, but also including take care of their psychology needs.

According to the study of Attitudes toward Responsible Pet Ownership Behaviors in Singaporean Cat Owners, the author used the Theory of Planned Behavior to understand the engagement in responsible cat ownership behavior. In her study, the data was collected from 663 participants which are cat owners or were cat owners, and 66.8% of the participants are Chinese. Her study indicated that the de-sexing, paying for the care of, and containing their cats are engaged with responsible cat ownership practice. [8]

Animals are also anxious, and animal anxiety is often caused by human beings. People impose their own needs on them and ignore their needs. [9] Moreover, a paper in the Journal of the American Veterinary Association collected 136 cases of cats suffering from "separation anxiety" and found that when cats and shovel officials were separated, they would also have "separation anxiety" and even engage in some radical behaviors such as over-grooming. [10] [11]

The mental health of cats is as important as physical health. As a responsible pet owner, it is far from enough to meet the basic survival needs of cats, such as food, water, and living space. Cat's psychological needs are also important, such as play and be taken care. Further than that, the owners also need to meet the psychosocial needs for cat, such as de-sexing and containing cats' behavior.

2.2. Andragogy

2.2.1 Defining Andragogy

According to Cambridge Dictionary, the mean of andragogy is the theory, methods, and activities involved in teaching adult learners. [12] Andragogy, the art and science of helping adults learn, has a long and rich history that has shaped understanding of adult learning and continues to be a strong force in guiding the way adults learn. [13] The American educator Malcolm Shepherd Knowles uses the term Andragogy as synonymous to adult education. In Greek, compare with pedagogy which means child-leading, andragogy means man-leading. Andragogy is able to refers to any kind of adult learning. [14]

2.2.2 Principles of Andragogy

There are 7 principles of adult learning.

- Adults must want to learn
- Adults will learn only what they feel they need to learn
- Adults learn by doing
- Adult learning focuses on problem solving
- Experience affects adult learning
- Adults learn best in an informal situation
- Adults want guidance and consideration as equal partners in the process

[14]

Adult learning is based on comprehension, organization and synthesis from experiences rather than memorizing. By compare with pedagogy, adult learners are self-direct and independence, and able to response and evaluate for the learning. Adults learn for their performing tasks and for solving problems; and motivated by themselves. [15] Adult learners gain from experiences and what revolve in their around lives. Therefore, for andragogy, learners are driven by internal motivation and learn from experiences to solve problems around them.

2.3. Game/simulation as a learning tool

Learning through play is one of the current effective and attractive strategies in education. [16] Following by SAGSET (the society for the advancement of games and simulation in Education and Training): A simulation is a working representation of reality; it may be an abstracted, simplified or accelerated model of a process. It purports to have a relevant behavioral similarity to the original system. If a game can refer to an empirical model of reality, we use to call it a simulation game.

- They are used to present complex abstract models of reality in experimentally rich and concrete forms. Participants are expected to describe, analyze and evaluate the realities to which the games refer.
- They are used as a training method. Participants are expected to develop participating in simulation games. The goal is that participants should then be able to transfer the skills and knowledge they have learned from simulated context to real life situations.

[17]

In order to educate specific learning objects, simulation games are designed to let participants experience specific environment which connected with real reality. The participants will be able to learn the principles, facts, knowledge and concept from the simulation games. Furthermore, participants are able to train specific skills from the simulation games' experiences.

From the simulation games, all those failure experiences and the experiences they haven't experienced in real life, will help the participants to learn the knowledge and solve the problems in the reality. Also, the participants will be able to try the game again and again, learn from their experience until they have a good command of knowledge. All those make simulation game a good method of education.

2.4. Related Works

2.4.1 Books/videos of cat raising

Guidebook/guide videos

In Japan, when people buy a cat in chain pet stores, the staffs will give them a guidebook or a guide video to teach them how to take care a cat. For example, Kojima is offering both guidebook and guide videos for new cat owners. The guidebook and guide video are basically in same content, including the basic rules for cat raising, how to feed the cat, how to keep in good health, what is de-sexing, and how to do daily care.

It is a good and simple material for new cat owners to learn how to take good care of kittens and cats. Unfortunately, the guidebook and guide video are only for Kojima's customers(Figure 2.1).



Figure 2.1 Kojima Guidebook

My first cat book

Published by Anihosu pet clinic in Japan. It is a great guidebook for new cat owners as well. By compare with Kojima's guidebook, this book is more specific and open to everyone.

The impressive thing is that the pictures illustration of the book. In every page, there are clear illustrations for readers to have good understanding of the contents(Figure 2.2).



Figure 2.2 My First Cat book

2.4.2 Related Games

Simulation Game

There are many different types of simulation games. Even though many of them are not for education purpose, the players are able to transfer the skills and knowledge they have learned and experienced from simulation games to real life.

- PC Building Simulator

PC Building Simulator is a video game produced by The Irregular Corporation and Romanian independent developer Claudiu Kiss. It's a game that players are owning the computer workshop. The players can run the PC business by building and repair PC for customer's requests. [18]

By playing the PC Building Simulation, the players are able to learn how to build computers, how to repair computers, and how to fix system problems. (Figure 2.3).



Figure 2.3 PC Building Simulator

Pet Raising Games

- Tamagotchi

Tamagotchi is a handheld digital game, it first released by Bandai in 1996, Japan. [19] The players will take care of a digital pet every day to make the pet growing up from baby stage to adult stage. Such as feeding, cleaning, and playing. Otherwise, the pet will sick or even die. It is the very first and most famous pet raising game all over the world. Over 82 million units have been sold till 2017. (Figure 2.4).



Figure 2.4 Tamagotchi

- My Talking Tom

My Talking Tom is a virtual pet app produced by Slovenian studio Outfit7 in 2013. The goal of the game is to take care of the cat named Tom, such as feeding, taking him to bathroom, playing games, and putting him on bed to rest. Also, the players can buy outfits, skins and other accessories for Tom. Tom can use synthesized voice to repeat words recorded from players, and players are able to record videos and share on social media. (Figure 2.5).



Figure 2.5 My Talking Tom

Chapter 3

Design

3.1. Introduction

Based on the literature review, now a days, no matter which social media is full of cute cats' image. Furthermore, it's so easy to buy a cat in China. People even can order a cat online, and the cat will be delivered to your home directly. It's hard for young people do not want to own a cat of their own. However, after buying a cat on impulse, some people will encounter some unforeseen problems, and then start to regret have a cat. This research aims to design a mobile game for people who is eager to own a cat to experience the cat raising situation and to help them to be ready to make long term commitment as much as possible, or do not own a cat until they are ready.

3.2. Concept

Based on the literature reviews, related works, and interviews from user study, a mobile game can be a good tool to help users to experience the cat raising process, and to evaluate if the users are ready to own a cat. The concept is focusing on:

- Playable mobile game to help players learn about cat raising knowledge from experience.
- The game will connect with real time and continue in 7 days, to relate with players daily life.
- The quizzes will help players to measurement how much they understand about cat.

- The game review at the end will show the if the players are taking the responsibility during the game.

3.3. Target User

Ideally, all potential new pet owners need to have a self evaluation about if they are ready to make a long term responsibility for a new family member. Also they have to learn basic knowledge about cats' behavior to have better care and treatment.

Even though, the primary target user of this game is Chinese youth from 20-35 years old. The reason is by that age, Chinese youth seem to be more easy to buy a cat in impulsion. In that age, people are able to buy a cat easily in China. However, since the pressure of work and financial, the unstable living situation, and lack of family supports, they seem are easier to abandon their cats. The game based on Chinese language, therefore, the players has to be able to read Chinese.

Also, the game is welcome to all ages in China. The potential buyers can play the game to be prepared before they really own a cat. The cat sellers or cat adoption organizations also are able to ask their customers to play the game first, and to evaluate if they are ideally cat owners.

3.4. Game Design Document

3.4.1 Introduction

A Furry Family Member is a pet raising simulation to help pet lovers to be prepared to make a long-term commitment before keeping pets. People can use this simulation to practice the pet raising experience, learning basic knowledge about pets' behavior and health issues, and perceive if pet can fit in their daily routine. Unlike the pet-simulations that only show the benefits of having a pet, such as adorable, reassuring, and accompanying, the pet-raising simulation that will focus on the difficulties that pet owners might face. Such as shed hair, mess up the room, urinate in wrong places, or sickness, etc. After experiencing this pet-raising simulation, the users are able to have a basic pet raising knowledge, and users

might reconsider if they have the ability to keep a pet.

3.4.2 Genre

- Name: A Furry Family Member
- Type: Simulation Game
- Form: Solo Play
- Platform: IOS
- Game Mechanic: Point

3.4.3 Rules

As a mobile game, players basically can play the game by tapping. The game's time will run with the real time. First, players will follow the guide to set up the room to welcome a new cat. Then, each day will have different situation, the players can follow the guide as well. Other than that, everyday, players have to tap the cat litter box to clean up, tap the cat hair to keep the room clean, and tap the cat bowls to give cat water and food. Also, there will be a mouse toy button and brush button that players can tap to play with the cat or brush the hair for the cat. Every night, from 9 pm to 12 pm in real time, the players can answer the two quizzes that showing on the screen. The two quizzes is connected with today's experience topic. If the players miss the time, they will not able to see those quizzes.

3.5. Prototype 1

3.5.1 Pre-survey

First interview

For an early pre-survey was interview 6 Chinese young people from 20-35 years old, living alone, and who's having a cat or had a cat before. Shockingly, 5 of

them had the experiences of giving their pets away to others. More shockingly thing is, all of them abandoned their pets when they are adults. Not because their parents send their cats away when they were children.

By asking the reasons of why they had/having a cat at the beginning, their answers are the same:

- The cats are cute
- They want a companion
- Relieve the pressures

However, the five people who had experiences of giving their cat away expressed they will never have another cat. Because the memory of giving away their cat are uneasy, and they know they are not able to stand the life with a cat.

The Top three reason of why they abandon or give away their cats to others are:

- Behavior problem
- A family member was pregnant, or a baby was born
- Move to another city or country

The behavior problem was the one that troubled them most, and they don't know they will facing those problems before having a cat. Such as sickness, scratch, destroy the furniture, sleep disruption, shed hair, and pee or poop in wrong places.

Second interview

After the first interview, the second interviewees are cats suppliers. One is the manager of a pet adoption agencies, the other one is the owner of an independent cattery owner.

Both of them want their cats can be taken good care in new families. They rather like to keep the cats for longer time, but not want them meet an irresponsible owner. They don't want their cats experience be returned or changed hands, because these experiences will bring psychological harm to the cats.

In order to select a responsible owner, they have some similar strategies.

- If the customers like cats
- If the customers have a stable living place
- If the customers have stable income
- The customers have to update the cat's states, and able to accept home visit.

After they the cats find a new home, they will keep connecting with the new owners, and to help the new owners to take better care of the cats.

Both of them agree that the third and the fourth day are the hardest day for new owners. Because some of them don't understand and can't stand cat's behaviors. When the cats did some unexpected things, some of the new owners will think they can't raise a cat anymore. Some of them tried to return the cats back after four days.

3.5.2 Design Process

Concept

A Furry Family Member is an app game targets at Chinese young adults who want to own a cat. This game aims to offering cat raising experiences, to help them to understand the basic knowledge of cat's behavior and knowledge of cat care.

The game will focusing on the not adorable moments of cats that are normally happened in most cat families. By playing A Furry Family Member, players have to do all the unhappy or drudgery daily care for the cat. Such as clean the litter box; brush hair, and offering clean food and water. Also the A Furry Family Member will including cat's "bad" but normal behavior problems. Such as scratching and bite, destroy the furniture and so on. Moreover, learn how to keep cat healthy is important. Especially for kittens, they are weaker than adult cats, and need to be paid more attention on health issues.

The purpose is to help potential new cat owners to not only focusing on cat's cuteness, but also know the troubles or problems they might face to in the future. Then they will think about if they are ready to face those problems, and ready to welcome a cat as a family member till the end of the cats' lives.

Days Design

There are nine different topics which are important to know about cat raising. The players will experience different topic on each day. Also, they have to feeding, grooming, playing, and clean the litter box for the cat everyday. In the end of everyday, the game will have a conclusion quiz for the players, and they can self-evaluate themselves. Moreover, will have a book recommendation for players to learn more about cat raising. (Figure 3.1)

The topics for the nine days are:

- Day 1: The characteristics of different breeds of cats
- Day 2: Preparation: litter box, cat food, cat climbing frame, keep warm
- Day 3: Behavior: hiding, calling, arresting, not eating or pulling
- Day 4: Feeding methods, dietary taboos, observation of stool
- Day 5: Cat's common disease: sick, accidentally injured
- Day 6: Destroy the furniture, sleep disruption, excreting in wrong place
- Day 7: Scratch, bite
- Day 8: Daily Care: nail cutting, bathing, clean ears
- Day 9: De-worming, de-sexing, daily health check



Figure 3.1 Low-fidelity Prototype

Evaluation

After finishing the low-fidelity prototype, the first user test's participant was a young cat owner from China. He is 27 years old, he has two cats now, one is 4 years old, the other one is 2 years old.

After he played the game, he said it is good to keep the cat simple. The cat image is cute, but do not let players pay too much attention on it's cuteness. All the steps and are clear, and easy to understand. He liked the quiz part, he said it is a good conclusion for every day's topic. He admitted that he still learned something new through the quiz. For example, he wasn't sure about when a kitten can start eat adult food. Even he did some research about the differences between kitten food and adult food.

There are also some limitations about the game. He said the art design of the room looks too small and not comfortable, and seem there doesn't have enough space to arrange all cat supplies. The second limitation is that as a lo-fidelity prototype, it not interactive enough. It will be better if the game time can be related with real time.

He said when he first got his cat, he spent half year to learn how to take care of a cat. Then he got a cat until he has enough money, and meet a good looking cat. Even though his cat was sick after got home. More over, the cat had some behavior problem till now. Such as scratching and urine on his bed. He believe even now he should learn more about cat raising knowledge.

We all agree that cat owners should learn about cat raising knowledge first, then to own a cat, not the opposite. Even though we all keep learning about cat raising knowledge after having a cat, but basic cat raising knowledge will help owners to be more confidence. Furthermore, new owners will not question about if they are able to living with cats together, and thinking about give up their cats.

3.6. Prototype 2

3.6.1 Modified Concept

Considering the interactive of A Furry Family Member, the design of the game will be related with real time. Because there are seven days in a week, most people's

daily schedule is based on the cycle of a week. Therefore, the days setting changed from 10 days to 7 days. Then the players can experience if they will have enough time and energy to take care of their cat in daily life.

3.6.2 Design Process

Pre-survey

I interviewed three people under 35 years old in China. Two of them want to buy a cat in short future. The other one is an independent cattery owner. All of them agree having a cat is like having a new family member. As long as brought the cat home, the cat owner should treat the cat will, and never abandon it.

Fieldwork

For fieldwork, because I have a cat myself, I observed and recorded how I take care of my cat everyday. I brought my cat home when he was 3 months old, and now he is two years and half. His name is Pipi. He is a Persian Chinchilla Silver cat, and had de-sexing when he was 7 months old. (Figure 3.2)I didn't have any experience in raising cats before Pipi. I have part time job every Wednesday and Saturday. I have to leave at 9 am, and back home around 7:30 pm.



Figure 3.2 Pipi's Picture

For my sequence model on my workday: I wake up, give Pipi one-third of cat can on a plate. Through away left over cat food. Wash the food bowl and water bowl. Full-field clean water and cat food. Wash the plate. Clean the litter box. Pet Pipi and say goodbye. Back home. Say hello to Pipi. Wash my hands and change cloth. Pet Pipi. Give him one-third of cat can on a plate. Change water. Clean the litter box. Play with him about 15 minutes. Have dinner. Working on my own things beside Pipi. Before I go to bed, brush his hair. Clean his face. Play with him about 30 minutes. Give him the last one-third of cat can. Check the litter box one more time.

Scene Design

There are three scenes in A Furry Family Member. The first one is the home before welcome a cat. The second one is the home having a cat. The third scene is taking the cat to hospital.

- First Scene

In the first scene, the player is not having a cat yet. The players have to get necessary pet supplies first. Such as cat bag, climbing frame, brush, toy, food and water bowl, cat grass and litter box. Also some unnecessary items will not be the options. Such as accessory, cat collar, and shampoo.

The next step is clean up the room. The players need to clean all the items that might be dangerous for the cat. Small items like hair band and pencil, will be dangerous for cat if the cat eat them by accident. Many common plants in the home are poisonous to cats, best to put them away to avoid eaten by cat. Such as: dieffenbachia, sago palm, daffodils, tulips, lilies, kalanchoe and so on. [20] Also, fragile items, like cups, it is better to put them away in order to reduce the possibility of being broken by cat. Cats like to hide when they arrive in a new environment. It is best to clean the dead corners under the bed in advance. After arranging all cat supplies that selected before and close the windows to prevent the cat from running away or falling from the building, this room is ready to welcome the cat.(Figure 3.3)



Figure 3.3 Room before clean up

- Second Scene

After the cat arrive home, the player need to take care of cat's daily needs. Such as put fresh water and food, cleaning the litter box, playing, and grooming. The goal is to help players to get use to daily care routine, and understand cat's basic needs. Also to help players to find out their own schedule to take care of the cat. (Figure 3.4)

Moreover, there are different themes for different days. After the day, there will have quizzes about the theme, and to help the players have better understand.



Figure 3.4 Room after clean up

- Third Scene

The third scene is in the hospital. When a cat first comes to a new environment, it is easy to have some healthy issue. Those healthy issue can be deadly for cat, especially more dangerous for kitten. Therefore, on day three, the player has to take the cat to hospital immediately when player find out there are something wrong with cat.

Moreover, a new cat usually needs to have a health check, and then to decide if the cat need to take vaccine and de-worming. Also the doctor from hospital will offering advice about de-sexing.(Figure 3.5)



Figure 3.5 Hospital

Days Design

Through the different theme of each days, the goal is to help players to understand cat's basic behaviors and body languages, and have basic understand about how to take care of cat and keep it in healthy.

- Day 1 Preparation

Goal: Understand the basic needs of cats, able to arrange all cat's supplies.(Figure 3.6)

Understand how to clean the room, and what kind of things might cause cat hurting or poisoning.

Process: Players need to choose the cat grass, cat bag, cat climbing frame, brush, toy, food and water bowl, cat litter box, and then can enter the next step.

Instruct players to clean up plants, pencils, hair band, cup, and dust under the bed

Instruct players to arrange all the cat supplies that chosen before. Close the window For cat's safety.



Figure 3.6 Choose Cat Supplies

- Day 2 First back home

Goal: Understand cats need personal space, let cats freely walk around the home and check everything.

Understand do not bothering or staring cat until they used to the new home.

Understand how to feed cat or kitten.

Process: Release the cat from the cat bag. (Figure 3.7)

Prepare cat food and water for the cat.

Click the litter box to help the cat get familiar with the environment. (Figure 3.8)

Only can pet cat when the cat get closer to the player.

Players have to start to do daily care for the cat. (Figure 3.9 Figure 3.10)

Quiz: How old can a kitten start eat adult cat food?

Which of the following foods can cats eat?



Figure 3.7 First Back Home

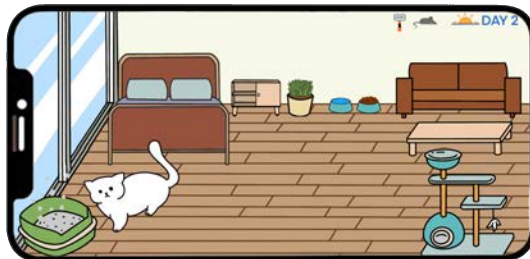


Figure 3.8 Familiar with the Environment



Figure 3.9 Playing

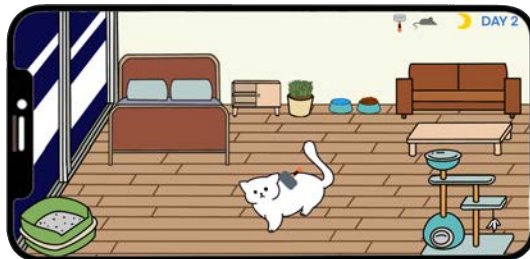


Figure 3.10 Grooming

- Day 3 Cat's commend disease

Goal: Understand how to check cat's health status.

Understand under what circumstances should take the cat to the hospital immediately.

Process: The players will find out the abnormal faeces while clean the litter box. (Figure 3.11)

Instruct players to give status check for the cat.

Take the cat to hospital. After finishing the inspection, all the tests are normal. Understand that It may be diarrhea caused by nervousness about the new environment. Go home for observation, if it does not improve over time, come to the hospital for more inspection. (Figure 3.12)

Quiz: Which of the following situations need to take the cat to the hospital as soon as possible?

What should do when a cat has heat stroke?

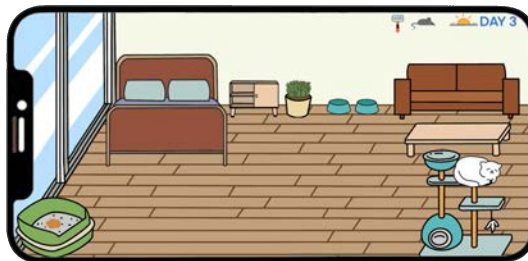


Figure 3.11 Abnormal Faeces



Figure 3.12 Go to Hospital

- Day 4 Behavior

Goal: Understand cats will not do bad things on purpose.

Understand cats' basic needs.

Understand how to avoid those behavior problems.

Process: Clean up the cat's urine on the bed. (Figure 3.13)

Clean up the scratch on the sofa.

Set up the scratching board for the cat. (Figure 3.14)

Quiz: Which of the following is not the cause of cats' random excretion? Which of the following is not the cause of cat scratching the furniture?

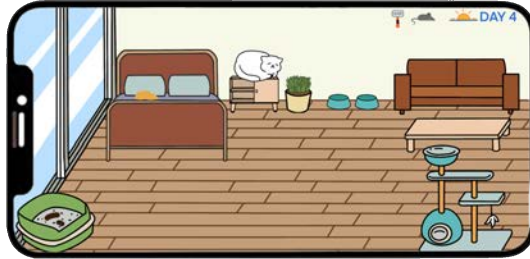


Figure 3.13 Urine on the Bed

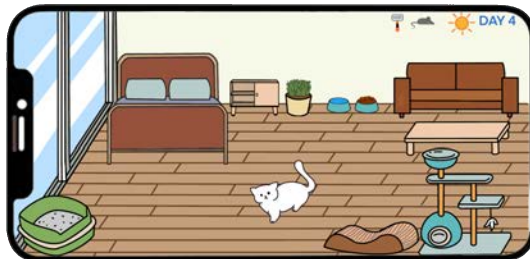


Figure 3.14 Scratches on the Sofa

- Day 5 Scratch and Bite

Goal: Understand scratch and bite is not avoidable, try to understand cat's emotions and body language.

Understand how to avoid scratches and bites as much as possible.

Process: Seeing cat's tail swinging sharply while brushing hair, and bitten by cat.(Figure 3.15)

Cat gets too excited while playing, and bite hands. (Figure 3.16)

Quiz: Which of the following is not the reason why the cat bit you?

Which of the following options is the wrong way to stop cats from biting hands?



Figure 3.15 Scratch

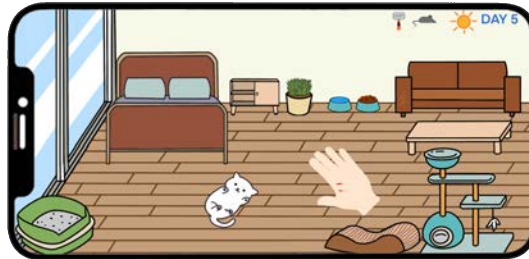


Figure 3.16 Bite

- Day 6 Daily Care: nail cutting and face cleaning

Goal: Understand how to do daily care for cat.

Understand that cats don't need to take bath frequently.

Process: To cut the cat's nails, there are two front paws and two back paws. Players need to click each finger, and be care of the blood line. (Figure 3.17Figure 3.18)

Wipe the cat's face. (Figure 3.19)

Quiz: How many fingers does a cat have?

How often does a cat need to take a bath?

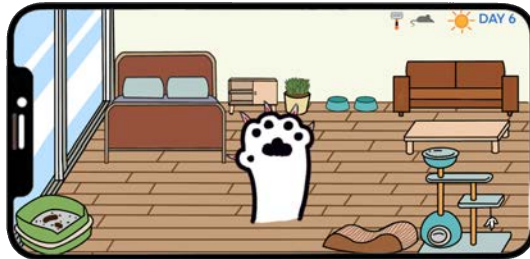


Figure 3.17 Cutting Nails

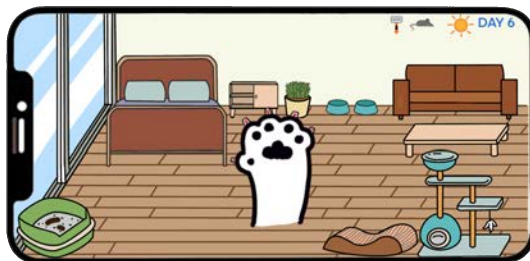


Figure 3.18 After Cutting Nails



Figure 3.19 Clean Face

- Day 7: De-worming and De-sexing

Goal: Understand the importance of de-worming and vaccinations.

Understand why cats need to do de-sexing.

Process: Instruct player to take cat to hospital to have regular health check.

In the hospital, the doctor will explain: the two shots of the vaccine have all been given, and should bring the cat come to the hospital for vaccination check once a year from now on. De-worming for inside and outside of the body has also been done, and can buy it yourself and give it to cats once to two months at home. After six months, the cat can come to the hospital to see if it can be de-sexing. The best time for sterilization is from six months to about one year old. De-sexing can prevent the risk of many reproductive diseases. (Figure 3.20)

Quiz: Which of the following options will not be helpful for de-sexing?

Which of the following statements about de-worming is correct?



Figure 3.20 Doctor's Explanation

Closing word: Congratulation for spent 7 days with a cat.

There is more responsibilities for keep a real cat. Please carefully consider whether you can be prepared to accept it as your family member in the next ten years, no matter what happens, you will not abandon it.

Book recommendation

Anihosu pet clinic: My First Cat Book.

Evaluation

After finishing the prototype of A Furry Family Member, the second user test started, total had three participants. One is the independent cattery owner, the employee of an internet company, and a graduated college student.

All of them enjoyed the game, and affirmed the quiz part can help them have better understanding about every day's theme. However, the limitation is they are not sure about when the quiz will show up during playing. It is better to explain about the quiz before the game, then players will not miss the quiz part.

3.7. Prototype 3

3.7.1 Modified Concept

Through the feedback results of the second user test, considering that the player has a clearer understanding of the goals of the game, a short introduction was added in the beginning of game.

Game Introduction:

This is a game to simulate your life after having a cat. Every day, you have to take good care of your cat (feeding, cleaning the litter box, playing, brushing hair). In seven days, you will meet different challenges everyday. Every day, from 9pm to 12pm will have a conclusion test for a day. Please try to not miss anything of your cat's life. It is not just a game, please connect all the situations with your real life, and think about if you are ready to responsible for a cat's life.

3.7.2 Evaluation

After added the game introduction of A Furry Family Member, the third and user test was tested with two participants. The employee of an internet company reran the test round because he failed to complete the test before. Another participant, who works for a consulting firm, used to taking care of a cat with her grandparents when she was in high school.

They all enjoyed the game and said they liked the seven-day game setting, as well as the daily theme setting. Compared to the previous user test, they had a clearer understanding of the game's flow and goals because of the introduction added before the game started. Because of the introduction to know the specific time of the quiz, they did not miss the quiz mostly, and the participants said that these quiz are a good summary of the content of the day.

Chapter 4

Evaluation

The main method of evaluation for A Furry Family Member is interview. The Pre-survey was given before the players play the game, in order to understand their background. During the game, the time sheet will be given to collect the data of players game time. After the game, participants was given followed up interview and questionnaires to validated.

4.1. User Test Plan

The test is aim to evaluate the improvement of behavior and attitude about cat raising knowledge through game experiences by interview and observing of Chinese young adult who is planing to have a cat. The specific steps of testing are

- Interviewing about participants' background and feedback
- Whether the participants are able to self evaluate if they are ready to have a cat
- Whether the participants are able to learn basic knowledge about cat raising
- Whether the participants are motivated to learn more knowledge about cat raising
- Testing as a game design

4.1.1 User Test Setting

The participants of the test are Chinese youth who born after 90s. The pre-interview, post-test interview, was given to the participants. The participants are asked to record their game time during the 7 days of playing the game.

4.1.2 Length of session

The first user test will try to use the lo-fi prototype to see if the setting of the design can reach the goals. Also due to the incompleteness of design, the test is aim to find out the defect of the design. Therefore, the testing will be supported by experienced cat owner.

The second user test will be able to test out as a playable game for participants. In this stage, basic design of prototype will be finished, and players are able to have self evaluation after the game.

The final uset test will be able to work as a complete design for this stage. Even though the game is still have many things can be improve, the prototype will be able to achieve the purpose of the user test.

4.1.3 Participants

There are total 5 participants including who had cat raising experiences, and who don't have any cat raising experience. All of them are Chinese and able to read Chinese. All of them are born after 90s(Table 4.1). 4 of them are living in China, and one is living in Tokyo(Table 4.2).

Table 4.1 Participants Background Information I

Participants	Gender	Age	Location
Participants A	Male	27	Shanghai
Participants B	Female	30	Beijing
Participants C	Female	24	Beijing
Participants D	Male	23	Beijing
Participants E	Female	27	Tokyo

Table 4.2 Participants Background Information II

Participants	Work	Cat Raising	Test Trial
Participants A	Biotechnology Company	Experienced	User Test I
Participants B	Cattery Owner	Experienced	User Test II
Participants C	Graduated College Student	Inexperienced	User Test II
Participants D	IT Company	Inexperienced	User Test II & III
Participants E	Consulting Company	Experienced	User Test III

4.2. Observation and Interview Result

4.2.1 First Testing Trial Result

The first user test aims to prove the design idea and structure of A Furry Family Member. Observing participant's reaction and the participant's review is important for design functions of A Furry Family Member.

The lo-fi prototype was created with Microsoft PowerPoint, on January 10, 2021. The player is able to play by click specific places to across the pages. Also the player is able to answer the quiz by click the answers, and able to see if the answer is right or wrong.

Participant

The participant A is 27 years old. He has two cats, one is 4 years old, the other one is 2 years old. He raised the first cat when it was 3 month old. The second one was received from his friend when it was 10 month old, because his friend doesn't want it anymore.

According to the pre-interview, Participant A spent about half year to learn about cat raising knowledge before he really got one. After he thought he has enough money, and meet a good looking cat, he actually got a cat. Even though his cat was sick after got home. Moreover, the cat had some behavior problem till now. Such as scratching and urine on his bed. He believe the cat owner should learn about cat raising knowledge as much as they can, and should keep learning as long as they are raising a cat.

Observation Result

The testing was observing participant A through Zoom video. The participant seemed concentrate on the game. While he playing the game, he seemed to be clear with navigation, and able to play the game till the end without confusion.

The participant smiled when he open the game, and saw the cat image. He got all the answers correctly, but he seems uncertain some times.

At the end of the game, he says the game was finished so fast. However, he also said he want to play more because he liked the game.

General Feedback and Suggestions

Positive Feedback:

- The game is easy to understand and play.
- The cat character is cute.
- The quiz part is good for new cat owners. Even himself learned something new from the quiz.
- The quiz part is also a good conclusion for every day's topic.

Suggestions:

- The room design is too small, and looks not comfortable for him.
- Not interactive as a lo-fi prototype.
- The game might be more interactive if it can be connected with real life time.

4.2.2 Second Testing Trial Result

The second prototype of A Furry Family Member was able to download for ios system. The participants were received a QR code, and able to play the game on their iphone. The design was modified from the first user test experience, and

the design of playing process are basically done. The participants were asked to record the frequency and the specific time that they open the game.

This testing aims to overview A Furry Family Member as a teaching tool. Consider the improvement of players' behavior and attitude about cat raising knowledge through game experiences. The players need to open the game and check the cat's conditions and every day's goals that explained on Chapter 4. The goals of the second user test are:

- Whether the participants are able to self evaluate if they are ready to have a cat
- Whether the participants are able to learn basic knowledge about cat raising
- Whether the participants are motivated to learn more knowledge about cat raising

Participants

The participant B,C,D, total three people joined the second user test.

- Participant B

According to pre-interview, participant B is a independent cattery owner. She has another job except running the cattery. She has up to 8 cats at the same time. She sold fifteen cats in total. All those cats are like her own babies, she wants her cats can be taken good care in new families.(Figure 4.1)

She will have a face-to-face interview for all buyers, to see if they really like cats or not before selling her cats. Also, she will teach them about how to take care of cats and send them articles about cat raising knowledge. Despite this, there are still times when customers said they are consider about if they can return the cat. She wants everyone can consider more carefully before buy a cat. Because she doesn't want any cats suffered from moving one owner to another owner.



Figure 4.1 Participant B uses A Furry Family Member game

- Participant C

According to pre-interview, participant C was graduate from college last year. Now she got an offer, and waiting to join the company. She doesn't have any pet raising experiences. (Figure 4.2)

She sees many cut cats on the internet, and many of her friends having cats. She went to cat cafe for couple of times, and she thinks cat are cute and can be a good company. Affected by those, She is planning to have a cat after she starts work. Now she doesn't know much cat raising knowledge, but she will ask her friends who already having a cat, and also search on internet.

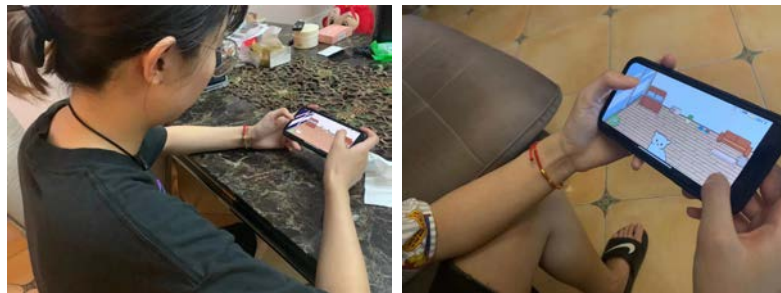


Figure 4.2 Participant C uses A Furry Family Member game

- Participant D According the pre-interview, participant D is an employee of internet company. He also likes to watch cat videos on social media, and many of his friends are raising cats as well. (Figure 4.3)He doesn't have any pet raising experiences. However, he usually go to his friends home, and

play with his friend's cat. About cat raising knowledge, he said he will ask his friends.

He have consider about have a cat for long time. Even though his work is very busy, but he said he will able to spend one hour with cat everyday. Also he will provide best things for cat.

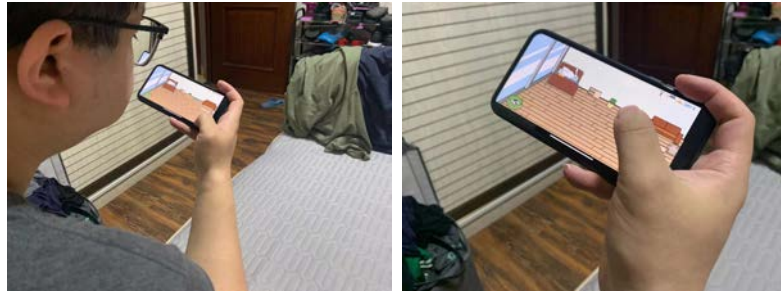


Figure 4.3 Participant D uses A Furry Family Member game

Observation Result

- Participant B

Participant B opened the game everyday in same time. In the morning, she opened the game at 8am, after she wake up and take care about her cats. At 2pm, after her lunch break, she checked the game one more time. She usually checks her cats' through video camera at this time as well. Then she opened the game at 5pm, after she came back home and feed her cats. Then she opened the game at 8pm before she went to bed. During the seven days of playing the game, her daily schedule is the same because she has become accustomed to taking care of her cat at the same time.

- Participant C

Participant C opened the game quit randomly. On day 2 and day 6, she only opened the game once a day. Because she went out on day 6, and only checked the game one time before went to bed. However, most of the other time, she opened the game three to four times a day. Mostly, she opened the game to check the cat every morning, afternoon, and night.(Figure 4.4)



Figure 4.4 Participant C time sheet

• Participant D

Participant C didn't finish the game. On the first two days, he opened the game two times everyday: afternoon and night. Because he always busy in the morning, and doesn't have time to open the game. However, he started very busy at work, and totally forgot about the game since day 3.

Followed Up Interview

• Participant B

She is used to take care of cats everyday, so open the game and check the cat's condition is easy for her.

She thinks 7 days is good to help people calm down, and also good to help

people to combine the game with their daily life. In the game, it is good that the cat follow the player's own schedules. Because everyone's schedules are different, and the cat usually will follow their owner's schedule.

Because she usually go to bed around 8pm, she missed all the quiz which shows in the game from 9pm to 12pm everyday. After she saw the quiz after the game, she said the questions can help the players to learn some basic idea about the cat, and it's a good summarize for everyday. Otherwise, like her, she didn't realize the theme of each day because she missed all the questions.

- Participant C

According to pre-interview, she thought that she is able to spend 1 hour everyday to play and take care of the cat. The thing she worries most was that the kitten will get sick when she receives it.

After the game, comparing with pre-interview, she thinks she only able to spend half hour with cat everyday. Now what she was worried about became that she might not have enough time to accompany the cat. And she feels a little scared about the cat biting and scratching people, because she has never considered this issue before, and she is unsure about if she can face it.

Her assessment of herself is that she is not ready to raise a cat. But through the game, she learned a lot about raising cats that she didn't know before. She knew that she would need to learn more knowledge about raising cats through reading books and the do research on the Internet. Also she thinks it is better to discuss with friends who have experience in raising cats to ask experiences and identify fakes teachings.

- Participant D

In the pre-interview, participant D said he can take care of the cat for an hour every day. However, after he played the game, he is not sure if he has time to accompany the cat every day, because he doesn't even have time to finish the 7-day game.

Moreover, he is now renting a share house with others, he is not sure whether his room has enough space for the litter box and cat climbing frame. Also in

the game, the instruction reminds the player to keep the doors and windows closed to keep the cat in safe. He is now worried that if his roommate accidentally opens his door and window, the cat might run away.

For his self-evaluation, he learned that he is not capable of raising a cat now. He will reconsider raising a cat until he no longer living in share house with others.

He looks forward to playing this game again, and he can finish the game completely. And he is now eager to learn more knowledge about cat.

General Feedback and Suggestions

Positive Feedback:

- The design of first day, makes participants very looking forward for welcome a cat.
- Enjoyed the questions, because many of them the inexperienced players doesn't know the answer.
- Question helps to learn some basic idea about the cat, and it's a good summarize for everyday.
- It is good to add more furniture for cat after days. Nothing will be hundred percent prepared in the beginning.
- The 7 days design is good to help people to calm down, and combine the game with their own daily life.
- The game is simple to play, and the design of the character is good to be simple and cute.

Suggestions:

- Didn't sure about what to do when first started playing
- Missed the quiz because unsure about the quiz time
- Not able to fully simulate the experiences of raising a cat

4.2.3 Third Testing Trial Result

In order to let players understand the purpose of the game more clearly and experience the complete game flow, the design was modified from the second user test, a short introduction of A Furry Family Member was added in the beginning of the game.

In this stage, the testing aims to let players to be able to self-evaluate on whether they are ready to raise a cat after the game. Players can learn about raising cats, and understand the importance of learning more about raising cats. Moreover, the players are able to maintain a cautious and responsible attitude towards raising cats.

Participants

A total of two people a and b participated in the third user test.

- Participant D Because in the second user test, participant D did not able to complete the game. Therefore, he wants to have a chance to finish the game completely.

Participant D said that although he learned from the last game experience that he may not be able to raise a cat yet, he still hopes to learn more about raising cats by completing this game. To prepare for the possibility of having your own cat one day in the future, and he can also give more advice to his friends when they say they want to raise a cat. (Figure 4.5)



Figure 4.5 Participant D uses A Furry Family Member game for second time

- Participant E

According to pre-interview, the participant E said she has lived with her grandparents since high school, and they have a cat together. After college, she came to Tokyo to study for graduate school. Now she has graduated and found a stable job. Now the cat lives with her grandparents, and she will go back to see them every time she goes back on vacation. Now she wants to raise a cat of her own to be company with herself.(Figure 4.6)

However, she is still not sure if she has the ability to raise a cat on her own. Because she was raised with her grandparents before, and because she was going to school, her grandparents took care of the cat most of the time.



Figure 4.6 Participant E uses A Furry Family Member game

Observation Result

- Participant D

Because of the experience in the second test, he set four alarm clocks for himself during the game. They are the time he wakes up, 7 am; his lunch break, 12:30pm, and the time he usually get off work, 7:30 pm; and bedtime, 11:30 pm.

During the game, most of time he is able to followed his time schedule. However, some times when he had meetings or busy at work, he can't open the game and check the cat on time.

On day 6, he missed two alarm clocks because of worked overtime, and it was past twelve o'clock when he remembered. He feels a pity that he missed the quiz of the day.(Figure 4.7)

D1
19: 00
D2
7: 00 12: 30 19: 35 23: 30
D3
7: 00 12: 30 19: 30 22: 27 23: 30
D4
7: 10 14: 30 23: 00 23: 30
D5
8: 30 12: 30 19: 30 23: 35
D6
7: 00 13: 53 0: 45
D7
7: 00 12: 30 19: 42 21: 13 23: 30

Figure 4.7 Participant E time sheet

- Participant E Participant E opened the game quite randomly like participant C, but more frequency. Unfortunately, she forgot to record the exactly game time. According to her followed up interview, she said she opened the game about 5 to 7 times a day. After she wakes up, before going to bed, using the bathroom, or on the train, she will open the game when she has time to take a look.

Followed Up Interview

- Participant D

Before the third user test, he said that due to his last experience, he was not sure how much time he could spend with the cat. His goal is to complete the game. He said that although there were times when he forgot and missed a quiz, he felt that he had worked very hard and did his best to finish the game.

He said that after playing again, he learned more about raising cats. He still thinks that he is not able to raise a cat now, not only because he lives in a shared house, but also because he feels that he still knows too little about cat behavior. Moreover, even if he has the ability to provide cats with the most expensive cat food, companionship may be more important for cats. The cat is not only to accompany him and ease his loneliness, the cat also

needs his company. And his current job may not be able to give the cat enough time.

- Participant E

Before participant E play A Furry Family Member, she said she was unsure about if she can raise a cat by her self. However, after she finished the game, she said she thinks she can keep a pet by herself.

First of all, during the game, she was often open the game every day to check the cats. She thinks it'd not difficult for her to remember that she has to take care of a cat.

Secondly, during the game, the theme setting for each day in the game reminds her of her days with cats. She was no stranger to those situations, nor was she surprised. The quiz in the game is not very difficult for her. Although she knows that she must need to learn more about raising a cat, she thinks she has understand most of the basic knowledge of cat raising.

Therefore, after the game, she thinks she's able to raise a cat by herself. She might get a cat in the future when she had a chance.

General Feedback and Suggestions

Feedback

- The cat character is cute.
- The setting of cat behavior problems is very real, which can help people who have never owned a cat to understand the real problems after owning a cat.
- The quiz are challenging and helpful for players that never had a cat before.
- The game setting is interesting and playful.
- This game can help players have a clear understanding of how much time they can spend on cats.
- The seven-day length of the game is just right, it will not end in too short a time, and it will not be too long to make people feel tired.

Suggestions

- The setting of the cat is a little too passive, it will be better that the cat can do more things.
- It will be better if can simulate that the cat is in the player's own house.
- Can add more situations or problems of cat raising.

4.3. Evaluation of Interface and Function Design

The participant B, participant C, participant D, and participant E the survey and interview about the user experience about the interface and function design after the game. Including three parts: accessibility, art design, and learning.

For the questions in the questionnaire, participants can give the score from 0 to 10. 0 is present least satisfied, and 10 is present most satisfied.

4.3.1 Participant B

Participant B as a professional cat owner, her self-evaluation is suitable to have a cat. For the accessibility, For the game flow is easy to understand, the guidelines for the game are clear, she gave 9 and 8. Because she goes to bed before 9pm everyday, so she missed all the quizzes in the game. Then I added introduction before the game. For the user test III, no one missed the quizzes. After the game, I showed her all the quiz questions, she said The quiz questions are good, it's a pity that I missed all of them.

For the art design part, she said she wants to able to use more cat's items during the game.

For learning part, she gave quiet low score for if she learned knowledge about cat raising through the game. Because I already know most of the knowledge appears in the game. But those are good for new beginners." "I would like to let my let my customer to play the game before they buy a cat." (Figure 4.8)

Accessibility		Art Design		Learning	
The game flow is easy to understand	9	The design of the cat	10	Learned knowledge about cat raising from the game	6
The guidelines for the game are clear	8	The design of the scene	9	Eager to learn more about cat raising after the game	9
The problems and options of the game are clear	10	The design of the room	10	Can self-evaluate whether can raise a cat	10
All the text are easy to read	10	The design of the items	7	Enjoyed the game	10

Figure 4.8 evaluation of participant B

4.3.2 Participant C

Participant C's self-evaluation is not suitable to have a cat. She is satisfied about A Furry Family member. The only thing is "The cat didn't use scratching board during the game."

Because she doesn't have any experience about cat raising. She said "I don't know the answers about many questions. I was surprised by some situations that I experienced in the game. Such as biting and scratching. And let me to rethink about if I am ready to face those situations." (Figure 4.9)

Accessibility		Art Design		Learning	
The game flow is easy to understand	10	The design of the cat	10	Learned knowledge about cat raising from the game	10
The guidelines for the game are clear	10	The design of the scene	10	Eager to learn more about cat raising after the game	10
The problems and options of the game are clear	10	The design of the room	10	Can self-evaluate whether can raise a cat	10
All the text are easy to read	10	The design of the items	9	Enjoyed the game	10

Figure 4.9 evaluation of participant C

4.3.3 Participant D

Participant D didn't finish the game in user test II. So he play A Furry family member one more time for user test III. He thinks he is not suitable to have a cat.

For the art design of the game, he said I think the art design as a whole can be designed more beautiful.” Before the game, he said he thinks he can take care of a cat. but after the game, he said: I realized I don’t have much to spend with cat as I thought.”

By asking about future plan, he said: “Now I am living in share house, doesn’t have enough room to put litter box and climbing frame. Also, it is not secure to keep cat in safe.” “I will not consider about having a cat until I move out from share house.” (Figure 4.10)

Accessibility		Art Design		Learning	
The game flow is easy to understand	10	The design of the cat	9	Learned knowledge about cat raising from the game	10
The guidelines for the game are clear	10	The design of the scene	8	Eager to learn more about cat raising after the game	10
The problems and options of the game are clear	10	The design of the room	8	Can self-evaluate whether can raise a cat	10
All the text are easy to read	10	The design of the items	8	Enjoyed the game	10

Figure 4.10 evaluation of participant D

4.3.4 Participant E

Participant E thinks she is suitable to have a cat. She said that she already know most of the knowledge appear in the game.”

But “she will keep learning about cat raising knowledge, because it is important to keep cat happy and healthy.”

before the game she was unsure about if she can raise a cat by herself, even though she has cat raising experiences. After she played the game, she feels confident about raising a cat. She thinks she will get a cat when she meet a cat that she likes.” (Figure 4.11)

Accessibility		Art Design		Learning	
The game flow is easy to understand	10	The design of the cat	10	Learned knowledge about cat raising from the game	7
The guidelines for the game are clear	10	The design of the scene	9	Eager to learn more about cat raising after the game	10
The problems and options of the game are clear	10	The design of the room	10	Can self-evaluate whether can raise a cat	10
All the text are easy to read	10	The design of the items	9	Enjoyed the game	10

Figure 4.11 evaluation of participant E

Chapter 5

Conclusion

5.1. Concept Validation

At the beginning, the goal is to let more young people in China know more knowledge about raising cats when they see cute cats they want to keep. The thesis aims to have more responsible cat owners and not let the cats experience painful memories. By going deeper with the ideation, literature reviews, designing, prototyping, A Furry Family Member came out as a cat raising simulation game of cat education. Coming out from the observation and interview result from the participants, the mainly conclusion of the concept about A furry Family Member had drawn to an end.

Based on the result of observation and interviews, A Furry Family Member has been shown to help people who want to own a cat evaluate whether they have enough ability and knowledge to take care of the cat before owning a cat. In an environment where cats can be easily bought in China, people who want to keep pets can have time to calm down and prepare for being a responsible owner. From the user test, A Furry Family Member made two participants who wanted to have a cat reconsider whether they could have a cat now and gave a negative answer. The two participants would postpone their cat plans until they thought they were well prepared.

People who have experience or are well prepared to have a cat can also gain confidence through A Furry Family Member. Like participant E, after the game, she thinks she has the ability to take care of a cat, and will continue to learn how to take care of the cat. When she meets the cat she loves, she will not hesitate and can become a conscientious cat owner.

The owner of the cat house said that she is willing to let new customers play the game before taking the cat home. She thinks A Furry Family Member is very

suitable for beginners.

In conclusion, depending on all the studies and positive feedback, A Furry Family Member was proven to be able to help people to learn and review knowledge about cat raising, and able to do self-evaluate by themselves. Further more, A Furry Family Member is able to help people to be responsible for cats.

5.2. Limitation

Although A Furry Family Member can be considered successful as a whole, there are still weak parts that need to be improved after the evaluation.

- Enlarge Knowledge

Enlarge knowledge is the foremost limitation for A Furry Family Member. Although A Furry Family Member is for users who are going to keep a cat, but different users have different experiences about cat raising, and have different knowledge level of cat raising. According to participants' feedback, more situations can be added to enlarge the complexity of the game. Moreover, more quiz questions can also be added for the quiz time.

- Art Design

Based on evaluation, the art design can be seen as a part that can be promoted more. Can have more pet products, and more functions can be added. Also, the design of the scenes can be richer, so that players can have a better sense of interacting by bringing their own room into the game. The art design as whole can be improved to be more refined on the basis of simplicity.

5.3. Future Work

Even though the concept of A Furry Family Member can be regarded as successful. There are still have possibilities that can be improved in the future work.

More situations

Under each day's topic, there are more situations can be added for A Furry Family Member. The length of the game will not be changed. However, in each day's theme, planning to let the players to deal with more situations about the cat.

More quiz question

Based on the positive feedback from the participants about the quiz part, compared with only two questions per day, consider that in order to enable players to learn more knowledge through the test, and to have a more comprehensive summary of the daily topic, the test may be increased to 5 or 10 questions.

Equipment

Although A Furry Family Member is a mobile game now, I hope to do some research on 3D projection in the future. So that the character of the cat can be projected in the player's home in the way of 3D projection, and then the player can interact with the cat and finish the goals in the game. It may allow players to experience a more simulated cat-raising experience.

More pets models

All pets should be taken good care of and have a responsible owner. Now the game is only aimed at cat raising, and in the future, can expand the games for different pets for different pet needs. Such as dogs, birds, rabbits, fish, reptiles and so on.

Collaboration and Facilitators

A Furry Family Member is looking forward to collaborate with more catteries, pet shops, animal shelters, and adoption organizations. Those facilitators can offer the game before the customer bring the cat back home. Offering the customers a way to learn about cat raising knowledge and evaluate if they are ready to have a cat. Also those facilitators are able to evaluate their customers, and decide if they want to give their cats to the customers.

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Appendices

A. Pre-survey interview

1. Have you ever owned a cat
2. Do you live by yourself
3. have you ever considered owning a cat?
4. what are the reasons for considering owning a cat?
5. Do you feel lonely? Do you need companionship?
6. Would you consider owning a cat because of loneliness?
7. If you had a cat, what did you do before getting a cat?
8. How long did it take to prepare before getting a cat?
9. How much money did you spend? What are the monthly expenses?
10. What are the difficulties after getting a cat that you did not consider before getting a cat?
11. What were the things that caused you the most trouble in the process of getting a cat?
12. How did you solve these problems?
13. Have you ever regretted? Have you ever considered not keeping the cat? Why?
14. Do you usually pay attention to how to take better care of cats and learn more about their habits?
15. Through what channels and what kind of knowledge?
16. What do you think are the things you must know before you get a cat?

B. Pre-interview

1. Jobs, income
2. Residence

3. Evaluation of your character
4. Relationships and Marriage
5. Whether have pet raising experience?
6. Why do you want a cat?
7. What kinds of troubles you may encounter after raising a cat?
8. How do you think you should solve these problems?
9. What is the budget for getting a cat?
10. How much time you expect to spend with the cat each day (e.g. grooming, playing)?
11. How would you go about owning a cat (cattery, pet store, adoption, home breeding)?
12. What do you think you need to do before owning a cat?
13. Will you pay attention to how to take care of the cat and learn about the cat's habits?
14. What kind of knowledge you will learn? Through what kinds of channels.
15. What do you think are the things you must know before you get a cat?

C. Follow up interview

1. How was the game?
2. What are your comments and suggestions on this game?
3. What do you think about the game?
4. What is your evaluation of yourself?
5. Do you think you can afford to keep a cat now?
6. What are the problems you will encounter in the game about raising cats that are different from what you expected?
7. Whether your expectation of the budget and companionship time for the cat has changed?
8. What do you think you need to do before getting a cat after the game?
9. After the game, will you pay attention to how to take care of the cat and learn about the cat's habits?
10. Through what channels? What kind of knowledge?

11. After the game, what do you think are the things you must know before you get a cat?

D. Game design evaluation

Please rate the following questions, with 0 being very unsatisfactory and 10 being very satisfactory.

1. The game flow is easy to understand.
2. The guidelines for the game are clear.
3. The problems and options of the game are clear.
4. All the text are easy to read.
5. The design of the cat.
6. The design of the scene.
7. The design of the room.
8. The design of the items.
9. Learned knowledge about cat raising from the game.
10. Eager to learn more about cat raising after the game.
11. Can self-evaluate whether can raise a cat.
12. Enjoyed the game.

E. Time sheet of participant C

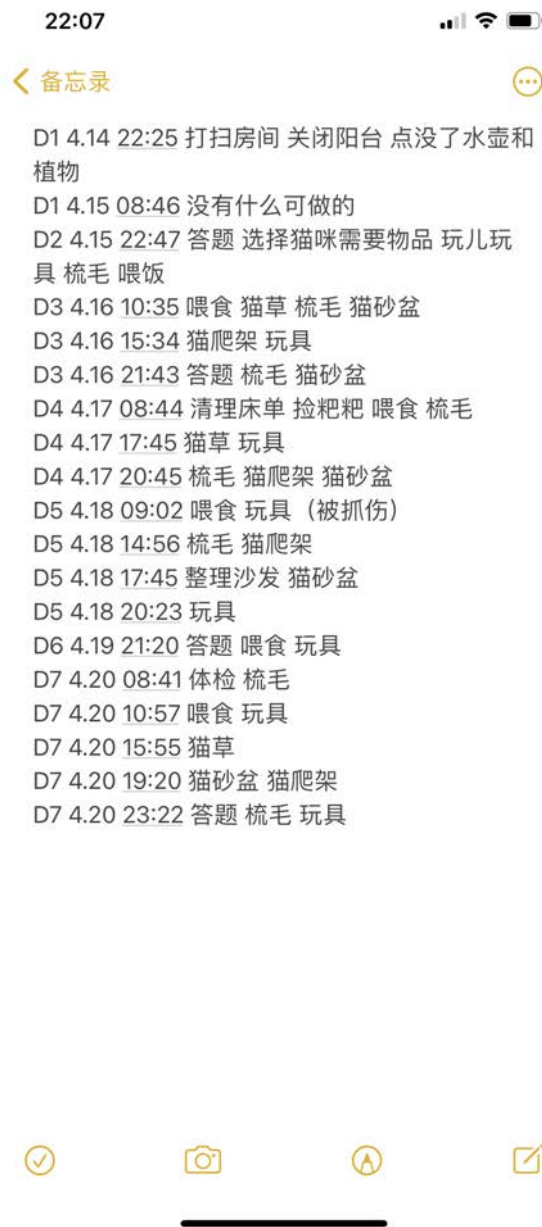


Figure E.1 Time sheet of participant C

F. Time sheet of participant D

D1

19: 00

D2

7: 00 12: 30 19: 35 23: 30

D3

7: 00 12: 30 19: 30 22: 27 23: 30

D4

7: 10 14: 30 23: 00 23: 30

D5

8: 30 12: 30 19: 30 23: 35

D6

7: 00 13: 53 0: 45

D7

7: 00 12: 30 19: 42 21: 13 23: 30

Figure F.1 Time sheet of participant D

G. Time sheet of participant E

Day 1: 15:00 20:00 21:15
Day 2: 8:00 11:30 18:00 20:15 22:45 0:15
Day 3: 8:15 12:00 17:45 19:30 23:45
Day 4: 8:15 11:30 15:30 19:15 20:45 21:30 0:30
Day 5 10:30 13:00 15:00 22:30 0:45
Day 6 10:15 16:00 19:15 21:45
Day 7 8:00 12:00 17:45 20:30 21:15 23:45

Figure G.1 Time sheet of participant E

H. Quiz questions

Day 2:

1. How old can kittens start eat adult cat food?
 - A. 3 months old
 - B. 6 months old
 - C. 1 year old
2. Which of the following foods can cats eat?
 - A. Milk, nuts
 - B. Egg yolk, wheat grass
 - C. Leftovers, candies

Day 3:

1. Which of the following situations need to take the cat to the hospital as soon as possible?
 - A. Severe diarrhea
 - B. Vomiting with hair
 - C. Small amount of dirt in the ear
2. What should do when a cat has heatstroke?

- A. Open the air conditioner to let the cat blow the cool air.
- B. Let the cat drink water immediately and take it to the hospital.
- C. Let the cat cool down and then give it water and take it to the hospital.

Day 4:

- 1. Which of the following is not the cause of cats' random excretion?
 - A. Want to leave its mark
 - B. Litter box is too dirty
 - C. Trying to revenge on the owner
- 2. Which of the following is not the cause of cat scratching the furniture?
 - A. Cats are used to scratching the cat scratching board
 - B. Cat wants to repair nails
 - C. Cat wants to leave its mark

Day 5:

- 1. Which of the following is not the reason why the cat bit you?
 - A. Cat wants to play with you
 - B. Cat wants you to stop what you are doing to it now
 - C. Cat is hungry
- 2. Which of the following options is the wrong way to stop cats from biting hands?
 - A. Never play with the cat without hands
 - B. Make loud noises when bitten by cats
 - C. Hitting the cat on the head when bitten by cats

Day 6:

- 1. How many fingers does a cat have?
 - A. Each paw has five fingers
 - B. Four fingers on the front paws and five fingers on the back paws
 - C. Five fingers on the front paws and four fingers on the back paws
- 2. How often does a cat need to take a bath?
 - A. Once a week
 - B. Once a month
 - C. As long as possible

Day 7:

- 1. Which of the following options will not be helpful for de-sexing?

- A. Reduce aggressiveness
 - B. Reduce reproductive disorders
 - C. Reduce obesity
2. Which of the following statements about de-worming is correct?
- A. If the cat has been vaccinated there is no need for de-worming
 - B. Cat can be de-wormed after six months old
 - C. If the cat does not go out, it does not need to be de-wormed