

Pet Patch Application



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Section: EAR

Table Of Contents

Introduction	3
Problem Definition	4
Questionnaire Results	5
Solution	8
Requirements	9
Functional Requirements	9
Non-Functional Requirements.....	10
Use Case Diagram	11
Use Case Scenario	12
Sketches Interfaces	14
Adobe XD Wireframes Interfaces	34
Adobe XD Mockup Interfaces	46
Our Evaluation	59
Evaluation of us and Future Work	61
Implementation.....	65
Challenges	74
Conclusion.....	75

Introduction

An animal is in a good state of welfare if it is healthy, comfortable, well-nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress.

Protecting an animal's welfare means providing for its physical and mental needs.

Ensuring animal welfare is a human responsibility that includes consideration for all aspects of animal well-being.

Pet Patch is an application that aims to help as many animals, and people, as possible by providing the opportunity to offer pets for adoption for people who are interested in adopting. Moreover, enable the user to provide assistance to homeless pets by reporting their location. In addition, the application provides a feature for app users to donate money for the shop and to buy supplies. This application combines all features that benefit pet lovers.

Problem Definition

Our decision to build and design this application was according to several problems that we observed, which are the following:

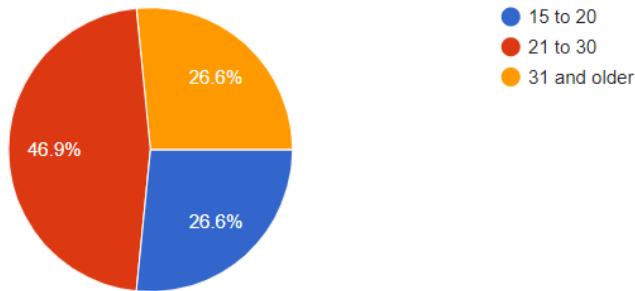
- People do not have time to look for shops for adopting pets
- People do not know where to offer their pets for adoption
- There are so many stray pets that need home and care
- People do not know how to support stores financially
- Searching for a specific pet supply can be difficult to find in most stores



Questionnaire Results

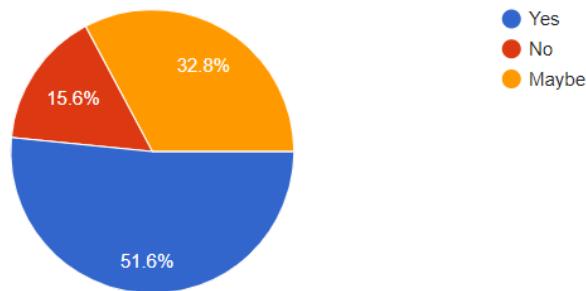
?What is your age

15 to 64



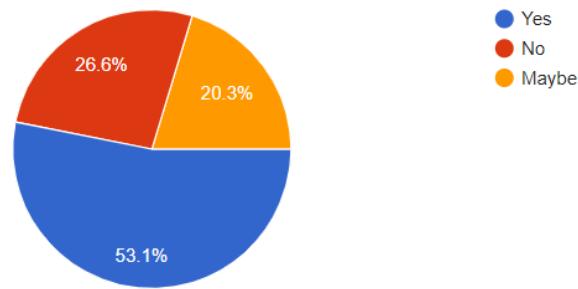
?Would you like to adopt pets via an application

15 to 64



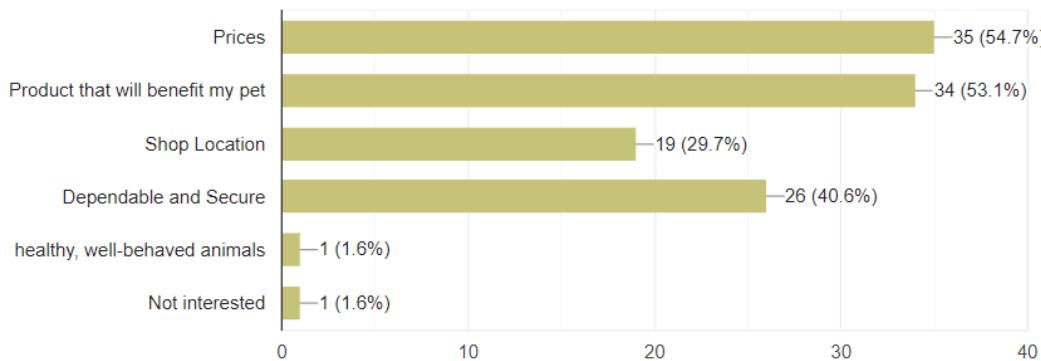
?Do you want to have the ability to offer your pet for adoption to the shop via the application

15 to 64



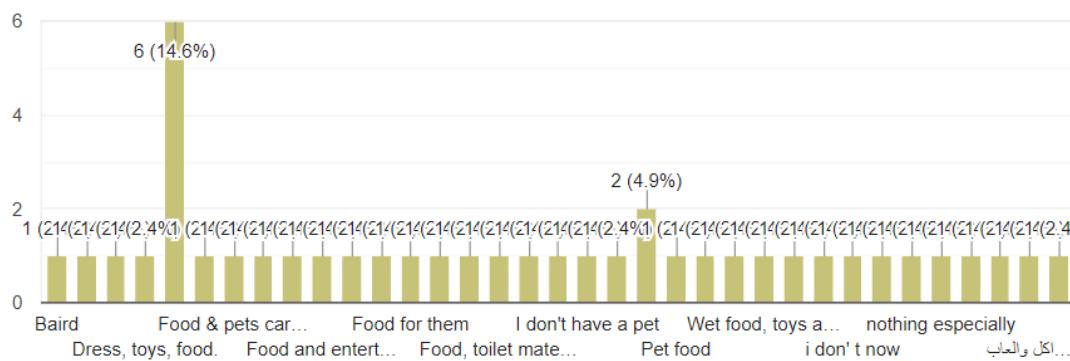
?What is the most important factor when choosing a pet shop

٦٤



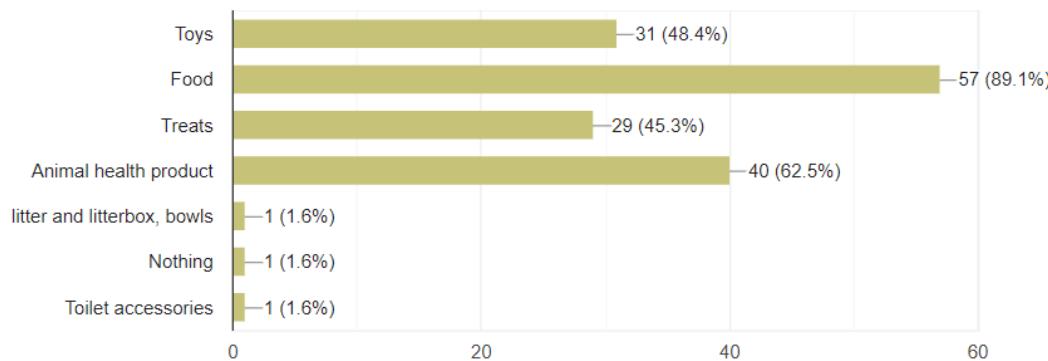
?What type of supplies would you normally buy

٤١



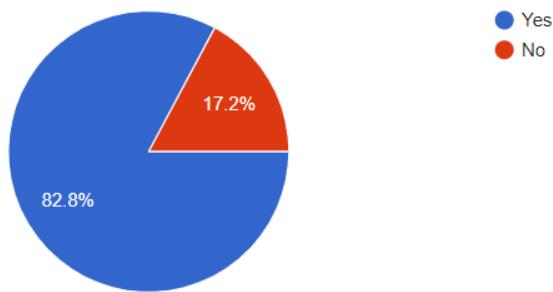
?What product would you normally buy in a pet shop

٦٤



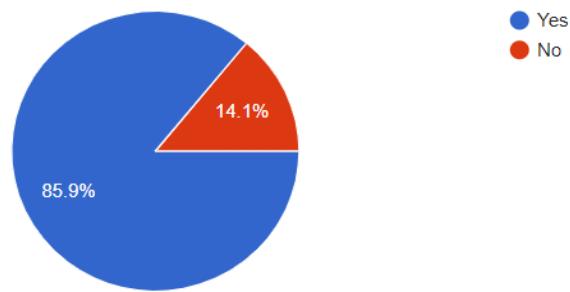
?Would you like to report stray pets location to the application to be rescued

15 64

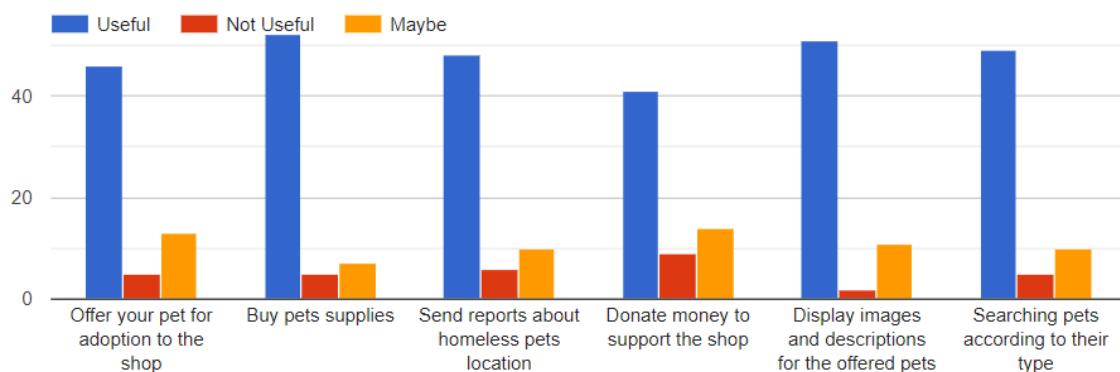


?Would you like the application to have a chat service with the staff members

15 64



?What do you think about these features for a pet shop application



Solution

According to the results of the survey that we published and received the answer from many people, we decided to create an application for a shop that is acceptable and understandable for different ages of users.

In this application we included the most useful features for the user, which are the following:

- Offering their pets for the shop to adopt
- Sending reports about homeless pets' location
- Donating money to support the shop
- Adopting pets from the shop
- Searching pets according to their type
- Review pets' information and images
- Chatting with customer service members
- Buying pet supplies
 - Toys, Food, Treats, Animal health product, Litterboxes, Bowls, Toilet accessories, Dresses, Litterbox sand and Shower products

Requirements

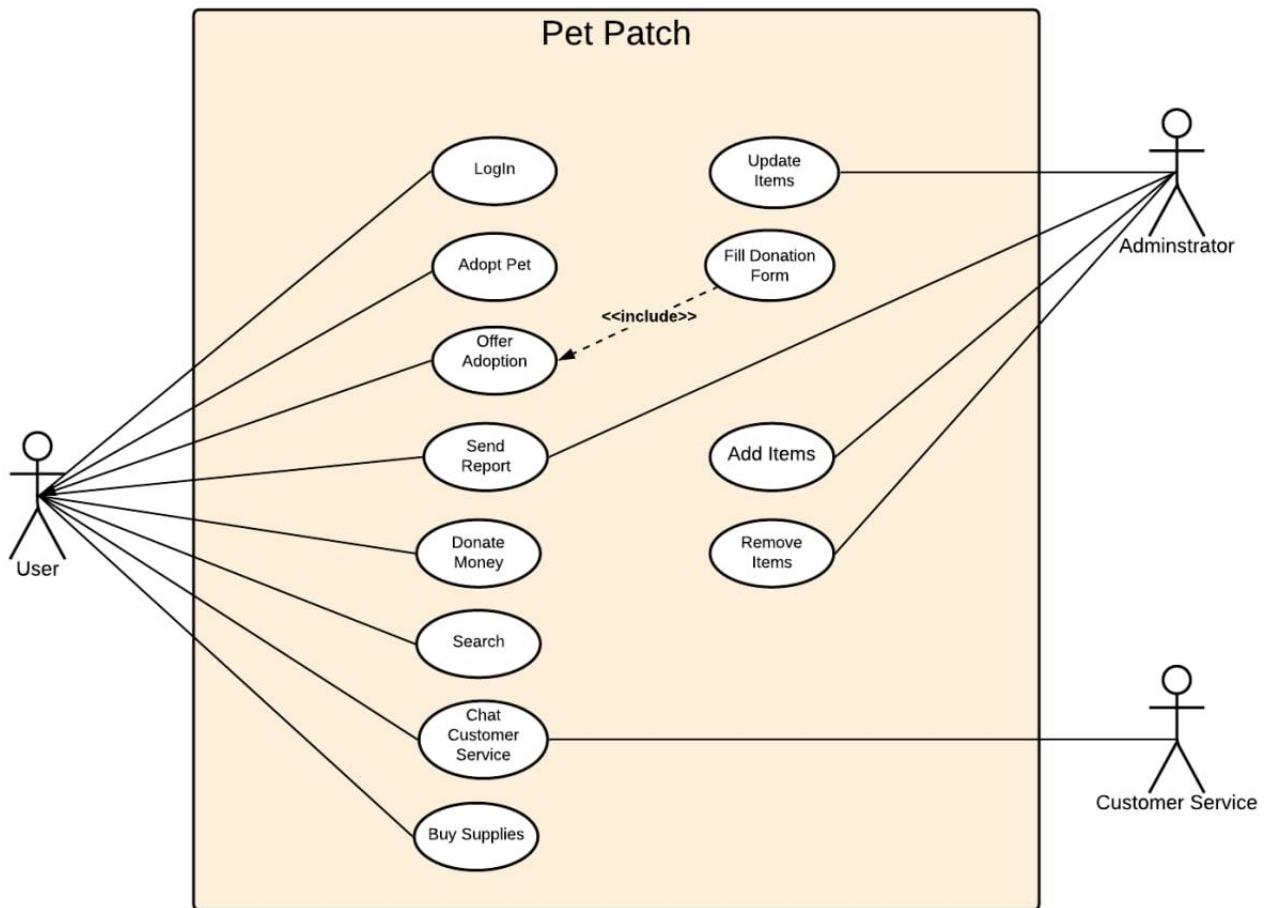
Functional Requirements

- The user shall sign up to the application to use its feature
- The user shall be able to search for pets and supplies categories
- The user shall be able to report location of stray animals
- The user shall be able buy supplies
- The user shall be able to adopt pets
- The user shall be able to chat with the staff members
- The user shall cancel supplies order
- The system shall allow user to offer pets for adoption
- The System shall allow user to donate money

Non-Functional Requirements

- System must be always available by using multiple servers
- The system must be dependable, which includes:
 - Reliability: the system must not cause physical or economic damage of any failure
 - Security: System must protect the user private information such as payment information
 - Safety: malicious users shall not be able to access or damage the system
- System must have transaction management to insure transactions order
- Acceptability: the system must be acceptable for the type of user for which is designed. The system must be compatible with different systems and has high design quality(understandable)

Use Case Diagram



Use Case Scenario

Login:

Allow the user to access the application pages by entering username and password or to register an account, users can only benefit from application features after logging in.

Adopt Pet:

Displaying offered pets for adoption with complete information about it and giving the user the ability to choose the desired pet to adopt.

Offer Adoption:

Asking the user to fill a form in order to define all required information about the pet such as pet's name, age, sex, type, and an image, with a recent medical report attached.

Donate Money:

The user could support the shop by choosing this feature then entering the desired amount to donate with the credit card information as well.

Search:

To facilitate the user's search process for a specific pet or supplies and filter the displayed items by entering keywords that make the search easier to find the desired item.

Buy Supplies:

Displays pets supplies such as (Toys, Food, Treats, Animal health product, Litterboxes, Bowls, Toilet accessories, Dresses, Litterbox sand and Shower products) and enables the user to purchase the desired supplies and choose the delivery method either pick up from store or home delivery service.

Send Report:

Administrator responds to rescue stray pets by receiving reports from users with sharing location and optionally supported by providing a description or images.

Update Items:

The Administrator can update the description of pets offered for adoption, (such as weight or medical report), and adjust the prices of supplies in the event of any change.

Add Items:

The Administrator can add new pets for adoption or add a new pet supply for sale.

Remove Items:

An Administrator can remove a pet from the adoption list if it is no longer available or has already been adopted by another user.

Chat:

The user can receive assistance from the available shop customer service member via live chat.

Sketches Interfaces

Sign In Page

The sketch depicts a sign-in page with the following elements:

- A large circular placeholder for a user profile picture.
- A "username" field labeled "Enter your username..".
- A "password" field labeled "Enter your Password.." with an eye icon to its right.
- A "Remember me" checkbox followed by the text "Remember me".
- A "Sign In" button.
- Links for "Forgot Password?" and "sign up".

A small arrow points from the left towards the top-left corner of the sign-in form.

Sign in page

A page that allows the user to get in the application to use its features and characteristics by entering the username and password.

Sign up page

Sign up

Add
photo

username

Email address

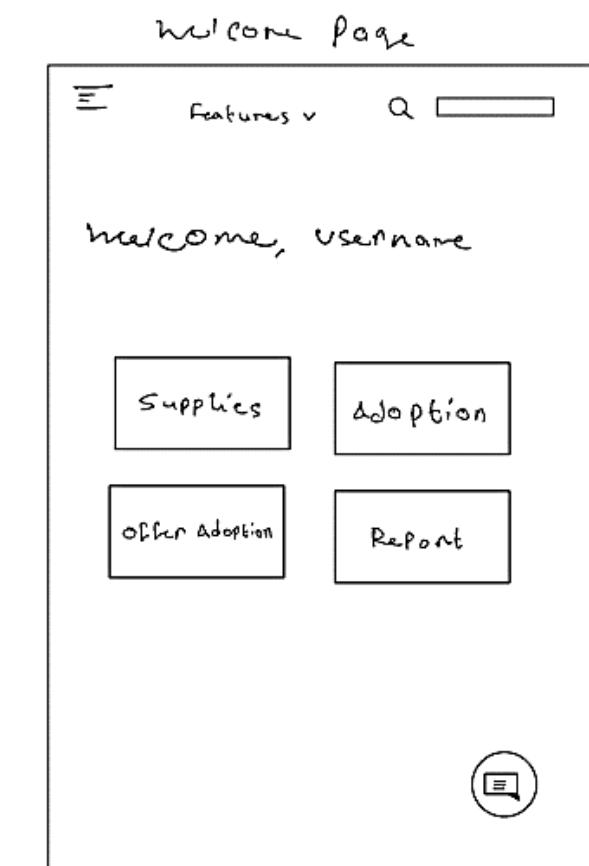
Phone number

Password

Register

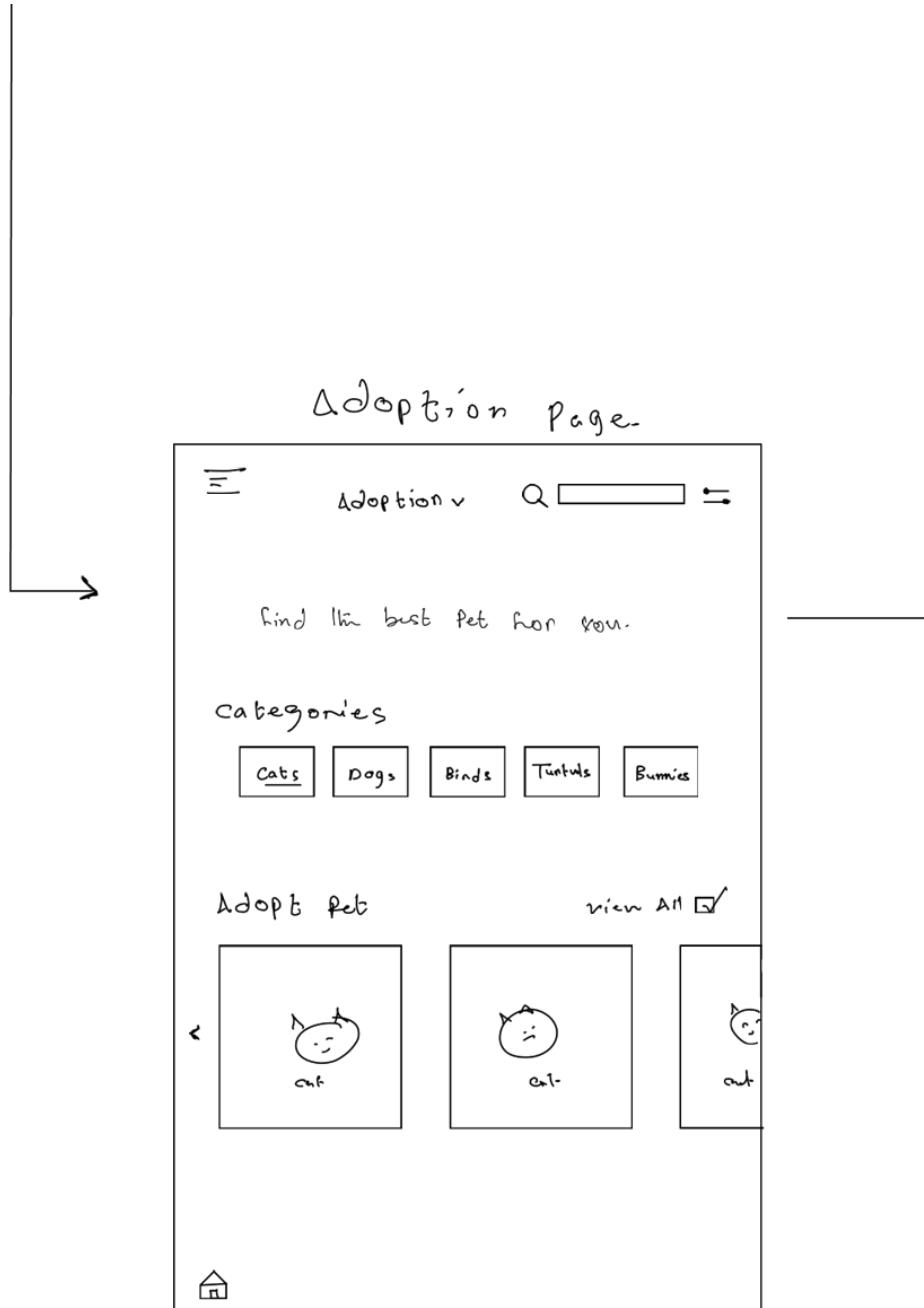
Sign up page

A page that allows the user to register and have a profile in the application after filling in the personal information of the user.



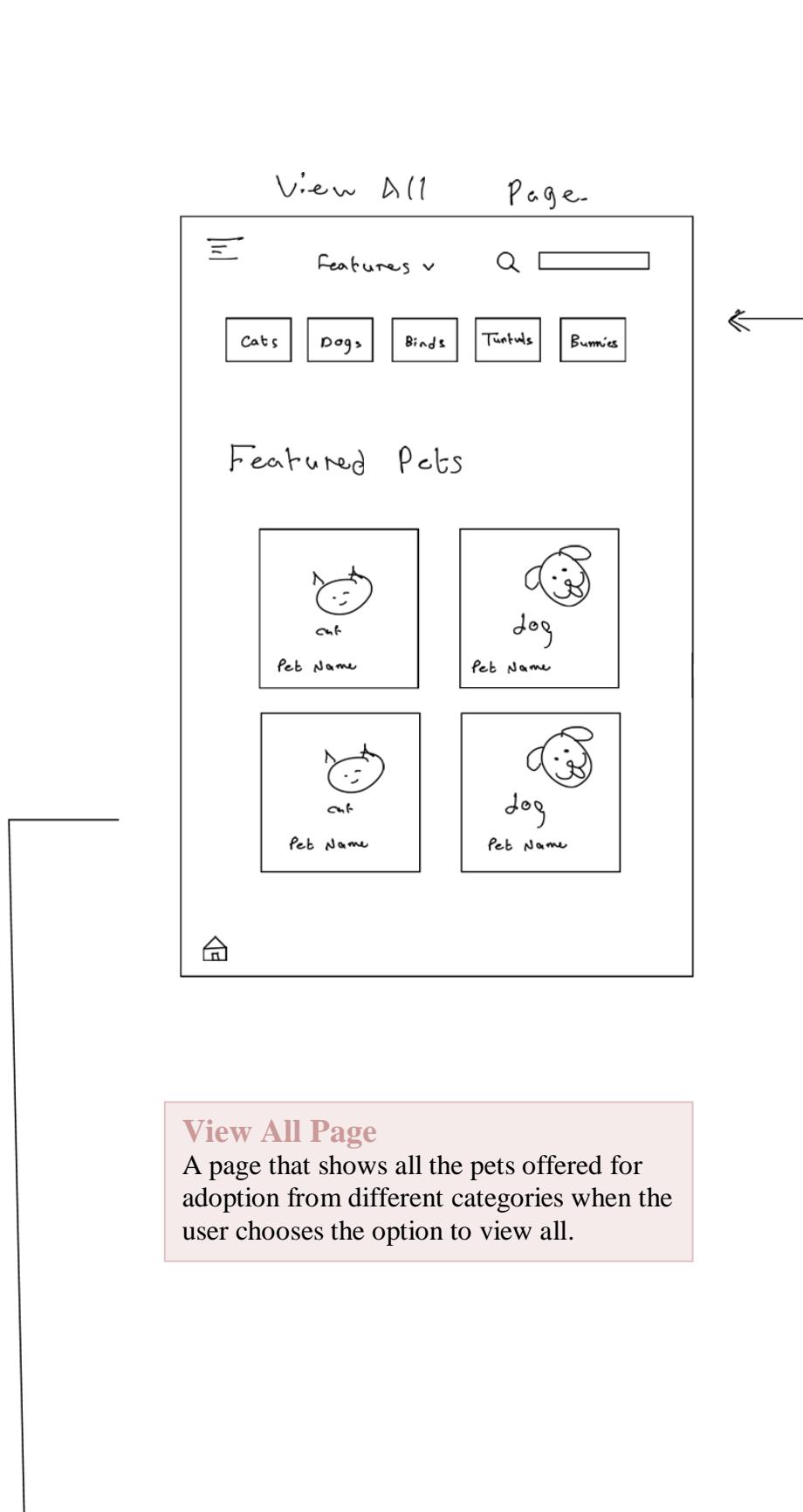
Home page

The home page that displays the main services of the application and enable the user to choose the desired service.



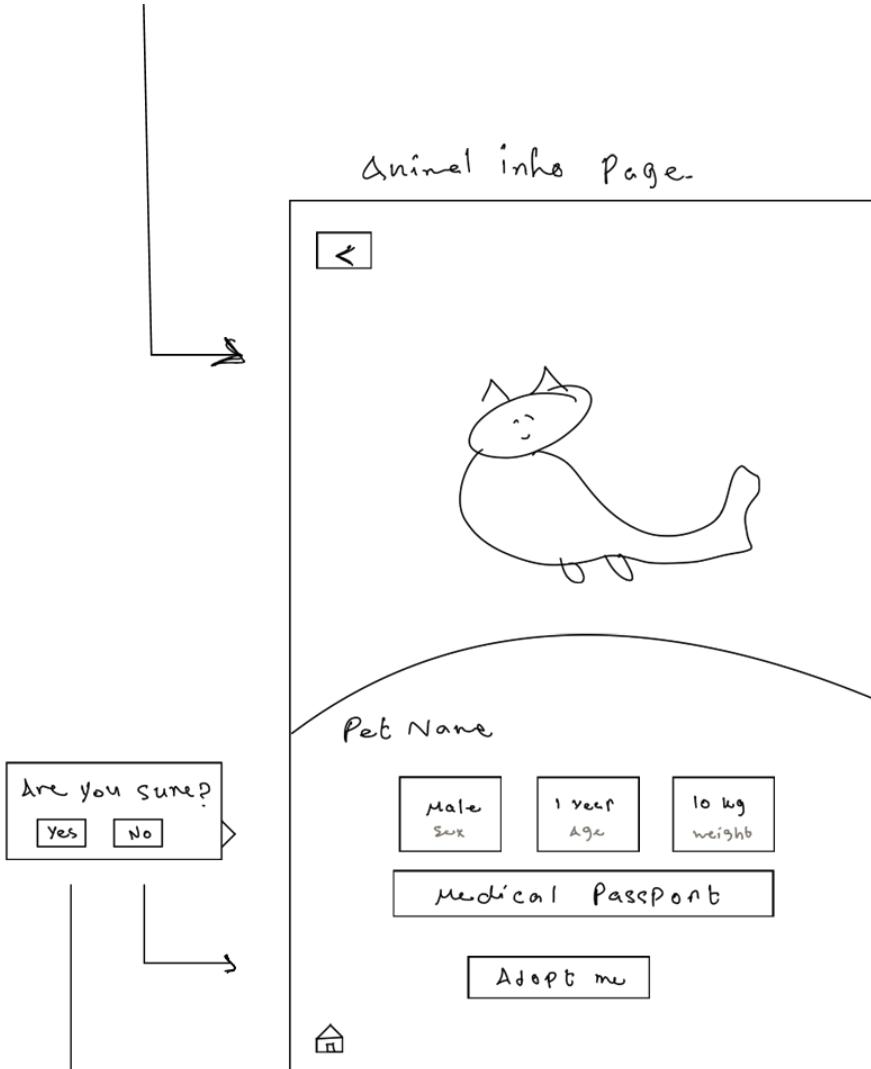
Adoption

When the user selects the adoption service, this page appears which contains all sections of pets available for adoption with the option to view all for a broader view of all pets.



View All Page

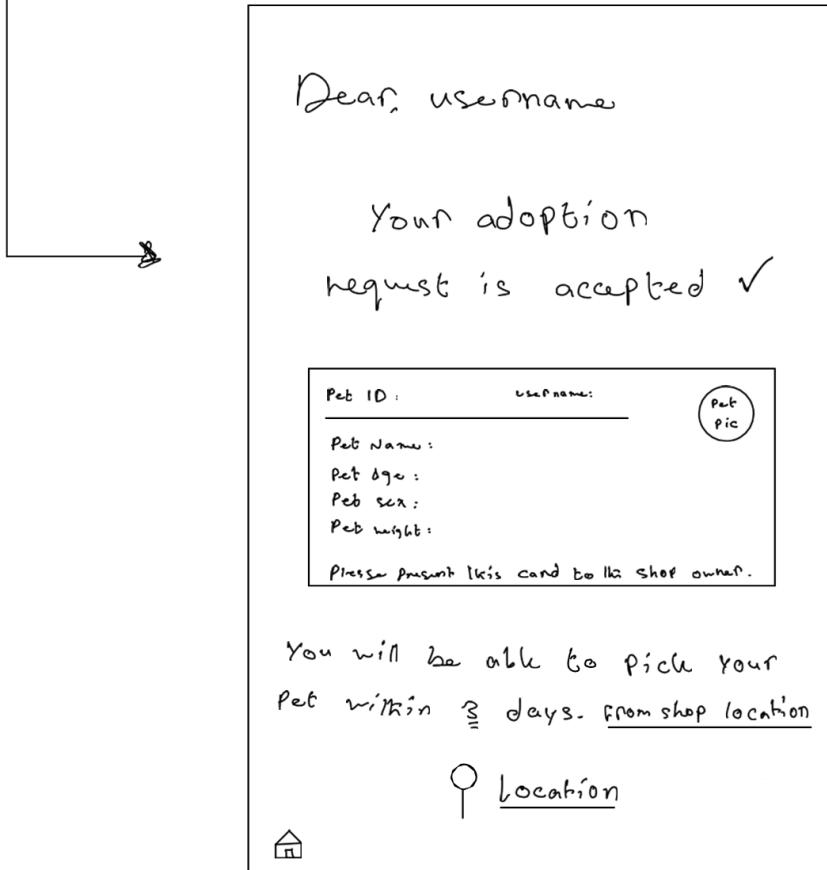
A page that shows all the pets offered for adoption from different categories when the user chooses the option to view all.



Pet Information Page

This page appears when a specific pet is selected, and all its information is shown with the adoption option.

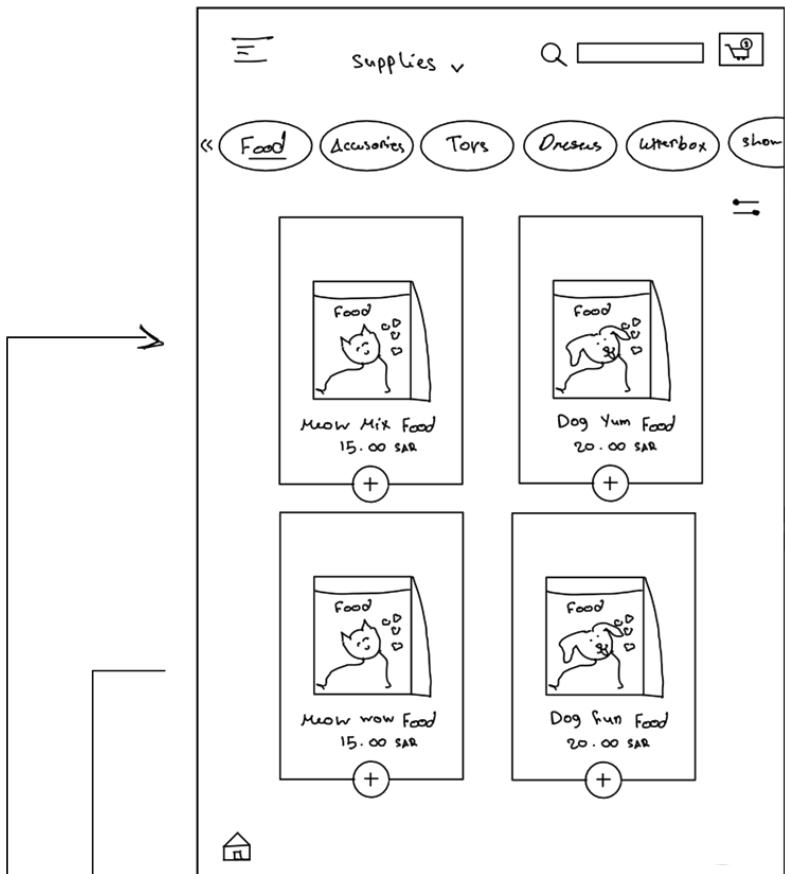
Confirm Adoption Page



Confirm Adoption Page

A page in which the user's adoption request is confirmed with an explanation of the pet's information and how to receive it from the shop.

Supplies page.



Supplies Page

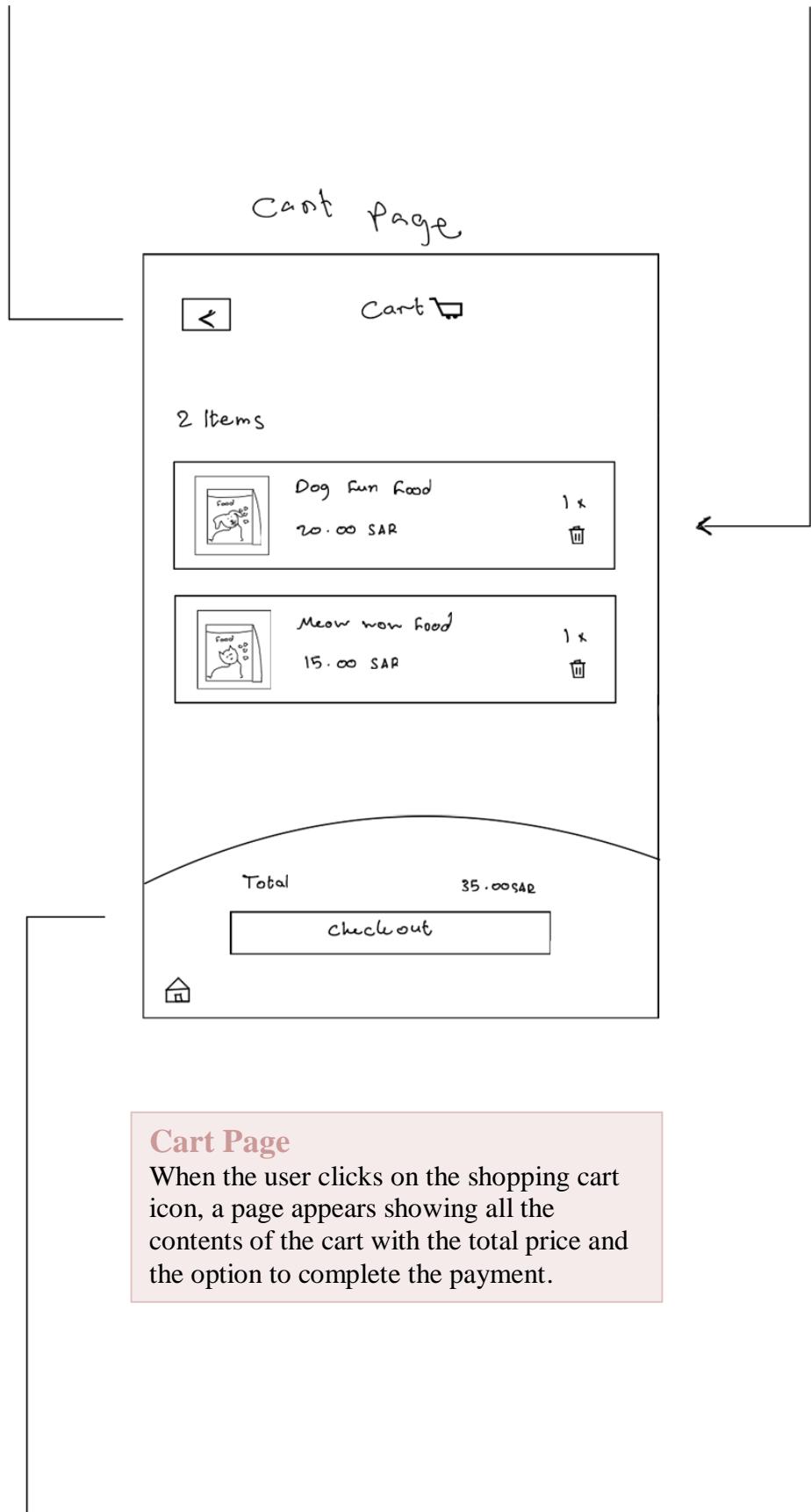
This page contains sections of pet supplies and displays them while allowing the user to add them to the cart.

Supply Page.



Supply Page

This page appears when choosing a pet supply and contains information such as a brief description with price, number, etc., and the option to purchase the item.



Cart Page

When the user clicks on the shopping cart icon, a page appears showing all the contents of the cart with the total price and the option to complete the payment.

Payment page.

Payment

Billing Address Using your shipping address

city: _____
street: _____
building: _____
zip code: _____
phone number: _____

Dog Fun Food	20.00 SAR
Meow Wow Food	15.00 SAR
Total	35.00 SAR

Name on Card
Eg. Name

Card Number
1234 5678 9123 4567

Expiration CVV
00 / 22 012

Place Order Cancel

Payment Page

When the user wishes to complete the payment process, he is asked to fill in the card information on this page with the invoice, location information, and the option to place the order.



Thank You Page

Dear username

Thank you for
Your Purchaser ☺

Dog Fun Food	20.00 SAR
Meow now food	15.00 SAR
Total	35.00 SAR

Billing Address

city: ~~~~~
street: ~~~~~
building: ~~~~~
zip code: ~~~~~
Phone number: ~~~~~



Thank You Page

After completing the purchase process, a thank you message will be displayed on this page with all purchase and location information.

Report Page.

Report v

Submit a report to help strays pets ❤

Upload a Photo

Share location

Location Description:
Eg. Street.

Notes:

Submit Report

Are you sure?
Yes No

Report Page

This page allows you to fill in the data of the stray pet and send the report, after choosing the Report option.



Thank you Page

Dear, username

Thank you for your
kindness ❤

we will send our help as soon
as possible..

Thank You Page

This page displays a simple thank you message for the user's initiative to help stray pets.

Offer Adoption Page.

Offer Adoption

Upload a Photo

Pet Name:
Eg. Charly.

Age:
Eg. 2

Type:
Eg. Dog.

upload Medical pastPoint

Contact Information:

Phone number:
05XXXXXXXX

Email:
Email@gmail.com

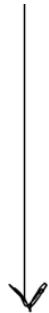
Submit

Are you sure?

Yes No

Offer Adoption Page

This page asks the user to fill in the data of the pet to be offered for adoption and send this information.



Thank you Page

Dear, user name

Your adoption offer submitted
successfully ✓

we will contact you as soon
as possible to pick up petName ❤

Confirm Offer Adoption Page

This page confirms to the user the success
of the process of offering the pet for
adoption by displaying a message.

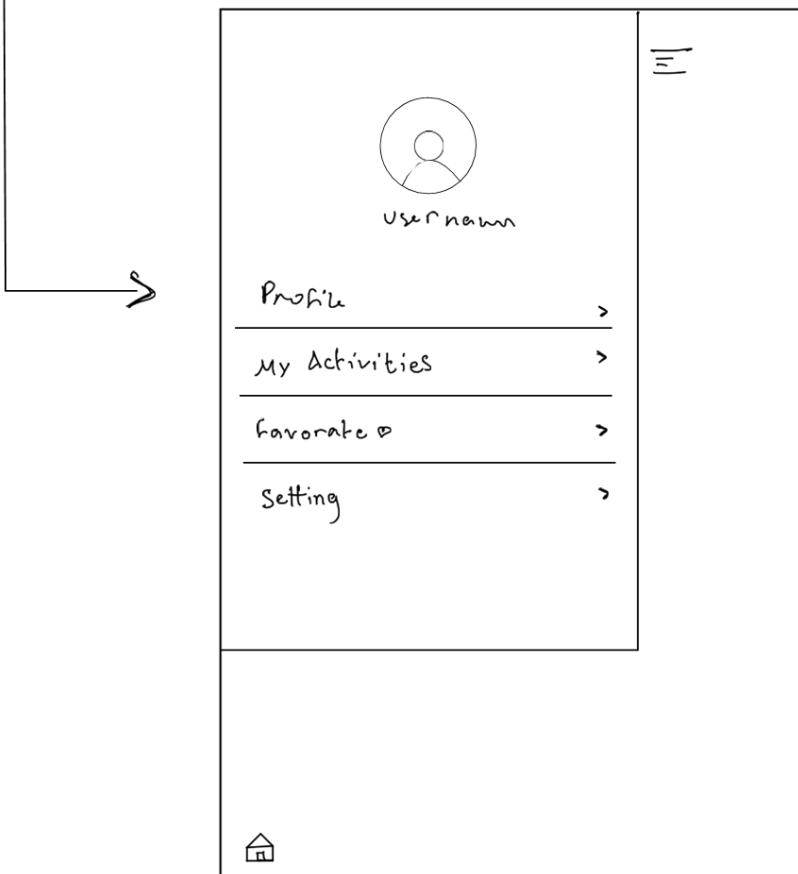
chat Page



Chat Page

When pressing the chat icon existing in the home page, an instant chat is created between the user and one of the available customer service members.

options Page.

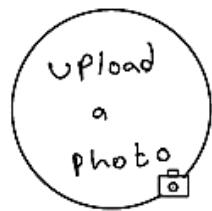


Options Page

When pressing the options icon, a set of additional options that serve the user appear.

Edit Profile Page.

<


Upload
a
photo

Username

Email address

Phone number

Password

Home

Activities Page

This page shows all the activities done by the user using this application.

Activities Page

< My Activities

Paw Purchases

item name Price

item name Price

Paw Adoption

Pet name info

Paw Reports

Date location

Date location

Paw Adoption offers

Pet name info



Profile Page

This page enables the user to view and modify his profile data after confirmation.

Favorites Page

Setting Page

This page displays options for general settings such as deleting or exiting the account with a brief overview of the application.

Setting Page



Settings

Logout



Delete Account



About us



My Favorites



Dog Fun Food

20.00 SAR

remove



Meow Mix Food

15.00 SAR

remove



Meow wow Food

15.00 SAR

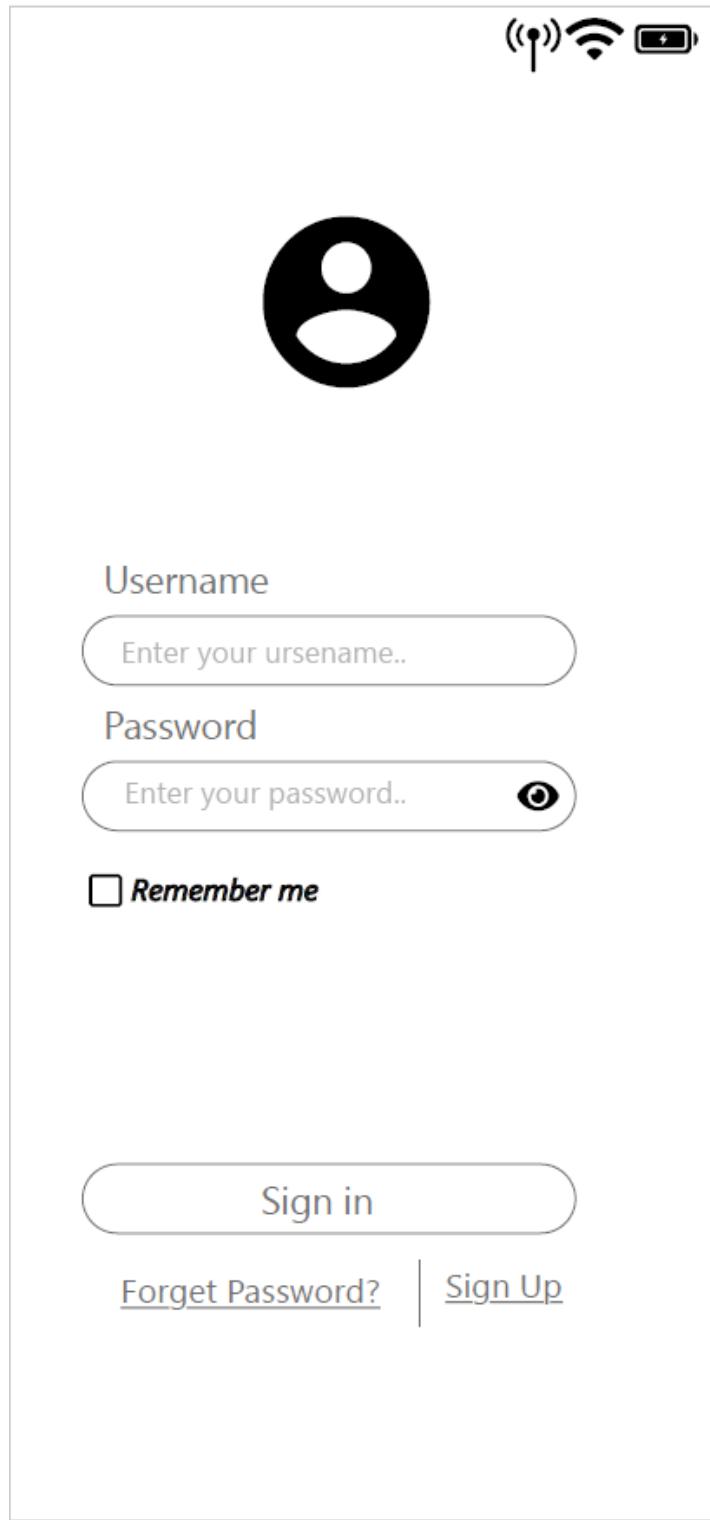
remove



Favorites Page

Favorite pet supplies could be saved by clicking on the “heart” sign on the supplies page and reviewing them on this page.

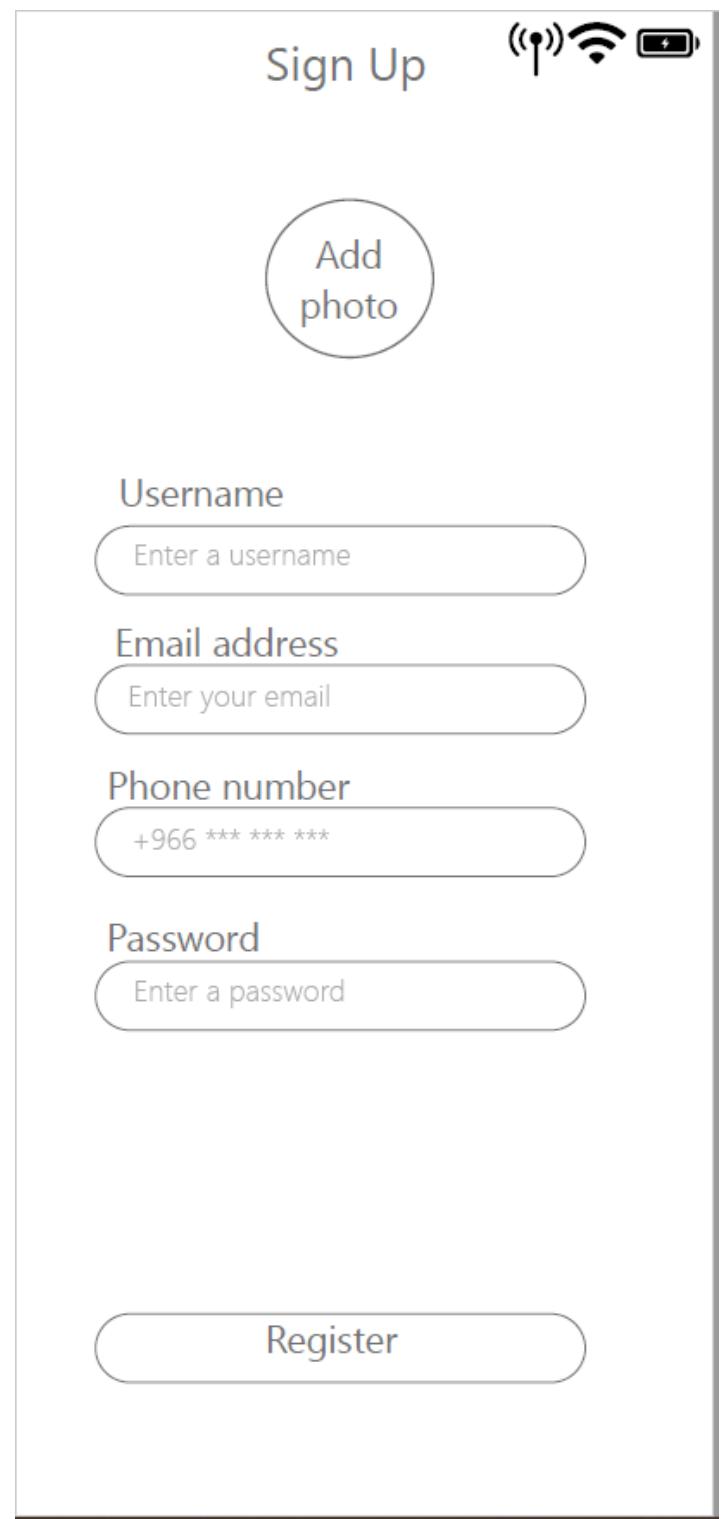
Adobe XD Wireframes Interfaces



This wireframe shows a mobile login interface. At the top right are icons for signal strength, Wi-Fi, and battery level. Below them is a large circular user icon. The main form area contains fields for 'Username' and 'Password'. The 'Username' field is labeled 'Enter your urname...' and has a placeholder 'Enter a username'. The 'Password' field is labeled 'Enter your password...' and includes a visibility toggle icon. A checkbox labeled 'Remember me' is located below the password field. At the bottom is a large rounded rectangular button labeled 'Sign in'. Below the 'Sign in' button are two links: 'Forgot Password?' and 'Sign Up'.

Sign in

Forgot Password? | Sign Up



This wireframe shows a mobile sign-up interface. At the top right are icons for signal strength, Wi-Fi, and battery level. The title 'Sign Up' is at the top. Below it is a circular 'Add photo' button. The form area contains fields for 'Username', 'Email address', 'Phone number', and 'Password'. The 'Username' field is labeled 'Enter a username'. The 'Email address' field is labeled 'Enter your email'. The 'Phone number' field has a placeholder '+966 *** *** *'. The 'Password' field is labeled 'Enter a password'. At the bottom is a large rounded rectangular button labeled 'Register'.

Sign Up

Add photo

Username

Enter a username

Email address

Enter your email

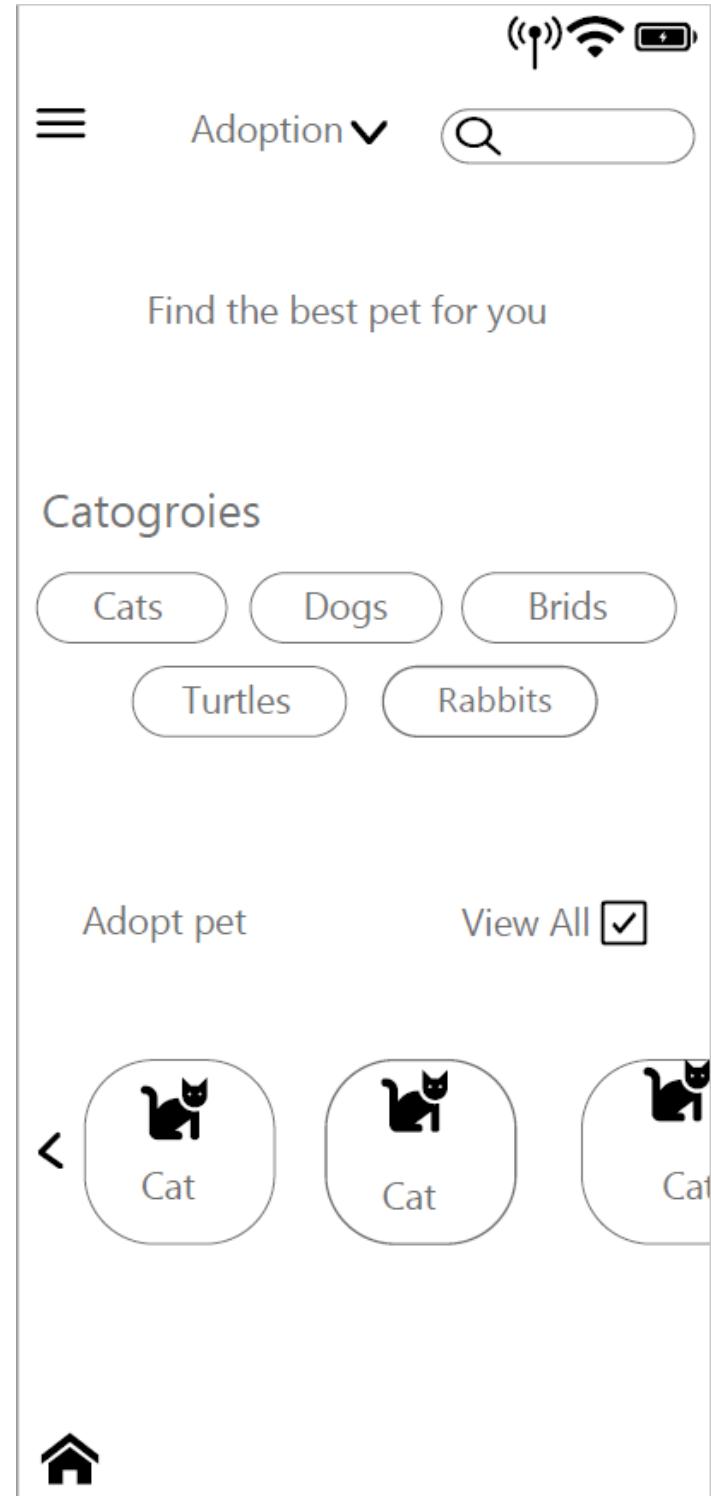
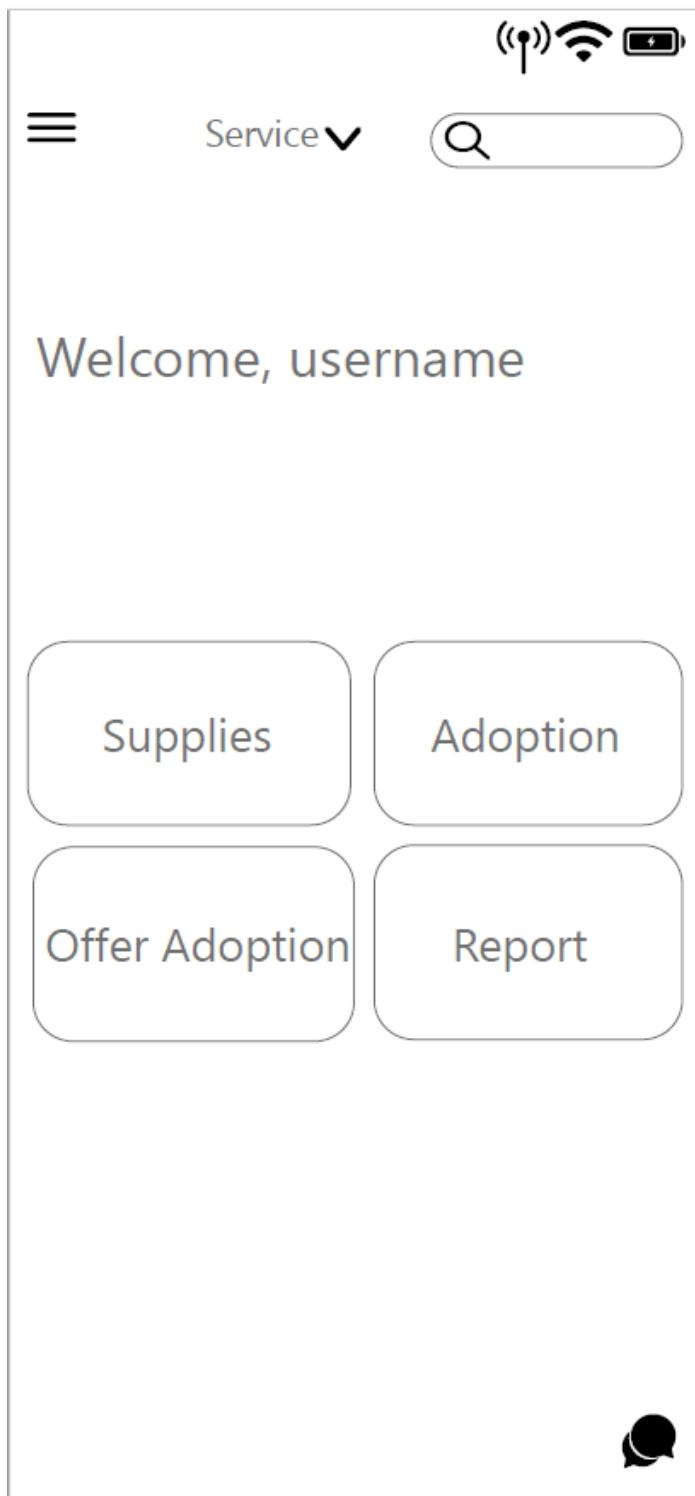
Phone number

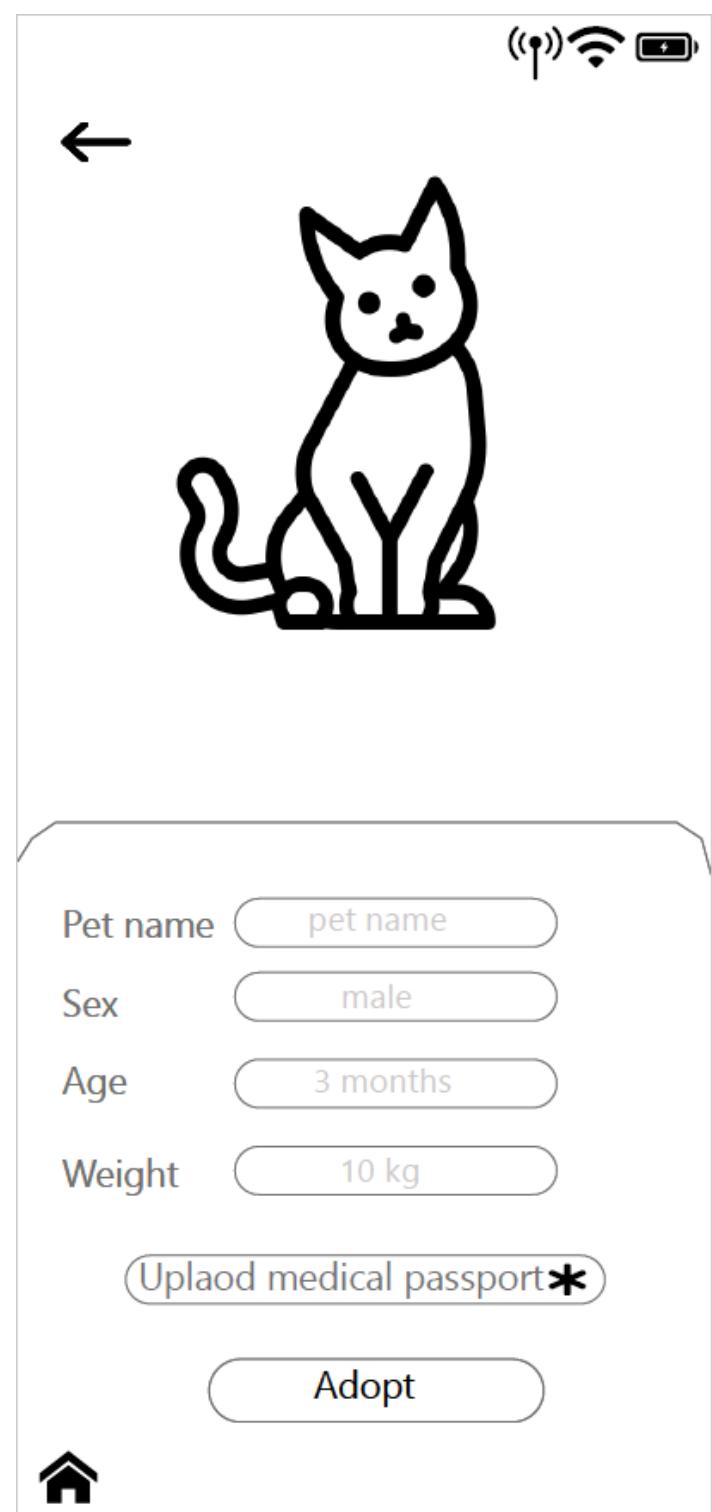
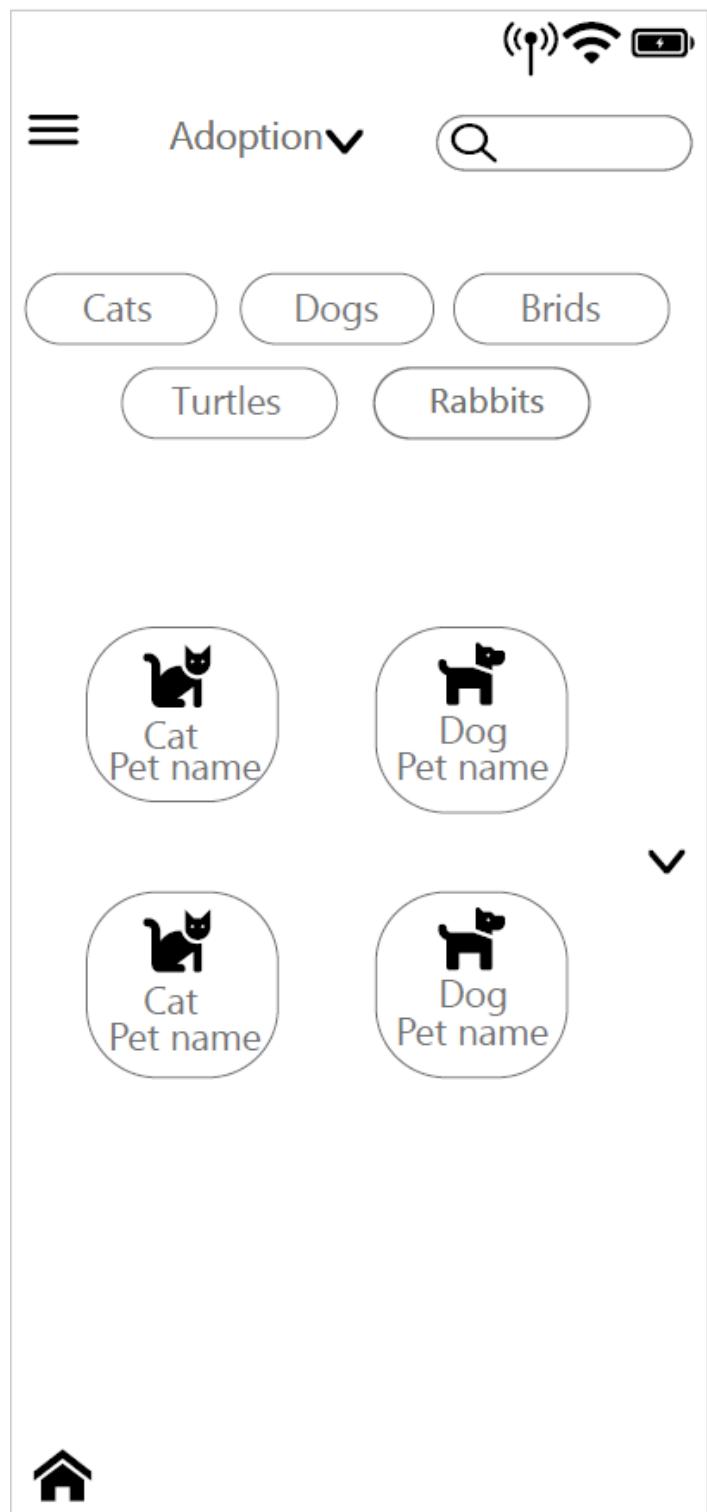
+966 *** *** *

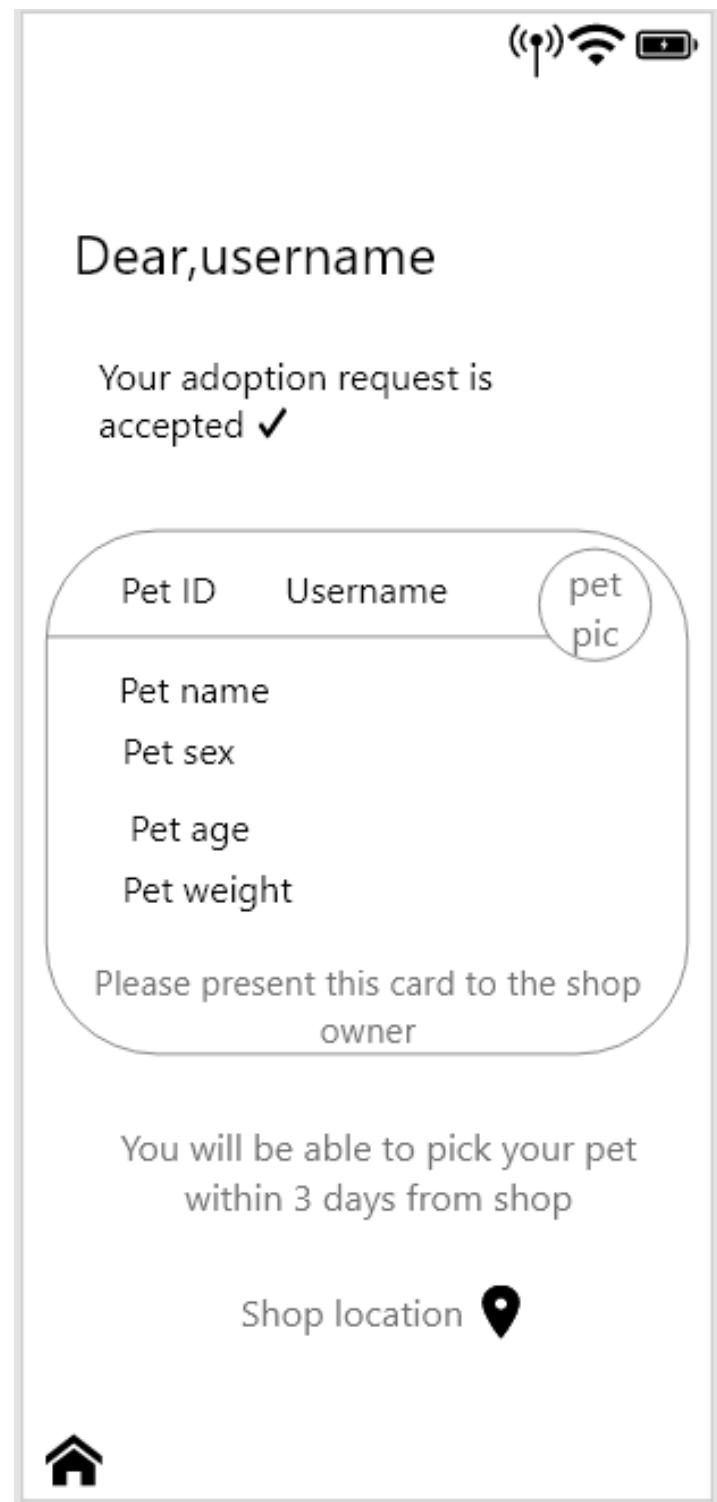
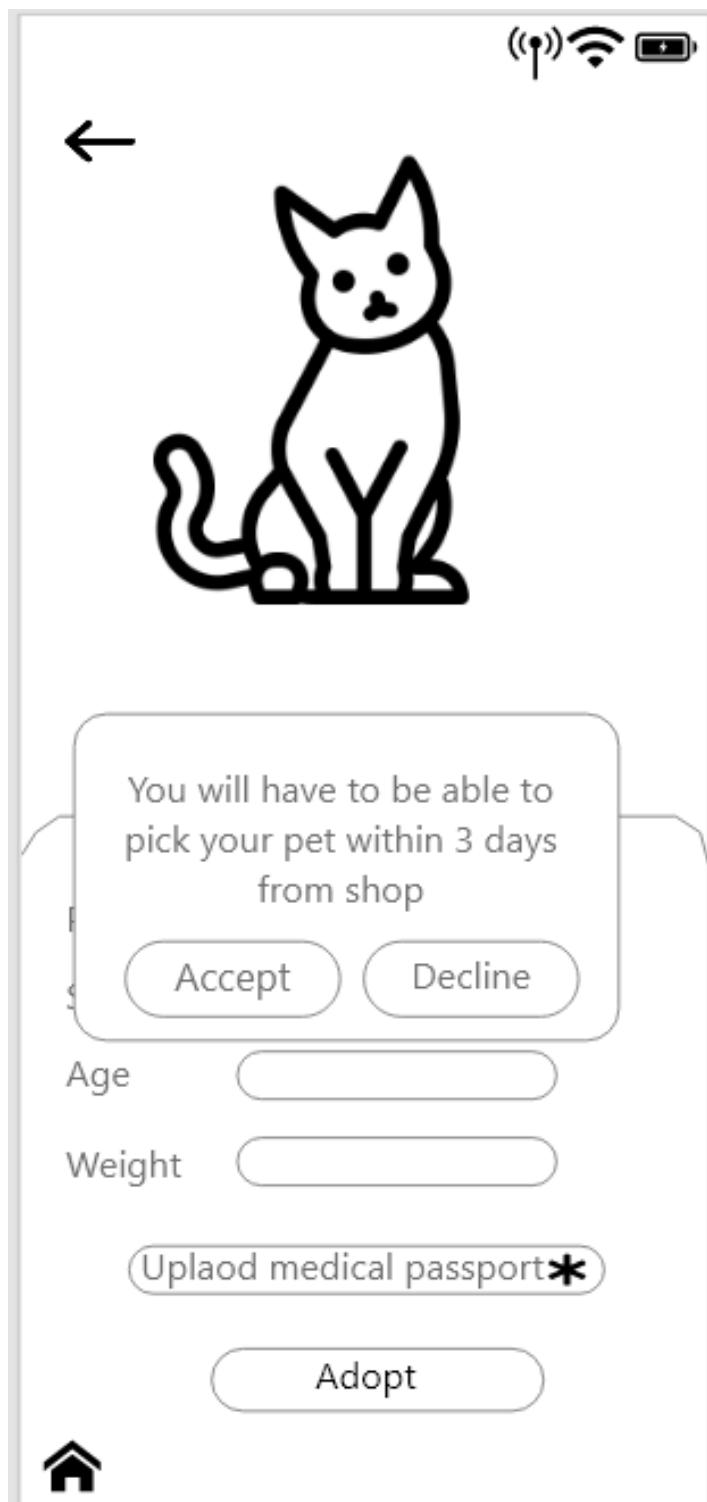
Password

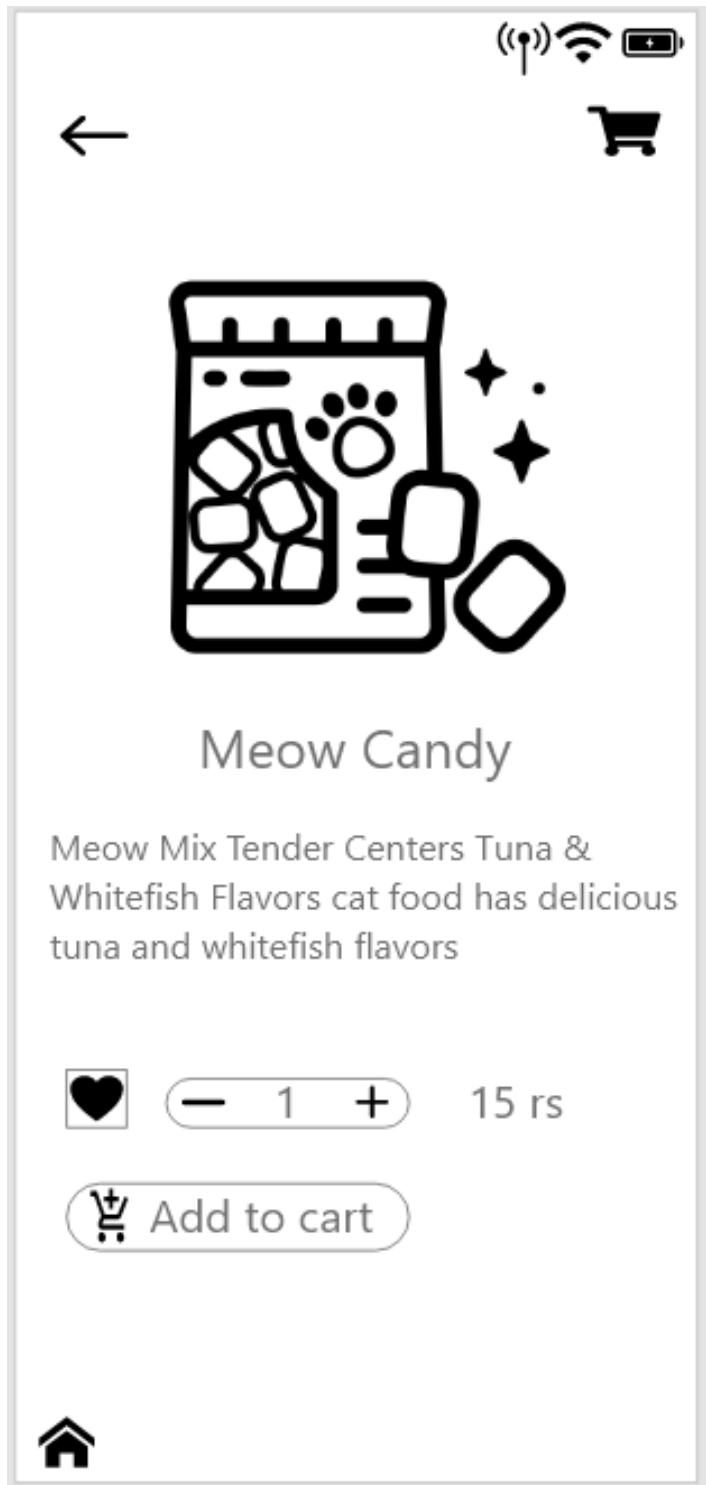
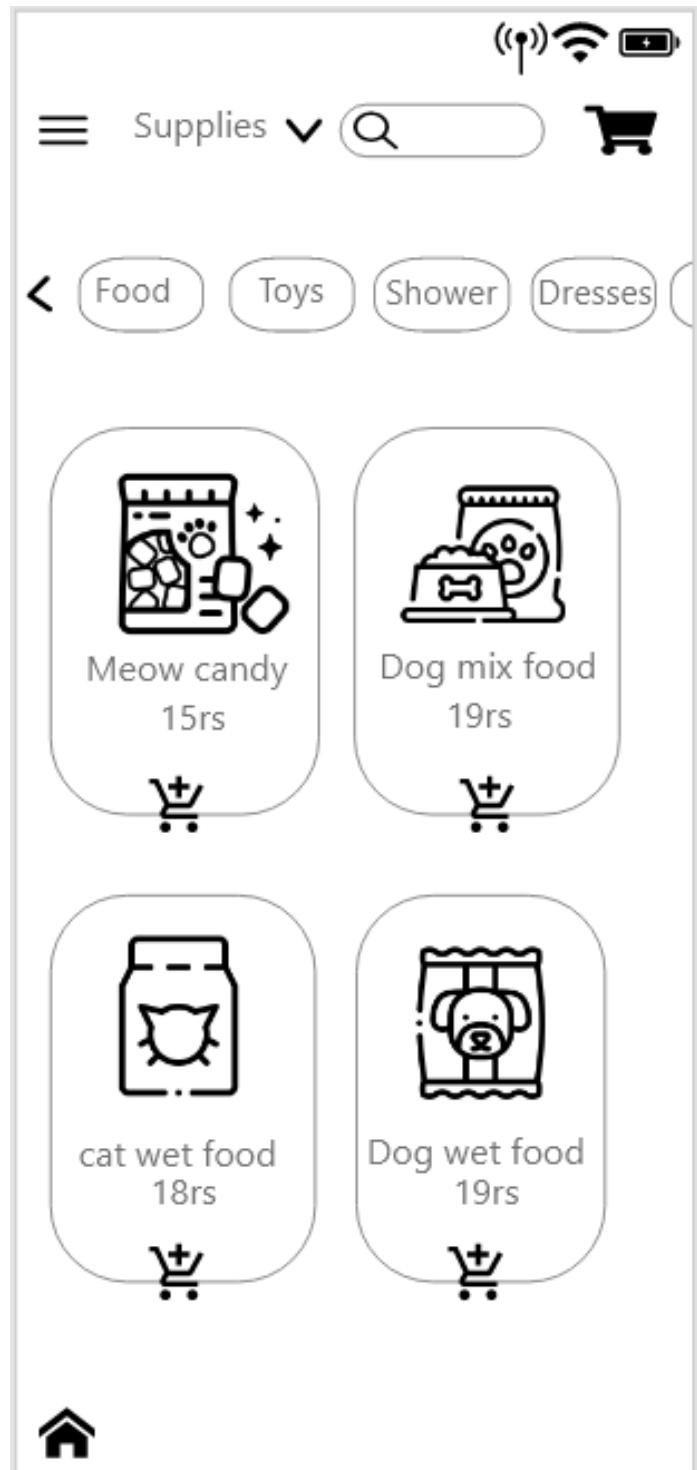
Enter a password

Register









Cart

2 items

Dog mix food
19rs 1x

cat wet food
18rs 1x

Total: 37rs

[Checkout](#)

Payment

Billing address

City:
Street:
Building number:
Zip code:
Phone number:

Using your shipping address

Dog mix food 19rs
Cat wet food 18rs

Total: 37rs

Name on card

Name

Card number

1234 1234 1234 1234

Expiration

00/00

CVV

123

[Place Order](#)

[cancel](#)



Dear,username

Thank you for your purchase ❤

Dog mix food	19rs
Cat wet food	18rs
Total:	37rs

Billing address City:
 Street:
 Building number:
 Zip code:
 Phone number:



Report ✓



Submit a report to help strays pets

Upload a photo

Share location

Location description:

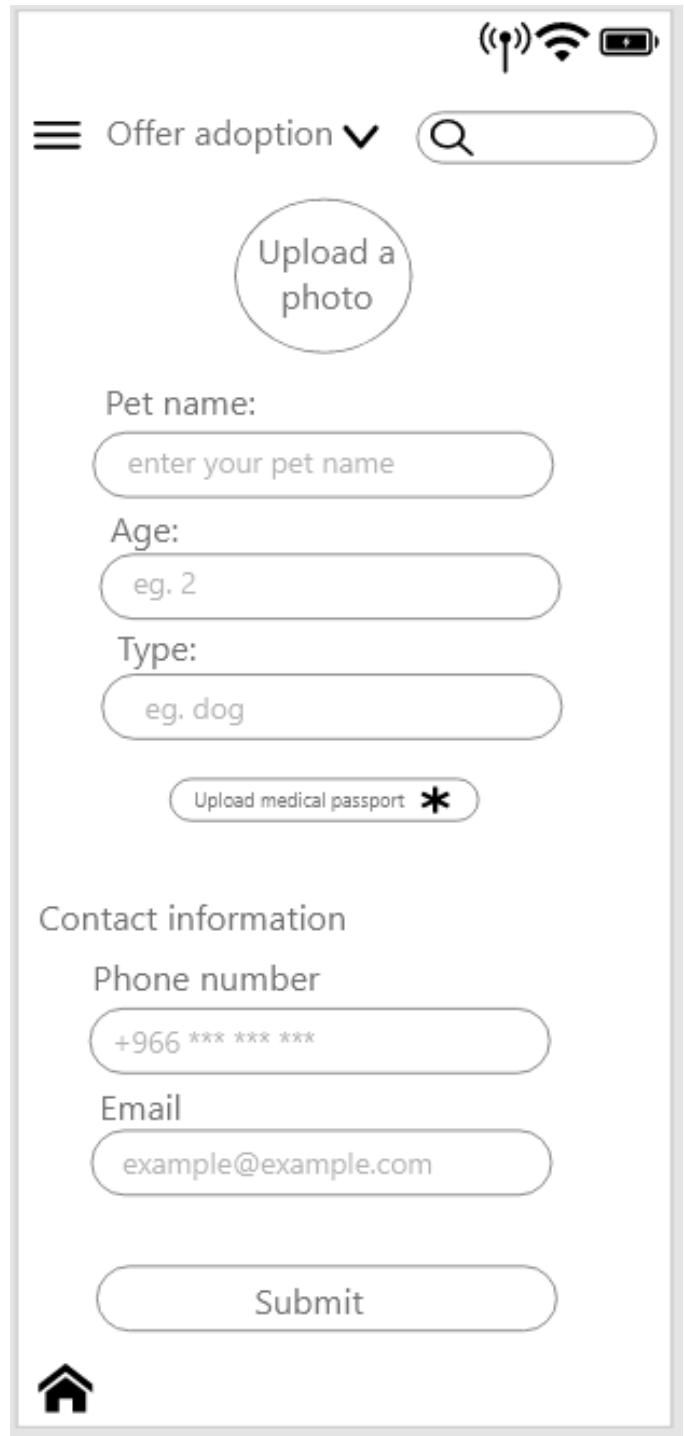
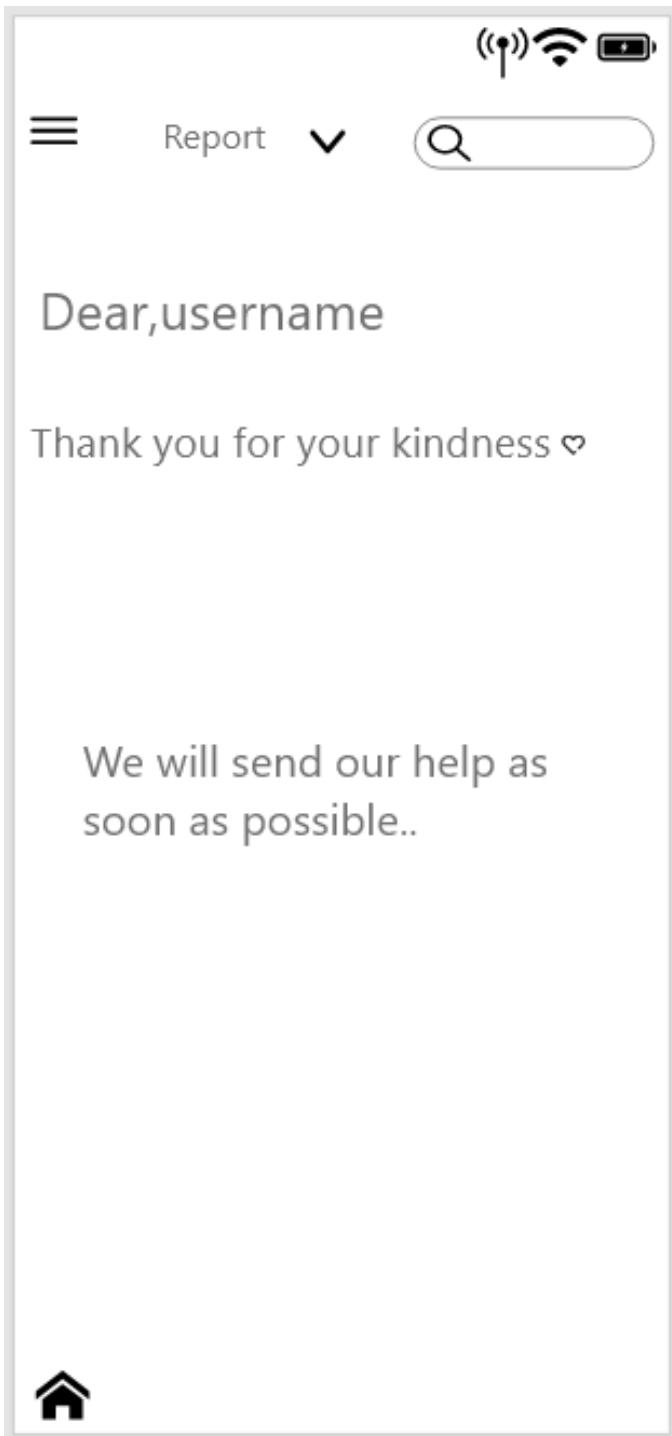
eg. street

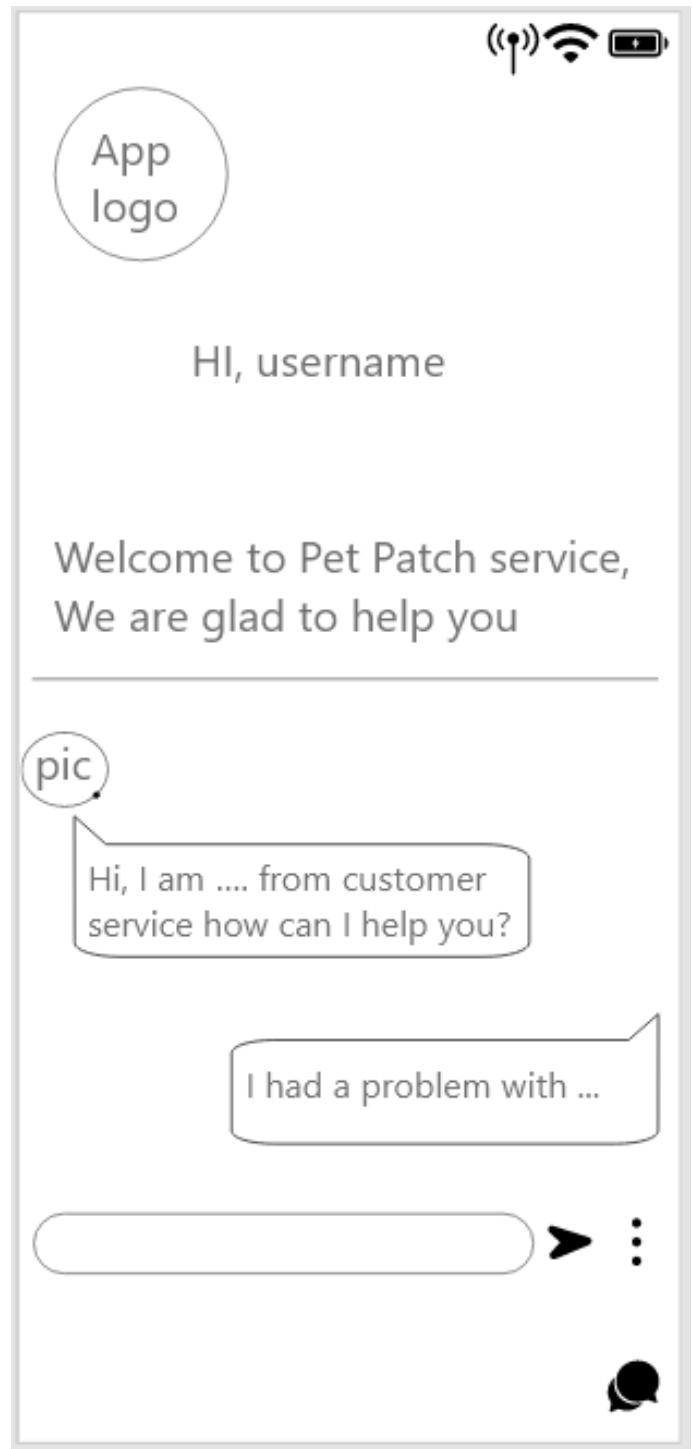
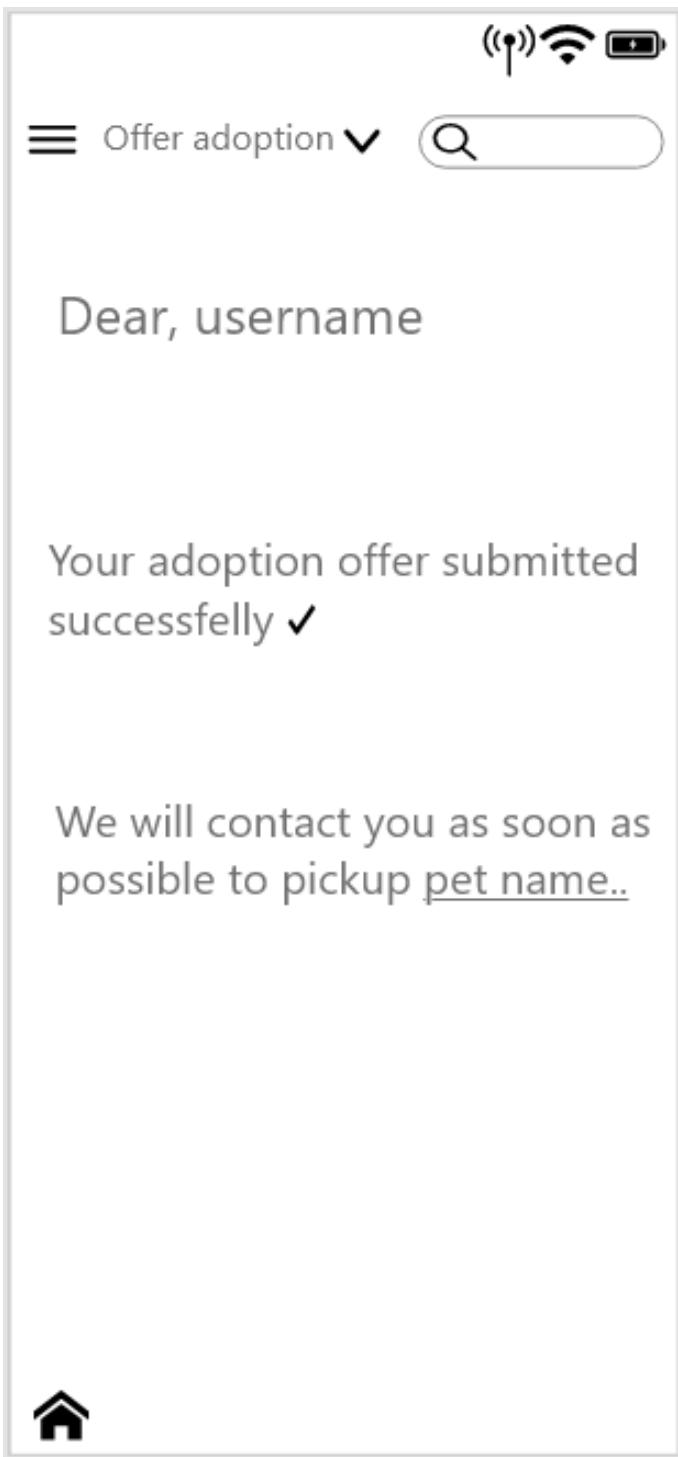
Notes:

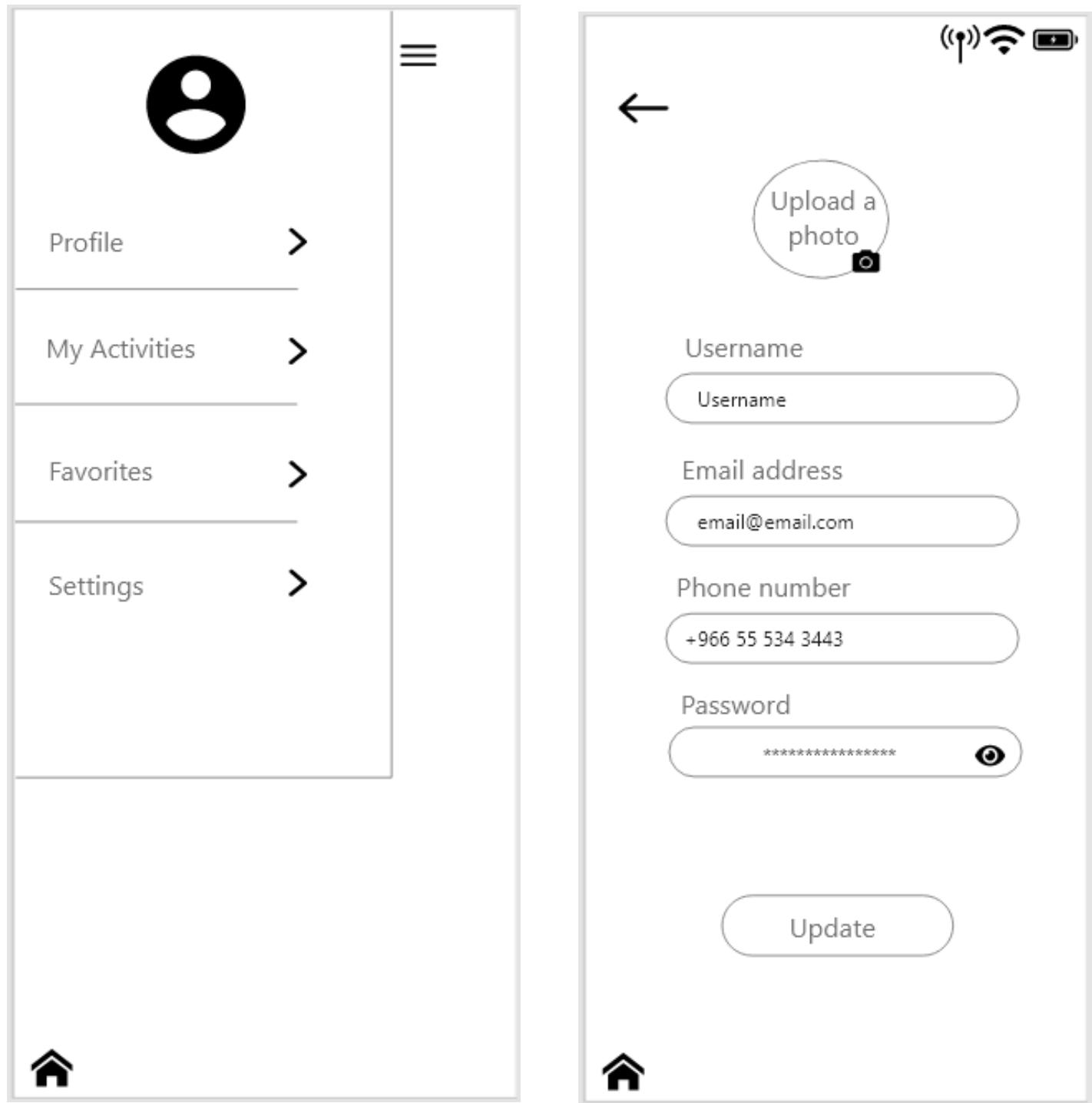
optional

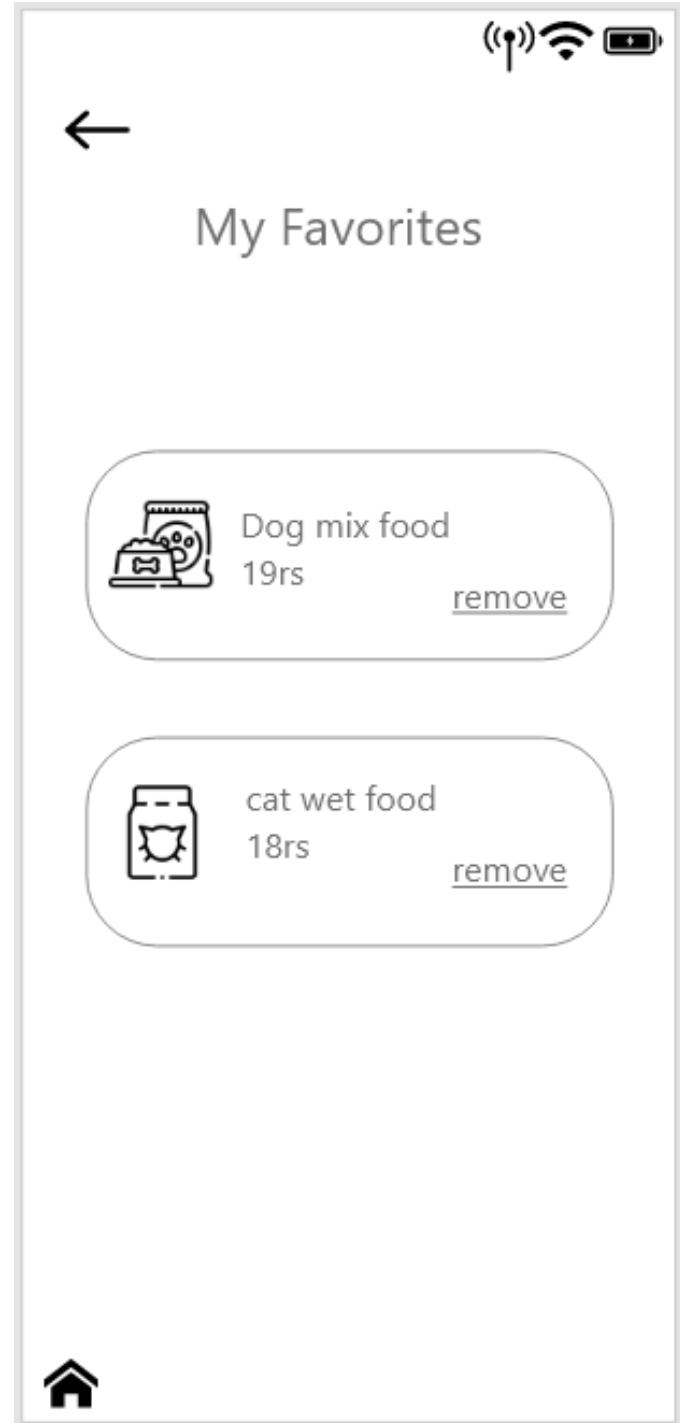
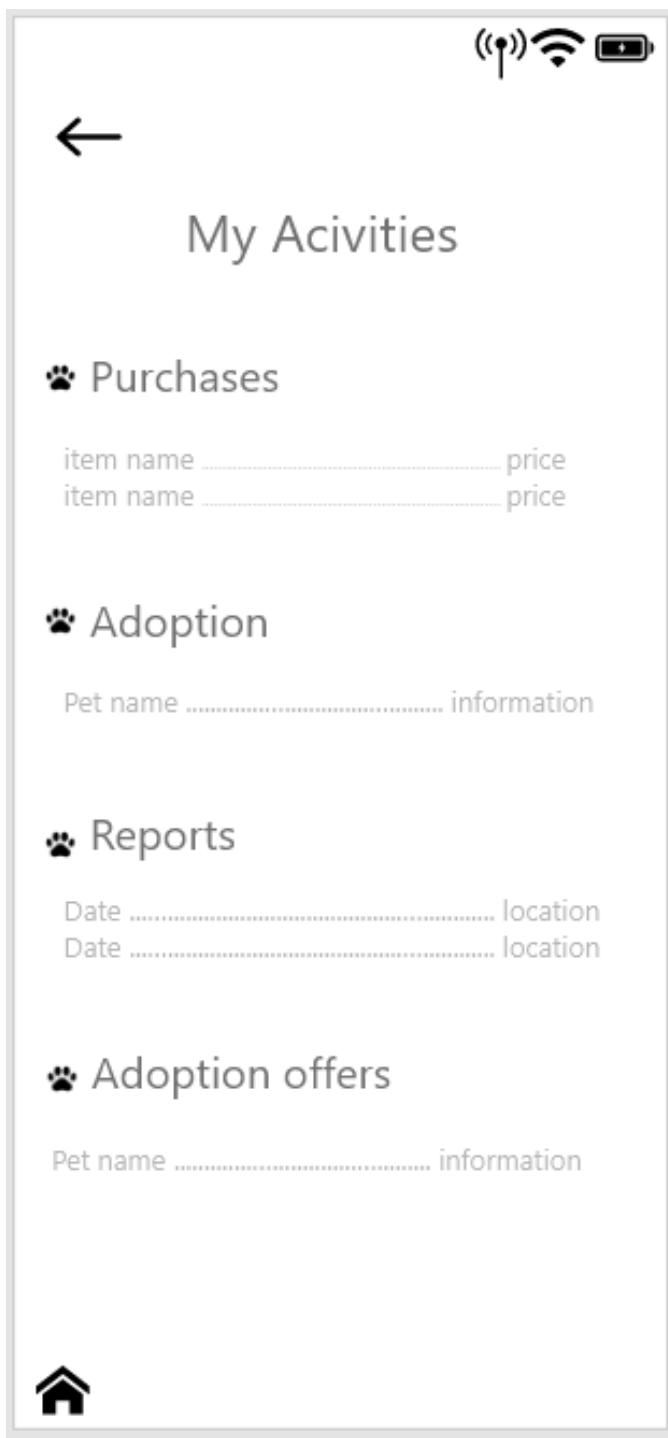
Submit report

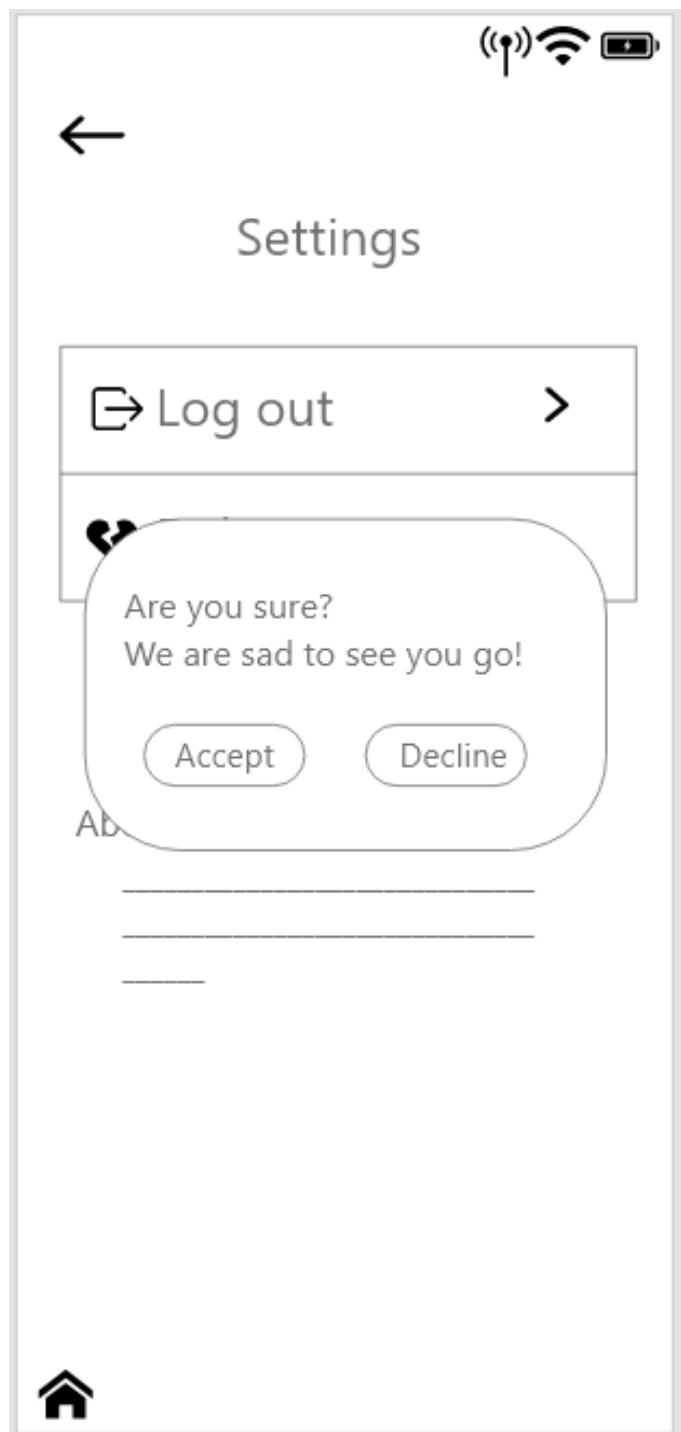
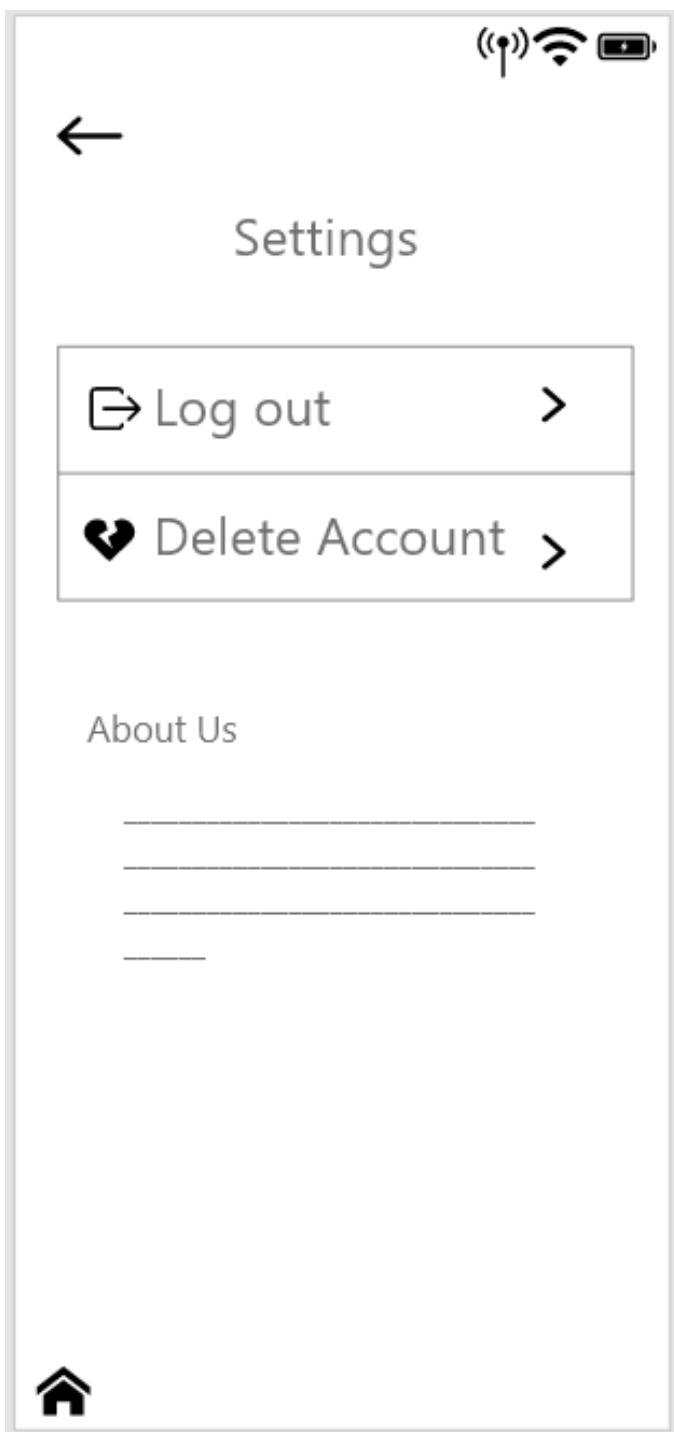




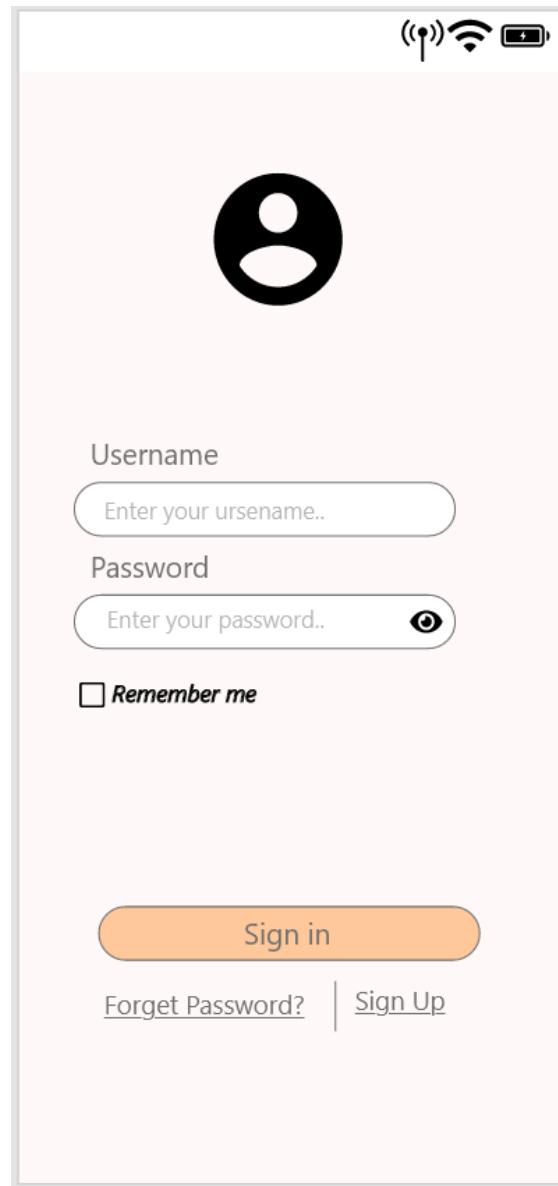








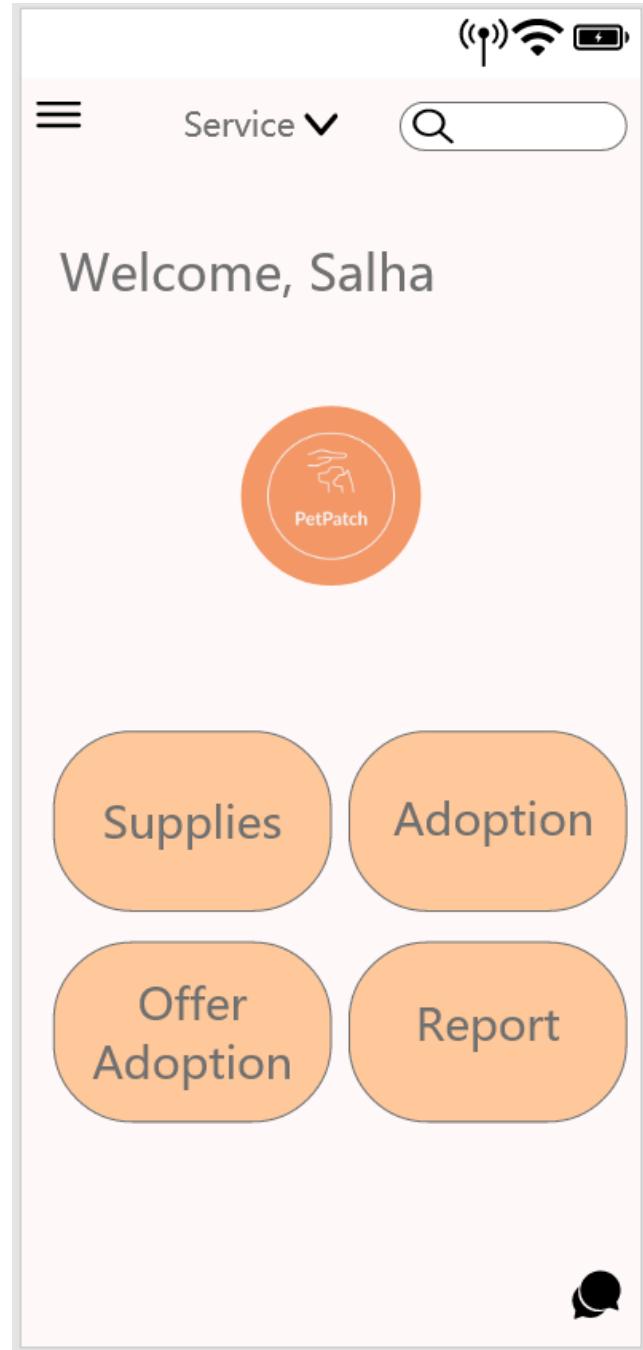
Adobe XD Mockup Interfaces



Sign in page

A page that allows the user to get in the application to use its features and characteristics by entering the username and password.

The Sign Up screen features a header with a 'Sign Up' button. Below it is a circular 'Add photo' button. The form includes four input fields: 'Username' (placeholder: Enter a username), 'Email address' (placeholder: Enter your email), 'Phone number' (placeholder: +966 *** * * * *), and 'Password' (placeholder: Enter a password). At the bottom is a large orange 'Register' button.

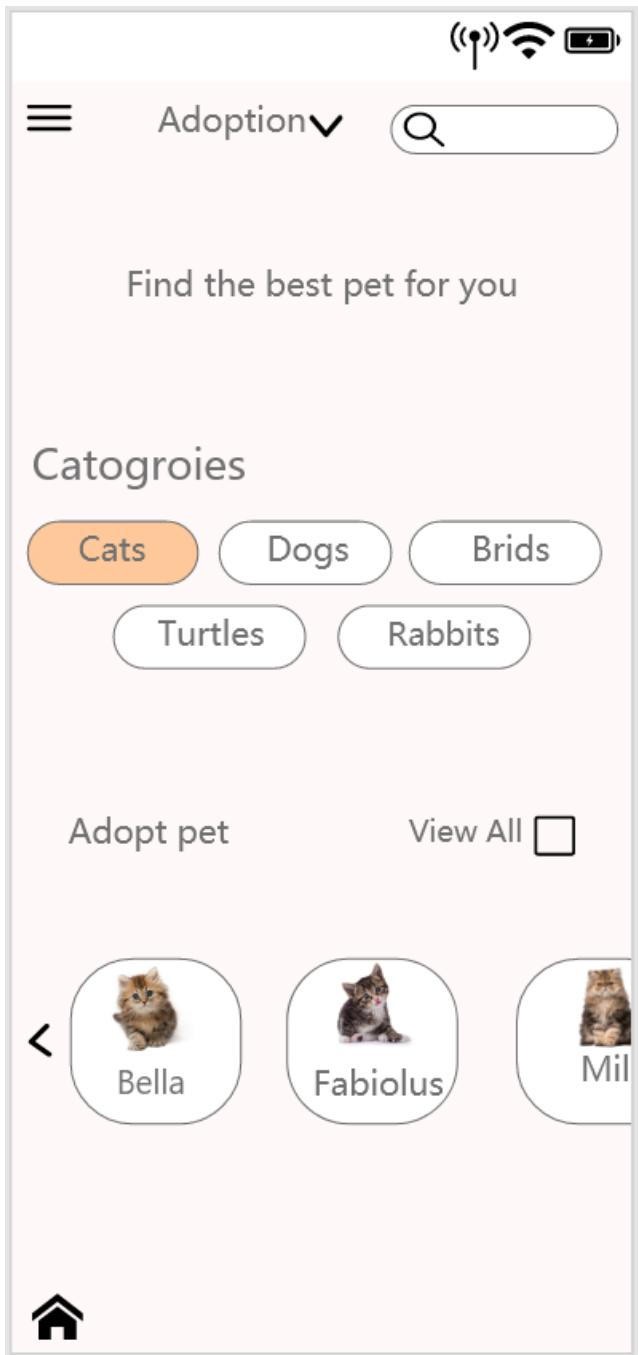


Sign up page

A page that allows the user to register and have a profile in the application after filling in the personal information of the user.

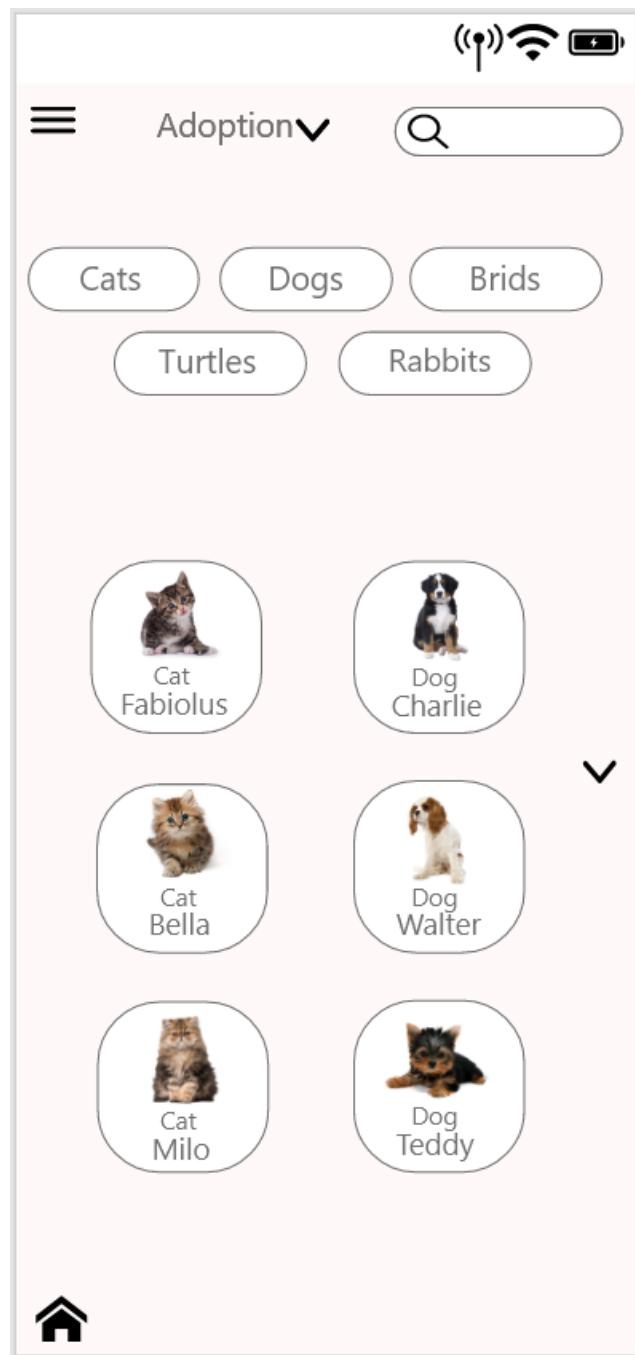
Home page

The home page that displays the main services of the application and enable the user to choose the desired service.



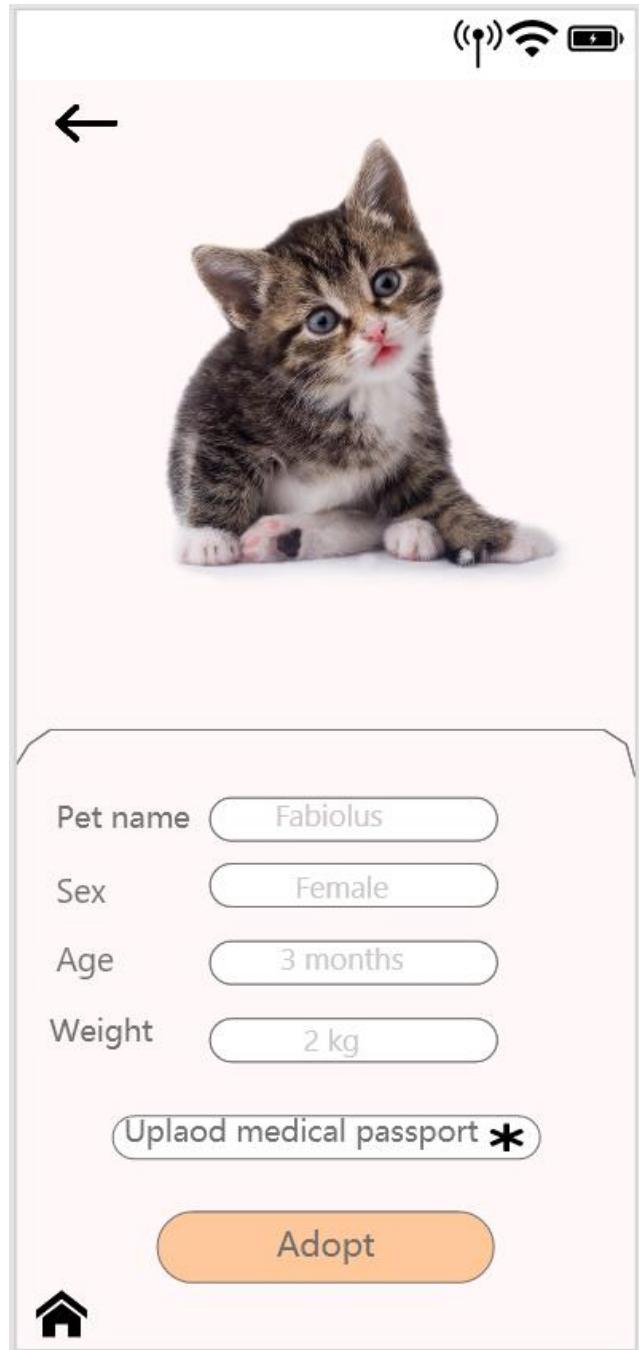
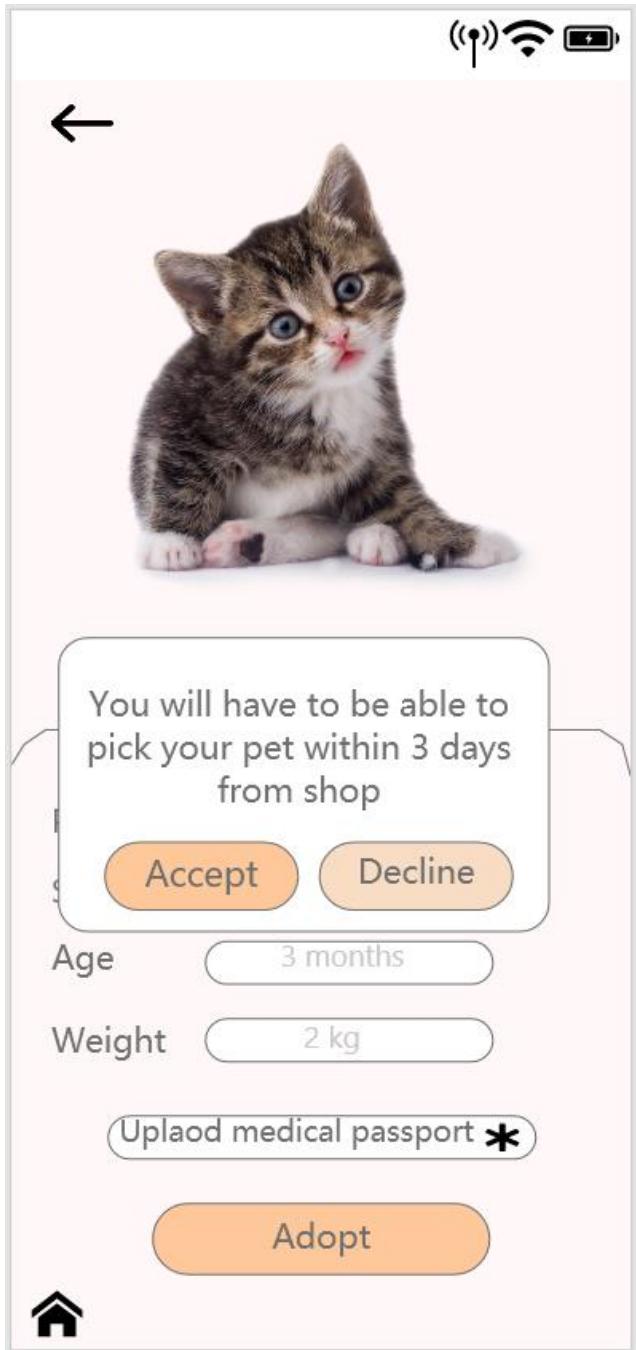
Adoption

When the user selects the adoption service, this page appears which contains all sections of pets available for adoption with the option to view all for a broader view of all pets.



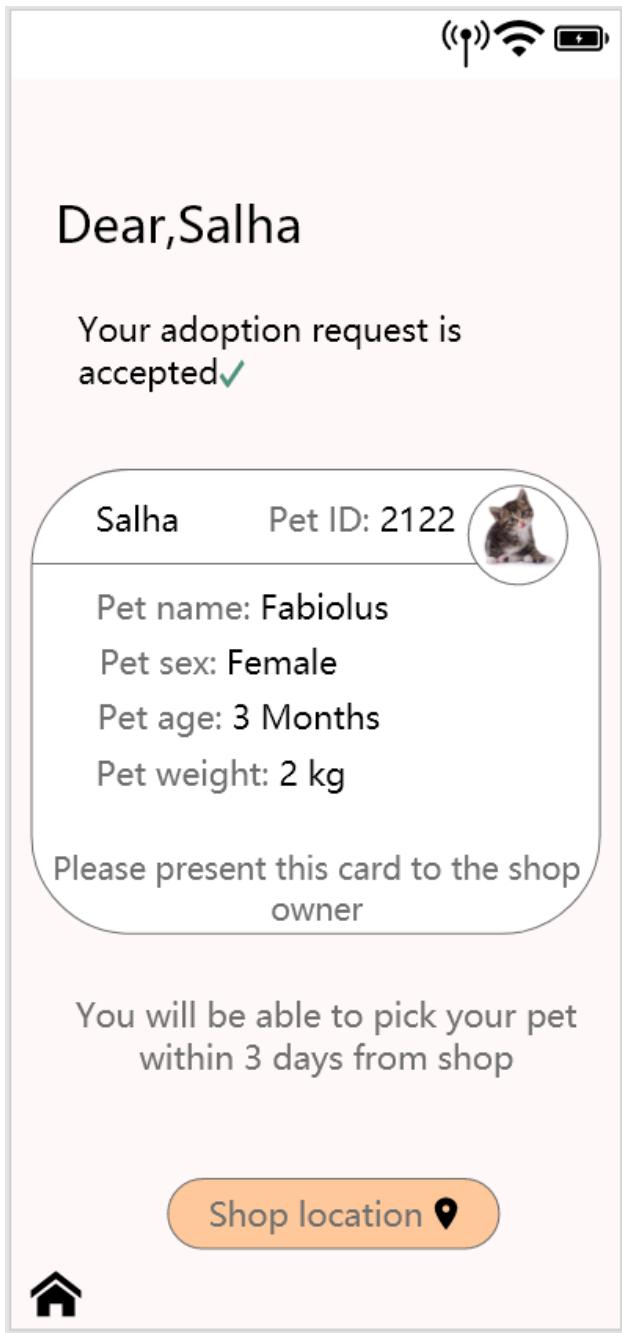
View All Page

A page that shows all the pets offered for adoption from different categories when the user chooses the option to view all.



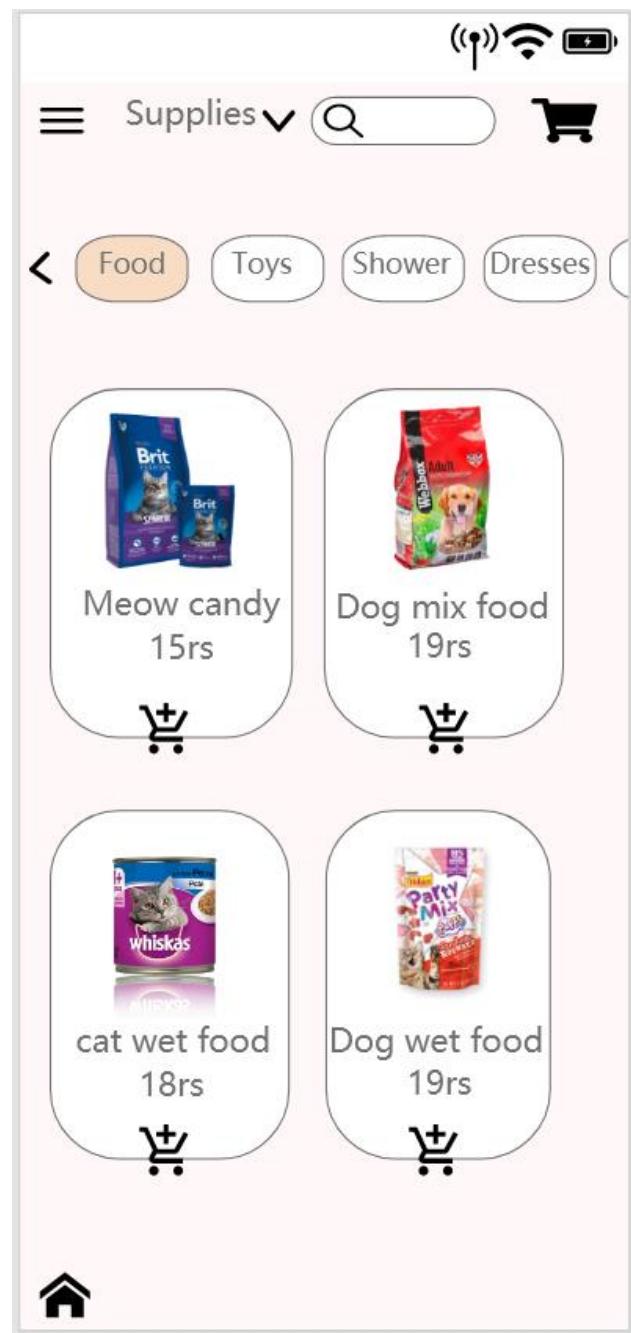
Pet Information Page

This page appears when a specific pet is selected, and all its information is shown with the adoption option.



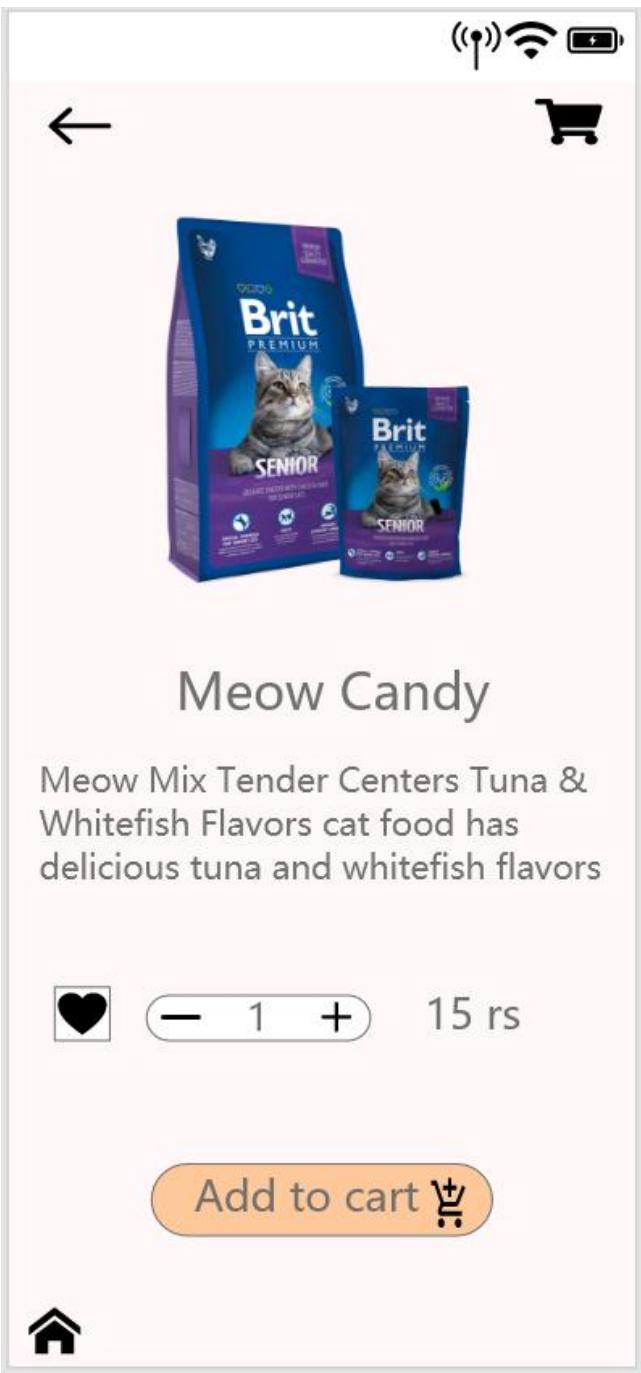
Confirm Adoption Page

A page in which the user's adoption request is confirmed with an explanation of the pet's information and how to receive it from the shop.



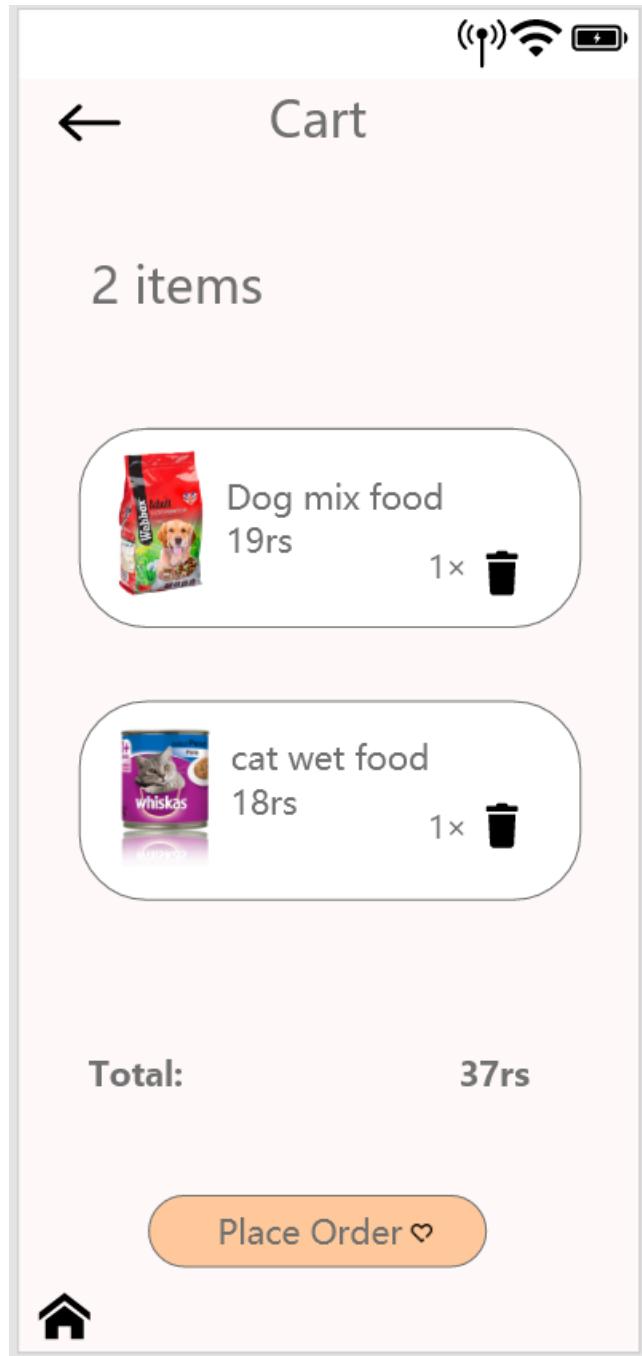
Supplies Page

This page contains sections of pet supplies and displays them while allowing the user to add them to the cart.



Supply Page

This page appears when choosing a pet supply and contains information such as a brief description with price, number, etc., and the option to purchase the item.



Cart Page

When the user clicks on the shopping cart icon, a page appears showing all the contents of the cart with the total price and the option to complete the payment.

(📶) ⚡

← Payment

Billing address

City: Jeddah
 Street: Murjan
 Building number: 6363
 Zip code: 23715
 Phone number: +966505333300

Using your shipping address*

Dog mix food	19rs
Cat wet food	18rs
<hr/>	
Total:	37rs

Name on card

Card number

Expiration

CVV

Checkout

[cancel](#)

🏡

(📶) ⚡

Dear, Salha

Thank you for your purchase ❤

Dog mix food	19rs
Cat wet food	18rs
<hr/>	
Total:	37rs

Billing address

City: Jeddah
 Street: Murjan
 Building number: 6363
 Zip code: 23715
 Phone number: +966505333300

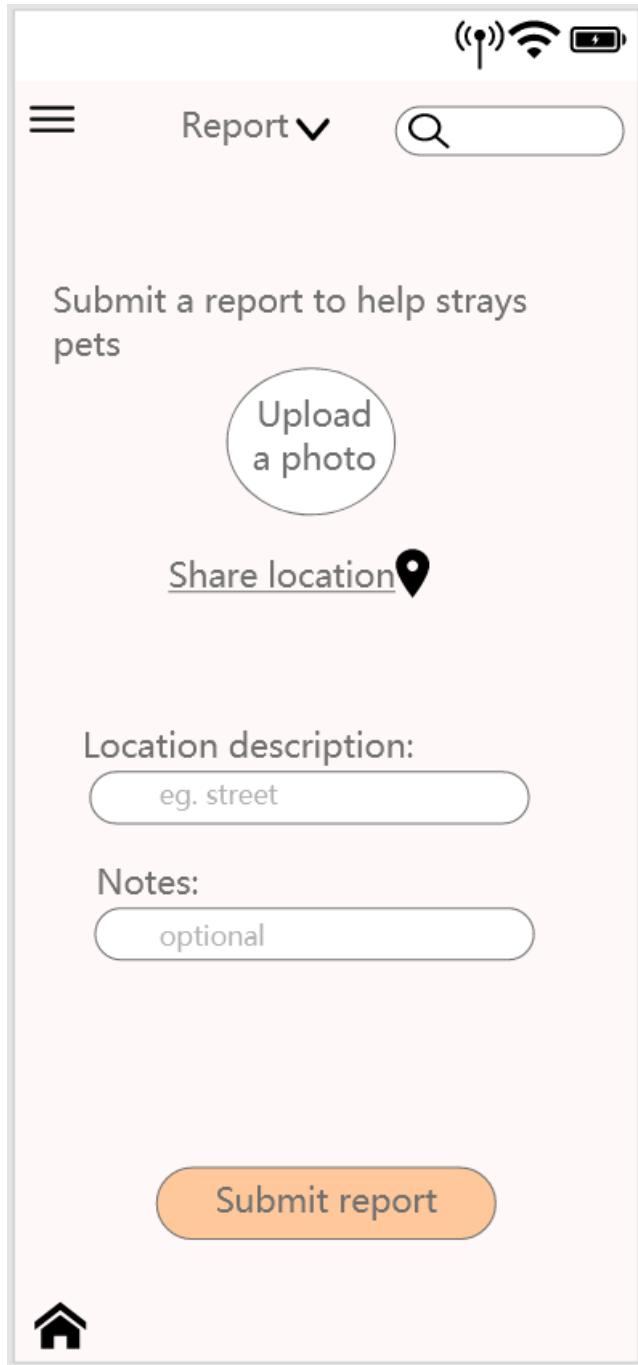
🏡

Payment Page

When the user wishes to complete the payment process, he is asked to fill in the card information on this page with the invoice, location information, and the option to place the order.

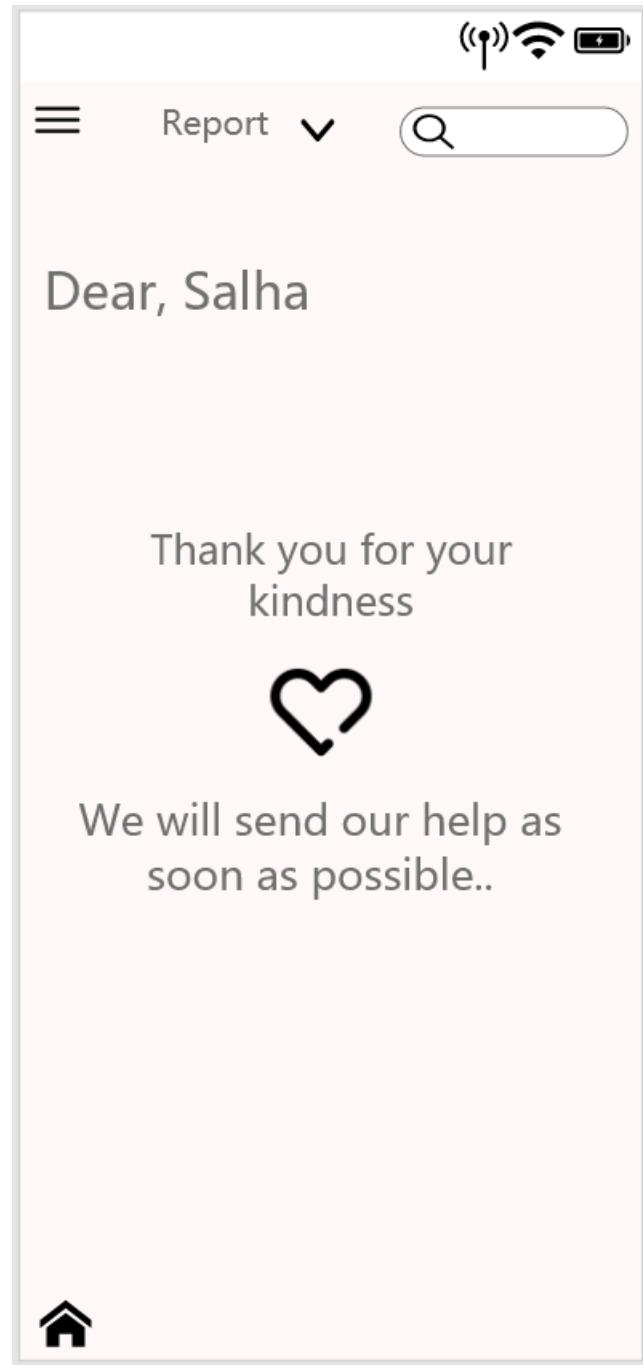
Thank You Page

After completing the purchase process, a thank you message will be displayed on this page with all purchase and location information.



Report Page

This page allows you to fill in the data of the stray pet and send the report, after choosing the Report option.



Thank You Page

This page displays a simple thank you message for the user's initiative to help stray pets.

The screenshot shows the 'Offer adoption' screen of a mobile application. At the top, there are icons for signal strength, Wi-Fi, and battery level. Below them is a navigation bar with three horizontal lines and the text 'Offer adoption' followed by a dropdown arrow and a magnifying glass icon.

Pet name:
enter your pet name

Age:
eg. 2

Type:
eg. dog

Contact information

Phone number
+966 *** *** ***

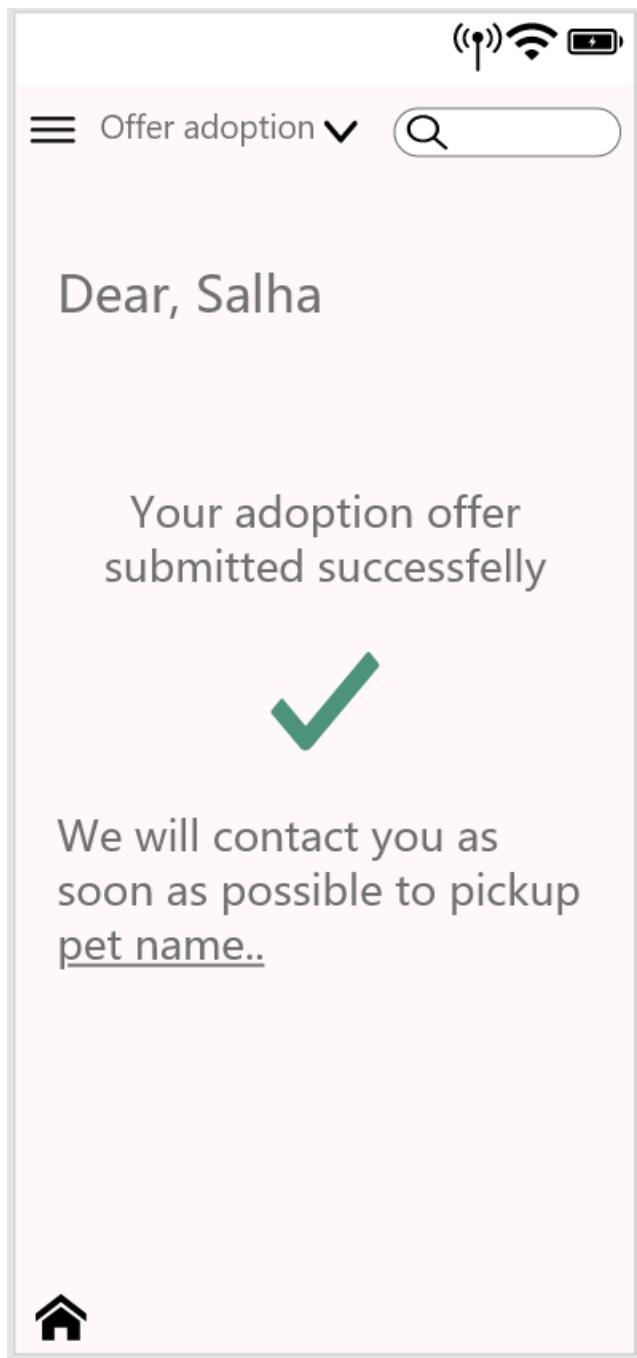
Email
example@example.com

Submit

A large orange 'Submit' button is located at the bottom of the form area. In the bottom left corner of the screen, there is a black house-shaped icon.

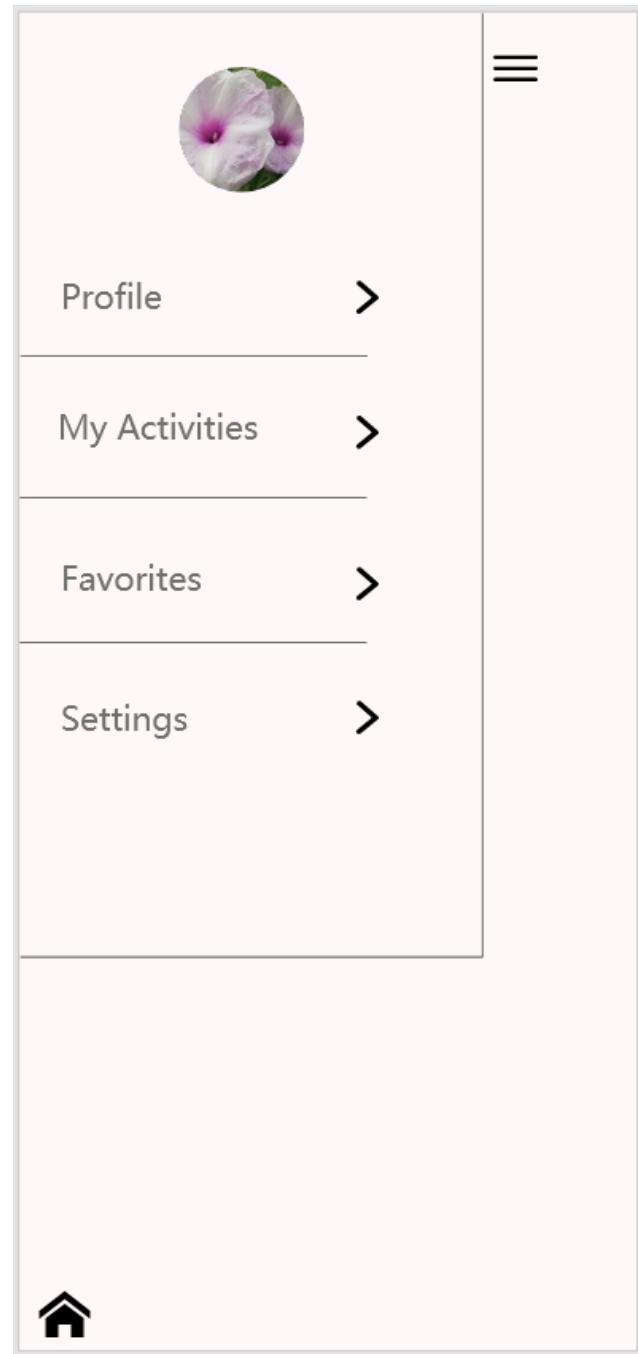
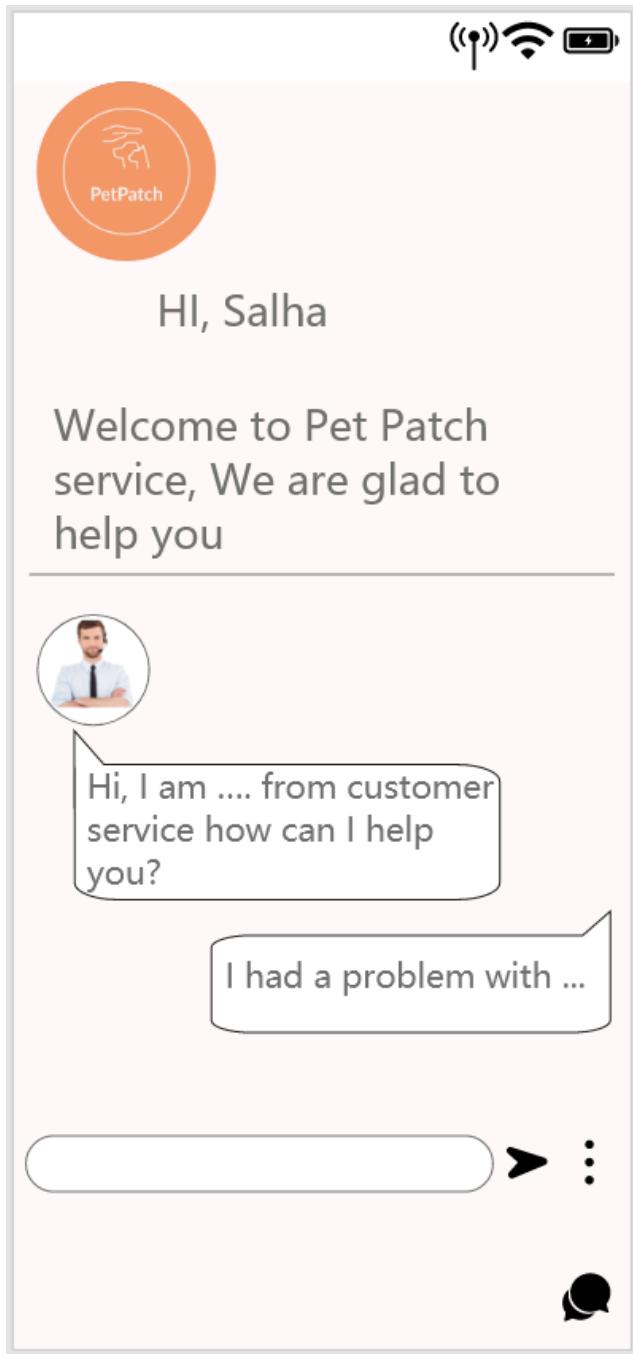
Offer Adoption Page

This page asks the user to fill in the data of the pet to be offered for adoption and send this information.



Confirm Offer Adoption Page

This page confirms to the user the success of the process of offering the pet for adoption by displaying a message.

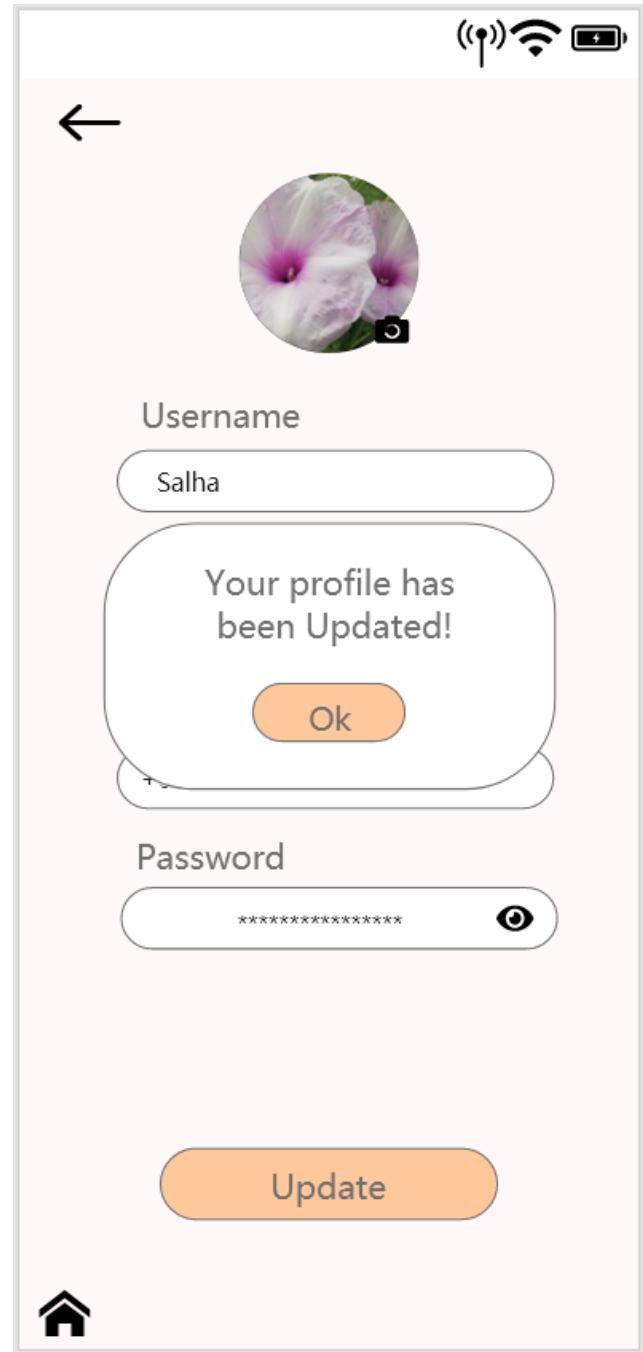
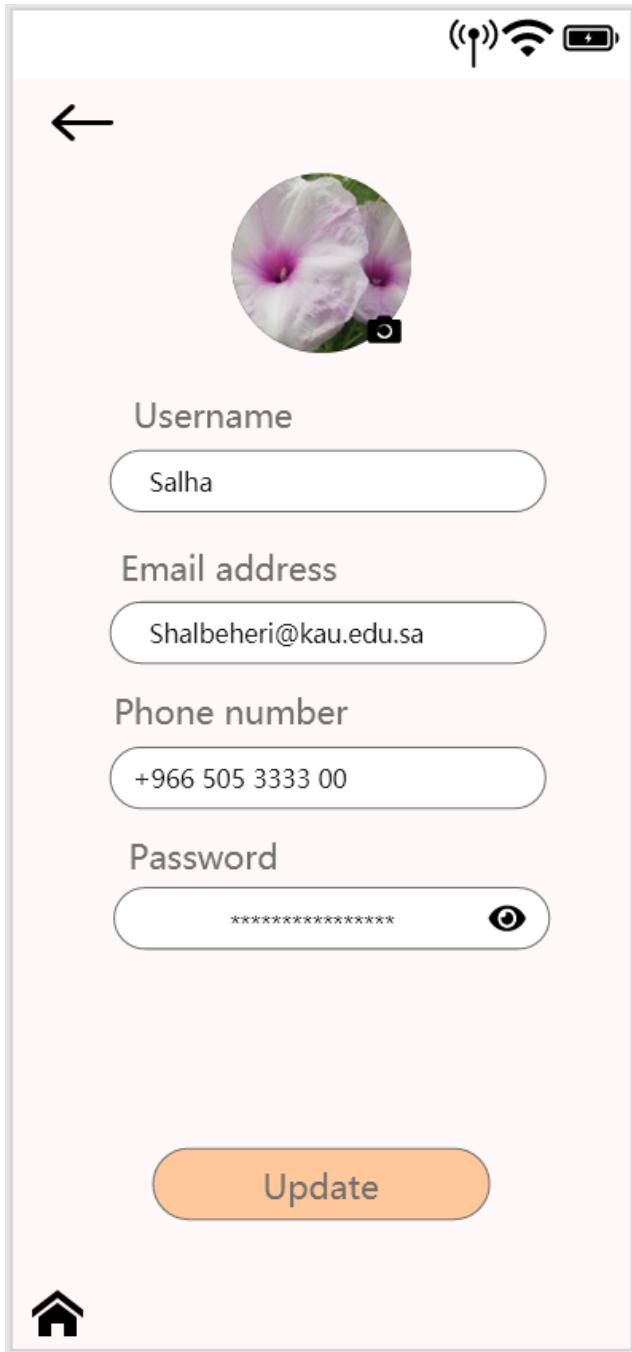


Chat Page

When pressing the chat icon existing in the home page, an instant chat is created between the user and one of the available customer service members.

Options Page

When pressing the options icon, a set of additional options that serve the user appear.



Profile Page

This page enables the user to view and modify his profile data after confirmation.

(↑) WiFi

←

My Activities

✿ Purchases

Meow Candy.....	15rs
Cat Wet Food.....	18rs

✿ Adoption

Fabiolus	3 Months, Cat
----------------	---------------

✿ Reports

02-04-2020.....	N Ubhor
15-09-2021.....	Taiba

✿ Adoption offers

Pet name	2 Months, Dog
----------------	---------------

Home

(↑) WiFi

←

My Favorites



Dog mix food
19rs [remove](#)



cat wet food
18rs [remove](#)

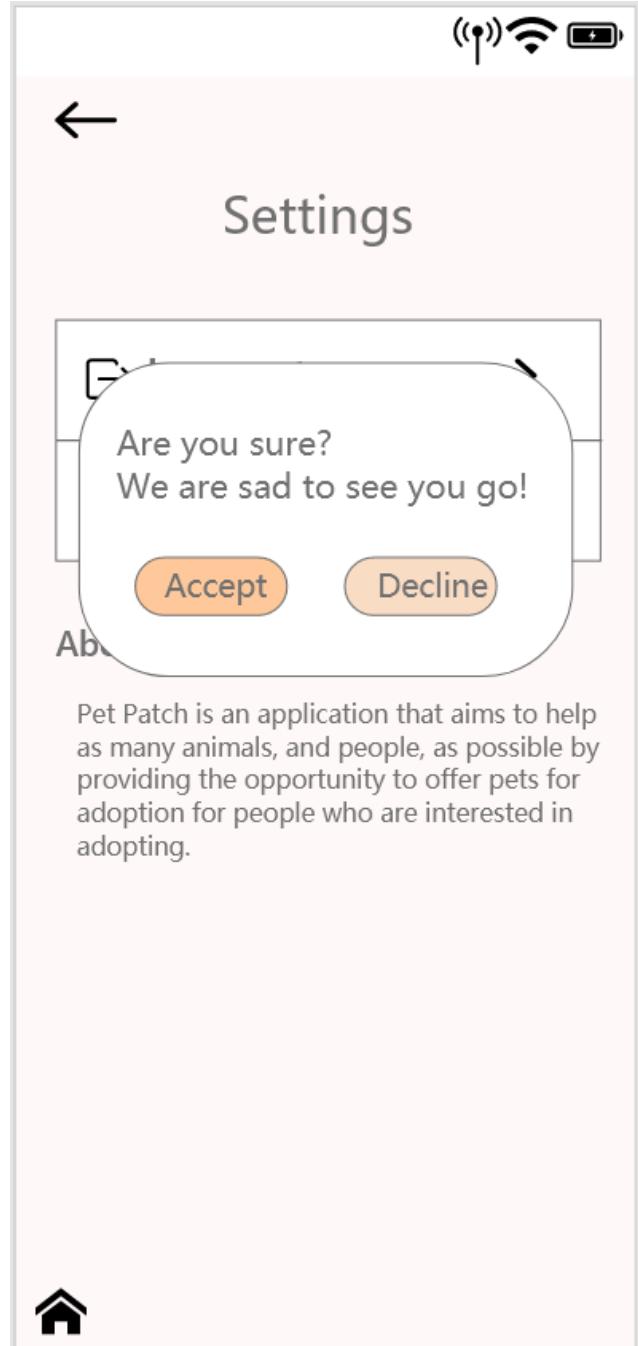
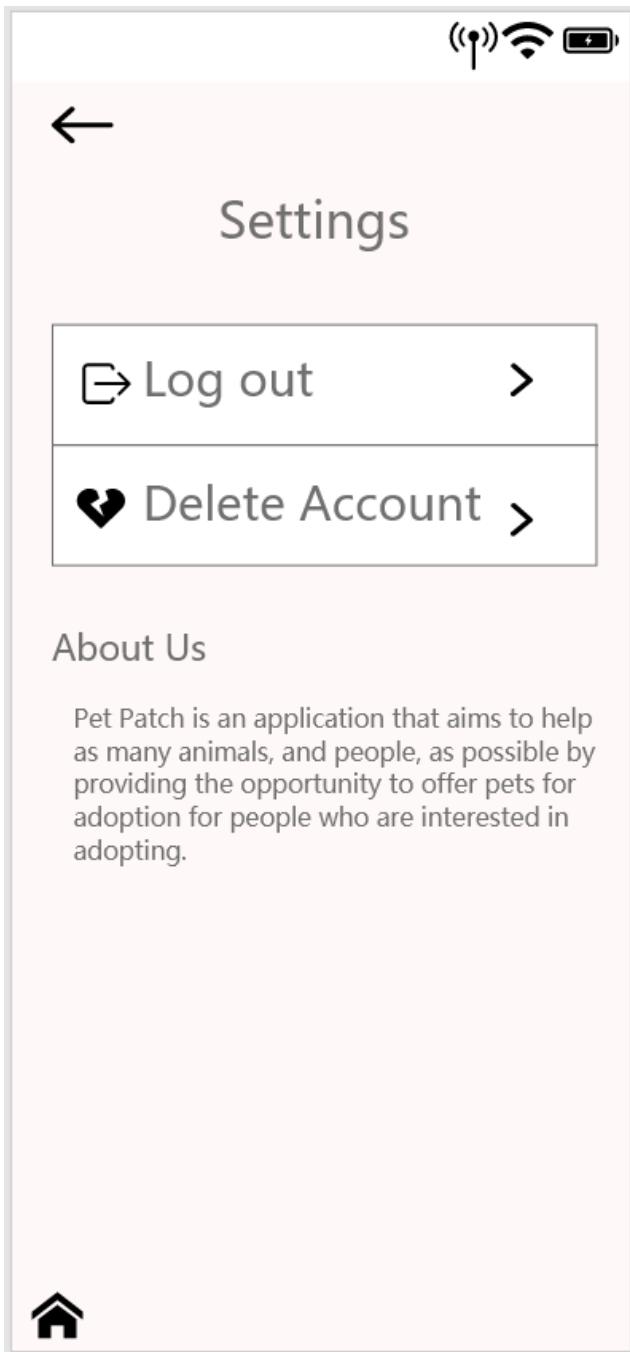
Home

Activities Page

This page shows all the activities done by the user using this application.

Favorites Page

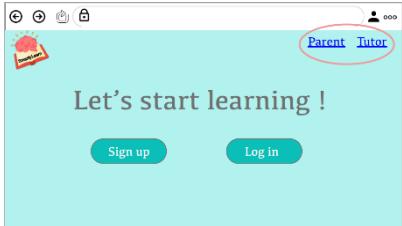
Favorite pet supplies could be saved by clicking on the “heart” sign on the supplies page and reviewing them on this page.



Setting Page

This page displays options for general settings such as deleting or exiting the account with a brief overview of the application.

Our Evaluation (of group 8)



Embedded links are not descriptive.



Aesthetic and minimalist design (the content does not support the page goal)

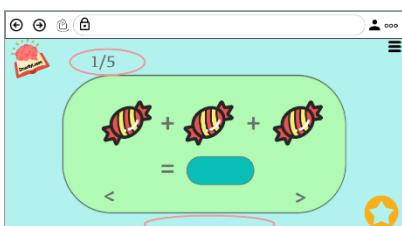
Sign up page does not have the required information in log in page such as, choosing a password and a username.

In phone number there is no specification of entering format< start with country code.



No Consistency and standards

The use of star shape as a background image is misleading because the star shape indicates a (favorite function).



Visibility of system status

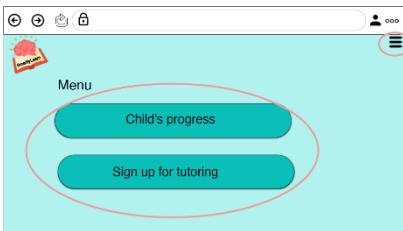
The 1/5 should clarify more, for example: 1/5 questions.

Assuming after the user reach the last question there is no page for feedback or a back button.

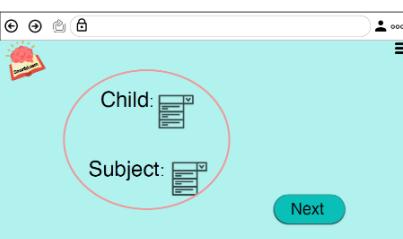
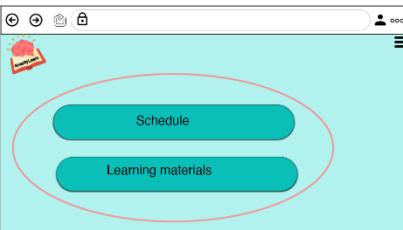


No Consistency and standards

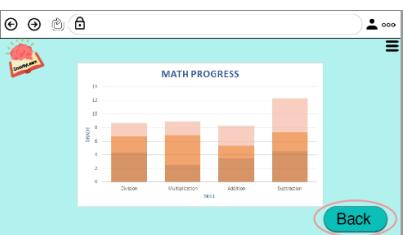
Headers looks like a button to be pressed.



Option icon function is not clear and confusing. Such as the schedule and learning material, child's progress and sign up for tutoring, are they in the same option menu or not?



The dropdown menu is not clear what its function are.



Lack of consistency

Not all pages have next and back buttons.

A screenshot of the mobile application interface. It shows a form section titled 'Signing Up Information'. It includes fields for 'Choose The Child:', 'Choose The Subject:', 'Class Days:', and 'Card Information: Card Number:'. At the bottom, there is a 'Expiry date:' field consisting of three dropdown menus for month, day, and year, separated by a '/' symbol. This 'Expiry date:' field is circled with a red oval.

No Error prevention

In signing up information they did not specify the justify order of data entry.

e.g. expiry date entering justify is not clear if mm/yy or yy/mm.

- There are no User control and freedom (e.g. Payment Page)
- There are no Help users recognize, diagnose, and recover from errors (No error messages appears)
- For user's attention there is no distinguishing colors or size of buttons (e.g. Pay and Cancel or in system default choice)

Evaluation of us and Future Work

We have been evaluated by group 8 and will take their feedback into account and consideration in our future work.



There is no field for confirming the password.



Misleading feedback it does not need to have two buttons for example ok button is enough.



Repetitive message.





Doesn't have informative feedback in which page the user is in.



The use of words could be better for example: yes or no.

- There was not any feedback of errors while the user is logging in, for example filling the password wrong there should be a message to show the error.

Future Work

Given these observations, we will fix it in future work as follows:

- We will add a header on each page to indicate the user location
- We will add the supply store feature
- We will add more error messages on log in page and data entry on any field
- We will correct the expiry date on payment page by adding an indication of date format to enter mm/yy
- We will change the option choices from decline and accept to No and Yes in the deleted account pop up message

Implementation

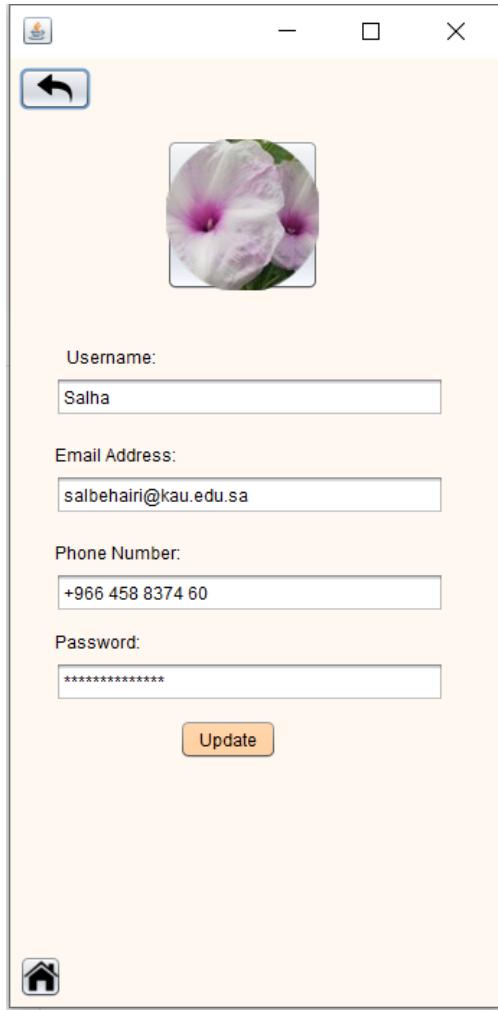
Home Page



Options Page



Profile Page



Adoption Page



Dogs Page



Birds Page



Cats Page



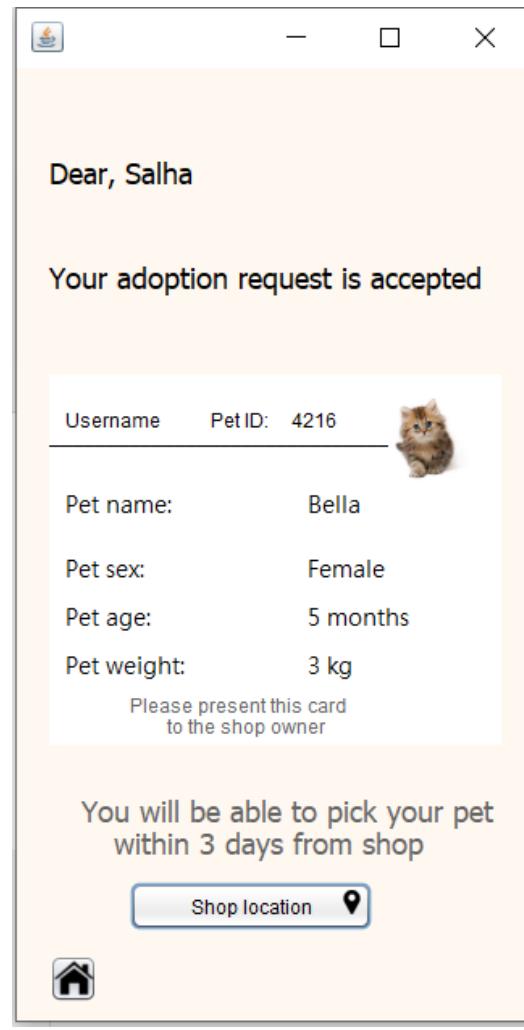
Pet Page



Confirmation Message



Confirm Adoption Page



Offer Adoption Page

The image displays two side-by-side windows representing a user interface for offering a pet for adoption. Both windows have a title bar with standard window controls (minimize, maximize, close) and a logo in the top-left corner.

Left Window (Initial State):

- A large orange rectangular placeholder labeled "Upload a Photo" is centered at the top.
- "Pet Name:" field is empty.
- "Age:" field is empty.
- "Type:" field is empty.
- "Contact Information" section is present.
- "Phone Number:" field is empty.
- "Email:" field is empty.
- An orange "Submit" button is located at the bottom center.
- A small house icon is in the bottom-left corner.

Right Window (Filled State):

- The orange placeholder now contains a photo of a small black and tan puppy.
- "Pet Name:" field contains "Bobby".
- "Age:" field contains "1 month".
- "Type:" field contains "dog".
- "Contact Information" section is present.
- "Phone Number:" field contains "0509117257".
- "Email:" field contains "emmi".
- An orange "Submit" button is located at the bottom center.
- A small house icon is in the bottom-left corner.

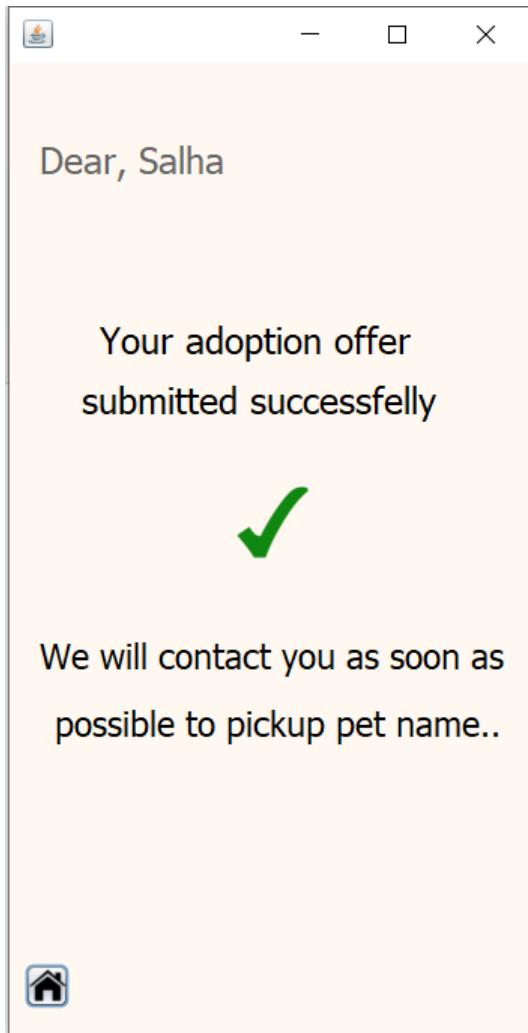
Error Messages

The image displays two side-by-side screenshots of a Windows application window titled "Pet Patch".

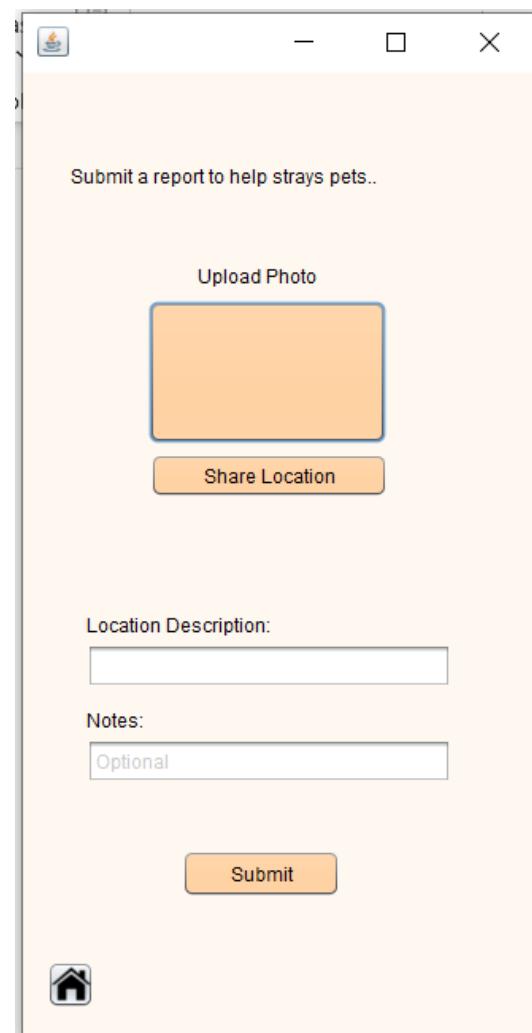
Left Screenshot: Shows a form for entering pet information. Fields include "Pet Name" (containing "000Lilly (wrong name)"), "Age" (containing "3 months"), "Type" (containing "dog"), and "Phone Number" (containing "(wrong number)"). The "Pet Name" field has a red error message: "*Please enter only String". The "Submit" button is at the bottom.

Right Screenshot: Shows the same form. A modal dialog box titled "Message" appears over the "Pet Name" field, stating "All fields must be full". The "OK" button is visible in the bottom right corner of the dialog.

Confirmation Page



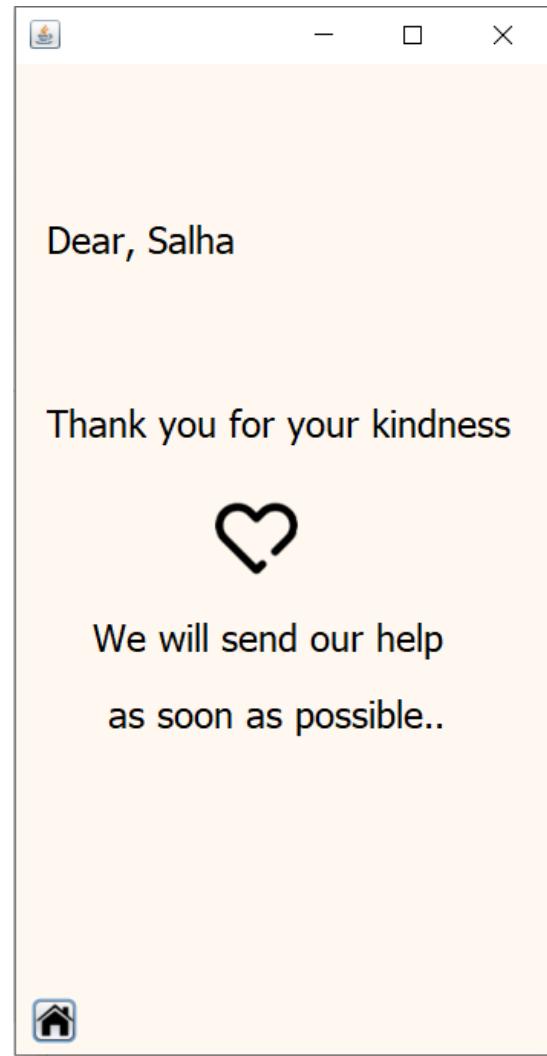
Report Page



Report Page

This screenshot shows the 'Report Page' application window. It features a light orange background with a central message: 'Submit a report to help strays pets..'. Below this is a placeholder for an uploaded photo, labeled 'Upload Photo', which displays a small image of a white owl. Underneath the photo is a button labeled 'Share Location'. Further down are two input fields: 'Location Description:' containing the text 'jeddah' and 'Notes:' containing the text 'Optional'. At the bottom is an orange 'Submit' button and a small house icon.

Thank You Page



Challenges

- Difficulty in finding a solution for each opinion in the survey
- Time Challenges
- Difficulty in designing application interfaces in a simple and easy way but informative and understood at the same time
- Specifying functional requirements
- Learning to implement a dynamic page based on the chosen object (using NetBeans)
- Learning new tool for designing user interface (Adobe XD)
- Difficulty in matching the application sketches with the high-fidelity mockup
- Trying to match between system and the real-world making information appear in a natural and logical order
- Difficulty identifying errors in the other group system in the evaluation phase, since we are in the learning stage

Conclusion

As a conclusion, the application gathered all the necessary features that facilitate tasks related to pet owners, and while helping as many animals is the main goal, we provided the opportunity to offer pets for adoption, enable the user to provide assistance to homeless pets by reporting their location beside additional features of monetary donation and selling supplies.



“Pets are humanizing. They remind us we have an obligation and responsibility to preserve and nurture and care for all life.” **James Cromwell, American Actor**