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Catpanion:

A UI/UX iOS-based App Design to support cat adoptions

By Chenchen Ji

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Fine Arts in
Visual Communication Design

School of Design
College of Imaging Arts & Sciences
Rochester Institute of Technology
Rochester, NY

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**Catpanion:
A UI/UX iOS-based App Design to support cat adoptions**

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Abstract:

Homeless and abandoned cats are becoming an issue in urban areas around the world: a majority of them may carry illnesses that may lead to infectious diseases. Once back in the wild, cats may also harm the ecological equilibrium of urban areas as they are known to be hunters of birds and smaller mammals.

The popularity of online cat-related material has ballooned over the past decade. Within the confines of social media, cat-related matters have gained an enormous amount of attention. Due to the increase in cat enthusiasts, celebrities occasionally help post information about cats and have even helped ask for public assistance in cat adoptions. However, there are still a significant amount of cat enthusiasts who have difficulty receiving the attention needed for their cat either for adoption or general assistance.

Currently, there are no digital applications specifically designed for cat owners and their supporters who want to contribute to the body of cat-related knowledge and facilitate the adoption process. Some cat owners lack the necessary knowledge and skills to take care of their cat(s). Therefore, an application catering specifically to cat adoption, cat-related assistance and links related to cat non-governmental organizations (NGO) will benefit cat enthusiasts.

The application has two purposes: to make it easier for a person or organization to adopt a cat and allow current pet owners to learn more about their cat(s). Within the application, there is a post and search system for people to submit any information relating to cats under filterable terms, and those interested in adopting cats may use such search terms to locate cats through identifiers such as age, color, gender. Attached to the application, a cat-based encyclopedia called "Kittipedia" will allow professionals the ability to share knowledge about cat care and veterinary information.

Keywords:

Application Design, iOS, Cat adoption, social media, cat enthusiast

Introduction

Catpanion is an Apple iOS-based application designed for cat enthusiasts to help facilitate the cat adoption process and other cat-related resources. The design of the application will be laid out in a social media standpoint in which resources are liked, shared, and categorized based on a search word. This process will provide a convenient and simple platform for users in the application to share information about cats, cat adoption, and provide a better understanding of their cat to improve quality of care.

Section I: Subject Research & Analysis

The number of homeless and abandoned cats worldwide has increased in the last couple of years, with there being about one cat for every twenty human beings on earth. In Beijing, China, a city with over twenty million population, has approximately one million stray cats [1]. In the Tianjin area, another northern city in China, there are around seven hundred thousand [2], but only thirteen thousand cats have been adopted annually on record according to the 2014 statistic.

Based on the research in Chengdu[3], for each group of homeless and abandoned cats (typically three to seven in a clowder), approximately one in four cat enthusiasts are feeding them on a daily basis. Moreover, the research found that about one in seven cat enthusiasts would have adopted a cat if the resources were available.

The estimated population of New York City in 2016 is approximately 8 million, which statistically means that there are nearly 400,000 cats, but only 20,000 stray cats that had been brought in to city-contracted shelters in 2014 and only 18,000 in 2013. What's worse, there were only 14,000 out of 20,000 adopted during 2014[4].

Social media platforms are commonly used by cat enthusiast celebrities to support the adoption cause. BBS (Bulletin Board Systems) is one of them, and it is a system of old which still sees usage in Asia. Celebrities utilizing BBS receive 100 – 500 shares per post which are exposed to a minimum of 100,000 users on average; however, since these types of social media platforms, in general, do not specialize in cats, most users tend only to enjoy the cuteness of the cats and rarely plan on adoption. Moreover, despite there being accounts with a significant amount of followers, BBS ultimately are not designed with P2P (Peer to Peer) in mind and do not have the same functions as other more modernized social media platforms.

The same issues are faced in the United States as well. Instead of Weibo and BBS, cat adoption information in the United States finds itself in applications such as Facebook and Instagram. For example in the New

York City area alone, several cat rescue organizations maintain active Instagram accounts. Some of the more popular Instagram accounts include: “Puppykittynycty,” “littlewanderersnyc,” “Harlem Cats,” “NYAnimalrescuegirls,” “Paulthecatguy”... [5] etc. However, despite the vast amount of followers, the rate of cat adoption remains very low. Without the ability to filter out the extensive amount of unrelated information, the adoption information is often overlooked and do not garner enough attention.

During an interview with Weibo User “Guapi,” a senior cat-themed account holder who has three million five hundred and forty thousand followers with an estimate of thirty adoption related posts per day, confirmed that social media platform helps in cat adoptions and provides standing in outreach.

According to Weibo User “Guapi,” there are two main sources where stray cats come from: a litter reproduced from domesticated house cats and homeless/abandoned (identified as strays) cats. Even though volunteers and non-governmental organizations (NGOs) help and assist with stray cats “catch/ neuter/ release or adoption” process, there are still too many stray cats that live without a home which threatens the security of the region’s wildlife. On the other hand, neutered house cats amount to only 17% of the house cat population. Weibo User “Guapi” attributes this to the lack of information provided to pet owners. Very few pet owners are aware that neutering their pet would benefit not only their family but also offers the pet a healthier life.

Section II: Methods

Based on the data presented in section one, it is reasonable to believe that there is a significant demand for cat adoptions. After analyzing the cat adoption process, a need is present for an application to simplify and streamline adoptions within the general populace, and while no appropriate applications exist now, the application introduced here will address this issue.

Through research and interviews with multiple cat enthusiasts, five main essential elements in the cat adoption process have been identified. These five elements have been used to form the basis of the search

and filter system in the application. Hence, potential adopters will be able to filter out unwanted information and narrow down their prospects.

First, the majority of adopters prefer kittens over older cats. The cat enthusiast indicates that it would be easier to train a cat when they are younger than three months while difficulties may arise in teaching cats older than a year.

Secondly, cat color is a significant deciding factor. This preference may vary, but in general orange colored cats are the most popular ones, while black cats may encounter difficulties in finding a home.

Thirdly, adopters may be interested in the cat's neuter status. Some adopters may want to avoid the trouble of bringing cats to the vet, so neutered cats are preferred. Others find it inhumane to neuter, or they want their pets to have offspring so that they don't want the cat neutered.

Fourthly, adopters care about the distance between them and the cat waiting to be adopted. Traveling with a cat is prohibited in most mass-transportation (public) systems, and not every person in an urban setting has access to a car.

Lastly, some adopters showed more interest in the cats of a particular gender, which may be used as a reference for breeders or personal preferences.

After the owner takes a photo or video of the cat to be put up for adoption, he or she could directly enter the information about the cats: age, gender, color, neutered status if applicable or known and home conditions requested by current owners.

Current owners that offer cats for adoption may have home condition requirements for new owners which are seen by adopters when the cat is selected in the adoption list. For instance, most of them regularly include "No students" in their listing, due to the lack of stability in a student's lifestyle. Some will also request

for a buddy system: the adopter should currently own a cat; otherwise, the adopter must adopt two cats together.

If the adopter meets all conditions the current owner requested, he or she may contact the current owner via the messaging system. Locations are directly shared as part of the messaging system interface, along with “Photos,” “Videos,” and “Voice Recordings.” Once both parties are ready, appointments are scheduled for the potential adoption.

The current owner typically, but not required to, share additional information about the cat with the new owner, such as medical conditions, vaccinations, behavior and even training tips for a more comfortable beginning with the new cat. The current owner may also request to schedule home visits after adoption to ensure the pets are well treated.

A significant amount of research has been done to understand the interaction system design better. It includes research for Wechat, Twitter and Tumblr’s application on iOS.

Wechat is an Instant Messaging application; it has nearly nine million active users worldwide but with a prime focus in China. Logging into Wechat will bring users to a message log list where users click and open the logs for other users they contact. This design is outstanding as the usage is straightforward and very convenient, even the search for a contact to initiate a message chat. Photo sharing is started solely by clicking the plus sign on the top right next to the search bar. Users may choose the type of media to send, and just hit confirm. Wechat’s simple design suggests that this is mainly designed for chatting between 2 users.

Wechat’s downsides come from its other sections. Each message log’s Photos and Video Galleries are located in the user log’s top right corner and then selecting their icon and gallery, this is difficult for new users as it requires going through a few layers to reach this selection. Wechat also offers the capabilities for users to post on their user page or a friend’s page, but, users won’t be able to see comments made by a

third party (friend's friend) unless they are also friends. This system is suitable for friends but not useful for a P2P system where strangers are involved.

Twitter's homepage puts the user on the timeline. They have selections for timeline, search, notifications, and messages on the bottom bar while the home-button icon and tweet button is located on the top bar. Posting a tweet through Twitter's application is easy and straightforward, contents are entered into a text box, and a click of the tweet button is all it takes. Shortcuts for the camera and gallery are located beside the text box on the input screen.

However, it is difficult to check the reposts list or other users' comments. Notifications are also received only once, usually mixed with new post notifications. If the user is following a large number of accounts, they may miss comments from other users. Messages and notifications being in separate sections are also confusing. If they are together, the user may check without any issues as they are hard to miss in the same section. Message system could also be improved: when users attempt to share photos through the PMs (Private Messages), all they send out is an HTTP link to the image, not directly shown. PMs also do not have video support which is an inconvenience to users.

Tumblr mainly focused on image and video sharing system. Like Twitter, Tumblr will bring users to the timeline page where shortcuts for homepage, search, post, messages and user page options are present. User icon does not show on anywhere other than the user page, which is strange. For the interactive part, Tumblr combines notifications and messages, but sharing the same issues with Twitter, it is challenging for the users to review comments they received. Forwarded posts are hard to check, and new followed users list does not exist. Tumblr mainly focuses on the number of likes and forwards (notes) that users receive instead of a more detailed approach where a separate page is dedicated to these notifications.

After studying the three popular social media platforms above, it is clear that Catpanion requires a comprehensive P2P messaging system as well as an outstanding gallery system to check and compare with for the viewers. Ideally, Catpanion could learn from Wechat's messaging system while its gallery is improved

upon from Twitter and Tumbler's own. However, none of the above social media platforms have a well-received commenting system, which is utmost important for P2P software.

Section III: Results

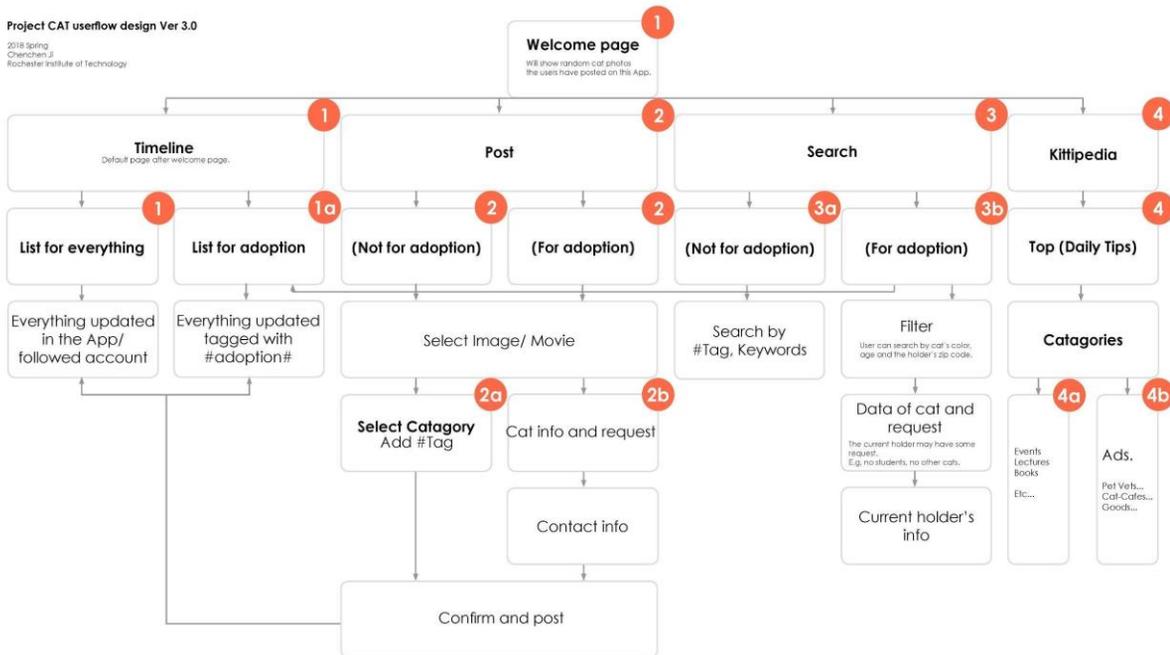


Figure 1: User flow design for *Catpanion*

After rounds of testing and polishing the concept, the application's design concluded. For the result, the App now contains five main user flows: Timeline, search, post, Kittipedia and interactive. These would fulfill the target goal: to make the adoption more manageable and to let the cat owners learn more.

The core function of the application is to facilitate cat adoption so that the user will arrive at the timeline page after the welcoming page. The timeline will show the latest information posted on this applications so that available cats could be checked immediately and users will be less likely to encounter outdated information.

The home menu includes a detailed timeline page as the natural default. Provided that it is an adoption post or cat-related material, users will be able to share and upload onto the application. A default set of information is sorted based on the timeframe of the post where the most recent is on top while older posts follow below.



Figure 3: Timeline screen design

From the timeline page, users may directly post contents wanted by clicking the “plus” button at the down-right corner. Once clicked, two options will appear: “Not for Adoption” button designed as a wool ball and the “For adoption” button designed as a cat house. In the posting system, users will have options for image or video. After uploading a media file, users will arrive at a screen for information input where texts and tags could be entered.

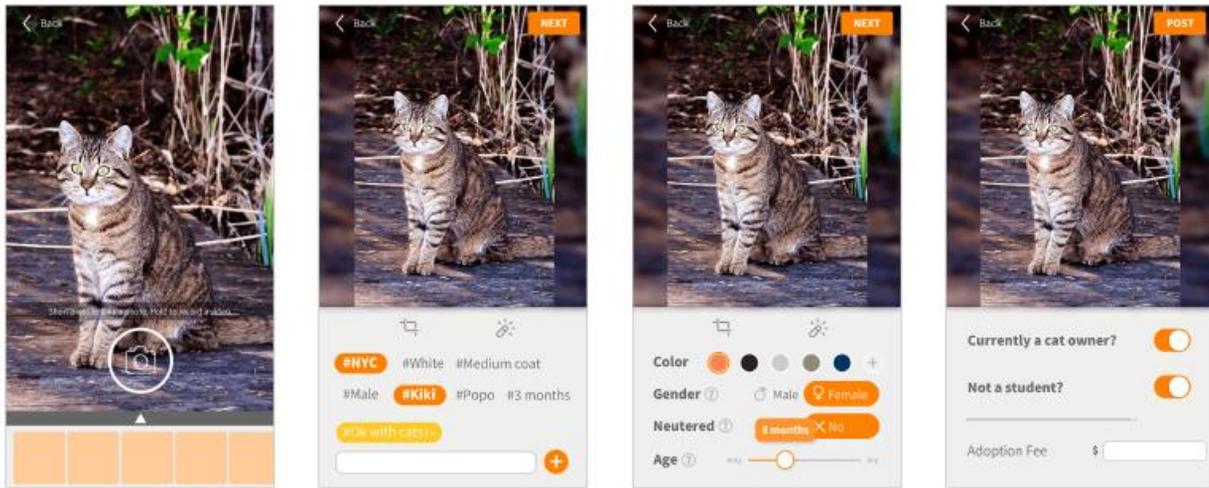


Figure 4: Post-process design

If a post is not adoption information related, the media file will directly show up on the timeline. If for adoption, the user will be led to another screen to enter the cat's information, such as age, color, neuter status, gender and zip code. Once the user finishes, the information will show up in the timeline and automatically tagged with "#adoption#" as a timeline filter. Once the posting process completes, users will arrive at their user page. For details regarding cats that show up on the timeline, users only need to click on them to access a detailed page for the listing. This comprehensive page contains all the information the current owner entered, as mentioned above.

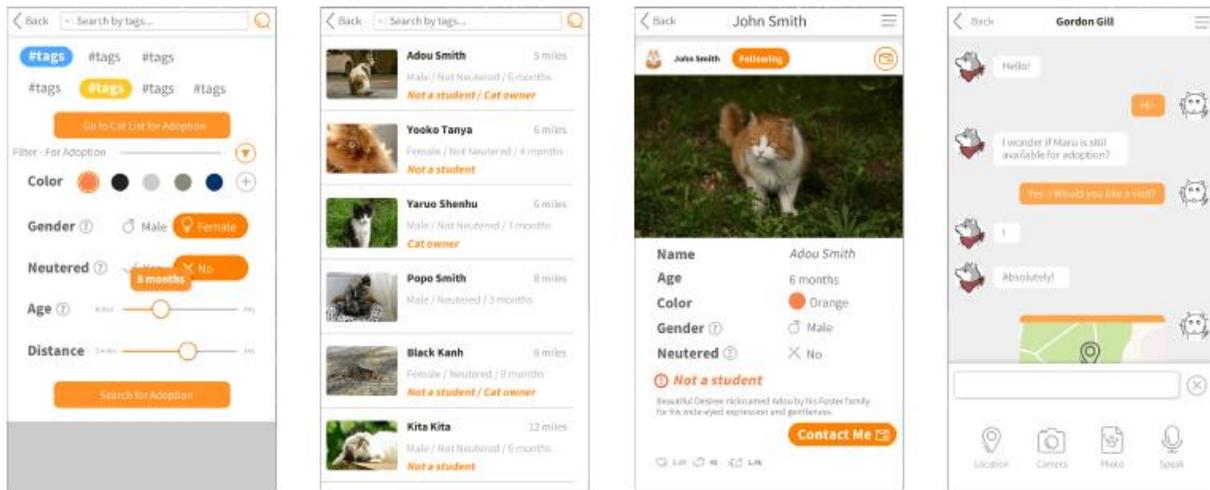


Figure 5: Search system design

Search page design will contain a button to clarify if a search is for adoption or not for adoption. If the latter, this will generate the search system which uses tags, keywords or usernames and gets the result as a list similar to the timeline. If the former, the application will bring the user to a criteria page to search via these categories:

Color: Orange / White / Black / Grey - Multi-selection, maximum of 3 choices

Age: a Scrollbar that user could adjust, younger than three months (Kitten) to over two years old (Cat)

Gender: Single choice Male or Female options

Neutered: Single choice Yes or No options

Distance: a Scrollbar for users to choose, from within five to fifty miles.

The categories mentioned above in the search system are all optional, if users chose to ignore individual selections, the system would judge as a non-filter.

Once users find his or her ideal cat, contact may be made to the current owner by clicking the message button on the post information page. Photos, videos or location sharing are also directly done via the messaging section.

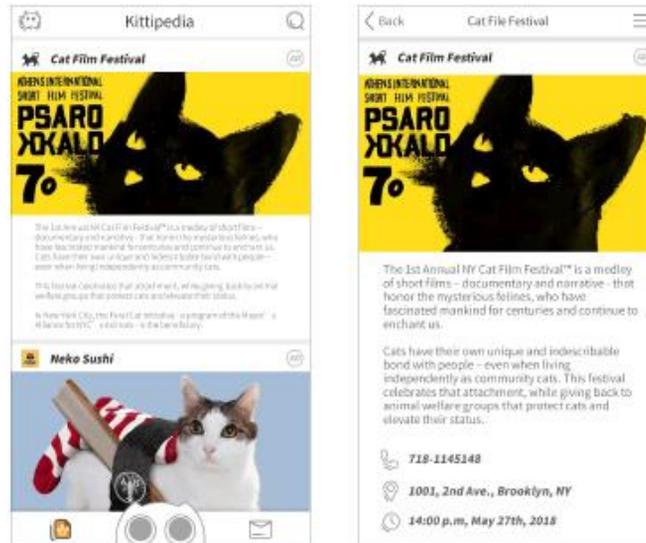


Figure 6: Kittipedia page design

The purpose of Kittipedia system is to let cat owners better understand their cats and won't panic just because their cats vomit up fur balls. This page closely resembles the timeline but is tagged with #Kittipedia# which only authorized users such as vets, organization related, or Catpanion administrators may use to post information. With that said, professionals and other famous cat enthusiast celebrities will be invited by the Administrator to add contents in Kittipedia. There will also be tag contents here so once users initiate a search, related articles get located immediately. For Kittipedia, the preconceived content will be Breed Introductions, Common Disease FAQ, Suggestions and tips for cat breeding and other fascinating bits of knowledge about cats.

Interactions such as "like," "share," "comment," "follow," and "message" button are available where registered users could do the exact actions as mentioned, just like any other social media platforms. Users could check messages and notification pushes from the top-right corner button on their user page. Non-registered users may still search and browse within the application; registration will prompt only when

interacting with something that requires a user account to track, such as the above interactions. After registering an account on the App, the user may follow other users. In fact, there are many famous cats with a considerable number of followers whose profiles are managed by their owners. Cats such as Guapi in China, Tama in Japan and Grumpy Cat in the states, these all have considerable followers who form a unique fan base around the specific cats and their owners.

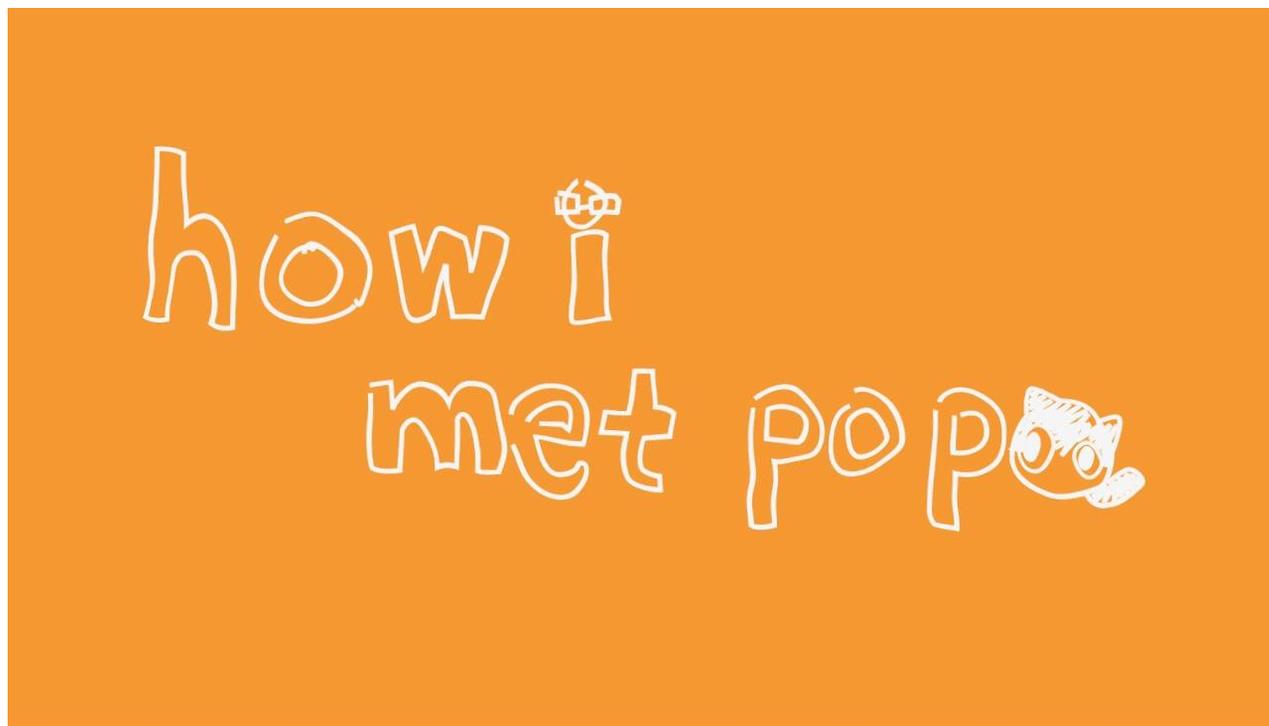


Figure 7: Short video's title scene

A short video is made to show how *Catpanion* works. The address of the short video is <https://youtu.be/ckYFm26aopg>

Section IV: Evaluation & Discussion

After finishing the UI design, several tests and evaluations are done by reviewers which consist of the author's designer friends and members of cat enthusiast groups. Some reviewers requested more filter categories for searching, while this could complicate searching for the everyday users, it is worthwhile to conduct more research to refine the filter system. Also, there will be fundamental cat knowledge shared with the users in Kittipedia, if they ever had the interest to learn more. Reviewers love the concept of Kittipedia and believe that this is a useful way to spend their fragmented time and could learn a great deal from the App resource.

En Zhang, the administrator of "The Center of Protect Beastie" in Beijing City, indicated that if this App is online, they would unquestionably recommend it to their staff and visitors. With recommendations from such organizations, *Catpanion* will be put to good use for cat adoptions. Mrs. Zhu, the holder of Guapi @Weibo also says that she would positively advertise this application and be the first user. She loves the search system in particular and would write for Kittipedia to help people eliminate their prejudices on black cats. Mrs. Zhu also suggested putting the color black in the first place on the filter page. The project has been well received by most of the audiences, including everyday cat fans, celebrity cat owners, and organizations' staff who all found the filter system to be well designed and could help with cat adoptions.

Conclusions

Catpanion would surely fulfill a niche and be the first cat themed social media platform application on the iOS system. The owners won't fret too much about finding an appropriate vet, and cat lovers will undoubtedly find their ideal cat easily with the help of *Catpanion*. During the back and forth in the design process, the author has acquired more knowledge on everything with iOS-based application design, which includes but not limited to experience on the grid system, typographic design and the method of keeping visual elements consistent. For each step in the UX design, new issues always surface, like forgotten elements, better flows designs. To make the design closer to perfect, more help from various people and different point of views are necessary. Allowing other professionals to be involved would help a lot during the

UX design process. However, holding onto the original viewpoints is also essential because some suggestions will be impractical or even too much for the user to handle and will cloud the focus. In these scenarios, the designer's judgment is crucial, so the finished design may focus on what needs solving in the first place.

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