

Formative Research - Final Report

Team Puppies

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Table of Contents

Introduction/Abstract	2
Background	3
Target Users	3
Formative User Research	5
Interviews	5
Participants (4 participants)	5
Procedure	5
Results	5
Survey	6
Participants (6 participants)	6
Procedure	6
Results	6
Conclusion	8
References	8
Appendix	9
Notes and feedback from in-class critique (Mar 23, 2020)	9
Interviews	9
List of core questions (left column) and responses (right column)	9
Notes	14
Survey	14
List of core questions (columns) and responses (rows)	14
Notes	14

Introduction/Abstract

Owning a pet is a privilege and should result in a mutually beneficial relationship. The benefits of pet ownership come with responsibilities and one can argue that spending enough time outdoors to provide exercise and mental stimulation appropriate to one's pet, breed, and health status is an important duty of an owner. To aid pet-owners who wish to take such responsibilities but have constantly faced difficulties due to lack of motivation, "Puppies" (*temporary name*) is a mobile application that will enhance one's experience while walking a pet.

"Puppies" will provide a simple and intuitive interface demonstrating two main features. First, it features GPS tracking when an owner presses a start button to keep track of distance and time walked with a pet. A user will be able to pause if a break is needed, or able to mark a pointer to keep track of where a pet takes a potty.

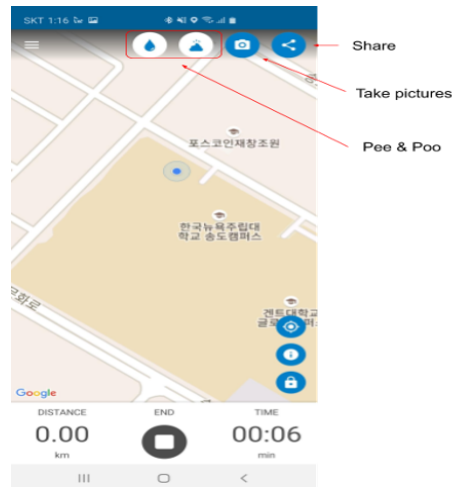


Figure 1. GPS-tracking Interface from "Dog Walk- Track Your Dogs!", a mobile application.

Few existing dog-walking applications demonstrate the GPS-tracking feature as shown in *Figure 1*. However, our approach to the feature is more focused on the user's experience. Our product will try to solve an issue where the lackluster dog-walking application becomes an experience to the user; it recommends dog walking-routes based on nearby public facilities ranked by other users and pet-friendly shops or cafés. In addition, a user can touch the map where he or she wants to visit beforehand and see the street-view of the location. There might be more features added as development progresses, but the key point here to take away is that users will be able to learn useful and perhaps necessary information from the map interface, rather than merely using it to track where and how long the users walked with their pet.

The last solution to motivate users to walk their pets is by providing an incentive after completing a walk. Incentives, such as consumable points, will accumulate as users walk longer distances and time with their pets (a cheating detection mechanism will be implemented). With such accumulated points, the users then can trade points to buy or discount pet-related products such as pet shampoo, pet snacks, and clothes for the pet. It is also possible that the points will be transferred to money to donate to nearby animal shelters or organizations. With such an incentive system enabled, community events can be held to encourage users to use our application to walk their pets. For example, points will be given to app users who participate more in community events, such as sharing useful pet-related information/comments on the community forum. Therefore, the user experience is

what matters for our team “Puppies” and we eagerly support pet owners leaving their home with their best companion.

Background

“One out of four South Korean adults owns a pet, and they spend an average of around 100,000won (\$89.95) per month on their companion”, a report by KB Financial Group published in December, 2018. According to the report by the financial conglomerate, 25.1 percent of 1,700 South Koreans aged over 20 responded that they currently have at least one pet, with 39.2 percent saying they had one in the past. (Herald, 2008, para.1) It is undeniable that pet ownership in South Korea has surged in recent years, and it has been a growing trend to own a pet rather than raise a kid in South Korea due to expense and social reasons. Therefore, it is common to find owners in Korea walking their dogs nearby parks or dog-friendly places.

Recent surge of pet ownership has resulted in a congregation of “pet-walkers” in certain places such as nearby parks or mountains. As a result, there is an inevitable interaction between pets to pets or pets to humans. According to Ula Yang, a Taiwanese student who lives in Korea and adopted two dogs, portrays her experience of reactions she gets when walking her dogs as “ranging from sheer and utter fear, to astonishment, to curiosity, to excitement, to disgust, and if I’m lucky, to adoration.” (Yang, 2016, para. 2, 3) The wide range of reaction she gets is due to the fairly new concept of pet ownership that has recently grown in South Korea. She even says her dogs are now very adverse to strangers because of all the negative experiences they have endured. Therefore, such an inevitable interaction among pets to humans can sometimes tarnish the owner's experience when walking a dog.

In order to solve the problem, our application can recommend a walking route based on the pet owner's preference, while providing basic information through a GPS-tracking interface, explained in the introduction. Also, owners frequently get lazy or forget to take their pets out for a walk. Whatever the reason is hindering owners from taking their dogs out, the mobile application we are developing will motivate such owners to take responsibility as caretakers. To list a few existing applications that helps pet owners to walk their dog are (refer to Appendix IV for details):

1. *PetIn*
2. *Dog Walk - Tracker for Dog Walkers*
3. *Dog Walk - Track Your Dogs!* (by Tractive)
4. *Walk For A Dog* (by Wooftrax)

Take the fourth example, *Walk For A Dog* by Wooftrax. This application, although different from other dog walking apps, allows you to support a dog in your local animal shelter by walking some distance once a week. Although you are not required to walk with your pet, you might as well take care of your dog when you are using this application, as it supports enlisting your dog's info as shown in *Figure 2*.

Verizon LTE 2:08 PM 56%

Add a Dog

Tap to add your dog's photo:

Dog's Name

Age Sele...ender

Primary Breed

Secondary Breed

Is your dog a pure breed? ☐

SAVE & START WALKING

Figure 2. Add your dog's basic information.

After the application is downloaded and installed, the first page you will see is shown in *Figure 3*. The page allows you to choose the animal shelter you would like to donate to.

Verizon LTE 2:05 PM 57%

walk for a dog

Let's Get Started

earning money for the animal organization of your choice

Robert

I am walking for:
Green Hills Animal Shelter
[Change](#)

Enroll

Figure 3. Enrolling a dog to support in your local shelter.

Once you are done, you can start walking with your dog as shown in *Figure 4*.

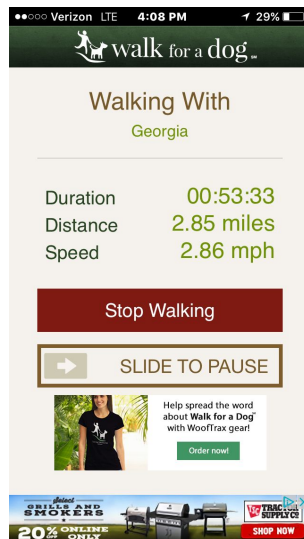


Figure 4. The page you see when you start walking.

After you are done walking, you can share your activity on Facebook or Twitter, and a google map shows the route you have walked as shown in Figure 5.

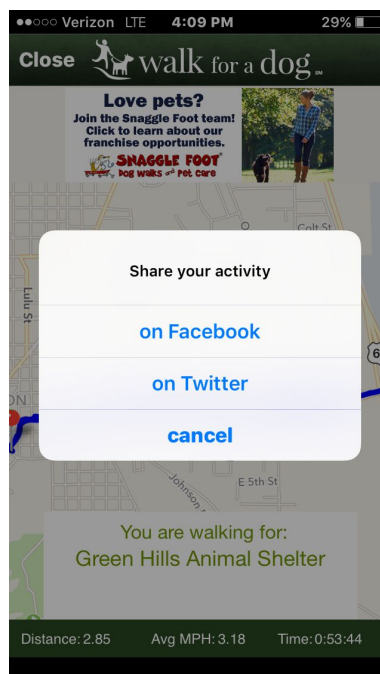


Figure 5. Share your activity on SNS

All in all, this is a simple app to use and we would like to give points for a brilliant idea to incentivize walking by allowing the user to do good for the society. Borrowing the concept, our application will be different in the sense that consumable points will be given to users after completing a walk with your pet. Then, the users will be able to choose whether to use the points for themselves to purchase goods or donate points (which will be transferred as money) to the local animal shelter.

Target Users

- Pet owners who lack the motivation to leave their home to walk their pet.
- Pets owners who like to keep track of their pet's health and exercise level.
- Owners who like to participate in a community to share photos and interests on pet community forums.
- Owners who wish to know the best route to walk their pet(s).
- Owners who would like to donate their love to animal shelters/organizations.
- Those who love to see/interact with pets in the streets.

Formative User Research

I. Interviews

Our group conducted three interviews in total. As the current situation regarding the CORONA-19 virus hinders us from conducting in-person interviews, all three interviews were done via phone calls or video conferences.

a. Participants (4 participants)

All participants were chosen among our group members' acquaintances. If we were able to wander around and actively look for dog-walkers outdoors, we would have had more chances to interact with possible target users. In our efforts to gain as much feedback or ideas as possible, we only contacted those who we were certain had dogs.

b. Procedure

As stated above, all interviews were conducted via digital mediums, specifically mobile phone and video conferences. We had prepared a list of questions targeted for dog owners, especially those who walk their dogs often. The list consisted of 13-15 core questions, depending on whether the interviewee had previous experiences in using a similar mobile application to our target product.

For collecting data, our group members agreed to record the interview sessions with mobile phones and take additional notes that may benefit us in the future. As a group, all members gathered after conducting the interviews, discussed the results, and organized the notes in a single document. The document was saved as a Google Docs file so that all of us can access it anytime.

c. Results

Age Range: 23 - 29 (mid-twenties to high-twenties)

Suitable for our interviewees as the age range matches the population with the most active mobile phone usages.

Residence:

Three out of four interviewees currently reside in highly populated cities and the other in a remote rural area. We will refer to the latter outlier as **P1** and the others **P2**, **P3**, and **P4**.

Gender: 2 males (P1, P2) / 2 females (P3, P4)

Interestingly, **P1** and **P2**, both of whom are males, stated that they are not interested in using a dog-walking mobile application while **P3** and **P4** were both quite interested. We wonder if the tendency to use a new mobile application is affected by gender.

Existing Behaviors:

All interviewees have never heard of such mobile applications before their interview sessions. However, **P4** has experiences in using a regular pedometer app while walking her dog.

P1: "Why use such a pointless app for walking a dog? I don't live in the cities and, therefore, raise my dog without a collar rather than taking it for a walk. No need for a walk, no need for an app."

P4: "I have only used a pedometer while walking my dog. It would be cool if I had such an app that shows nearby dog-friendly cafes."

User Needs:

We have noticed that although **P2**, **P3**, and **P4** tend to make sure that their dogs walk often, the actual walkings are done by their parents most of the time. Hence, we concluded that the target users of our product could be older than our initial estimation.

P2: "My mother says she could use an app that keeps track of the walking routes, given that it is in big fonts and straightforward UI."

II. Survey

a. Participants (6 participants)

As well with the interview, all participants were chosen among our group members' acquaintances.

b. Procedure

We conducted an online survey, so all we had to do was send the link to whoever agreed to answer the questions we prepared. Our main focus was to collect data on what kind of challenges dog owners face, their walking routines, and whether or not they use an app while doing so.

The results were automatically recorded in the Google Forms document that we created.

c. Results

Age range: 20~59 (approximate range)

The survey asked "where they are" from a given range of ages, and the results shows that it is diverse, which is good for collecting varying opinions and ideas.

Number of dogs owned:

There were 6 dog owners in total and they had or have dogs. The number varied from 1 to 3, but except two, all of them currently only own a single dog.

The challenges of walking a dog:

Most of our questions were focused on walking a dog, and going into what kind of challenges owners faced, all but two answered there was a challenge.

3 out of 4 responses answered that their dogs not behaving in the company of some other dog or person was a challenge. A quote from one response: “you don’t know if the other dogs are friendly or not and whether it’ll be okay to interact with them.”

Other responses told about their dog biting a person in an elevator or children running up to a dog without knowing what the dog might do.

Frequency of walking a dog:

We also asked the owners about how often they walk their dog and whether they think it’s enough or not.

4 out of 6 answered that they walk their dog enough with their frequency varying from every month to even every day.

Preferable areas in walking a dog:

Of course, walking a dog cannot be done anywhere and from the many possible walking spots, there has to be some areas that owners prefer and that would help us reflect more.

3 out of 6 responses tells us that they prefer to walk their dogs in nearby areas like the neighborhood or the backyard with the reason being difficult to travel far or for the dog’s comfort as the neighborhood is familiar.

One response stood out as it tells us about taking the dogs to the wilderness or sometimes traveling far to give them a new experience.

The challenges of having a dog:

This was a question which we added for assisting us in reflecting the needs of dog owners in general and not only dog walkers.

2 out of 6 responses said that training their dog was a challenge, the other two answered that their dogs challenge them financially.

There was also a case of a deaf dog (which meant that communication can only be done when the dog is looking at you) and walking the dog itself for one owner.

Whether they use an app while walking their dog and if not, if they are willing to:

And the most important question, do they use an app?

5 out of 6 responses answered “no”, and the only “yes” said it was Kakaotalk for messaging purposes.

For the question asking if they are willing to use one, 2 out of 3 answered “yes”.

Finally, asking if they are willing to pay for such an app, all of the 5 responses answered “no”.

User Needs:

From the answers collected from the survey, we were able to find out that most dog owners walk their dogs quite frequently, but they aren’t using an app while doing so. Some are willing to try it out, some are neutral, and all of them are not willing to pay for an app to use while walking a dog. Also, the challenges that they faced while walking their dog was the dogs’ behavior being unpleasant or being tired themselves.

Hence, we came up with an idea of implementing a feature that recommends a walking route for people who don’t want to encounter other dogs or people.

Conclusion

Taking all data we collected into account, we were able to focus our goal, which is to satisfy the user needs and user experience.. Furthermore, the primary target users are expected to be older generations, as it seems that the younger generation (age of 20 -29) usually leave their pets to the hands of the parents because of school, or college. Therefore, it would be best if we design our application to be simple and straightforward.

Another conclusion we made was that people will probably avoid purchasing the application. Therefore, one solution we might make money from this application, if it were to be released in the market, is via business to business method. For example, we would be able to generate profit from advertising, or permit pet-related shops to sell the products on our application in return of taking a small percentage off from the purchases made. These conclusions we made were possible because feedback from surveys and interviews provided a good insight of where our application design should head. Although one-to-one interviews provided more in-depth feedback compared to the surveys, we were able to quickly collect more data from various people with the surveys. In either way, both methods provided an invaluable source of information to ensure the success of our application, “Puppies.”

References

1. Yang, U. (2016, September 27). The Life Of A Dog Owner: Owning A Pet In Korea. Retrieved March 27, 2020, from <http://seoulsync.com/lifestyle/owning-a-pet-in-korea>
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3. Dog Walk- Track your dogs!
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4. Dog Walk Tracker for dog walkers
https://play.google.com/store/apps/details?id=br.com.cfb.dogwalktracker_dogwalker&hl=en_US
5. PetIn(펫인): <https://apps.apple.com/kr/app/%ED%8E%AB%EC%9D%B8/id1441271868>
6. Walk For A Dog: <https://play.google.com/store/apps/details?id=com.dfang.playfang&hl=ko>

Appendix

- I. Notes and feedback from in-class critique (Mar 23, 2020)
 - Possible features:
 - Take note of how your dog is enjoying/feeling when walking a certain route.
 - Remind the user if the dog is satisfied in every 20 mins or so
 - Change the first question from “Do you have a dog?” to “Have you ever had a dog?” This way we can expect more participation and thus more feedback.
- II. Interviews
 - A. List of core questions (left column) and responses (right column)

Interviewee	P1
Date / Time	Mar 25, 2020, 15:00
How old are you?	24
How many dogs do you own?	1
What is the age of your dog?	5 years
What are some challenges in raising a dog?	Constant time and money spending.
Are there any challenges you face in going for walks with your dog?	No, as I raise my dog without collars, no need to walk it. (lives in the countryside)
Do you prefer to walk your dog in certain locations? Where do you prefer and why?	No
How many times per week do you walk your dog?	0
Do you like to walk your dog? Why or why not?	No, I don't walk my dog.
Do you think you walk your dog enough? Why or why not?	No need to walk my dog.
Do you use an application on your mobile phone while you walk your dog?	No, I have never heard of such a mobile app before.
What type of application is it?	N/A
What are its name and main functionalities?	N/A
What features do you like/hate the most in that application?	N/A
What features do you wish to be added to	N/A

that application?	
If you do not currently use any apps while you walk your dog, are you willing to use one?	I'm not really interested, sorry.
What features do you think would come in handy?	Giving some incentives for users so that they can purchase dog products with it would attract more users.
Are you willing to pay for such an app?	I would only use such an app if I were to earn money, not spend it.

Interviewee	P2
Date / Time	Mar 21, 2020, 14:00
How old are you?	26
How many dogs do you own?	2
What is the age of your dog?	2 years / 2.5 years
What are some challenges in raising a dog?	I recently got a job so I have no time to take care of my dog especially when it comes to walking dogs.
Are there any challenges you face in going for walks with your dog?	I honestly had no challenges when I walked my dogs. I just need someone who can walk my dogs instead of my mother.
Do you prefer to walk your dog in certain locations? Where do you prefer and why?	I have never considered a certain location, I just go where I go.
How many times per week do you walk your dog?	Me: 4 times a week (2 * Sat+ 2 * Sun) Mother: 2 times a day (except weekend)
Do you like to walk your dog? Why or why not?	I honestly don't like it, but I try to walk my dogs because they like it.
Do you think you walk your dog enough? Why or why not?	I certainly do not walk my dog enough, because my mother walks my dog instead of me.
Do you use an application on your mobile phone while you walk your dog?	No, I do not use such an application
What type of application is it?	N/A

What are its name and main functionalities?	N/A
What features do you like/hate the most in that application?	N/A
What features do you wish to be added to that application?	N/A
If you do not currently use any apps while you walk your dog, are you willing to use one?	My mother says she would
What features do you think would come in handy?	My mother could use an app that keeps track of the walking routes, given that it is in big fonts and straightforward UI.
Are you willing to pay for such an app?	I don't think so. I do not use any paid apps.

Interviewee	P3
Date / Time	Mar 20, 2020, 18:36
How old are you?	29
How many dogs do you own?	1
What is the age of your dog?	3 years
What are some challenges in raising a dog?	A considerable amount of time and money for raising a dog
Are there any challenges you face in going for walks with your dog?	Yes, sometimes I want to have some rest in the cafe during a walk, but it is so hard to find such a place.
Do you prefer to walk your dog in certain locations? Where do you prefer and why?	I prefer a less crowded place. Because my dog is so aggressive and intimidating.
How many times per week do you walk your dog?	7 times a week.
Do you like to walk your dog? Why or why not?	Yes, of course, I love spending my time with my dog.
Do you think you walk your dog enough? Why or why not?	I don't think I walk my dog enough, I dare not excuse lack of time, but rather my laziness.

Do you use an application on your mobile phone while you walk your dog?	No, I have never heard of such a mobile app before.
What type of application is it?	N/A
What are its name and main functionalities?	N/A
What features do you like/hate the most in that application?	N/A
What features do you wish to be added to that application?	N/A
If you do not currently use any apps while you walk your dog, are you willing to use one?	Yes, with pleasure.
What features do you think would come in handy?	Alarm features would be the most needed function for me since I often lose track of time.
Are you willing to pay for such an app?	I don't think I will pay for the app, I would rather find other apps that do not cost.

Interviewee	P4
Date / Time	Mar 26, 2020, 11:00
How old are you?	23
How many dogs do you own?	1
What is the age of your dog?	6 months
What are some challenges in raising a dog?	Always have to keep my eyes on her because she can't speak
Are there any challenges you face in going for walks with your dog?	When my dog tries to eat some trashes (or something I don't know) on the floor
Do you prefer to walk your dog in certain locations? Where do you prefer and why?	Yes, I prefer a park because it's spacious and I can also meet other dogs around.
How many times per week do you walk your dog?	About 6 times a week
Do you like to walk your dog? Why or why not?	Yes, it refreshes me

Do you think you walk your dog enough? Why or why not?	Enough. I and my parents walk my dog for about 1~2 hours a day and I think that's around the average
Do you use an application on your mobile phone while you walk your dog?	Yes
What type of application is it?	Pedometer
What are its name and main functionalities?	'CashWalk'. Users can earn cash by just walking
What features do you like/hate the most in that application?	It's also counted even when the screen is off / too much advertising banners showing up
What features do you wish to be added to that application?	A feature that only shows the items I can buy with my current cash
If you do not currently use any apps while you walk your dog, are you willing to use one?	N/A
What features do you think would come in handy?	N/A
Are you willing to pay for such an app?	N/A

B. Notes

- Interesting facts
 - None of the interviewees have heard of such an application
 - The level of interests tend to be polarized depending on the gender (although sample too small to conclude anything)
 - The age group of possible users may not match the initial expectation
- The possible features from interviewees did not differ much from our initial goals
 - Alarm, incentives, shops, etc.
- Female interviewees were intrigued by hearing that we plan to implement a feature that shows nearby dog-friendly cafes.
- Not much positive response to the idea of outside paid dog-walkers as they fear for strangers.

III. Survey

A. List of core questions (columns) and responses (rows)

https://docs.google.com/spreadsheets/d/1H49KdQ0oYuzJVg7ECWkr4AfV8JYaQoquRagVTvz_9tl/edit?usp=sharing

B. Notes

- No positive response to an app for walking dogs being a paid app.
- No response for needed features. (maybe they feel it's enough the way it is?)
- It cannot be said that walking dogs only happen in cities. (need to consider rural areas)

IV. Apps used as reference

A. PetIn (펫인)

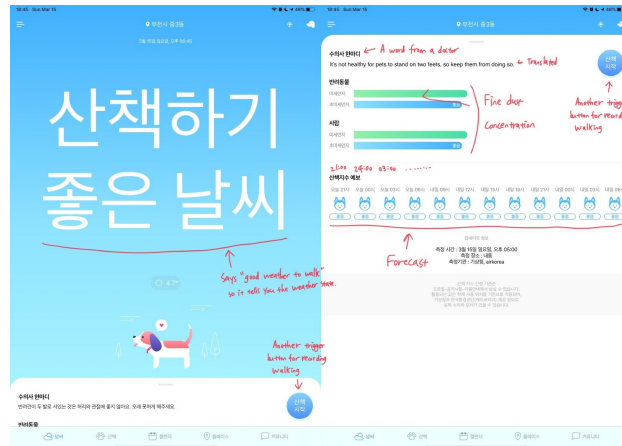


Figure 6. This interface from "PetIn", a mobile application, shows the current weather status and whether it is an adequate day for a walk or not.

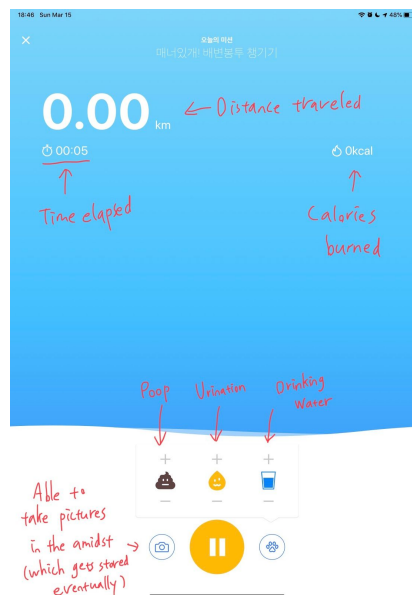


Figure 7. When walking starts, it displays the current distance traveled as well as providing an option to record various activities throughout the walk.

B. Dog Walk Tracker for Dog Walkers

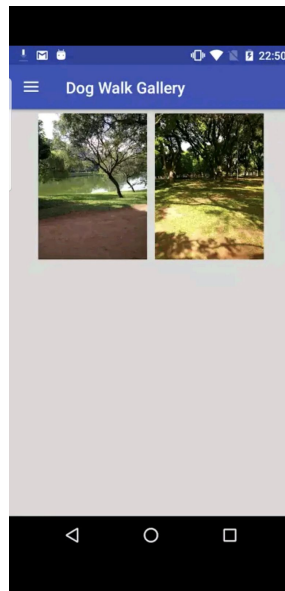


Figure 8. This interface from "Dog Walk Tracker for dog walkers", a mobile application, shows the photos taken during a walk.

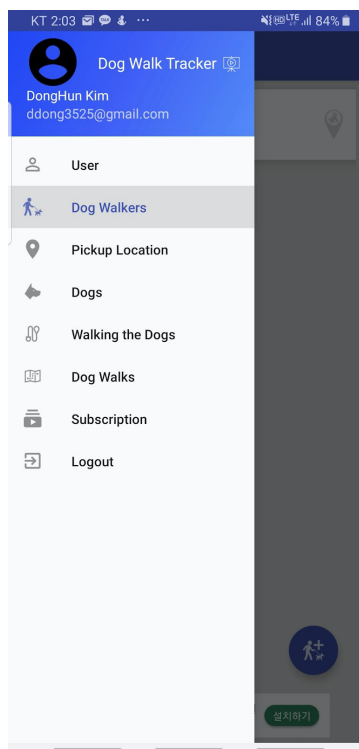


Figure 9. Menu interface from "Dog Walk Tracker for dog walkers".

C. Dog Walk - Track your dogs!

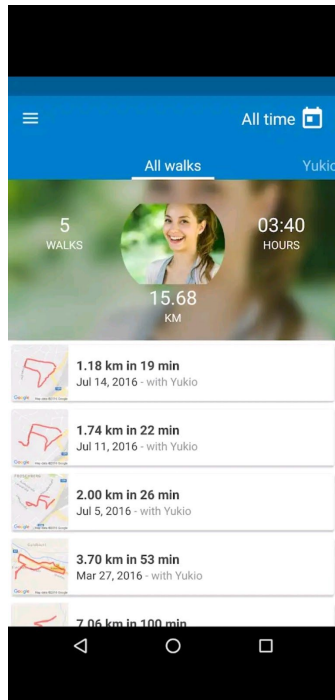


Figure 10. An interface which shows the list of all past walks, from "Dog Walk Tracker for dog walkers", a mobile application.



Figure 11. During a walk, the user can instantly access the camera, or record activities like pee & poo, and can share the current walk.