

Pawminder

A single stop to keep track of
multiple dogs' health, activities, and
training sessions



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01

Introducing Pawminder



Life is better with a dog

INTRODUCTION

Based on our research, there are about 90.5 million families that own a pet (National Pet Owners Survey). Where 69 million of these pets are dogs, making them the most common household pet. Besides, lots of dogs have been adopted over the span of the Covid-19 pandemic, and the owners **don't have as much time** to take proper care of them since they returned back to their jobs.



02

Brainstorming



Life is better with a dog

Brainstorming

This part took us the longest. We initially created a list of 50 Ideas, then merged the overlapping ideas, and finally filtered the nine interesting ideas which are as follows.





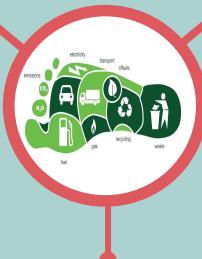
Detailing ideas from initial brainstorming



Idea 1:
Pet tracker



Idea 2: Event
Planning
Platform



Idea 3:
Corporate
Environmental
Footprint



Idea 4:
Tennis Partner
Finder



Idea 5:
Reading Tracker



Idea 6:
Carbon Signature
Optimizer

Detailing ideas from initial brainstorming



Based on three weekly team meetings, our team decided to create an app that keeps track of multiple dogs' health, activities, and training sessions to benefit the dog owners by minimizing the work to give their pets the best care.



Pet Health

Vaccinations, and Vet Appointments.



Pet Activities

Everyday activities such as walking, sleeping, dieting, exercising, showering, and grooming.



Pet Training

Reliable expert certified videos.



We decided to pursue three main features—pet health, pet activities, and pet training.

The reason we wanted to include aspects of pet health, such as vaccinations and appointments, is that many pet owners pointed out that those were the most crucial parts of taking care of their pets.

For pet activities, there were some “little things” such as last shower, last grooming, tootla daily sleeping hours, dieting, and exercising that owners often forget to do or record.

Last but not least, some of our interviewees mentioned that training was a difficult process for them. Instead of scouring the web for a bunch of training videos, we think it’d be easier for them to find the videos in one consolidated location.

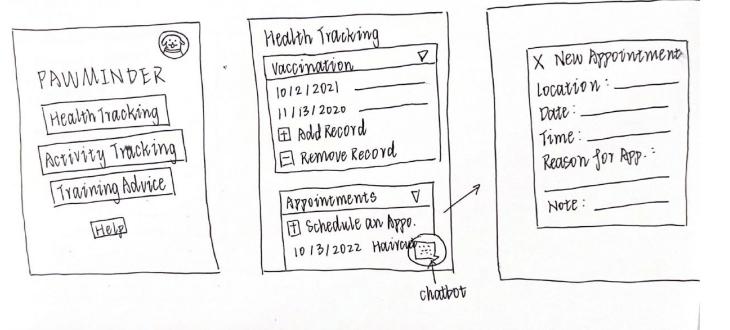
03

Initial Sketches



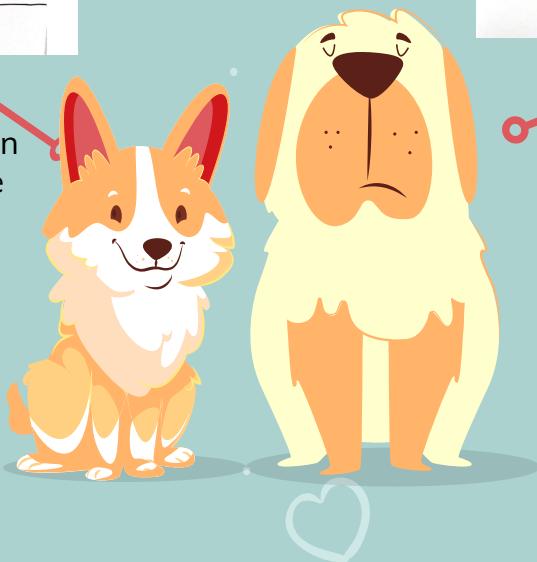
Intermediate Sketches

Home Page/ Health Tracking Page



The intermediate sketches will display 4 buttons on the home screen for Health tracking, Activity tracking, Training advice, and help if users have questions.

The health tracking page will display the vaccination date and vaccination type of their dog and also they could edit the record with the add or remove record button. Also when they schedule the new appointment, they can simply click on the "chatbot" to input the information for the appointment.



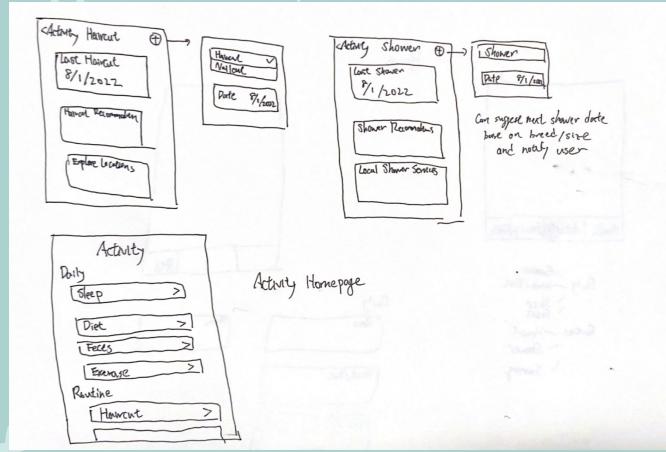
Activity Tracking Page



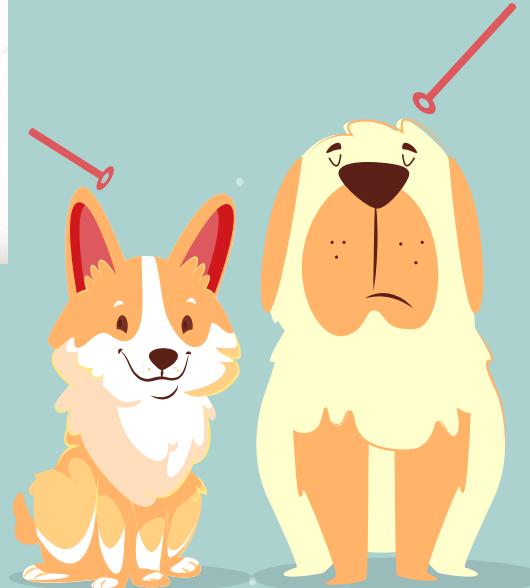
We got inspiration of the activity tracking page from the Apple health application, where they have user's sleeping activity displayed as graphs to give user a better visual of which day they sleep more. And we apply this kind of design to our app where we have four graphs to track the dog's activities and compare their activity for the week.

Intermediate Sketches

Exercise Tracking Page



On the exercise tracking page, users could add haircut, shower time to the page by clicking the “plus sign” button on the right top corner. And there will be divider for each task.



Training Video Page

The image shows two hand-drawn wireframe sketches of a mobile application's interface. The left sketch is titled 'Training Advice' and includes a 'Customize' button with a gear icon. Below it are 'Trending Videos' with play icons and duration options: '10mins' and '15 mins'. The right sketch is titled 'Customize' and includes a section for 'Age of your pet' with checkboxes for '< 3', '3 - 5', and '> 5'. It also includes a section for 'Training length' with checkboxes for '< 15 min', '> 15 - 30 min', and '> 30 min'.

The user will have access to some training videos and they can apply some filters when they search the videos.

Intermediate Sketches

At this point, we liked our sketches! We thought we nailed down the important features. There were a few things we wanted to explore more, one of them being if we should create a new profile for each user or each pet.



Overall, we were pleased with our app! Since we have incorporated all the necessary components required for dog care app. Moreover, we think that the app overall interface is somewhat inspired from the other daily apps we use.

04

Stakeholder Interview Findings



Life is better with a dog

Interview Feedback

Our interviewees were three students who all had dogs back home. They adopted their dogs at various times, but the dogs were owned by the entire family.



Some themes we realized from our interviews were:

- a) **It takes a village.** All the interviewees noted that they probably could not raise the dog without the help of their family.
- b) **There are so many little things to take care of.** The little things add up! Forgetting to give medication, skipping a walk, etc. can end up being detrimental to your dogs health.



"I use a bunch of different apps and honestly pen and paper."

"Small things can be easily forgotten."

"I use a different app for each pet."

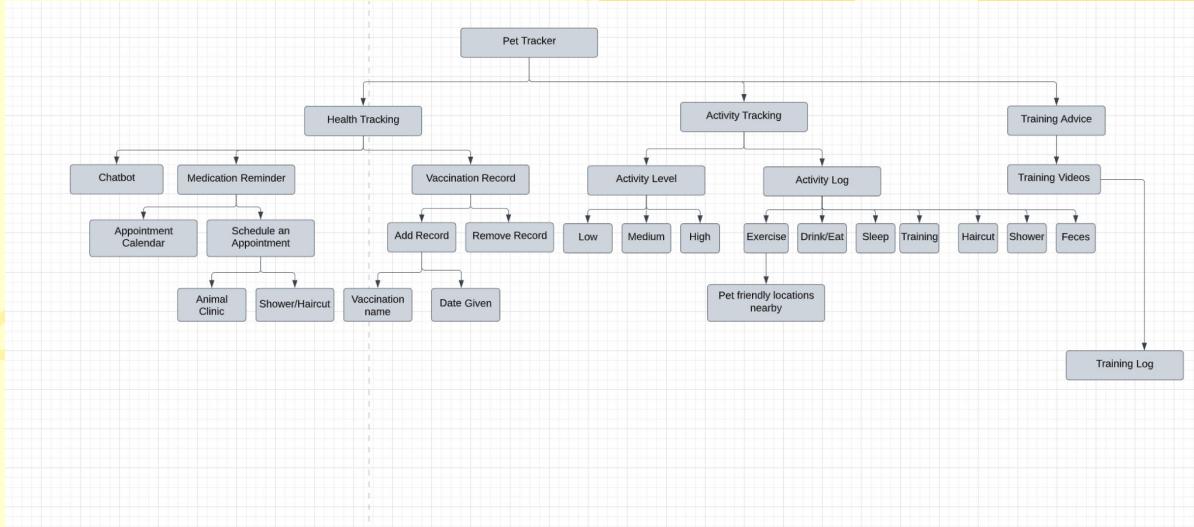
"Training was difficult, she was very energetic and wouldn't listen."

05

Task Analysis



Task Analysis (Link)



We did a thorough runthrough and list all the possible tasks we need to complete. This helped us visualize our goals and next steps.

06

Scenarios



Persona

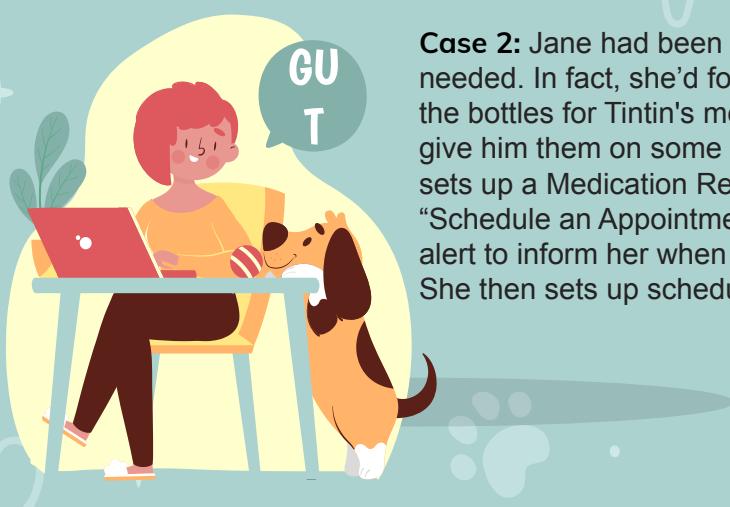
Meet Jane Lau. She is a 21-year-old Asian female. She has always been a big animal lover and has a dog, a frisky 2-year-old Belgian Malinois named Tintin. Jane has a busy life as a student who also works part-time at internships. She loves her pets dearly, but admittedly doesn't know much about canine biology and wouldn't have a clue what's wrong with her dog if one of them appeared ill or started acting strangely. It's hard for her to keep track of her pet's needs. She needs an app that will help her keep track of her pets' diverse food and medicine schedules, along with providing her information and professional advice on how to better train and care for them. Also, when something looks wrong, she needs to be able to get in touch with a vet, immediately.



Scenarios

Case 1: When Tintin received a vaccination in the animal clinic, she input the vaccination names and the dates they were given, so that she always has this vital information with her. When Jane moved to her current apartment, she lost the paper vaccination records for her dog. This proved a hassle when she tried to travel with him to a different country for vacation and didn't have his medical paperwork. However, she always has her smartphone with her. She clicks on "Health Tracking" and then on "Vaccination Record," then "Display Record" to find a PDF version of the vaccination record for her dog.

Case 2: Jane had been busy with midterms and hadn't been grooming Tintin as often as he needed. In fact, she'd forgotten to take him to the groomer's, twice. She also noticed extra pills in the bottles for Tintin's medication for his kidney problems, meaning she must have forgotten to give him them on some days. Concerned, she opens the Health Tracking function on the app and sets up a Medication Reminder, to alert her when to give Tintin his pills. Additionally, she clicks "Schedule an Appointment" and messages a local groomer from a list provided, then sets up an alert to inform her when she has to take Tintin to get his coat professionally brushed and trimmed. She then sets up schedules for meals.



07

Low Fidelity • Wireframe



Low Fidelity Wireframe([Link](#))

We brushed on our design by iterating over it and making low fidelity wireframes. This allowed us to imagine an overall aesthetic of the app, and take afore design decisions accordingly.

In the initial landing page, user can either choose to login or sign up creating a new account. We used different color to distinguish those two features. Also when they sign up, we asked the user to confirm their email address before they can enter the application. In addition, we asked user to input their dog information before using the application.

The wireframes illustrate the user flow:

- Landing page:** Features a dog icon, a yellow "Sign Up" button, a blue "Login" button, and social media icons for Google, Facebook, and Twitter.
- Login page:** Shows a dog icon, fields for "Username:" and "Password:", a blue "Login" button, and social media icons for Google, Facebook, and Twitter.
- Sign up page 1:** Shows a dog icon, fields for "Name:", "Email:", "Username:", and "Password:", a yellow "Next" button, and social media icons for Google, Facebook, and Twitter.
- Sign up page 2:** Shows a dog icon and a field for "Confirmation code:", with a yellow "Next" button below it.
- Sign up page 3:** Shows a dog icon, fields for "Name:", "Breed:", "Gender:", and "Date of Birth:", a yellow "Next" button, and a "Dog Info" header.



Low Fidelity Wireframe

There will be 4 buttons on the home screen where there will be 3 features for each button include help button. Besides, we grouped different feature with different color to let the user have a better visualization instead of one single color.

The wireframes illustrate the user flow through the application:

- Home Page:** Shows a dashboard with a user profile for "Mike" and a section for "Dogs" featuring small profile pictures of dogs. Buttons for "Add New Dog", "Logout", and "Help" are present.
- Home Page (Focused):** A closer view of the "Dogs" section, showing a larger profile picture of a dog named "Darwin". Buttons for "Health Tracking", "Activity Tracking", and "Training Advice" are visible.
- Health Tracking dropdown close:** A modal window titled "Health Tracking" is shown. It contains two sections: "Vaccination Records" (with a dropdown menu) and "Appointments" (with a dropdown menu). A large "+" button is at the bottom.
- Health Tracking dropdown open:** The "Vaccination Records" section is expanded, showing a list of dates: "10/02/2021" and "11/13/2020". It includes buttons for "Add Record" and "Remove Record". The "Appointments" section is also partially visible.
- Health Tracking dropdown open:** The "New Appointment" section is expanded. It asks for "Location:", "Date:", "Time:", "Reason for Appointment:", and "Note:". Buttons for "Cancel" and "Done" are at the bottom.

On the health tracking page, user could check the vaccination record for their dog and add more also added a chat button where user could hold a live chat with the doctors to schedule an appointment.

Low Fidelity Wireframe

For users who are new dog owners we have training videos in different levels for them to learn how to train their dogs. In addition, we have activity tracking page where they can track their dog's daily activities and it will display in a pie chart. We chose pie chart here because we did interview earlier for users to give opinions on pie chart or bar graph.

Training Advice dropdown close

Training Advice

- Training Log
- Training Videos
 - Basic Skills
 - Advanced Skills
 - Potty Training
 - Aggression Management



Activity tracking

Activity tracking

Darwin Dshboard

Activity Tracking

- Sleeping
 - From : To :
- Training
 - From : To :

+ Discard Changes Confirm Changes



User Testing

08



Life is better with a dog

User Testing Questions



What tools do you currently use to track care for your dog?
We learned that users were able to navigate within pages of each of the features, but wanted better overall flow.

What do you generally think of the interface?
I like how clean it is. I like how you can have different “users” for your different pet, that makes the app more clear.

What are some confusing aspects?
When looking at page 5, I was kind of confused about the “last activity” part. Also, in general, if I want to edit something, like I made a mistake somewhere, I’m not really sure how to do that.

User Testing Questions



What do you think would happen when you click the “ask experts” button?

I assume it would do some sort of search. Like either a Google search or Yahoo answers search.

What do you think would happen when you click on a training video?

I think I would expect it to play automatically, though I think that there should be options to make the video full screen.

What features do you think could be added to make the app more user friendly or comprehensive?

I like how clean it is. I like how you can have different “users” for your different pet, that makes the app more clear.

User Testing Reflection & Synthesis

What we learned:

- The user understood the overall “flow” of the app. They were able to easily navigate between pages and click the appropriate buttons to use any features they desired. However, there were two main themes we could improve on that we noticed from our user interaction.
- 1. Users want more resources. The users seemed to like the existing functionalities, but want more advice and answers from either the web or other users. Users are also interested in how existing functionalities can expand beyond the app itself. For example, when given recommendations for a certain brand of food, can the app tell them what stores nearby they could find this brand?
- 2. Users wanted more ability to either correct or change things information that they put in. We will try to make these abilities more clear and available to the user in our final product.



09

Final Design / High Fidelity Wireframe

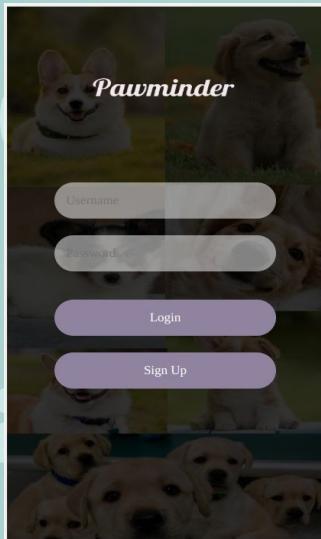
Inspired from other apps that we use daily, we created a beautiful high fidelity wireframe. We tried to make high fidelity sketches very warm and professional.



Final Design

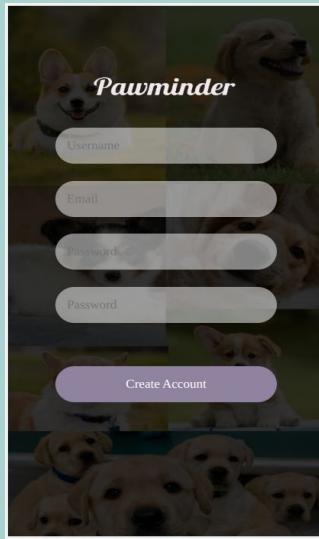
Login

The login page is supported by a backend, and protected routes. Only users who are not logged in can access this page, and users who signed up could log in. This page will write a cookie for later seamless access.



Signup

This app is supported by a backend and protected routes. It will make a new user if a user with provided name is not already registered. This creates a cookie for users for later access.



Dogs

Since the Login/Signup pages set cookies, logged in user will land on this page. This page shows a list of all tracked dogs, and each profile could be clicked to open the profile. This page is fully supported by a backend that allow users to add new dogs to the page, including the picture by clicking the plus sign.



Dog Profile

This page is accessed by protected route, so users who are not logged in can not access this page simply by typing the path. Moreover, the health Traking menu of this page has fully functional backend.



Health Tracking

This page has two main functionalities. Which navigate user to appropriate pages. Both the vaccination and reminder pages are supported by a fully functional backend.



Final Design

Vaccination Records

The Vaccination Records page is supported by a backend, and protected routes. This page shows list of reminders and the plus sign will navigate to Add Record page which enables users to add a new record to the list.

This screenshot shows the 'Vaccination Record' page. It displays two entries: 'Rabies' from Boehringer Ingelheim on July 1, 2022, and 'Hepatitis' from Merck Animal Health on May 20, 2021. A large blue plus sign button is located at the bottom right.

Vaccine	Manufacturer	Date
Rabies	Boehringer Ingelheim	July 1, 2022
Hepatitis	Merck Animal Health	May 20, 2021

Training Video Dogs Profile

Add Records

This page is supported by a functional backend and is accessed by protected route. This page enables users to add new vaccine records to the Vaccination Records list. The Save Record button sends the information to backend database.

This screenshot shows the 'Add Record' page. It has fields for 'Vaccine', 'Product Name', 'Manufacturer', 'Date', 'Clinic', and 'Address'. At the bottom are 'Save Record' and navigation buttons for 'Training Video', 'Dogs', and 'Profile'.

Field	Type	Value
Vaccine	Text	
Product Name	Text	
Manufacturer	Text	
Date	Text	
Clinic	Text	
Address	Text	

Training Video Dogs Profile

Record Details

This page is accessed from Vaccination Records by clicking on the record. It is supported by a fully functional backend that allows user to edit a record.

This screenshot shows the 'Detail' page for a 'Rabies' record. It includes an 'Info' section with details like vaccine name, product name, manufacturer, date, clinic, and address. Navigation buttons for 'Back' and 'Edit Record' are at the bottom.

Info	Value
Vaccine	Rabies
Product Name	Rabisin
Manufacturer	Boehringer Ingelheim
Date	July 1, 2022
Clinic	University Vet Hospital
Address	2002 Sixth St, Berkeley, CA 94710

Back Edit Record

Training Videos

This page is accessed through a protected route, however, due to the time constraints we did not implement backend functionality for this page. This page has a list of video items.

This screenshot shows the 'Training Videos' page. It lists five video items with play icons and titles: 'Dog Training 101' (20 min), 'Training Mistakes' (15 min), '6 Tricks in 1 day' (10 min), 'Trainining Plan' (35 min), and 'Dog Anxiety' (54 min). Navigation buttons for 'Training Video', 'Dogs', and 'Profile' are at the bottom.

Title	Length
Dog Training 101	20 min
Training Mistakes	15 min
6 Tricks in 1 day	10 min
Trainining Plan	35 min
Dog Anxiety	54 min

Training Video Dogs Profile

Filter Popup

This pop up could be accessed by clicking on the Filters button. Although, the check marks could be checked, it is not supported by a backend.

This screenshot shows a 'Filter' modal for 'Training Videos'. It has sections for 'Filters' (with 'Length' dropdown for < 10 mins, < 10 - 30 mins, > 30 mins) and 'Sort By' (with 'Data Uploaded' and 'Views' checkboxes). Below are two video items: 'Trainining Plan' (35 min) and 'Dog Anxiety' (54 min).

Filter	Value
Length	< 10 mins
Length	< 10 - 30 mins
Length	> 30 mins
Sort By	Data Uploaded
Sort By	Views

Title	Length
Trainining Plan	35 min
Dog Anxiety	54 min

Training Video Dogs Profile

Final Design

Modify Records

This page is supported by a backend, and protected routes. This page shows list of reminders and the plus sign will navigate to Add Record page which enables users to add a new record to the list.

← Modify Record

Vaccine:
Rabies

Product Name:
Rabisin

Manufacturer:
Boehringer Ingelheim

Date:
July 1, 2022

Clinic:
University Vet Hospital

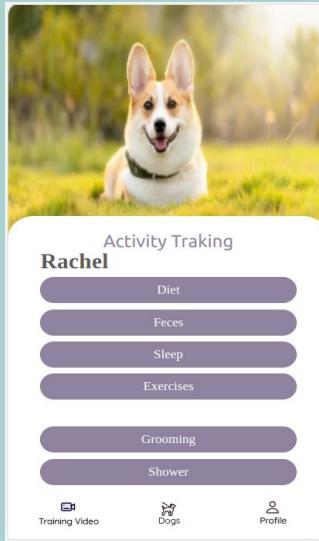
Address:
2002 Sixth St, Berkeley, CA 94710

Confirm

Training Video Dogs Profile

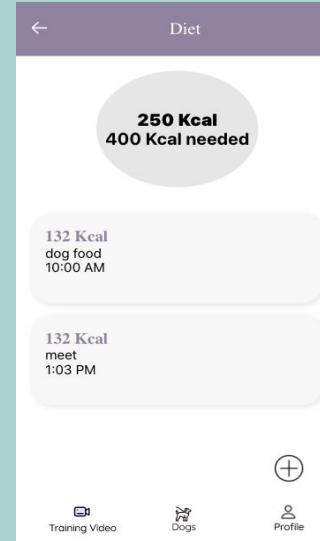
Activity Tracking

This page is accessed by a protected route. The buttons will navigate user to appropriate pages, however, because of the time constraints we have not implemented a backend support for this page or it's components. This page is like a dashboard for tracking the daily activities of the dog.



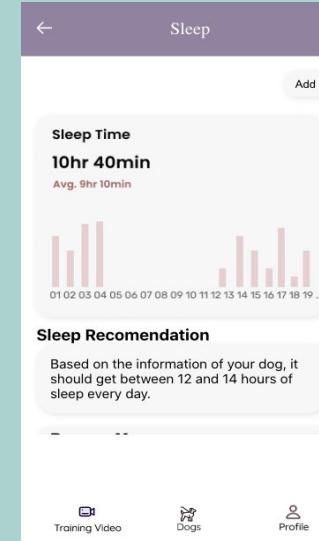
Diet

This page does not have a functional backend. It shows a list of meals, weight and daily intake of the dog.



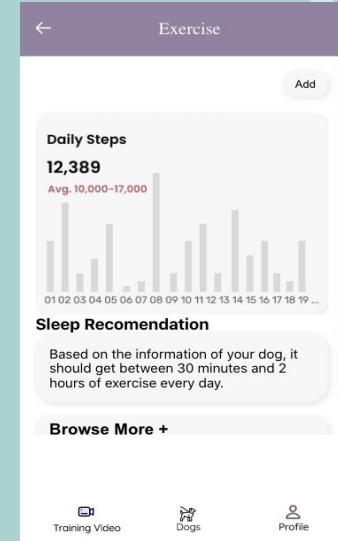
Sleep

This page does not have a functional backend. It shows a monthly graph of sleep time, and some recommendations from our experts. The add button does not navigate to a new page, but the idea is that it should navigate to a page where the user could add daily sleeping schedule.



Exercise

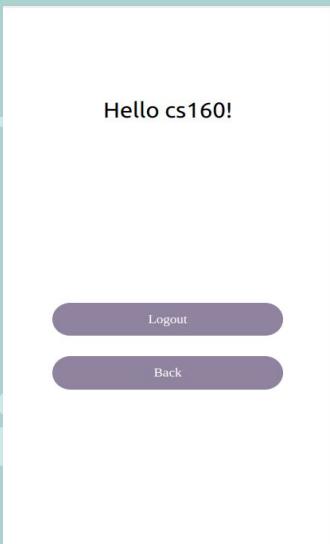
This page does not have a functional backend. It shows a monthly graph of exercise time, and some recommendations from our experts. The add button does not navigate to a new page, but the idea is that it should navigate to a page where the user could add daily exercise routine.



Final Design

Profile Page

This page is supported by a backend, and accessed through protected route. This page enables the user to logout. The backend will clear the cookie for the user if the user presses the Logout button. This is necessary step for the user to access Login/Signup pages.



Technical Challenge

10



Life is better with a dog

Technical Challenge

Front End Challenges

Using react to implement the UI interface was a new challenge for us. Moreover, we opted to design the aesthetics of the elements all from scratch based on the theme and high fidelity wireframes of our app. Therefore, we designed all the elements in css and that was a very time consuming process.

Algorithm Challenges

We have added a backend support for the app, and used express, axios, uuidv4, cookieparser, cors and built in fs libraries. Since nodejs is an asynchronous web frame and we had to resolve promises while fetching and posting, we struggled a lot and the debugging sessions were time consuming. Moreover, the cookies does not use an encryption and are vulnerable towards session hijacking attacks.

Screen Recording Challenges

Since the video have to be limited to 2 minutes, we have to condense each screen appearing time. However, when we recording the gif, we have delete all the json file when we recorded the gif with wrong page showing.



Conclusion

11



Life is better with a dog

Conclusion

Our team came up with the idea for an app to help users with pet care early on in our initial brainstorming session. The process of refining the app into something that was both simple and easy to use but also provided new and helpful functionality took more time and thought. Given the tremendous complexity of raising and caring for an animal companion, we knew we had to narrow down the focus of what our app was supposed to do. We achieved this via conducting interviews of several pet owners. Through these interviews, we were able to focus on a relatively narrow set of pet owners' tasks and problems, specifically information on training, measuring and recording activity levels, and scheduling food, medicine, and appointments relevant to the users' pets.





- Functionality was not the only concern. We made our app attractive, employing adorable pet imagery and a soft, warm palette of colours to create a bright, overall feel so as to inspire pleasant emotions in the user and encourage them to keep using the app going forward. Buttons and alerts were colour-coded for at-a-glance comprehension. Data was condensed into simply yet authoritative-looking graphs, accompanied by recommendations from the app to pet owners, so that advice for their pets' health and training regimens could be delivered in a way that is convincing but not confrontational. The vaccine record system was another function included in the app, which was improved over the development process to contain a fuller official record and verification of the relevant vaccines, which we felt would be a useful feature for users who are travelling with their pets.





There are still questions remaining to be worked out, it will be worthwhile to test whether users' adherence to medicine, food, and grooming schedules is improved thanks to the app's calendar and alert system. These things cannot be determined without real-world testing. However, incomplete as the app is, we are proud of our creation and it was a fun journey conceiving and building it from nothing but brainstormed ideas into a seemingly viable product.



Github Repository

12



Github Repository

[https://github.com/Saifullahjailani/
pawminder](https://github.com/Saifullahjailani/pawminder)



13

Final Presentation Slides:

https://docs.google.com/presentation/d/1exCdaou_tA-DdQjjnEaW_C_XWkLLRBesIEykhdDs9es/edit#slide=id.p



14

Final Poster



The Best Dog Tracking App

PAWMINDER

Keep you accountable for your dogs' health through health, activity, and diet tracking.

Team 13
Shirley Chen
Claire Liu
Michelle Li
Safifulah Jaihani
Jacky Kwok
Willy Wu

1

One Account Multiple Dogs

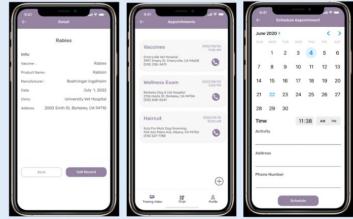
Once you sign up for an account, you can log in and add multiple dogs to your account, and all the information will be saved for each dog individually.



2

Health Tracking

Pawminder provides a convenient platform for users to retrieve and add vaccination records for their dogs as well as making medical appointments for their dogs.



3

Activity Tracking

You are able to input the activity time and sleep time for their dogs and get recommendations based on the information of the dog



4

Training Videos

You can browse recommended training videos and apply additional filters.

5

Diet Tracking

You can record your dog's diet and calculate the calories needed.



6

Daily Routines

Appointments such as grooming and showering can be made here and scheduled appointments will be shown.



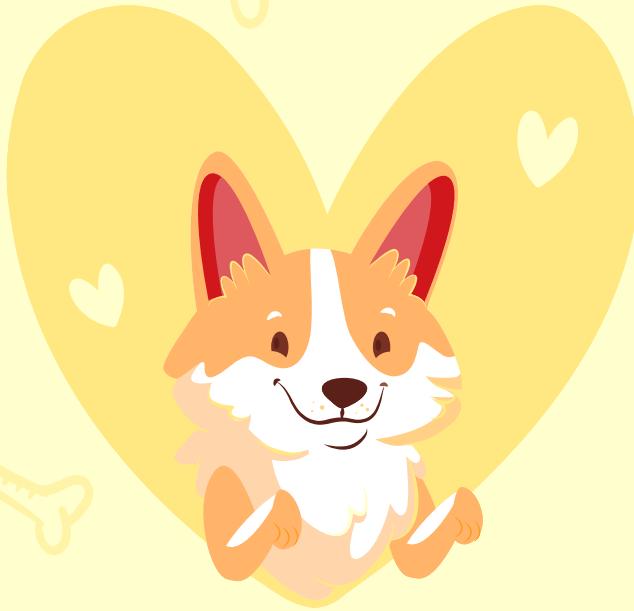
15

Video Link

<https://www.youtube.com/watch?v=7MnLXikuJYs>



THANKS



Thank you CS160 staff!

We appreciate all your help and
thoroughly enjoyed creating this project :)

CREDITS & RESOURCES

VECTORS

- Everyday scenes with pets
- Never leave your pet behind
- People playing with their pets
- Timeline infographic with years
- Colorful birthday decoration set
- People holding clean placard
- Lovely pack of cute pug faces
- Adopt a pet concept

PHOTOS

- Side view of woman working on laptop with her dog on couch
- Front view of woman on couch kissing dog
- [Alice walking to work](#)
- [Walking dog](#)
- [Pet clinic](#)
- [Owner and dog](#)
- [Dog grooming](#)

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