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Ouah Ouah Friends: Designing Towards Support in Pet Owner Community

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ABSTRACT

In recent years, the pet owner community has gained popularity because of the improvement in technology. Pet owners can easily find and join the relevant community through the internet. However, some pet owners are still not willing to join these communities. In this paper, we aim to help pet owners be connected to each other to have long term support for their pets. Thus, we investigate the reasons for the pet owners' willingness to join the communities through several human computer interaction (HCI) methods. To elaborate, we conduct photo elicitation and mapping methods during contextual interviews to gain insights from participants. Digital ethnography is also adopted to gain information about the pet community. We observed several online communities on several social media, such as Facebook and Reddit, and concluded the reasons that the users joined them. This paper also uses the observation method to collect the data. This data significantly improves our understanding of pet owners. Through this data, we identify that entertainment, seeking support, making new friends, and seeking recommendations are the main reasons that pet owners join the community. An uncontrolled environment and information quality are the main pain points for the owners refusing to participate in the community. Based on these results, this paper proposes the AR system – Ouah Ouah Friends. It helps pet owners to relate to each other in a more stable environment. This system can discuss how to alleviate the owners' pain and obtain long term support for their pets.

KEYWORDS

Human Computer Interaction (HCI), Mapping, Digital Ethnography, Community Ouah Ouah Friends: Designing Towards Support in Pet Owner Community

1 Introduction

The recent improvement in technology helps pet owners easily access the various pet communities. They can join the pet owner communities by searching for them on social media. However, some pet owners are still unwilling to join these communities because of several unknown reasons. This makes it hard for pet owners to gain long-term support for their pets. In this paper, we conduct quantitative research to explore the pet owners' main points for joining the community.

We adopt the photo-elicitation method to obtain the data. Based on our experience, most pet owners always have affection for sharing their pet's stories with others. We believe that this method is suitable for us to

conduct, helping us obtain more insights from the participants. Additionally, since we mainly focus on the communities that the pet owners join, we adopt a mapping approach. This approach asks the participants to map their relationship between themselves and the communities. The data will clearly describe the owners' attitudes toward different communities. We can improve our understanding of their reasons for joining the communities efficiently. Moreover, we practice the observation method to discover how the pet owners interact with each other. Finally, digital ethnography is applied to obtain information about the online community. This allows us to understand what the main pet owners' purposes are when interacting with another owner online.

Based on the data obtained from those methods, we discover that accessing information, pet service, and entertainment is the main reason for pet owners to join the community. Additionally, the main points are the uncontrolled environment and information quality. To address these problems, we propose Ouah Ouah Friends to help pet owners be connected to each other without facing that situation. Our contributions are listed as follows:

- We investigate the comprehensive reasons that pet owners engage in the community, and the pain points that the pet owners meet.
- We conclude the responses from the participants and provide the pet owners' insights.
- We propose Ouah Ouah Friends, an AR system which can help the pet owners be connected to each other and get long-term support.

The rest of this paper is organized as follows. Section 2 reviews related literature. Section 3 presents the methods that we conduct. Section 4 suggests the findings. Sections 6, 5 and 7 provide our critical analysis of findings, initial design concept, and conclusion respectively.

2 Literature Review

2.1 The Sense of Community

Traditionally, a community is a group of people who come together because of geographical factors to create their own culture with a common experience, and the cohesion generated by this culture born of itself brings them a sense of community [5, 7].

However, as society develops, geographical factors become less important in the formation of communities. The emergence of community culture and shared values are the determining factors in the formation of communities, and these allow people to no longer rely on geography to divide communities, and communities no longer represent just a geographic grouping [8, 12]. Under these conditions, a forum or discussion group created because of a common interest is also a community [10]. The study by Dana et al. [10] indicates that even in video sites such as YouTube, which are not built for social purposes, communities with shared culture and values are still built there over time. Therefore, our study should not be limited to traditional social media when collecting data from online communities; regular interaction on the web may also be a type of community. While we use community cohesion as a measure of a community, we can make a hypothesis that in everyday life, there are in fact many micro-communities that may not have significant strong ties (e.g., reciprocity) but that have ongoing rapport with each other and continue to foster such relationships through communication in the community. They may just be the people who share the same regular time period to go to the dog park.

McMillan and Charvis et al [7] defined four points as factors of sense of community, as the boost factors of cohesiveness, which are membership, influence, fulfilment, and shared emotional connection. Our project focuses on the examination of the attractiveness of the community to the target population, these four factors can be used as criteria to analyse, evaluate, and compare communities. Considering from the four dimensions,

we can systematically analyse the dynamics and resistance of the community to absorbing the target population.

2.2 The Need for a Pet Community

As a powerful part of generating community cohesion, reciprocal relationships maximize a community's ability to sustain and attract new community members [1, 7]. Therefore, research about what helps can the pet community offer provide data for our subsequent design goals of promoting target populations to join the pet community.

According to the existing research [4, 11], medical assistance is a great help that the community can provide. In the era of the development of the Internet, remote medical assistance has become more extensive and has a huge room for rise [4]. Telemedicine and the online community can magnify the reciprocity of the community infinitely. On the other hand, the bad information in the online community makes pet owners afraid and repelled to look for information online [3], which hinders the development of mutually beneficial relations and affects the activity of the online community.

At the same time, pets as a social capital can help owners to build new relationships [14], and this help is based on the social needs of pets, so pet owners have their own social needs [13]. Pet communities are the best way to address this need. We can even assert that many pet communities have been created precisely because of the social needs of pet owners. For pet owners who have a social need, joining a pet community is a natural thing to do. In this case, it is not the attractiveness of the pet community that needs to be considered, but how to be exposed to pet owners and the existence of factors in the community that allow them to sustain their relationship.

2.3 Improving the Attraction to a Community

As the communities studied are divided into traditional and online communities, the attraction factors for the target population are very different and need to be discussed separately as they have different vehicles. In traditional offline communities, even though geography is no longer a key factor in community formation, we can make geography play a role in enhancing community attractiveness through design [6], such as building pet-friendly facilities. Through the excellent municipal design, functional design, and interaction design, we can rely on the user's environment to play a subtle influence on the user, so that they are invisibly influenced by the community and thus deepen their community identity [6, 7].

As an online community as a part of the Internet and social media, how to expose to users is not the difficulty, the difficulty is perhaps how to maintain user viscosity. The recommendation algorithm that helps TikTok dominant the market is a great tool to enhance user viscosity. A study has shown that users can maintain a high level of stickiness and activity when they are constantly exposed to content they are interested in and can even have withdrawal reactions when they move away, which is dangerous, but using recommendation algorithms wisely can ensure that new pet owners can stay active in the community and develop regular social habits, deepening the common emotional connection [9]. Another solution is a social network based social viscosity enhancement model, which can promote social viscosity by segmenting large communities into smaller communities [2], while the content produced by the smaller communities will generate activity in the larger communities, and the activity will feed back to improve the viscosity of the smaller communities. This model can enhance the social identity and cohesiveness of the target group under the user's autonomous control and is a model that we can further observe and verify in the follow-up research.

3 Methodology

According to the say-make-do model, we involved five different research method – photo elicitation, mapping, digital ethnography for ‘make’, contextual interview for ‘say’, and observation for ‘do’. 6 participants responded to our contextual interviews, and we observed more than 20 pet owners during the observation and digital ethnography. We gained insight into the existing pet owner community’s pain points and a deeper understanding of what pet owners need from the community by connecting with our target users and analysing the results. These insights will be used to improve our subsequent designs to help more pet owners get involved in their communities and receive effective long-term support from the communities.

3.1 Contextual Interviews

We developed open-ended questions about the pet owner community (see Appendix 1), focusing on the overarching question of how to get long-term support from the pet owner community. It is worth noting that not all of the participants were pet owners who were already involved in the pet community; interviewing non-participating owners will help us gain more insight into why they are hesitant to join the community or why they choose to leave it, whereas interviewing owners who are already involved in the community will provide information about the existing community’s pain points and their expectations for the future community.

The user research methods of photo elicitation and mapping were included in the interviews. We used photo elicitation at the start of the interviews to help participants become more enthusiastic and comfortable with our questions, while mapping helped us learn more about the size, popularity, and other characteristics of the existing pet owner community.

3.1.1 Participants

A total of six participants participated in our interviews as shown in Table 1, all of whom owned at least one pet. Two of the participants were from online pet community platforms and four of them were from people close to us who owned pets. The participants included Australians and Chinese. Interview Ethics Forms were sent to the participants after sending them an interview invitation and obtaining consent, and the interviews were conducted through a combination of Zoom and Miro, which were convenient and easy to record. Among the six participants, only two gained close friendships through their involvement in the pet owner community, while the remaining four only communicated with the pet owner community when doing product purchases or volunteering with stray animals.

Table 1. Participants information

Participant ID	Gender	Pet Breed	Ethnicity	Community
A	Female	2 cats	Australia	/
B	Female	1 dog	Australia	Stray dogs Association
C	Male	1 cat	China	/
D	Male	2 ferrets	China	Customer group organised by the pet store
E	Female	2 cats, 2 dogs, 2 guinea pigs	Canada	Discord
F	Female	1 dog	China	Instagram

3.1.2 Photo Elicitation

Photo elicitation served to lighten the mood at the beginning of our interviews and to bring us closer to our participants. In this activity, we asked participants to share the photos of their pets and the stories behind the photos, as well as photos of them interacting with their pets or joining community interactions, to help us get a sense of their pets' daily activities with their owners and what they might do after joining a community. Most of the participants felt more open and free to answer our follow-up questions after the photo elicitation and alleviated any awkwardness that may have arisen during the interview. In some of the interviews, the interviewers also asked unplanned questions based on the photos shared by the participants to get more information.

3.1.3 Mapping

The mapping method was applied to explore the existing pet owner communities. Participants were asked to write on digital sticky notes all of the pet communities that they have participated in or are aware of. They were then asked to change the size of the sticky notes to indicate the amount they participate in each community to acquire pet information. Participants were also asked to draw arrows between communities indicating if they have connections with each other. These details allowed us to understand which communities were seen as the most valuable. Participants were then asked to write next to each community why they like the community in blue, why they don't like the community in red, and other information about the community in green such as, how they found the community, why they participate in it, what they do in the community, etc. This allowed us to further understand the pain points of these communities as well as the user needs of their ideal community.

3.2 Digital Ethnography

Through the above research, we found that most of the users we interviewed were actively taking part in online communities rather than communities in real life. In order to gain a more comprehensive understanding of online pet owner communities, we combined digital ethnography to conduct an observational study of several online communities. Digital ethnography requires researchers to immerse themselves in the relevant online platforms and inconspicuously observe users' interactions on these platforms as a way to generate a general understanding of the relevant communities. Through postings, conversations, and QA posted by users in the relevant communities, we summarised several needs and expectations of users for online pet owner communities. The platforms we viewed and observed are shown in Table 2.

Table 2. Digital ethnography data

Platform	Community	User Needs	URL
Reddit	Dogs	General community about everything of dogs	https://reurl.cc/lZdRKj
Reddit	Rover Pet Sitting	Find someone to take care of their dogs	https://reurl.cc/zrze97
Reddit	Pets who make you aww	Cute photos/videos about pets	https://reurl.cc/DX6g5d
Facebook	1 million pets lover	General community about everything of pets	https://reurl.cc/MXdAKk
Facebook	Lost and Found Brisbane	Lost and found the pets in Brisbane	https://reurl.cc/NG6r8k
Facebook	Pets in Need Australia	Adopt/Foster/rehome pets in Australia	https://reurl.cc/DX6gQE
Discord	Reptile Zoomers	General community only for reptile zoomers	https://reurl.cc/VRXEOR
Discord	Dogs of Discord	Cute emotes of dogs sharing	https://reurl.cc/de5Gkg

3.3 Observation

In the above research approach, we focused mainly on online pet owner communities and lacked insight into real-world pet owner communities, so observations in the real world would fill the gap in that research and help us analyse the needs of users in real-world communities. During our observations, we focused on the interaction between pets and owners, pets and other pets, and pet owners and other pet owners, as well as the relevant facilities and possible problems that exist in the place. As seen in Appendix 3, photographs were taken of the observation environment and interactions. During the owner-to-owner interactions, the jotting method was used, in which only significant behaviours were recorded in detail.

3.3.1 Environment

The main sites we did observation in were Milton Dog Park and Coolum beach, Sunshine Coast as shown in Fig. 1. The former is a tailor-made space for dogs with more complete pet-related facilities, such as fences and excrement bags, while the latter is a resort site with a more complex environment and crowd.



Fig. 1. Functional area division of Milton dog park.

Milton Dog Park was divided into a small dog area and a general area by fence, where the general area was accessible to both small dogs and other dogs, which could be interpreted as a protection measure for small dogs. In addition to this classification, there was also a distinction between excretion areas and non-excretion areas, where dogs were only allowed to excrete in the excretion areas. However, regardless of the area, excretion bags were provided, and owners are required to clean up the excrement in any area. In Coolum beach, there are no pet-related measures.

3.3.2 Interaction

The current project was discussed with 12 pet owners who gave their verbal consent for observation to be conducted and for images and notes to be taken. These were natural observations conducted onsite within the study environment where we, as researchers, did not interfere with the owners' interactions. In total, we observed 12 owner-to-owner interactions at the observation sites, all of which occurred under the premise that their pet was interacting with each other. There were 6 instances of simple nods between owners, 2 instances of no communication, and 4 instances of prolonged chatting. However, we did not observe any behaviours such as exchanging contact information that had the potential for their future long-term communication. At the same time, we found one incident in which the pet was so excited and barking that the owner was unable to stop it and had to pull it away, and one incident in which the owner had to pick up the pet when crossing the street because it was too scary.

4 Results

4.1 Motivation for joining the pet community

From the participant interviews, we started to improve our understanding of pet owners. We unveil why the pet owners join the community by interviewing the participants, coding the contextual interviews, and analysing the data from the internet.

4.1.1 Entertainment

Firstly, the data from digital ethnography exposed that fun is the reason for the users to join the community. Lots of communities on social media are about entertainment. 1M Pets Lover is a group on Facebook where pet owners usually share their pet's funny videos. On Pets Who Make You AWW, the pet owners share videos about their pets' special skills. Keeping A Grocery Store Lobster as A Pet is a series on YouTube. Lots of pet owners discuss these videos in the chat room. Additionally, participant B from contextual interviews stated:

"I often look at funny animal things on YouTube."

meaning that the users are willing to join the community for fun. Participant C from contextual interviews mentioned:

"I will browse the KOL's posts about pets on social media regularly."

This participant also expressed that being amused is the purpose of accessing pet information. Accordingly, entertainment is the significant factor that drives pet owners to join the community and access information about their pets.

4.1.2 Seeking Support

The other reason that pet owners join the community is to gain support. Rover Pet Sitting is a group on Reddit. The pet owners can post their questions in this group. Pet Beauty is an account on Instagram that provides pet service for the pet owner. Lost and Found Pet Brisbane helps pet owners find their pets if they are lost. From the interviews, participant D mentioned:

"I will go to the park with pet owners they knew and share the information with each other."

meaning that gaining information about supporting pets is significant for pet owners.

Participants F from contextual interviews indicated:

"I want to learn about training my pet, so I join the pet training club."

In order to absorb the knowledge about training pets, this participant chooses to find the relevant community and join it. Apparently, gaining support is a significant reason for joining the community.

At the same time, there are many pet owners who will post news of their dog's passing online and seek emotional support from members of the community. This is where the community comes into play:

"2 months ago, we lost our 17 year old dog, Mama. And Wednesday we lost our 12 year old dog, Reno, to cancer. Question in comments-"

4.1.3 Seeking Recommendations

During the raising process, pet owners often need to purchase a variety of products for them, such as dog food, snacks, toys et al. During contextual interviews, Participant A mentioned:

"I sometimes search for pet food and toy recommendations online, and there is a small group chat organised by the pet store, I will ask questions in that chat."

Meaning that they often seek recommendations from others to purchase new products for their pets. Useful products can somehow improve the quality of their pets' lives and reduce the risk to their pets in their daily life. And sometimes cheaper products can be bought if there are more pet owners participating in the purchasing.

However, when purchasing pet supplies, some participants also said that the recommendations they received were not always true, and the product they purchased may be less effective than expected. Participant C from contextual interviews mentioned:

"Some information content is not concise and there are advertisements to promote"

Besides, local pet-friendly attractions such as cafes, campgrounds et al. are often shared among the pet owner community. Participant D from contextual interviews mentioned:

"Yeah, I learned about pet friendly cafes, natatorium, campgrounds on Google map and some are recommended by fans on Ins."

She was keen to find these attractions and take photos of her pet, which often originated from recommendations from online friends.

4.1.4 Social Network

We heard very few responses about making friends, with only one participant stating that she had become good friends with her pet's parent's owner and would get together with other pet owners on weekends. This participant also mentioned that she felt pride and satisfaction when hearing someone else compliment her pet.

"Kaia's parents' owners are now friends of mine. They allowed me to adopt Kaia for free after visiting my family and background and required me to accept a return visit."

However, some participants were adamant that he would not become close friends with them. Participant A reported that:

"I will not maintain my relationship with strange people because some of them are weird"

meaning that an uncontrolled environment reduces the owner's willingness to participate in the community to make new friends. Furthermore, the remaining majority of participants felt that the pet owner community does not bring them new friendships.

4.2 Pain Points

4.2.1 Uncontrolled Environment

Whether discussing online or offline communities, results indicated that an uncontrolled environment was the reason for many participants disliking certain communities. Due to the uncontrolled environment, dog parks and beaches are seen as unsafe. Participant A from contextual interviews mentioned:

"I avoid dog parks because some dogs are aggressive and dangerous."

meaning that the pet's personality is one of the factors that make the environment be uncontrolled. The pet owners are not able to control other people's dogs and not knowing whether they would bite or attack the participants own dog. Furthermore, people had contradicting opinions as some people liked the communities and were able to form connections, as discussed earlier. Some people found the environment was not ideal as they did not have control over the types of people that were active in the communities. Participant B from contextual interviews mentioned:

". . . but I would not hang out with them because some of them are strange".

4.2.2 Information Quality

Information quality refers to the reliability, depth, and clarity of the information received and discussed within these communities. Information from friends and family was generally seen as reliable. However, participants had altering opinions about whether the other pet communities they have participated in have been misleading or helpful to them.

As discussed earlier, some participants found the amount of information on social media sites to be helpful. However, through literature reviews, it was found that the quality of the information on social media sites is up for debate. Some individuals from the digital ethnographies had similar ideals, referencing “bad TikTok trends” and “pet scammers” (Participant F). Another issue with social media sites was that popular, eye-catching, posts garnered many replies and comments discussing all of the information which allowed users to get a more holistic view of the answers to their questions. However, less popular posts garnered potentially no replies or replies with little, and less informational answers which were not seen as helpful to users. Additionally, information from certain social media sites was seen as helpful whereas information from others was not. While discussing YouTube, participant E from contextual interviews mentioned:

“Not informational, just to look at funny animal things”.

The information provided by online and offline pet stores was seen as questionable by some. Some pet owners from digital ethnographies believed that pet stores “only have information required to sell their lower quality products” and did not have information that was actually beneficial for the health and safety of their pets. However, much like pet stores, participants thought that pet adoption was less helpful as another pet owner from digital ethnography mentioned “information is difficult to access”.

5 Initial Design Concept

In response to the shortage of unstable pet owner community environments, we hope to design useful systems that will help pet owners keep better tabs on their own and others' pets while participating in events as shown in Figure 2. During the tutorial activity, we propose Ouah Ouah Friends – an AR system to realize the function.



Fig. 2. Ouah Ouah Friends System.

5.1 Uncontrolled Environment Issue

First of all, due to differences in the personalities of pets, some pets want to be close to others, while some timid pets want to stay away from the group, and in addition, aggressive pets may hurt others. Therefore, in this system, we want pet owners to judge the personality of another person's pet as quickly as possible when they see it and decide how to deal with it: should they let their pet get close to it or stay away from it? Then, before going for a walk, the pet owners can update their pets' personalities and moods; this way, when other owners meet their pets, their AR glasses will scan the pet and tell them the information, as shown in Fig. 3.

Besides, the system helps pet owners make friends and connect with each other in a much easier way, without telling others their detailed information like telephone number or real name as shown in Fig. 4.

After becoming friends with each other, the pet owners can find their friends' location if they are in the same dog park; however, when they leave the park, detailed information, such as their home address, will be kept from others. Through the AR application, pets' owners can be connected with each other in a more stable environment, as well as protect their privacy when making friends with others.

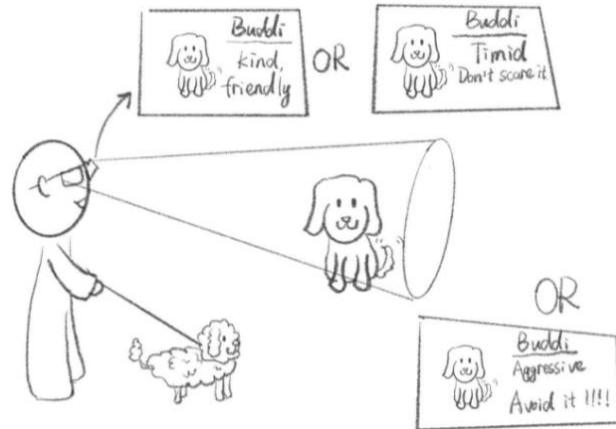


Fig. 3. Pets' personality recognition.

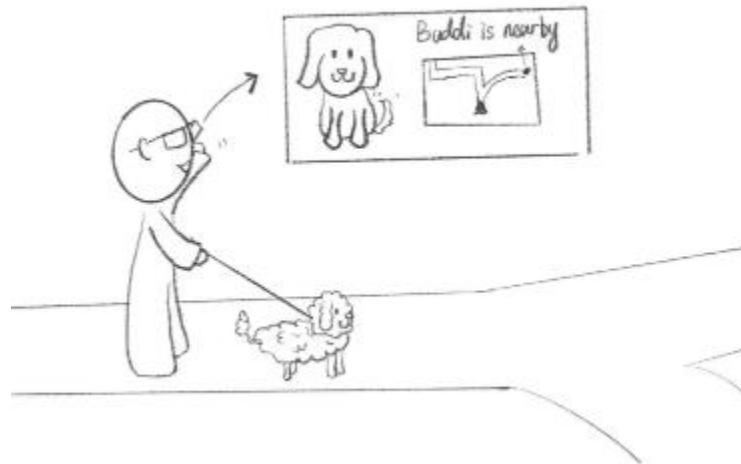


Fig. 4. Friends' application.

5.2 Information Quality Issue

To improve the information quality that pet owners get from their daily life, the AR glasses can scan the information they are reading and identify the authenticity of it. When reading the adoption information, the AR glasses will search the photos online to identify if the photos are copied online as shown in Fig. 5. In this way, the owners are able to decide whether or not to believe in the adoption information and get contact with the poster.

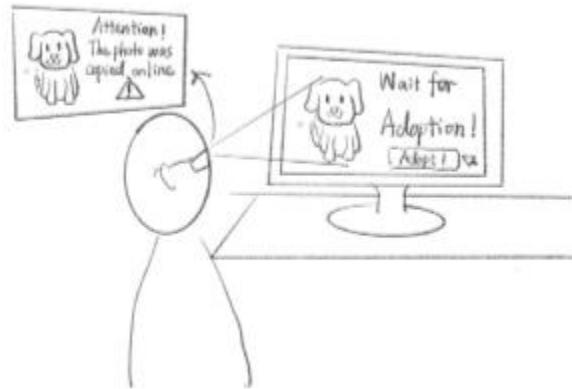


Fig. 5. Friends' application.

The owners can also put their attitude on the information they are reading to remind others who are not sure about the information's authenticity as shown in Fig. 6. More users' engagement from all over the world can improve the information discrimination ability of novice pet owners as well as the quality of online information.

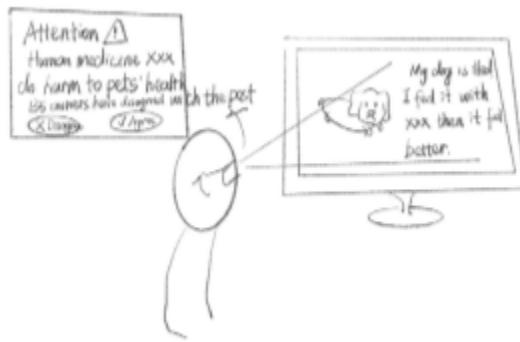


Fig. 6. Information determination.

6 Discussion

6.1 Critical Analysis of Findings

Through this research, we found what users commonly value more in pet communities and which communities are less valuable to them. We were able to understand what users need from pet communities and what attracts them to pet communities. The findings have allowed us to see the contexts in which users use pet communities. Insights can be drawn into how these findings may help people maintain user viscosity on social media platforms to sustain long term relationships.

For socialization purposes, the mapping data and interviews show that our participants prefer to most frequently communicate through online communities that consist of a small, close group of people. Whereas larger communities are used briefly to search for information without much follow up communication or personal discussion. This is in line with the social viscosity enhancement model which states that segmenting large communities into smaller ones increases social viscosity [2].

From our findings, the need for pet communities can be divided into categories including socialization and entertainment. Previous literature has shown the need for building relationships and tele-medical assistance. Participants less commonly discussed pet friendly facilities during contextual interviews. However, large communities of pet owners were found through observations. Thus, we should have found a way to look at interactions in the remote medical assistance community. This is a niche field that the current findings were not able to uncover relevant data on. This may be because pet owners do not know about tele-medical support for pets, it is not commonly available, its cost is too high, or their pets do not need medical assistance however this is unlikely. However, tele-medical assistance was not discussed as it was not used by the research participants. Digital ethnography failed to uncover people discussing or seeking advice about remote medical assistance, despite the recurrence of “vet” in many posts. Perhaps a different research method would be better suited to discover information about the remote medical assistance seeking community.

Misinformation can repel users from the online communities [3]. Most participants did not recall being misinformed about pet information through online communities. However, this research is not able to fact check all the information they had discovered through pet communities. Regardless, participants did not seem averse to any communities due to misinformation.

Family and friends were the most frequently used offline communities. These communities have the highest factors of cohesiveness which define a sense of community as defined by McMillan and Charvis [7]. The frequency of these was followed by small online groups.

Pet owners were found to socialize in pet communities for the purposes of entertainment, seeking support, making friends, acquiring pet information, and acquiring product recommendations. The communication patterns differ across these socialization categories. Trying to satisfy these social patterns in the community optimization design should be considered in future designs. Creating a community atmosphere for each purpose can be suitable for optimising and designing social mechanisms. On the other hand, we can create specific community atmospheres through creating a targeted design for a particular socialization category. The viscosity of such a community with a vital purpose might surprise us, and it can be our future observation subject.

6.2 Implications for Future Design

Although the motivation for users to join the community is not the same, what users experience in the community is generally similar. They get some common experiences and information from the community. These meaningful experiences and information are essential factors in maintaining their activity in the community. In our survey, uncontrollable environmental factors and spotty information affect users' stay in the community. The uncontrollable environment is, to some extent, the consequence of uncertainty caused by the lack of adequate information. We could use the technology to make the community environment more controllable and knowable. It is our design opportunity.

In our initial design concept, we use AR technology to increase access to information, thus controlling the environment. We also use the more available access way to the information to tag and show the information quality helping users from bad information in the community. We designed the AR glasses to be useful for both online and offline communities. However, in many cases, we just increase access to information without any regulation of the production of information. We control the environment with more information. It may increase the amount of information processing for community members.

For the online community, the artificial intelligence algorithm mentioned in the literature review can be used to organize and control the community content. Algorithms allow authoritatively verified information to gain greater exposure, thereby suppressing and reducing the production of low-quality and invalid information.

For offline communities, the display priority of information can be designed to optimize the display of information to make it practically helpful for users to handle their current environment, boosting their desire to socialize. Furthermore, it means that a social system can be designed with the help of AR technology to make offline social interactions more transparent and convenient to enhance the social experience and thus keep the community alive.

7 Conclusion

In this paper, we aim to help pet owners be connected to have long term support for their pets. We explore the pet owners' reasons for joining the communities and participating in the relevant activities through conducting diverse HCI methods. First, we conduct contextual interviews to explore the users' pain points. Photo elicitation is one of the contextual interview methods. Since we find out the pet owner is willing to share their pet story, we adopt this method to motivate them to provide insight into the pet community. We also use the mapping method. The mapping method makes the participants draw their connection as the map is down. We believe this method is suitable for researching the relationship between the owners and the community. We also can understand the pet owners' attitudes toward each community. Additionally, digital ethnography has also been adopted. Through this method, we can obtain data about the insights that the pet owner joins the communities.

After evaluating our data, we conclude the reasons and the pain points of the pet owners joining the community. The pet owners' motivations to join the community are for entertainment, seeking support, seeking recommendations, and expanding their social network. The participants mention they usually follow the pet posts and look at funny animal videos on YouTube for fun. Some participants indicated that they joined the training club to seek support. Some participants from contextual interviews mentioned that they would seek recommendations on social media such as Facebook. Furthermore, we discover the owners' pain points. An uncontrolled environment is one of the owners' pain points. Some participants indicated that some of the members of the community are strange. The other pain point is information quality. Pet owners worry that the information from the online community is incorrect.

To alleviate the pain points above, we propose an AR system – Ouah Ouah Friends. This system makes the pet owners update their pets' personalities and moods before walking and helps clarify the information the pet owners find online. This design can establish a stable environment for the owners because the owners can keep away the aggressive pet. Ouah Ouah Friends can also provide information about the nearby pet activity and make sure they can provide the correct information.

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APPENDICES

Appendix 1: Interview Questions

Research Question: How can pet owners be connected to each other to have long terms support?

Method

- a. Photo Elicitation
- b. Mapping
- c. Digital Ethnography

Photo Elicitation

1. Age, location
2. What pets do you have
3. Can you share some **photos** of your pets? Can you share a **story**? What were you doing in the photo?
4. What **activities** you have done involving your pet? **e.g.** reading articles, posting images/stories/questions, playing with it, going on walks
5. What are some **problems** you've faced with taking care of your pet? **e.g.**, foods it can/can't eat, behavioural issues like anxiety
6. Do you ever **search** for information surrounding pets online?
 - a. **What** do you search about, **e.g.** pet health, pet care, funny videos, pet food.
 - b. **Where** did you find the information, **e.g.**, Google, YouTube, Reddit, Discord, other social media...
7. Has there ever been some information about your pets you wanted to know but have not been able to find from your current sources?
8. Have you ever found out that some of the information you found about your pets is incorrect? **e.g.**, have all the questions you've had about your pet been answered successfully without any confusion

Mapping

1. Write on sticky notes all of the pet **communities** you know. Can be **in-person** communities or **online** forums. **Note:** clarify that they don't have to participate in the community
 - e.g.**, online: reddit, discord, Instagram, Facebook, YouTube, WeChat, 4chan,
 - e.g.**, in person: dog park, pet store
 - a. **Size:** change size of the sticky notes based on how often you participate in each community
 - b. **Arrow:** draw an arrow from one community to another if your friends from that community are also part of another community
 - c. **Colour:** change colour of the sticky note if you've ever used that community to help with your pet problems.
 - d. Community questions: write on the map
 - i. **Why do you like** the community more than others
 - ii. **Why don't you like** the community, why it's worse than others
 - iii. **How they found the community, why they participate in the community & what they do**, **e.g.** friends, pet care advice
 - 1. Have you **maintained relationships** with other pet owners?
 - a. **Yes:** How? What are some activities you do and topics you discuss?
 - b. **No:** Why not?

Appendix 2: Interview Transcripts

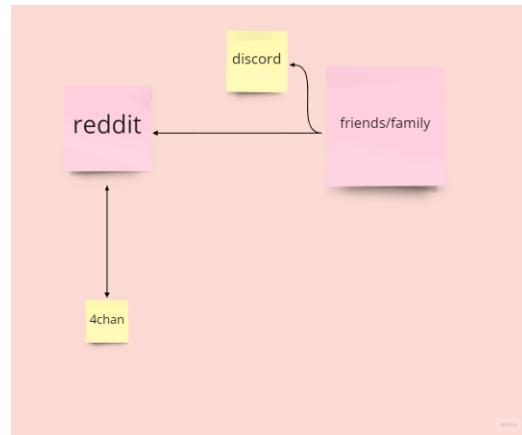
Participant A

Photo Elicitation

1. Age, Country
 - 22, Australia
2. What pets do you have
 - 2 cats
3. Can you share some photos of your pets? Can you share a story?
 - Was pet sitting once and found the cat had ran away from its owner to come back to my house.
4. Can you share some stories of activities you have done involving your pet?
 - Haven't joined any communities or activities, its a cat, an indoor animal, its just a cat, I don't want to take it outside
 - Playing with it
5. Are there any problems you've faced with taking care of your pet?
 - it has like anxiety issues actually so we have to go to like a doctor or a vet. It needs to be given an anxiety medication and it's a very sort of shy animal and there are certain like behaviors like we might have to see someone for
6. Do you ever search for information surrounding pets online? What do you search about?
 - I didn't know that a cat's can't tolerate like actual cow's milk so you have to go buy like a special milk for cats from a pet store and I didn't that know that.
7. Has there ever been some information you wanted to know but have not been able to find?
 - at the moment no
8. Have you ever found out that some of the information you found online is incorrect?
 - N/A

Mapping

1. Have you maintained any relationships with other owners?
 - ...



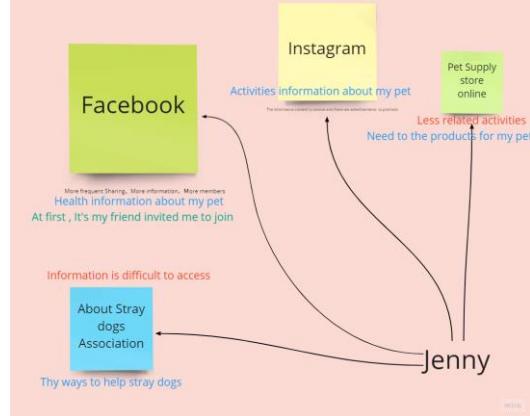
Participant B

Photo Elicitation

1. Age, Country
 - ...
2. What pets do you have
 - ...
3. Can you share some photos of your pets? Can you share a story?
 - ...
4. Can you share some photos and stories of your pet and some activities you have done involving your pet? e.g. reading article, posting, parks
 - ...
5. Are there any problems you've faced with taking care of your pet?
 - ...
6. Do you ever search for information surrounding pets online? What do you search about? e.g. pet health, care, funny video
 - ...
7. Has there ever been some information you wanted to know but have not been able to find?
 - ...
8. Have you ever found out that some of the information you found online is incorrect?
 - ...

Mapping

1. Have you maintained any relationships with other owners?
 - ...

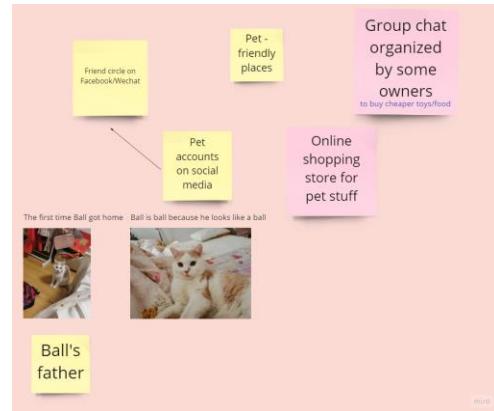


mirio

Participant C

Photo Elicitation

1. Age, Country
 - ...
2. What pets do you have
 - Cat
3. Can you share some photos of your pets? Can you share a story?
 - ...
4. Can you share some photos and stories of your pet and some activities you have done involving your pet? e.g. reading article, posting, parks
 - ...
5. Are there any problems you've faced with taking care of your pet?
 - What exactly is the breed of my cat? Was I got cheated by the merchant?
6. Do you ever search for information surrounding pets online? What do you search about? e.g. pet health, care, funny video
 - Pet food/toy recommend
7. Has there ever been some information you wanted to know but have not been able to find?
 - Same as 5
8. Have you ever found out that some of the information you found online is incorrect?
 - ...



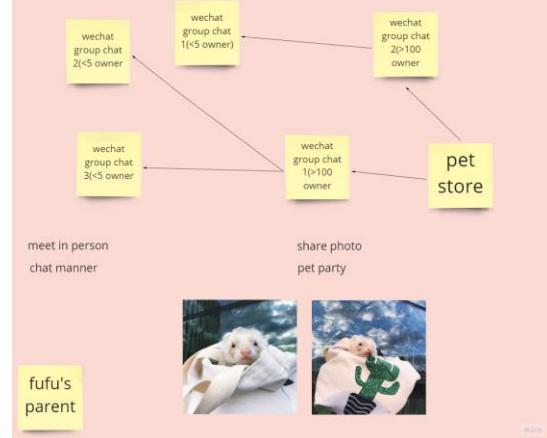
Mapping

1. Have you maintained any relationships with other owners?
 - ...

Participant D

Photo Elicitation

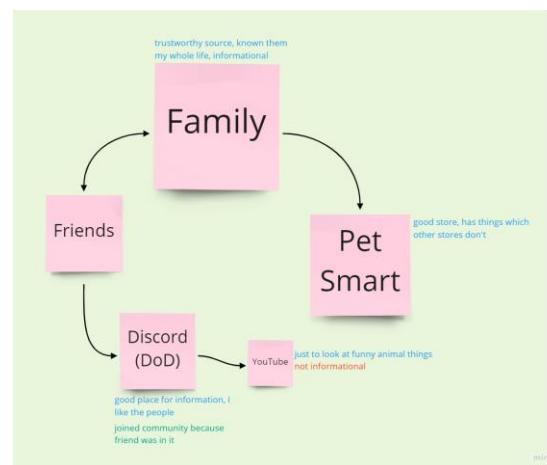
1. Age, Country
 - 30, China
2. What pets do you have
 - 2 ferrets
3. Can you share some photos of your pets? Can you share a story?
 - A photo took in front of the glass wall of the building. When they were hanging out with their ferret friends, they found that the floor-to-ceiling glass of the building reflected the roadside scenery in front of the building, so they took these two pictures. These two photos have been their social media avatars since then.
4. Can you share some stories of activities you have done involving your pet?
 - Go on an outing with a group of ferret friends, have a picnic on the grass, and the ferrets play together on the grass.
5. Are there any problems you've faced with taking care of your pet?
 - Ferrets are nocturnal animals, so sometimes they will be very tired when they go home when they are busy at work, and they don't want to play with them, and their noisy at night will affect their rest.
6. Do you ever search for information surrounding pets online? What do you search about? e.g. pet health, care, funny video
 - Sometimes, but more often we ask other owners in group chats. Now that we have raised it for so many years, basically we have learned all the knowledge about mink rearing, and we seldom look for information anymore.
 - extend question: will you check the group chat from time to time to offer help to others?
 - Well, not really, because we have gradually stopped participating in the group chat of many people. We now have our own small groups, and most of the communication is in small groups.
7. Has there ever been some information you wanted to know but have not been able to find?
 - ...
8. Have you ever found out that some of the information you found online is incorrect?
 - ...



Participant E

Photo Elicitation

1. Age, Country
 - 16, Canada
2. What pets do you have
 - 2 cats 2 dogs 2 guinea pigs
3. Can you share some photos of your pets? Can you share a story?
4. Can you share some photos and stories of your pet and some activities you have done involving your pet? e.g. reading article, posting, parks
 - I clean the guinea pigs cages every day, they get very messy. I sit at home with them.
5. Are there any problems you've faced with taking care of your pet?
6. Do you ever search for information surrounding pets online? What do you search about? e.g. pet health, care, funny video
 - what they can eat and cant eat, funny videos
7. Has there ever been some information you wanted to know but have not been able to find?
 - no
8. Have you ever found out that some of the information you found online is incorrect?
 - no



Mapping

1. Have you maintained any relationships with other owners?
 - yes, talking about pet stuff, pet information

miro

Participant F

Photo Elicitation

1. Photo and story

This is his 100-day anniversary photo, taken shortly after receiving the vaccine, and it was also the first time he went outside! We visited a cafe and had a branch. He was sitting in the stroller, staring at us. So we snapped this picture.



I woke up in the middle of the night, and found that I couldn't sleep and looked at me. I immediately took this photo. He really wanted to get on my bed and sleep with me. But I didn't agree.

2. Activity Photo

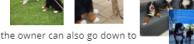
We go camping together.



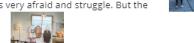
We go to a friend's house for a party. The two bernese mountain dogs next to him are his mother and sister.



We go to park, and we also meet others in the same place.



We go swimming. This is a pet swimming pool, of course, the owner can also go down to swim together. This was his first time to swim, and he was very afraid and struggle. But the nearby Labrador swam very well.



This is a pet friendly cafe where we met another bernese.



Interview Question

1.“What was your original intention of building an account on ins?”

At that time, I had just taken Kala home and I took a lot of photos of him. That was so cute that I wanted to make a diary for him, just like my daughter. I didn't expect to have so many fans and even the chance to get sponsors.

2.“Do you ever search for information around pets online?”

Yeah I learn about pet friendly cafes, natatorium, campgrounds on Google map and some are recommended by fans on ins. You know that I have established an account on ins about Kala, and there are some comments that will tell me where I can take Kala to. I've also followed a lot of pet bloggers on ins to watch the photos and videos they posted.

3.“What information do you want to know but have not been able to find?”

I can't remember.

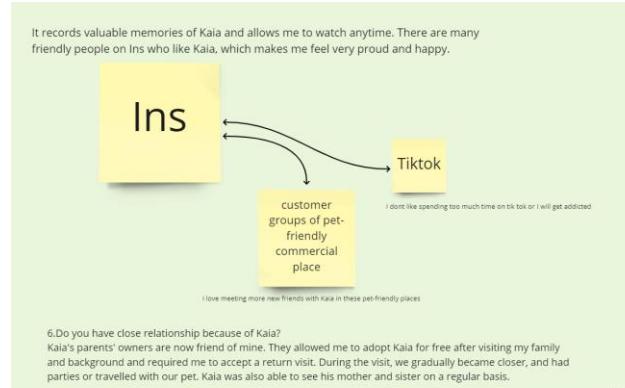
4.“Have you ever found out that some of the information you found online is incorrect?”

Information about pet-friendly locations or events is correct, but I do have seen some information that makes me angry. Once a cheater pretended to be a bernese kennel, stealing my picture of Kala as a child who was being sold. I tried to report them on various platforms, some platforms blocked his accounts, but some didn't. I have even seen cheater fake bernese dogs online with a dyed border collie.

5.“Is this issue now resolved?”

The fraud accounts I could find were reported and blocked by me and my followers. But I am not sure if there are other accounts on the internet. I can only hope that people who want a bernese mountain dog can try to buy dogs in CKU certified kennels, or try to adopt instead of buying.

It records valuable memories of Kala and allows me to watch anytime. There are many friendly people on Ins who like Kala, which makes me feel very proud and happy.



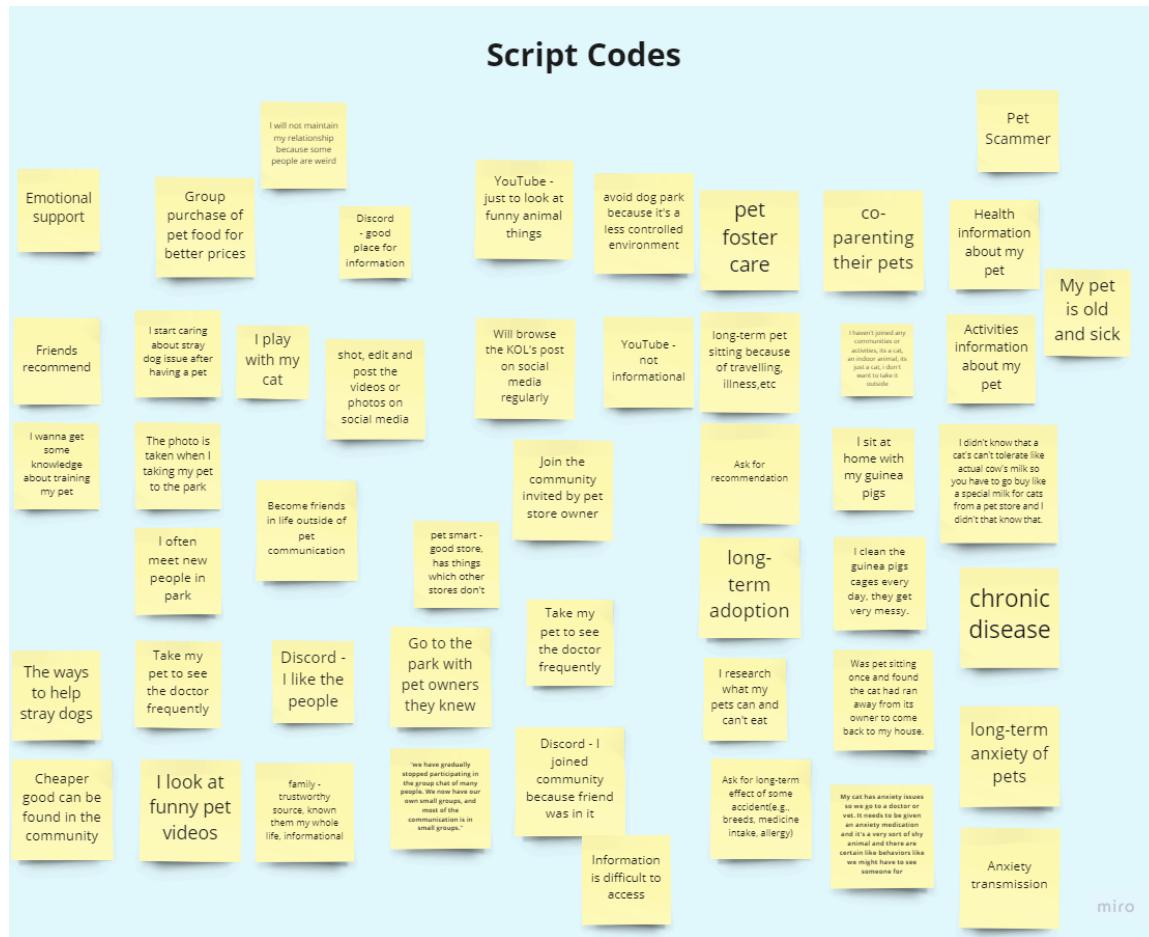
6.Do you have close relationship because of Kala?

Kala's parents' owners are now friend of mine. They allowed me to adopt Kala for free after visiting my family and background and required me to accept a return visit. During the visit, we gradually became closer, and had parties or travelled with our pet. Kala was also able to see his mother and sister on a regular basis.

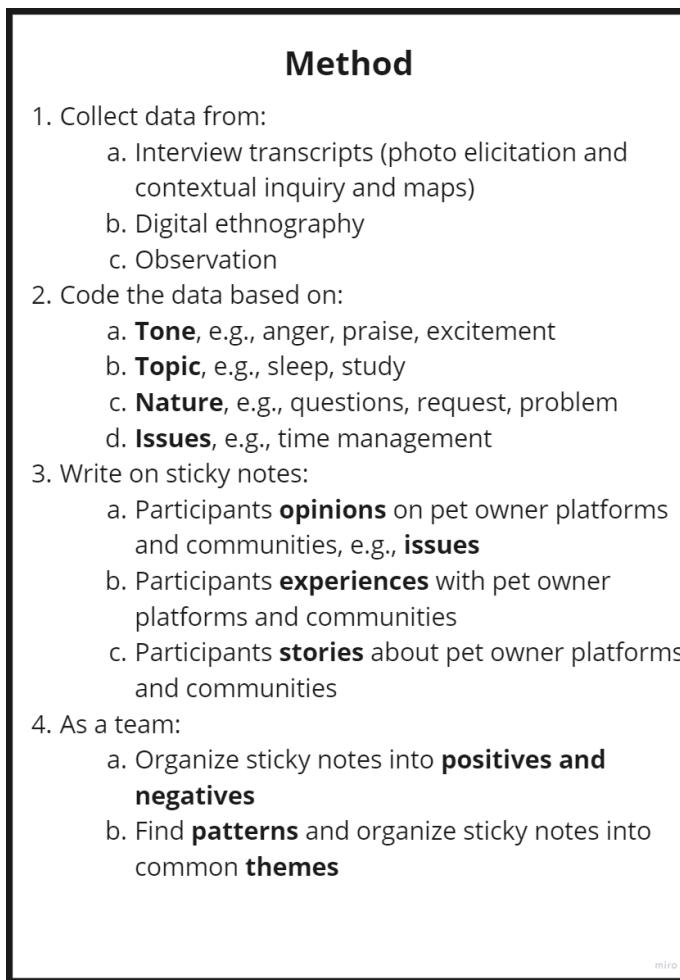
miro

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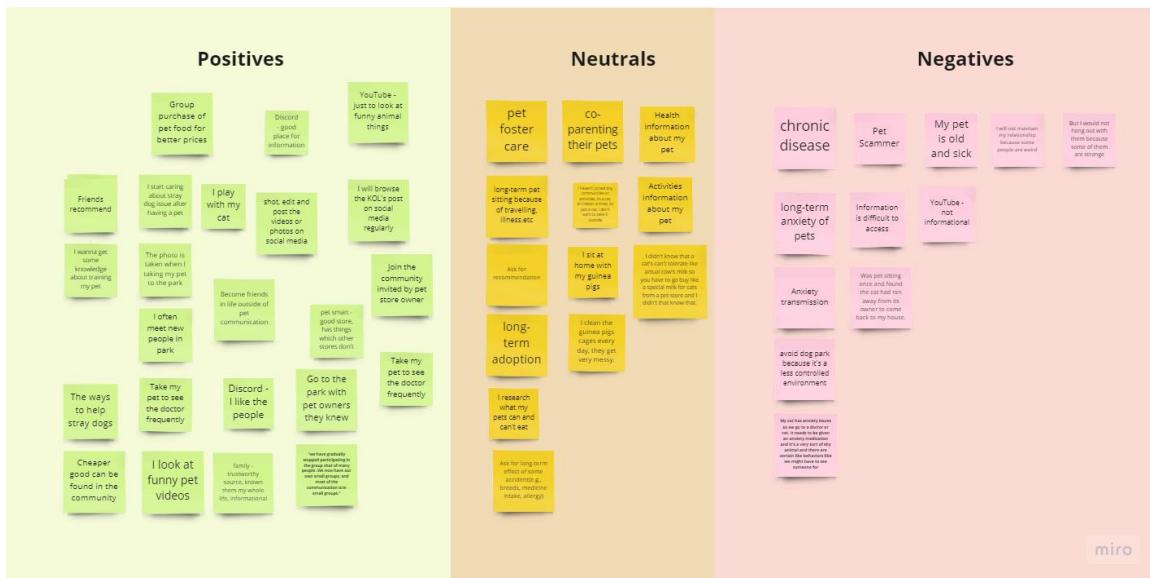
Appendix 3: Script Codes



Appendix 4: Affinity Diagram



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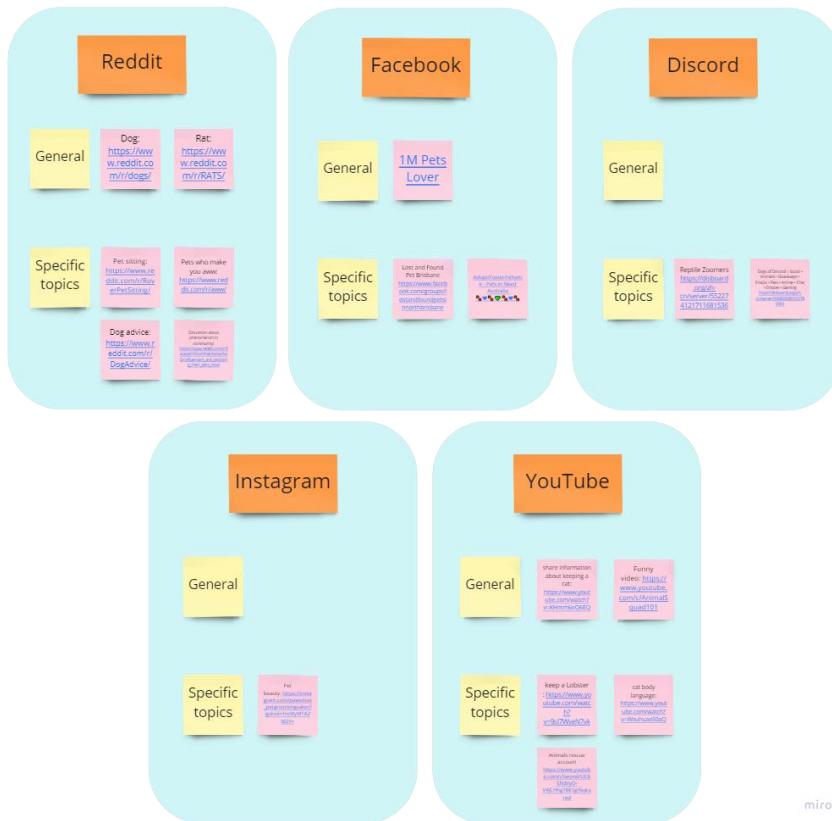
Appendix 5: Observation Photos – Milton



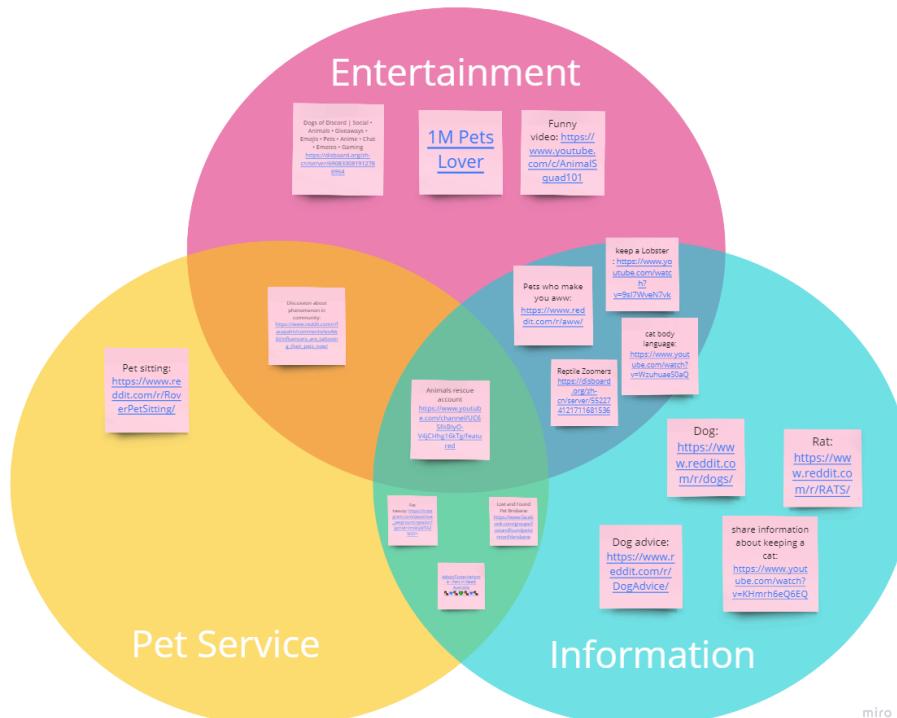
Appendix 6: Observation Photos – Gold Coast



Appendix 7: Digital Ethnography Websites



Appendix 8: Digital Ethnography Affinity Diagram



Appendix 9: Digital Ethnography Posts



*This is just a sample of posts from all the posts we have read

Appendix 10: Signed Ethics Forms



School of Information Technology and Electrical Engineering

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DECO6500 – Advanced Human-Computer Interaction

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Participant Information Sheet

Designing Towards Long-term Support in Pet Owner Community

PROJECT DESCRIPTION

Pet owners can easily find and join the relevant community through the internet in recent years. However, some pet owners are still not willing to join these communities. In this research project, we aim to help pet owners be connected to each other to have long terms support for their pets, so we investigate the reasons for the pet owners' willingness to join the communities through several human computer interaction (HCI) methods, including interview, mapping, and photos elicitation.

YOUR PARTICIPATION

Photo elicitation and mapping methods will be conducted in the interview to gain insights from participants' willingness toward joining the pet owner communities. And several questions will be asked to get deeper insight of the reason as well as the existing communities.

DATA WE ARE COLLECTING

Interview notes and photos shared by the participants will be collected during the interview process.

CONFIDENTIALITY

All information collected from you will be de-identified and/or allocated a code. Personal information that is obtained will be strictly confidential.

De-identified and/or coded information will be reported to staff and students of the course DECO6500 - Advanced Human Computer Interaction, in which the student researchers are enrolled.

Evidence of your agreement to participate will be provided to the staff of the course for record-keeping but will not be associated with the information you provide.

RISKS TO YOU

There are no risks to you participating in this project beyond those that exist in normal daily life.

PARTICIPATION IS VOLUNTARY

There are no direct benefits to you in participating in this project.

Your participation is entirely voluntary. You don't have to be in this study if you don't want to, and you can ask to stop at any time. There are no negative consequences should you wish to stop, data collection will cease immediately and any data collected from you or about you will not be included in the study.

ETHICAL CONDUCT OF THE RESEARCH

This research project is being conducted as a learning activity of The University of Queensland. If you would like to speak to the course teaching staff about any aspect of this project, you may contact them with the details provided.

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DECO6500 – Advanced Human-Computer Interaction

COURSE STAFF
Coordinator: Dr Dhaval Vyas
Email: d.vyas@uq.edu.au

Participant Informed Consent Form

Designing Towards Long-term Support in Pet Owner Community

Your written informed consent to participate in this study is needed by the researchers. Please read the following statements, and sign if you agree with them:

- The nature of this project has been explained to me and I have read and understood the Participant Information Sheet provided.
- I agree to participate in the study as described in the Participant Information Sheet.
- I understand that my participation in this study is voluntary and that I am free to withdraw from the study at any time, without penalty and without needing to provide any reason.
- I understand that my words and photos will be collected during the interview.
- I understand that there is no risk for me to join in the interview.
- I have been informed that I can contact the student researcher or a teaching member of staff if I would like more information on this study.
- I understand that there are no direct benefits to me in participating in this study.

Please indicate your preference below:

I provide consent to be recorded.

Participant's Full Name: Lai So Ho

A handwritten signature in black ink that reads "Lai So Ho".

Participant's Signature:

Date: 13/9/22



School of Information Technology and Electrical Engineering

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- I understand that there are no direct benefits to me in participating in this study.

Please indicate your preference below:

I provide consent to be recorded.

Participant's Full Name: Ching Fang Hsieh

Participant's Signature: *Ching Fang Hsieh*
Date: 12/9/22



School of Information Technology and Electrical Engineering

STUDENT RESEARCHER

Yingzi Zhuang 46863913

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Your participation is entirely voluntary. You don't have to be in this study if you don't want to, and you can ask to stop at any time. There are no negative consequences should you wish to stop. Data collection will cease immediately and any data collected from you or about you will not be included in the study.

ETHICAL CONDUCT OF THE RESEARCH

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COURSE STAFF
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Email: d.vyas@uq.edu.au

Participant Informed Consent Form

Designing Towards Long-term Support in Pet Owner Community

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- I understand that there are no direct benefits to me in participating in this study.

Please indicate your preference below:

I provide consent to be recorded.

Participant's Full Name: Zihan Zou

Participant's Signature:

A handwritten signature in black ink that reads "Zihan Zou".

Date: 11/9/22



School of Information Technology and Electrical Engineering

STUDENT RESEARCHER

Wanqi Yang 46600284

COURSE

DECO6500 – Advanced Human-Computer Interaction

COURSE STAFF

Coordinator: Dr Dhaval Vyas

Email: d.vyas@uq.edu.au

Participant Information Sheet

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YOUR PARTICIPATION

Photo elicitation and mapping methods will be conducted in the interview to gain insights from participants willingness toward joining the pet owner communities. And several questions will be asked to get deeper insight of the reason as well as the existing communities.

DATA WE ARE COLLECTING

Interview notes and photos shared by the participants will be collected during the interview process.

CONFIDENTIALITY

All information collected from you will be de-identified and/or allocated a code. Personal information that is obtained will be strictly confidential.

De-identified and/or coded information will be reported to staff and students of the course DECO6500 - Advanced Human Computer Interaction, in which the student researchers are enrolled.

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RISKS TO YOU

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Please indicate your preference below:

I provide consent to be recorded.

Participant's Full Name: Yifan Song

Yihang Song
Participant's Signature: Date: 11/9/22

School of Information Technology and Electrical Engineering

STUDENT RESEARCHER

Aadya Bhatia 47017553

COURSE

DECO6500 – Advanced Human-Computer Interaction

COURSE STAFF

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Email: d.vyas@uq.edu.au

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Please indicate your preference below:

I provide consent to be recorded.

Participant's Full Name: Jane Williams

Participant's Signature:

A handwritten signature in black ink that appears to read "Jane Williams".

Date: 10/9/22

School of Information Technology and Electrical Engineering

STUDENT RESEARCHER

Aadya Bhatia 47017553

COURSE

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Please indicate your preference below:

I provide consent to be recorded.

Participant's Full Name: Mel Marshall



Participant's Signature:

Date: 14/9/22



School of Information Technology and Electrical Engineering

STUDENT RESEARCHER

Wanqi Yang 46600284

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- I understand that there are no direct benefits to me in participating in this study.

Please indicate your preference below:

I provide consent to be recorded.

Participant's Full Name: Tianyi Zhang

Participant's

Tianyi Zhang

Signature: Date:

27/8

Appendix 11: Paper Reviews

<p>Title of Paper: The Pet Factor - Companion Animals as a Conduit for Getting to Know People, Friendship Formation, and Social Support</p>
<p>Authors of Paper: Lisa Wood ,Karen Martin,Hayley Christian,Andrea Nathan,Claire Lauritsen,Steve Houghton,Ichiro Kawachi,Sandra McCune</p>
<p>Citation – use ACM format Wood, L., Martin, K., Christian, H., Nathan, A., Lauritsen, C., Houghton, S., ... & McCune, S. (2015). The pet factor-companion animals as a conduit for getting to know people, friendship formation and social support. <i>PloS one</i>, 10(4), e0122085.</p>
<p>What is the main argument of the paper – the contribution to knowledge? The paper investigated the indirect role of pets as facilitators for three dimensions of social relatedness; getting to know people, friendship formation, and social support networks.</p>
<p>What methods/techniques were used? A telephone survey of randomly selected residents in four cities. All participants were asked about getting to know people within their neighborhood.</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? This research not only focuses on if the owners establish a friendship with other people but also investigates if they know people in the neighborhood as a result of your pet. Moreover, this work surveys if the pet owners receive social supports.</p>
<p>Why is the work important? How will it have an effect in the real world? This work proves that the pets can help the owner fascinate friendships and provide the opportunity for them to meet other people including the neighborhood. And this effect helps develops healthy neighborhoods.</p>

What new ideas did it give you for your own work?

The questions that the researchers ask are described in this paper. We can learn how to ask the questions by referring them. We can classify the people that the owners meet as a result of their pet. Therefore, we can clarify the pet help fascinate what kind of relationship.

<p>Title of Paper: Definitions of Community Areas of Agreement Authors of Paper: Hillery, George A</p>
<p>Citation – use ACM format George A. Hillery. 1955. Definitions of Community: Areas of Agreement. <i>Rural Sociology</i> 20, 2 (1955), 111–123.</p>
<p>What is the main argument of the paper – the contribution to knowledge? Through the observation of rural areas, this paper subdivides the characteristics of community settlements formed by geographical factors, and tries to classify these characteristics in order to find a closer definition.</p>
<p>What methods/techniques were used? Literature review Observation</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? This paper puts forward several factors for the formation of offline community settlements, classifies them and expounds their basic principles.</p>
<p>Why is the work important? How will it have an effect in the real world? This paper puts forward several factors for the formation of offline community settlements, classifies them and expounds their basic principles.</p>
<p>What new ideas did it give you for your own work? The decisive factors can enable us to guide the investigation of offline communities.</p>

<p>Title of Paper: European citizens' digital health literacy Authors of Paper: TNS Political & Social</p>
<p>Citation – use ACM format European citizens&#8217; digital health literacy. Flash eurobarometer. TNS political and social - University of Queensland. Retrieved October 22, 2022 from https://search.library.uq.edu.au</p>
<p>What is the main argument of the paper – the contribution to knowledge? The report shows the popularity of online health care in the EU and the experience and feedback data of EU people on online health care.</p>
<p>What methods/techniques were used? Unrevealed</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? The report shows the popularity of online health care in the EU and the experience and feedback data of EU people on online health care.</p>
<p>Why is the work important? How will it have an effect in the real world? The report shows the effect of medical information on the Internet to help users, and shows its network cohesion.</p>
<p>What new ideas did it give you for your own work? The report, combined with the papers we found on pet health care, shows the great potential of online medical information in the community. It provides us with an area and design ideas that we can pay attention to.</p>

<p>Title of Paper: Fostering neighborhood viscosity does design matter Authors of Paper: Susan Mason and Elizabeth Fredericksen</p>
<p>Citation – use ACM format Susan Mason and Elizabeth Fredericksen. 2011. Fostering neighborhood viscosity: does design matter? Community Development Journal 46, 1 (January 2011), 7–26. DOI:https://doi.org/10.1093/cdj/bsp037</p>
<p>What is the main argument of the paper – the contribution to knowledge? Through the research, the article shows that municipal design can provide better community viscosity and alleviate community indifference. However, traditional design factors have not been proved to be related to community viscosity in the article, and some new measures have been proved to have more potential</p>
<p>What methods/techniques were used? Cross-sectional design Two-tailed t-tests Linear regression analysis</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? It proves the impact of environmental design on offline communities. However, it believes that the traditional design does not play an important role, and introduces the design of geographic information system and proves its effectiveness. It is only tested in a single cultural, and the impact of different cultural backgrounds on the feelings of the community is not taken into account.</p>
<p>Why is the work important? How will it have an effect in the real world? The paper proves the influence of environmental design on the cohesion of offline community, and puts forward the introduction of new technology into community design, and puts forward some guiding suggestions for our offline community design.</p>
<p>What new ideas did it give you for your own work? We can consider introduce more design elements for offline communities to enhance the experience of offline communities.</p>

<p>Title of Paper: Pet Owner Characteristics in Telemedicine</p> <p>Authors of Paper: Anisa Larasati, Leo Andri Julius Caesar, Anak Agung Ngurah Perwira Redi, Reny Nadlifatin, Sulthan Bahariawan, and Adji Candra Kurniawan.</p>
<p>Citation – use ACM format</p> <p>Anisa Larasati, Leo Andri Julius Caesar, Anak Agung Ngurah Perwira Redi, Reny Nadlifatin, Sulthan Bahariawan, and Adji Candra Kurniawan. 2022. Pet Owner Characteristics in Telemedicine. In 2022 5th International Conference on Computers in Management and Business (ICCMB) (ICCMB 2022). Association for Computing Machinery, New York, NY, USA, 20–23. https://doi.org/10.1145/3512676.3512680</p>
<p>What is the main argument of the paper – the contribution to knowledge? The paper defines the telemedicine need of pet owners. Then it demonstrates how to attract the target users by using marketing terminology: Regulatory Focus and Maximizer Tendency. By using these two methods to test. They determine the need and growing space for pet telemedicine.</p>
<p>What methods/techniques were used? Questionnaire</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? They found the telemedicine need for the pet and used marketing scales to evaluate it.</p>
<p>Why is the work important? How will it have an effect in the real world? They elaborate the need for pet telemedicine. It will be a huge market to develop.</p>
<p>What new ideas did it give you for your own work? Pet owners community may be able to offer some telemedicine advice which may be an important impulse for people to join the community.</p>

<p>Title of Paper: UK pet owners' use of the internet for online pet health information</p> <p>Authors of Paper: Kogan, Lori ; Oxley, James A ; Hellyer, Peter ; Schoenfeld, Regina ; Rishniw, Mark</p>
<p>Citation – use ACM format</p> <p>Lori Kogan, James A Oxley, Peter Hellyer, Regina Schoenfeld, and Mark Rishniw. 2018. UK pet owners' use of the internet for online pet health information. <i>Veterinary Record</i> 182, 21 (2018), 601–601. https://doi.org/10.1136/vr.104716</p>
<p>What is the main argument of the paper – the contribution to knowledge?</p> <p>There is not a good way for pet owners to research about pet health information.</p>
<p>What methods/techniques were used?</p> <p>Online survey – 571 UK pet owners</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better?</p> <p>49.6% said their vet never recommended specific websites but >90% of owners said they would visit vet recommended websites</p>
<p>Why is the work important? How will it have an effect in the real world?</p> <p>For owners to better take care of their pets because many want to but are not able to easily find accurate information of how to.</p> <p>Also some pet owners may not know if their pets are experiencing sickness or pain so they won't know to take them to vet so they should learn more</p>
<p>What new ideas did it give you for your own work?</p> <p>An accurate, ethical, well researched and professional recommended website for vets to give to pet owners to research about how to take care of their pets.</p> <ul style="list-style-type: none"> • Medical • Diet & nutrition

<p>Title of Paper: Recommending social media content to community owners Authors of Paper: Inbal Ronen, Ido Guy, Elad Kravi, and Maya Barnea</p>
<p>Citation – use ACM format Inbal Ronen, Ido Guy, Elad Kravi, and Maya Barnea. 2014. Recommending social media content to community owners. In Proceedings of the 37th international ACM SIGIR conference on Research & development in information retrieval (SIGIR '14), Association for Computing Machinery, New York, NY, USA, 243–252. DOI:https://doi.org/10.1145/2600428.2609596</p>
<p>What is the main argument of the paper – the contribution to knowledge? In this paper, a recommended algorithm is designed to guide the information in the online community and arouse the interest of members. The article believes that recommendation algorithms can help owners create a more attractive community. The paper also compares the effects of different recommendation algorithms. The influence of different community characteristics on the effect of the algorithm is investigated.</p>
<p>What methods/techniques were used? Survey</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? The paper studies the effect of different recommendation algorithms, and creatively combines the effect of the algorithm with the characteristics of the community. It would be better if they iterated the algorithm based on the survey results.</p>
<p>Why is the work important? How will it have an effect in the real world? The paper investigated the advantages and disadvantages of the algorithm based on the different characteristics of the community, and can use different recommendation algorithms for different communities to achieve the best effect of stimulating the vitality of the community.</p>
<p>What new ideas did it give you for your own work? Continuous input of effective information can play a role in maintaining the vitality of the community, so we can introduce recommendation algorithms for the online community to keep the community active and sticky.</p>

<p>Title of Paper: Sense of community: A definition and theory Authors of Paper: McMillan, David W. ; Chavis, David M.</p>
<p>Citation – use ACM format David W. McMillan and David M. Chavis. 1986. Sense of community: A definition and theory. <i>Journal of Community Psychology</i> 14, 1 (1986), 6–23. DOI:<a href="https://doi.org/10.1002/1520-6629(198601)14:1<6::AID-JCOP2290140103>3.0.CO;2-1">https://doi.org/10.1002/1520-6629(198601)14:1<6::AID-JCOP2290140103>3.0.CO;2-1</p>
<p>What is the main argument of the paper – the contribution to knowledge? The paper defines the sense of community, defines and describes the factors that affect the formation of the sense of community, and finds out the process of these factors.</p>
<p>What methods/techniques were used? Literature review</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? This paper systematically reviews the past research, and based on the past research, puts forward the definition of community sense and puts forward four important factors that lead to community sense.</p>
<p>Why is the work important? How will it have an effect in the real world? For the first time, this paper clearly gives the definition of community sense and makes a clear distinction for abstract community planning. And the factors that affect the sense of community put forward some guiding suggestions for the design of the community.</p>
<p>What new ideas did it give you for your own work? The article provides criteria for us to define and distinguish communities, and the four factors that dominate the sense of community provide references and suggestions for our later project development.</p>

<p>Title of Paper: Social Network based community Users' Viscosity enhanced model</p> <p>Authors of Paper: Fusheng Jin, Haiyang Lang, and Zhendong Niu</p>
<p>Citation – use ACM format</p> <p>Fusheng Jin, Haiyang Lang, and Zhendong Niu. 2010. Social Network based community Users' Viscosity enhanced model. In The 2nd International Conference on Information Science and Engineering, 3113–3116. DOI:https://doi.org/10.1109/ICISE.2010.5691560</p>
<p>What is the main argument of the paper – the contribution to knowledge?</p> <p>In this paper, a community user viscosity enhancement model based on social network is proposed, and its feasibility is verified by simulation experiments.</p>
<p>What methods/techniques were used?</p> <p>Literature review Experiment</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better?</p> <p>This paper proposes a method to increase community viscosity by dividing large community groups into small community groups according to their interests, which is proved by simulation experiments. It would be better if paper could provide real test data for assistance.</p>
<p>Why is the work important? How will it have an effect in the real world?</p> <p>User viscosity is very important to the online community, and it ensures the continued vitality of the community. The article provides a novel way to maintain the user viscosity of the community.</p>
<p>What new ideas did it give you for your own work?</p> <p>It provides ideas for our later design for the online community.</p>

<p>Title of Paper: The Community is Where the Rapport Is – On Sense and Structure in the YouTube Community</p> <p>Authors of Paper: Dana Rotman, Jennifer Golbeck, and Jennifer Preece</p>
<p>Citation – use ACM format</p> <p>Dana Rotman, Jennifer Golbeck, and Jennifer Preece. 2009. The community is where the rapport is -- on sense and structure in the youtube community. In Proceedings of the fourth international conference on Communities and technologies (C&T '09). Association for Computing Machinery, New York, NY, USA, 41–50. https://doi.org/ezproxy.library.uq.edu.au/10.1145/1556460.1556467</p>
<p>What is the main argument of the paper – the contribution to knowledge?</p> <p>The paper takes YouTube as a sample to analyze the community attributes of the web-based online community. Different from the traditional online community, which are highly similar to the physical community, the communities that exist in these web-based are ignored. Through quantitative and qualitative analysis, the communications on YouTube does give members a sense of community and these "small community" on YouTube is not as formal and cohesive as the traditional online community. The paper provides different implications for us to understand the way users function within the online community. Maintain and deepen these decentralized community by creating tools can deepen community cohesion and improve community sustainability is . This result will not only enrich the community experience that users will get but will also help attract new users to the community.</p>
<p>What methods/techniques were used?</p> <p>A qualitative analysis of users' feelings about the community and their interaction patterns. By analyzing massive YouTube video corpus based on a Grounded Theory approach.</p> <p>A quantitative analysis of the actual YouTube structure as created by their articulated ties. By using API and spider to uncover the actual structure of the YouTube social network.</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better?</p> <p>It is unclear whether platforms like YouTube and Twitter have community attributes. The paper gives the affirmative answer by using the results of qualitative and quantitative analysis.</p>

<p>Why is the work important? How will it have an effect in the real world? Giving these social media a clear definition of community allows us to re-examine the social relationships on these platforms in terms of the concept of community and to manage and regulate them with existing community operations.</p>
<p>What new ideas did it give you for your own work? We can build a content sharing platform for our target users and make them interested in joining the whole platform through algorithm recommendation mechanism. This article proves that "small communities" established in this way can be condensed into a more cohesive community. This provides a train of thought for our design.</p>

<p>Title of Paper: THE COMMUNITY QUESTION RE-EVALUATED Authors of Paper: Barry Wellman</p>
<p>Citation – use ACM format Barry Wellman. 1988. The community question re-evaluated. Power, community and the city. MP Smith. New Brunswick. (1988).</p>
<p>What is the main argument of the paper – the contribution to knowledge? The article provides a comprehensive study and description of communities from the perspective of social science and political economy. It deals with various aspects of community renewal and regeneration, the economic ecology of communities, and the structure of communities.</p>
<p>What methods/techniques were used? Interview Observation</p>
<p>What is so novel/innovative about the findings? Do you think it could be done better? The paper conducted an all-round study of the modern new form of community in the after-war era, and today there are still many inferences that can be regarded as the cornerstone.</p>
<p>Why is the work important? How will it have an effect in the real world? The paper not only analyzes the community from the perspective of social science, but also introduces the absolute political economy to analyze the community from the aspects of economic and social structure.</p>
<p>What new ideas did it give you for your own work? The article shows that communities are created not only because of geographical distance, but also because of common economic interests or values. This provides more discriminating ability and deeper insight for our understanding and investigation of the online community.</p>

Title of Paper: The pet connection: Pets as a conduit for social capital?
Authors of Paper: Lisa Wood
Citation – use ACM format Wood, L., Giles-Corti, B., & Bulsara, M. (2005). The pet connection: Pets as a conduit for social capital?. <i>Social science & medicine</i> , 61(6), 1159-1173.
What is the main argument of the paper – the contribution to knowledge? The purpose of this paper was to explore the relationship between pets and elements of social capital.
What methods/techniques were used? A random survey of 339 adult residents from Perth, Western Australia were selected from three suburbs and interviewed by telephone
What is so novel/innovative about the findings? Do you think it could be done better? This work emphasizes the community. The pet owner usually is more willing to engage in the activity.
Why is the work important? How will it have an effect in the real world? It proves that the pet did motivate the owner to be more engaged. Furthermore, the owner reported giving and receiving unneighborly favors.
What new ideas did it give you for your own work? In this work, they randomly select the respondents. However, the reported answers from different ages are significant differences. We must decide our target users before conducting the survey.

Title of Paper: The Pet Factor - Companion Animals as a Conduit for Getting to Know People, Friendship Formation, and Social Support
Authors of Paper: Lisa Wood ,Karen Martin,Hayley Christian,Andrea Nathan,Claire Lauritsen,Steve Houghton,Ichiro Kawachi,Sandra McCune
Citation – use ACM format Wood, L., Martin, K., Christian, H., Nathan, A., Lauritsen, C., Houghton, S., ... & McCune, S. (2015). The pet factor-companion animals as a conduit for getting to know people, friendship formation and social support. <i>PloS one</i> , 10(4), e0122085.
What is the main argument of the paper – the contribution to knowledge? The paper investigated the indirect role of pets as facilitators for three dimensions of social relatedness; getting to know people, friendship formation, and social support networks.
What methods/techniques were used? A telephone survey of randomly selected residents in four cities. All participants were asked about getting to know people within their neighborhood.
What is so novel/innovative about the findings? Do you think it could be done better? This research not only focuses on if the owners establish a friendship with other people but also investigates if they know people in the neighborhood as a result of your pet. Moreover, this work surveys if the pet owners receive social supports.
Why is the work important? How will it have an effect in the real world? This work proves that the pets can help the owner fascinate friendships and provide the opportunity for them to meet other people including the neighborhood. And this effect help develops healthy neighborhoods.

What new ideas did it give you for your own work?

The questions that the researchers ask are described in this paper. We can learn how to ask the questions by referring them. We can classify the people that the owners meet as a result of their pet. Therefore, we can clarify the pet help fascinate what kind of relationship.