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1 Product Description

1.1 Purpose

PetCare is a mobile application that aims to create a seamless and user-friendly platform for pet owners, adoption centers and animal lovers. The primary goal of PetCare is to strengthen the bond between pet owners and their furry companions by offering a comprehensive suite of tools, providing them with a reliable resource for things related to pet care and adoption. Whether it is for adopting new pets or managing pet's records, the application will provide an effective solution for all the stakeholders involved in the process.

1.2 Scope

PetCare helps connect pet seekers with adoption centers while also offering a range of supportive features for pet owners. By leveraging GPS technology, users can easily browse through available pets at nearby adoption centers, ensuring they can find their ideal companion. The app also includes an AI-powered chatbot that provides personalized pet care advice, making it easier for adopters to care for their pets. In addition, the app offers tools to record and manage pet details, buy or sell second-hand pet items, and search for missing pets, making it a comprehensive resource for pet lovers.

1.3 Users and Stakeholders

The three main roles that utilize the PetCare application are app users, pet owners, and adoption centers and pet shelters. Pet owner is a sub role of app users, have access to all the functionalities that an app user has and additionally, will utilize the features for people with pets such as the pet information page.

The stakeholders include the adoption centers and pet shelters, mobile app developers and third party service providers such as Google Map API, Tavily API and Gemini API.

1.4 Assumptions

1. PetCare depends on external APIs to obtain related information.

a. GOOGLE_MAP_API =

b. TAVILY_API =

c. GEMINI_API =

d. Singpass_API =

e. WhatsApp_API=

2. The data obtained from the external APIs are accurate and updated.

3. PetCare assumes that users have access to a smartphone or tablet with an internet connection capable of supporting the app.

4. PetCare assumes that users have a basic understanding on how to navigate mobile applications and will be able to use the app's features without extensive technical support.

1.5 Constraints

1. PetCare must have a stable Internet connection to access all of the app's functionalities due to its dependence on real-time data and location-based services.
2. PetCare uses third-party APIs such as Google Map APIs for location-based services. The reliance on these third party service providers means that changes or deprecation in third-party APIs could negatively affect the app's functionality.
3. PetCare must be installed on an Android device.

1.6 Initial UI Mockups

Refer to PetCare_UI.pdf.

2 Requirements Gathering and Analysis

2.1 Functional Requirements

1. Login

- 1.1. PetCare shall allow users to log in to the account they have created previously.
 - 1.1.1. PetCare shall allow users to log in to their account with their email address and password.
 - 1.1.1.1. PetCare must display two text fields for the user to enter their email address and password.
 - 1.1.1.1.1. PetCare must display one text field for Email Address.
 - 1.1.1.1.2. PetCare must display one text field for Password.
 - 1.1.1.2. PetCare must display a "Login" button.
 - 1.1.1.3. When the user clicks "Login", PetCare must verify the information obtained from the text fields.
 - 1.1.1.4. If email and password entered are incorrect, PetCare shall display "Incorrect email or password" to the user.
 - 1.1.1.5. If email and password matches, PetCare shall log the user in and navigate the user to the homepage of the application.
 - 1.1.2. PetCare shall allow users to log in using Singpass through integration with the Singpass API
 - 1.1.2.1. PetCare must display the "Login with Singpass" button.
 - 1.1.2.2. PetCare shall request necessary permission from the user, such as access to their Singpass identity information.
 - 1.1.2.3. Once the permission is granted, PetCare shall retrieve and store relevant user profile data, as permitted by the user and in compliance with Singpass's privacy policies.
 - 1.1.2.4. PetCare shall log the user in and navigate the user to the homepage of the application.

2. Register

- 2.1. PetCare shall allow users to register for an account.
 - 2.1.1. PetCare shall allow users to create an account using email address and password.
 - 2.1.1.1. PetCare must display text fields for the user to enter their information.
 - 2.1.1.1.1. The text field must consist of username.
 - 2.1.1.1.2. The text field must consist of an email address.
 - 2.1.1.1.3. The text field must consist of a password.
 - 2.1.1.1.4. The text field must consist of a confirmation password.
 - 2.1.1.2. PetCare shall verify the field filled in by the user before creating an account.
 - 2.1.1.2.1. The username must be unique for all users of this system.
 - 2.1.1.2.2. The email address has never registered in the system.
 - 2.1.1.2.3. The email address given is of a correct email address format.
 - 2.1.1.2.4. The email address given must be a verified email address.
 - 2.1.1.2.4.1. PetCare must send a confirmation link to the user's email Address.
 - 2.1.1.2.5. The password given must contain at least 1 uppercase character, 1 lowercase character and 1 special character
 - 2.1.1.2.6. The password given must contain at least 8 characters.

2.1.1.3. PetCare shall create an account for the user upon verification and navigate the user to the login page.

3. Reset Password

3.1. PetCare shall allow users to reset their password.

3.1.1. PetCare shall display a "Forgot Password" button on the login page.

3.1.2. When the user taps on the "Forgot Password" button, PetCare shall redirect the user to the reset page.

3.1.3. PetCare shall display one text field for the user's registered email address.

3.1.4. PetCare shall verify the email address entered by the user.

3.1.4.1. If the email address is valid, PetCare shall send a password reset link to the user's email.

3.1.4.2. If the email address is invalid, PetCare shall display an "Invalid email address" message and prompt the user to re-enter their email.

3.1.5. PetCare shall generate a password reset link that expires after 24 hours.

3.1.6. When the user clicks on the reset link, PetCare shall display a new password creation page.

3.1.7. PetCare shall display two text fields.

3.1.7.1. PetCare must display one text field for a new password.

3.1.7.2. PetCare must display one text field to confirm the password.

3.1.8. PetCare shall verify that the new password meets the strong password format requirements.

3.1.8.1. If the password meets the requirements, PetCare shall update the user's password in the database.

3.1.8.2. If the password does not meet the password format requirements, PetCare shall display an "Invalid password" message with password guidelines and prompt the user to re-enter a new password.

3.1.9. After successful password reset, PetCare shall display a "Password reset successfully" message on the screen.

3.1.10. PetCare shall redirect the user to the login page after successful password reset.

4. Home Page

4.1. PetCare shall retrieve and display the user's registered pets on the home page.

4.1.1 PetCare shall display each pet's name and image as an icon under the "My Pets" section.

4.1.1.1 If there are registered pets, PetCare shall display each pet's image with a "+" icon to add a new pet profile.

4.1.1.2 If there are no registered pets under "My Pets", PetCare shall display only the "+" icon to prompt the user to add a pet profile.

4.1.1.3 PetCare shall allow the user to tap on a pet's image or name to access the selected pet's details.

4.1.1.4 PetCare shall allow the user to view, edit, or delete the details of each registered pet.

4.2 PetCare shall display a news article carousel on the Home page to showcase the top pet-related articles.

4.2.1 PetCare shall automatically rotate through the articles in the carousel every 5 seconds.

4.2.2 PetCare shall allow the user to manually swipe through the articles in the carousel.

- 4.2.3 PetCare shall allow the user to tap on an article in the carousel to view its full content.
- 4.2.4 PetCare shall display each article in the carousel with the following elements:
 - 4.2.4.1 PetCare shall display a thumbnail image on the carousel.
 - 4.2.4.2 PetCare shall display the title of the article on the carousel.
 - 4.2.4.3 PetCare shall display the name of the poster below the title of the article on the carousel.
 - 4.2.4.4 PetCare shall display the profile picture of the article's poster to the left of the poster's name.
 - 4.2.4.5 PetCare shall display the relative time since the article was published to the right of the poster's name in formats such as "20 mins ago", "5h ago", "yesterday", "2 days ago", etc.
- 4.2.5 PetCare shall display a "See All" button beside the "Browse Articles" text above the news carousel.
 - 4.2.5.1 When the user taps on the "See All" button, PetCare redirects the user to the Browse Articles page, which displays all articles posted by all users of the app.
- 4.2.6 PetCare shall periodically update the articles displayed in the carousel to ensure they are up-to-date.

4.3. PetCare shall display a bottom navigation bar on the Home page that provides navigation to different sections of the app.

- 4.3.1 PetCare shall redirect the user to the "Missing Pets" page when the corresponding icon is tapped.
- 4.3.2 PetCare shall redirect the user to the "Secondhand Items" page when the corresponding icon is tapped.
- 4.3.3 PetCare shall redirect the user to the "Explore Pet-Care Amenities" page when the corresponding icon is tapped.
- 4.3.4 PetCare shall redirect the user to the "Personal Account" page when the corresponding icon is tapped.
- 4.3.5 PetCare shall redirect the user to the "Adoption Center" page when the corresponding icon is tapped.

4.4 PetCare shall display a fixed chatbot icon on the bottom right corner of the Home page, above the bottom navigation bar.

- 4.4.1 When the user taps on the chatbot icon, PetCare shall redirect the user to the 'Chatbot' page.

5 Pet Articles

5.1 PetCare shall manage and display all pet-related articles.

5.2 PetCare shall display a bottom navigation bar with two sections: "All Articles" and "Posted" (which only displays the articles posted by the user).

5.2.1 In the "All" section, PetCare shall display all articles categorized into: Lifestyle, Grooming, Community, Health and Wellness, and Others.

5.2.2 In the "Posted" section, PetCare must display all articles posted by the account user.

5.2.1.1 The user must be able to add new articles by tapping on the file icon located at the bottom right of the bottom navigation bar.

5.2.1.2 If the user does not have any articles posted, the system shall display a message stating "No articles posted. Share your articles."

5.3 PetCare shall display articles in a specific format.

- 5.3.1 PetCare shall display a thumbnail image of the article.

- 5.3.2 PetCare shall display the title of the article.
- 5.3.3 PetCare shall display the name of the poster who posted the article.
- 5.3.4 PetCare shall display the profile picture of the poster who posted the article.
- 5.3.5 PetCare shall display the relative time since the article was published.
- 5.4 When the user taps on the article, PetCare shall display the full text of the article in addition to the information provided in section 5.3.
- 5.5 PetCare must allow all users to add articles using an article form.
 - 5.5.1 The form must include a field for the user to input the title of the article.
 - 5.5.2 The form must include a field for the user to input the body text of the article.
 - 5.5.3 The form must include options for the user to select the category of the article from the given options.
 - 5.5.4 The form must include an option for the user to select a picture from their gallery as the article's thumbnail.
 - 5.5.5 The system shall assign the article to the poster in the database upon submission.
 - 5.5.6 The newly posted article shall be displayed under both the "All Articles" and "Posted" sections, with visibility in the "Posted" section restricted to the poster.
- 5.6 PetCare must restrict edit and delete functionalities to the article's original poster.
 - 5.6.1 PetCare shall display a vertical ellipsis icon only to the article's original poster.
 - 5.6.2 When the article's poster taps on the ellipsis icon, PetCare should reveal the "Edit" and "Delete" options.
 - 5.6.2.1 When the user taps on the "Delete" option, PetCare must display a delete popup box confirming the deletion.
 - 5.6.2.1.1 If the user taps on the "Yes" button, PetCare must delete the article permanently from the system. The system will reflect the changes in the "Posted" section and "All" section.
 - 5.6.2.1.2 If the user taps on the "No" button, PetCare must close the delete pop-up box.
 - 5.6.2.2 When the user taps on the "Edit" option, PetCare must redirect the user to the edit form for the user to edit the details of the article.
 - 5.6.2.2.1 If the user taps on the "Back" button, PetCare shall display a pop-up box to confirm the action and that changes made would not be saved.
 - 5.6.2.2.2 If the user taps on the "Ok" button, PetCare shall redirect the user back to the previous page.
 - 5.6.2.2.3 If the user taps the "Cancel" button, PetCare shall close the pop-up and the user may continue editing the article.

6. Personal Account

- 6.1. PetCare shall allow users to view their personal account information.
 - 6.1.1. When the user selects the "Personal Account" page, PetCare shall retrieve the user's information from the database.
 - 6.1.2. PetCare shall display the following user information on the Personal Account page:
 - 6.1.2.1. PetCare shall display the user's name.
 - 6.1.2.2. PetCare shall display the user's email address.
 - 6.1.2.3. PetCare shall display the user's phone number.
 - 6.1.2.4. PetCare shall display the user's address.
- 6.2. PetCare shall display an "Edit Information" button in the Personal Account page for users to edit their personal account information.
 - 6.1.1. PetCare shall display an "Edit Information" button on the Personal Account page.

- 6.1.2. When the user taps on the "Edit Information" button, PetCare shall make the information fields editable.
 - 6.1.2.1. PetCare shall allow editing of the user's name.
 - 6.1.2.2. PetCare shall allow editing of the user's email address.
 - 6.1.2.3. PetCare shall allow editing of the user's phone number.
 - 6.1.2.4. PetCare shall allow editing of the user's address.
- 6.1.3. PetCare shall provide a "Save" button for users to submit their changes.
- 6.1.4. When the user clicks the "Save" button, PetCare shall validate the new information.
 - 6.1.4.1. If the information is valid, PetCare shall update the user's information in the database.
 - 6.1.4.2. If the information is invalid, PetCare shall display an error message and prompt the user to enter the correct information.
- 6.1.5. After successful update, PetCare shall display an "Information updated successfully" message to the user.
- 6.1.6. PetCare shall display the updated information on the Personal Account page after a successful update.
- 6.3. PetCare shall display a "Logout" button in the Personal Account page for users to log out from their account.
 - 6.3.1. When the user clicks the "Logout" button, PetCare shall display a confirmation dialog.
 - 6.3.1.1. The confirmation dialog shall ask the user to confirm their intention to log out.
 - 6.3.1.2. The confirmation dialog shall provide "Yes" and "No" options.
 - 6.3.2. If the user confirms the logout action:
 - 6.3.2.1. PetCare shall terminate the user's session.
 - 6.3.2.2. PetCare shall clear any local session data.
 - 6.3.2.3. PetCare shall redirect the user to the login page.
 - 6.3.3. If the user cancels the logout action:
 - 6.3.3.1. PetCare shall close the confirmation dialog.
 - 6.3.3.2. PetCare shall return the user to the Personal Account page.

7. Pet Information

- 7.1. PetCare must allow the user to add a new pet in the My Pets section on the Home page.
 - 7.1.1. PetCare must display a '+' button on the My Pets section to add a new pet.
 - 7.1.2. When the user clicks on the '+' button, PetCare must display a pop-up for the user to input their pet details.
 - 7.1.2.1. PetCare shall display a text field for "Pet Name".
 - 7.1.2.2. PetCare shall display a date field for "Date of Birth".
 - 7.1.2.3. PetCare shall display a text field for "Breed".
 - 7.1.2.4. PetCare shall display the 'M' and 'F' options for "Sex".
 - 7.1.2.5. PetCare shall display a text field for "Weight".
 - 7.1.2.6. PetCare shall display a text field for "Coat color".
 - 7.1.2.7. PetCare shall display a multiline field for "Special markings".
 - 7.1.2.8. PetCare shall display a multiline field for "Medic conditions".
 - 7.1.3. PetCare shall display the "Save" and "Cancel" button on the Pet Information pop-up.
 - 7.1.3.1. When the user taps on the "Save" button, PetCare shall save the data to the database after verifying the format of the inputs.
 - 7.1.3.2. When the user taps on the "Cancel" button, PetCare shall close the pop-up.
- 7.2. PetCare must allow the user to edit their pet's information on the Pet Information pop-up.

- 7.2.1. PetCare must display an “Edit” button on the Pet Information pop-up.
- 7.2.2. If the user taps on the “Edit” button:
 - 7.2.2.1. PetCare shall allow editing of the Pet Name.
 - 7.2.2.2. PetCare shall allow editing of the Date of Birth.
 - 7.2.2.3. PetCare shall allow editing of the Breed.
 - 7.2.2.4. PetCare shall allow editing of the Sex.
 - 7.2.2.5. PetCare shall allow editing of the Weight.
 - 7.2.2.6. PetCare shall allow editing of the Coat Color.
 - 7.2.2.7. PetCare shall allow editing of the Special Markings.
 - 7.2.2.8. PetCare shall allow editing of the Medic Conditions.
- 7.3. PetCare must allow the user to delete an existing pet information.
 - 7.4.1. PetCare must display a “Delete” button on the Pet Information pop-up.
 - 7.4.2. When the user clicks on the “Delete” button, PetCare shall display a dialog with the “Confirm” and “Cancel” buttons.
 - 7.4.4. When the user taps the “Confirm” button, PetCare shall remove the pet and its details from the Home page.
 - 7.4.5. When the user clicks on the “Cancel” button, PetCare shall close the pop-up.

8. Missing Pets

- 8.1 PetCare must display a map interface on the “Display Missing Pets” page where the last seen location of each active missing pet is displayed as markers.
 - 8.1.1 PetCare shall display the missing pet images as markers on the map interface on the “Display Missing Pets” page.
 - 8.1.2 PetCare shall allow users to tap on any marker to view detailed information about the missing pet report.
 - 8.1.2.1 PetCare shall display the missing pet’s name.
 - 8.1.2.2 PetCare shall display the missing pet’s breed.
 - 8.1.2.3 PetCare shall display the missing pet’s age.
 - 8.1.2.4 PetCare shall display the missing pet’s picture.
 - 8.1.2.5 PetCare shall display the missing pet’s gender.
 - 8.1.2.6 PetCare shall display the owner’s contact details.
 - 8.1.2.7 PetCare shall display the description posted by the owner.
 - 8.1.3 When the user taps on the marker, PetCare shall display a new map interface that records the multiple sightings for the selected missing pet.
 - 8.1.3.1 PetCare shall display a timeline of sightings as markers on the map.
 - 8.1.3.2 PetCare shall display the date and time of each reporting sighting.
 - 8.1.3.3 PetCare shall display images posted by the reporter.
 - 8.1.3.3.1 If the images are not posted, then it is omitted from the sighting report.
 - 8.1.3.4 PetCare shall display the sighting description posted by the reporter.
 - 8.1.3.4.1 If the sighting description is not posted, then it is omitted from the sighting report.
 - 8.1.4 PetCare must display a “Add Last Seen Sighting” icon that allows all users to add a sighting report under the missing pet report.
 - 8.1.4.1 PetCare shall display a text field for the pet’s last seen location.
 - 8.1.4.2 PetCare shall display a text field for the pet’s last seen date.
 - 8.1.4.3 PetCare shall display a text field for the pet’s last seen time.
 - 8.1.4.4 PetCare shall display an input field for the pet’s last seen image sighting.

- 8.1.4.4.1 If the reporter does not have an image of the sighting, a placeholder default image is used.
 - 8.1.4.5 PetCare shall display a text field for the sighting description of the pet.
 - 8.1.4.5.1 If the reporter does not have a sighting description, a placeholder "NA" is used.
 - 8.1.4.6 If the user wants to cancel the sighting submission, PetCare must display a back button.
 - 8.1.4.6.1 When the user taps on the back button, PetCare redirects the user back to the previous page (Display missing Pets) page.
- 8.1.5 PetCare must display the new sighting as a marker on the timeline map interface for the selected missing pet.
 - 8.1.5.1 PetCare must send a notification to the pet owner of the latest updated last seen location, time and date.
- 8.2 PetCare must display a '+' button "Display Missing Pets" page that allows the user to report a missing pet.
 - 8.2.1 PetCare shall display a form to add a missing pet report.
 - 8.2.1.1 PetCare must display all the pet profile(s) registered under the user.
 - 8.2.1.1.1 When the user taps on a pet profile, PetCare shall automatically populate the pet's name in the text field.
 - 8.2.1.1.2 When the user taps on a pet profile, PetCare shall automatically populate the pet's breed in the text field.
 - 8.2.1.1.3 When the user taps on a pet profile, PetCare shall automatically populate the pet's age in the text field.
 - 8.2.1.1.4 When the user taps on a pet profile, PetCare shall automatically populate the pet's gender in the text field.
 - 8.2.1.1.5 When the user taps on a pet profile, PetCare shall automatically populate the pet's picture in the image field.
 - 8.2.1.1.6 If no registered pet is available, PetCare shall prompt the user to register the pet before reporting the pet as missing.
 - 8.2.1.2 PetCare must display 6 input fields.
 - 8.2.1.2.1 PetCare shall display a text field for the pet's last seen location.
 - 8.2.1.2.2 PetCare shall display a text field for the pet's last seen date.
 - 8.2.1.2.3 PetCare shall display a text field for the pet's last seen time.
 - 8.2.1.2.4 PetCare shall display an input field for the pet's last seen image sighting.
 - 8.2.1.2.5 PetCare shall display a text field for the description sighting of the pet.
 - 8.2.2 When a user submits the report, PetCare must mark the missing pet report as active and display it on the map interface in the "Display Missing Pets" page.
- 8.3 PetCare must allow the pet owner to mark their missing pet as found.
 - 8.3.1 If the user accessing the details of the missing pet report is not the reporting user/ pet owner, PetCare must hide the "Found" toggle switch.
 - 8.3.2 If the user accessing the details of the missing pet report is the reporting user/ pet owner, PetCare must hide the "Found" toggle switch.
 - 8.3.2.1 When the user taps on the "Found" toggle switch to "ON" to indicate that the pet has been found, PetCare must display a pop-up box to confirm that the pet has been found and the case will be closed and hidden from the map interface in "Display Missing Pets" page.
 - 8.3.2.1.1 If the user taps on the "Cancel" button, the pop-up box is closed and no changes are made.

8.3.2.2 PetCare must update the pet's status and close the missing pet report.

9. Pet Items Donation

9.1. PetCare shall allow user to sell pet items

9.1.1. PetCare must display a "+" button at the "own listing" page.

9.1.2. When the user clicks on "+" button, PetCare must display 6 input fields.

9.1.2.1. PetCare must display a text field for "Item Name"

9.1.2.2 PetCare must display a number field for "Price"

9.1.2.3 PetCare must display a text field for "Description"

9.1.2.4 PetCare must display a radio field for "Condition"

9.1.2.5 PetCare must display a upload images field to upload image of the item

9.1.2.5.1.Petcare must be able to choose to take picture or upload images

9.1.2.6 PetCare must display a number field for "Quantity"

9.1.3. PetCare must provide a "complete" button to submit their listing..

9.2.PetCare must allow the user to edit their listings.

9.2.1 PetCare must display an "edit" button at the "own listing" page.

9.2.2.When user click on "edit" button,

9.2.2.1. PetCare shall allow editing of "Item Name"

9.2.2.2 PetCare shall allow editing of "Price"

9.2.2.3 PetCare shall allow editing of "Description"

9.2.2.4 PetCare shall allow editing of "Condition"

9.2.2.5 PetCare shall allow editing of existing images.

9.2.2.5.1.Petcare shall allow editing through take picture or upload images

9.2.3. PetCare must provide a "save" button to save the listing information.

9.3. PetCare must allow the user to delete their listings.

9.3.1. PetCare must allow the deletion of their listings to indicate the item has been sold/ the user does not want to sell the item anymore/wrong input by the users.

9.4. PetCare must display all the available listings and allow the user to view each individual item at the "listings" page.

9.4.1 PetCare shall display a list of items available for buying via a list interface.

9.4.2 For each item , PetCare shall display these information (items name , price, picture of the items , description,condition of the item) and the profile information of the seller.

9.4.3. If the "Contact Buyer" button is pressed, PetCare shall open whatsapp and send a message to contact the seller.

9.4.4 PetCare shall allow users to search for items via product name and display items related to the prompt.

10. Adoption Service

10.1. PetCare shall allow the adoption center to post pets that are available for adoption.

10.1.1. PetCare must display a "+" button at the "upload adoption" page.

10.1.2. When the user clicks on "+" button, PetCare must display 11 input fields.

10.1.2.1. PetCare must display a text field for "Pets Name"

10.1.2.2 PetCare must display a number field for "Price"

10.1.2.3 PetCare must display a text field for "Description"

- 10.1.2.4 PetCare must display a number field for “Age”
- 10.1.2.5 PetCare must display a text field for “Breed”
- 10.1.2.6 PetCare must display a text field for “Color”
- 10.1.2.7 PetCare must display a radio field for “Gender”
- 10.1.2.8 PetCare must display a upload images field to upload image of the pets
 - 10.1.2.8.1.Petcare must be able to choose to take picture or upload images
- 10.2.2.9 PetCare must display radio field for “Type”
- 10.1.2.10 PetCare must display a text field for “Adoption Center : Name”
- 10.1.2.11 PetCare must display a text field for “Adoption Center : Phone Number”
- 10.1.2.12 PetCare must display a text field for “Adoption Center : Email”
- 10.1.3. PetCare must provide a “Submit” button to upload their listing to the adoption page .
- 10.2.PetCare must allow the adoption center to edit their listings.
 - 10.2.1 PetCare must display an “edit” button at the “own pets” page.
 - 10.2.2.When user click on “edit” button,
 - 10.2.2.1. PetCare shall allow editing of “Pets Name”
 - 10.2.2.2 PetCare shall allow editing of “Price”
 - 10.2.2.3 PetCare shall allow editing of “Description”
 - 10.2.2.4 PetCare shall allow editing of “Age”
 - 10.2.2.5 PetCare shall allow editing of “Breed”
 - 10.2.2.6 PetCare shall allow editing of “Color”
 - 10.2.2.7 PetCare shall allow editing of “Gender”
 - 10.2.2.8 PetCare shall allow editing of Images of Pet
 - 10.2.2.8.1.Petcare shall allow editing through take picture or upload images
 - 10.2.2.9 PetCare shall allow editing of “Type”
 - 10.2.2.10 PetCare shall allow editing of “Adoption Center : Name”
 - 10.2.2.11 PetCare shall allow editing of “Adoption Center : Phone Number”
 - 10.2.2.12 PetCare shall allow editing of “Adoption Center : Email”
 - 10.2.3. PetCare must provide a “save” button to save the pets information.
- 10.3. PetCare must allow the adoption center to delete their existing pets for adoption..
 - 10.3.1. PetCare must allow the deletion of their pet listings to indicate the pets have been adopted / changes in adoption status.
- 10.4. PetCare must display all the available pets for adoption and allow the user to view each individual pet on the “listings” page.
 - 10.4.1 PetCare shall display a list of pets available for adoption via a list interface.
 - 10.4.2 For each pet, PetCare shall display pet information and the contact details of the adoption center.
 - 10.4.3. If the “Book an appointment” button is pressed, PetCare shall open email or WhatsApp and send a message to book a slot with the adoption center.
 - 10.4.4. PetCare shall allow users to filter the type of pets (All, Cat, Dog, Others) with a button.

11. Explore Pet-Care Amenities

- 11.1. PetCare must display a list of nearby pet-care amenities on the Explore Pet-Care Amenities page.
- 11.2. PetCare must allow the user to search for a pet-care amenity.
 - 11.2.1. PetCare must display a search icon on the Explore Pet-Care Amenities page.
 - 11.2.2. When the user clicks on the search icon, PetCare shall display a text field for the user to input the name of an amenity or a keyword.

- 11.2.3. When the user input the name of an amenity or a keyword, PetCare shall display a list of amenities as the search result and update the markers on the interactive map.
- 11.2.3. If the amenity or keywords cannot be found through the Google Maps API, PetCare will display a message on the Explore Pet-Care Amenities page indicating that no results were found.
- 11.3. PetCare must allow the user to sort the pet-care amenities alphabetically.
 - 11.3.1. PetCare must display a sort icon on the Explore Pet-Care Amenities page.
 - 11.3.2. When the user taps on the sort icon, PetCare must sort the pet amenities alphabetically and display the result on the Explore Pet-Care Amenities page.
- 11.4. PetCare must allow the user to filter the pet-care amenities by distance, ratings and/ or operating hours.
 - 11.4.1. PetCare must display a filter icon on the Explore Pet-Care Amenities page.
 - 11.4.2. When the user taps on the filter icon, PetCare must display a dropdown with multiple checkboxes such as “Distance”, “Ratings” and “Open now”.
 - 11.4.3. When the user select the filter by options, PetCare must filter the pet amenities and display the results on the View Pet-Care Amenities page
- 11.5. PetCare must allow the user to view the details of each pet-care amenity on the map or in the list of pet-care amenities.
 - 11.5.1. When the user taps on a marker on the map or a pet-care amenity listing, PetCare must display the details of the selected amenity on a pop-up.
 - 11.5.1.1. PetCare must display the photos of the amenity.
 - 11.5.1.2. If no images were found for the amenity, PetCare shall display a default image provided by the system.
 - 11.5.1.3. PetCare must display the name of the amenity.
 - 11.5.1.4. PetCare must display the ratings of the amenity.
 - 11.5.1.5. If no ratings were given for the amenity, PetCare shall display “No ratings yet” on the pet amenity listing.
 - 11.5.1.6. PetCare must display the address of the amenity.
 - 11.5.1.7. If no address details were found, PetCare shall display “-” on the pet amenity listing.
 - 11.5.1.8. PetCare must display the contact number of the amenity .
 - 11.5.1.9. If no contact number were found, PetCare shall display “-” on the pet amenity listing.
 - 11.5.1.10. PetCare must display the website of the amenity.
 - 11.5.1.11. If no website were found, PetCare shall display “-” on the pet amenity listing.
 - 11.5.1.12. PetCare must display the operation hours of the vet.
 - 11.5.1.13. If no operation hours were found, PetCare shall display “-” on the pet amenity listing.

12. PetBuddy Chatbot

- 12.1. Users shall have a sequential conversation flow with the PetBuddy Chatbot.
 - 12.1.1. The user shall be able to click on the chatbot icon.
 - 12.1.2. The user shall be navigated to the PetBuddy chatbot page.
 - 12.1.2. The PetBuddy chatbot’s response or message shall be displayed to the user in the chat interface.
 - 12.1.3. The user’s typed or input text prompt shall be displayed to the user in the chat interface.
 - 12.1.4. The PetBuddy chatbot must automatically start the conversation when the user first navigates to the PetBuddy chatbot page.
 - 12.1.4.1. The PetBuddy chatbot must send an initial response message: “ Hi there! 🐾

- I'm PetBuddy, your pet care research assistant. How can I help you and your pet today?".
- 12.1.5. The PetBuddy chatbot must wait for the user to input a prompt before responding.
 - 12.1.6. The PetBuddy chatbot must provide a user interface that allows the user to type text prompts.
 - 12.1.7. The PetBuddy chatbot must provide a user interface that allows the user to submit text prompt.
 - 12.1.7.1. The PetBuddy chatbot must not allow the user to submit text prompt to the PetBuddy Chatbot when the PetBuddy chatbot hasn't completed generating its response message.
 - 12.1.8. The PetBuddy chatbot must send a response message to the user's prompt.
 - 12.1.8.1. The PetBuddy chatbot must display a report generated by the Gemini API to the user.
 - 12.1.8.1.1 The PetBuddy chatbot must use the LangChain framework.
 - 12.1.8.1.1.1. The PetBuddy chatbot shall retrieve a list of information using the Tavily API.
 - 12.1.8.1.1.1.1. The PetBuddy chatbot must forward the user's prompt to the Tavily API.
 - 12.1.8.1.1.1.1.1. Tavily API must search online sources in Google.
 - 12.1.8.1.1.1.1.2. Tavily API must scrape information from websites based on the user's prompt.
 - 12.1.8.1.1.1.1.3. Tavily API must filter the scraped information relevant to the user's prompt .
 - 12.1.8.1.1.1.1.4. Tavily API must extract the information that is most relevant to the user's prompt.
 - 12.1.8.1.1.1.2. The information received by the PetBuddy chatbot must be extracted by the Tavily API.
 - 12.1.8.1.1.2. The PetBuddy chatbot shall send a system prompt to the Gemini API.
 - 12.1.8.1.1.2.1. The system prompt must be formulated to ask Gemini API to generate a report.
 - 12.1.8.1.1.2.1.1. The report must be based on the original prompt provided by the user.
 - 12.1.8.1.1.2.1.2. The report must be based on the received information returned from the Tavily API call.
 - 12.1.8.1.1.2.1.3. The report must include reference links.
 - 12.1.8.1.1.3. The PetBuddy chatbot shall receive the report from Gemini API.
 - 12.1.9. If the user's prompt is unrelated to pet care, the PetBuddy chatbot must not generate a report.
 - 12.1.9.1. If the user's prompt is unrelated to pet care, the chatbot must only respond with: "I'm sorry, I can only assist with pet care-related questions. Please ask me something about pets, their care, or related topics."
 - 12.1.10. If the user's prompt involves a map location search, the PetBuddy chatbot must not generate a report.
 - 12.1.10.1. If the user's prompt involves a map location search, the chatbot must only respond with: "I'm sorry, I cannot assist in searching map location to answer your question. Please ask me something about pets, their care, or related topics that are not

related to map location search.”

12.1.11. If either the Tavily API or Gemini API is unavailable, the PetBuddy chatbot must respond with a fallback message.

12.1.11.1. The message is ""Error occurred. Please try again later."

12.1.12. The user shall click on the “close” button to close the chat.

12.1.12.1. The user navigates back to the home screen.

13. Log Out

13.1. PetCare shall allow users to log out of their account.

13.1.1. PetCare shall display a "Log Out" button on the Personal Account page.

13.1.2. When the user clicks the "Log Out" button, PetCare shall display a confirmation dialog.

13.1.2.1. The confirmation dialog shall ask the user to confirm their intention to log out.

13.1.2.2. The confirmation dialog shall provide "Confirm" and "Cancel" options.

13.1.3. If the user confirms the logout action:

13.1.3.1. PetCare shall terminate the user's session.

13.1.3.2. PetCare shall clear any local session data.

13.1.3.3. PetCare shall redirect the user to the login page.

13.1.4. If the user cancels the logout action:

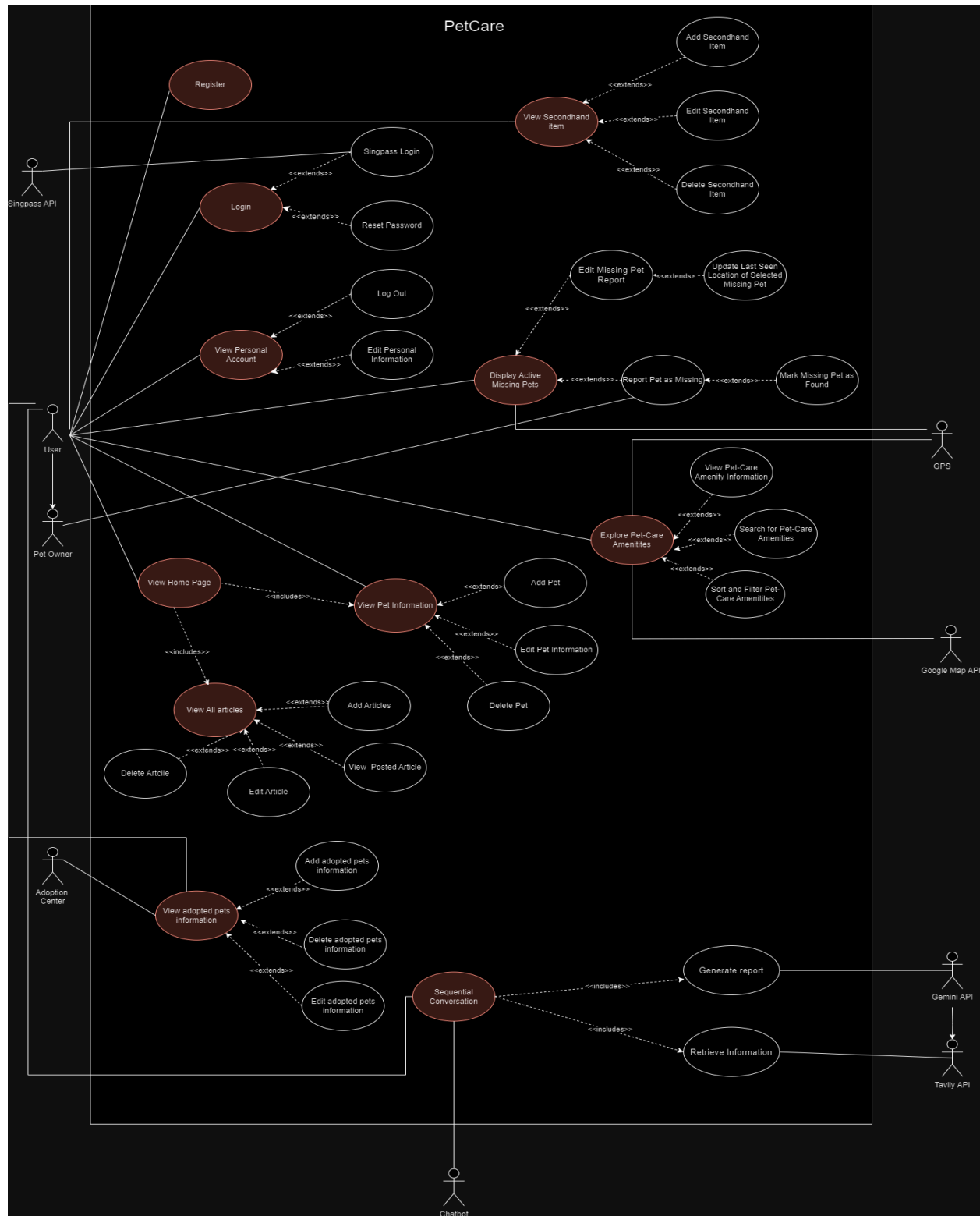
13.1.4.1. PetCare shall close the confirmation dialog.

13.1.4.2. PetCare shall redirect the user to the Personal Account page.

2.2 Non Functional Requirements

Usability	<ul style="list-style-type: none">• 80% of the first-time users must be able to report their missing pets within 5 minutes.• The system must display error messages that allow the user to know what went wrong when an error occurs. 80% of the users must be able to understand the error and not repeat the same flow of events.• Users must be able to see 100% of the content regardless of what mobile phones they are using.
Reliability	<ul style="list-style-type: none">• The app must load, and functionalities available to the user should be made available within 10 seconds after launching the app
Performance	<ul style="list-style-type: none">• The app must optimize battery usage, not consuming more than 5% per hour of active use.• The app must efficiently retrieve and display data to users• 85% of data retrieval operations must be completed in less than 1 seconds
Supportability	<ul style="list-style-type: none">• The app must include an AI Chatbot to assist users with their queries related to pet care.• The app must support remote diagnostics and issue resolution.• The app must provide clear update notes for each new version.
Interface	<ul style="list-style-type: none">• The app must integrate with the device's native features.• The app must comply with platform-specific design guidelines (iOS Human Interface Guidelines, Material Design for Android).
Extensibility Requirements	<ul style="list-style-type: none">• The app must use configurable settings to enable/disable features without code changes.• The app must implement a theming system for easy visual customization.
Overall Maintenance	<ul style="list-style-type: none">• The app must use version control for all source code and assets.• The app must use continuous integration and deployment pipelines.• The app must adhere to coding standards and best practices for maintainability.• The app must include comprehensive documentation for developers and maintainers.

2.3 Use Case Diagram



2.4 Use Case Descriptions

Register

Use Case ID:	1		
Use Case Name:	Register		
Created By:	Keng Jia Chi	Last Updated By:	Keng Jia Chi
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allows first time users to create an account in PetCare application.
Preconditions:	<ol style="list-style-type: none"> 1. The email address given is not registered in the system. 2. The user must have access to a functional email account.
Postconditions:	An account is successfully created for the user.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The system allows the user to register with Email and password. 2. The user chooses to register with email and password. 3. The system requests the user to input the following information fields: <ol style="list-style-type: none"> a. Name b. Email address c. Password d. Confirm Password 4. The user selects the "Register" button. 5. The system validates the required fields. 6. The system sends a confirmation link to the registered email address. 7. If the user clicks on the confirmation link, the user account is successfully created. 8. The system redirects the user to the PetCare application login page.
Alternative Flows:	<p>AF-S6: If username is taken by another user</p> <ol style="list-style-type: none"> 1. The system will display "Username already exists." 2. System returns to Step 3. <p>AF-S6: If email address is already in database</p> <ol style="list-style-type: none"> 1. The system will display "Email address is already in use." 2. System returns to Step 3. <p>AF-S6: If the password does not meet the complexity requirements.</p> <ol style="list-style-type: none"> 1. The system will display "Invalid password" with password guidelines to the user. 2. System returns to Step 3. <p>AF-S6: If password is not the same as confirm password.</p> <ol style="list-style-type: none"> 1. The system will display "Password and confirm password is different". 2. System returns to Step 3.
Exceptions:	None

Includes:	None
Special Requirements:	The system needs to validate user input data.
Assumptions:	None
Notes and Issues:	None

Login

Use Case ID:	2		
Use Case Name:	Login		
Created By:	Keng Jia Chi	Last Updated By:	Keng Jia Chi
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allows users to login into their PetCare account using their email and password.
Preconditions:	User has registered for an account.
Postconditions:	User is logged into the PetCare application and is navigated to the home screen of the application.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The system allows the user to login with either (a) Email and password, or (b) Singpass. 2. The user chooses to login with email and password. 3. The user inputs his/her email and password. 4. The user selects the "Login" button. 5. If the user's login credentials are valid, the system will direct the user to PetCare's home page.
Alternative Flows:	<p>AF-S2: User chooses to login with Singpass</p> <ol style="list-style-type: none"> 1. The user selects the "Login with Singpass" button. 2. The user logs into the system using Singpass login credentials using the included use case Singpass Login. <p>AF-S3: If the user's login credentials are invalid</p> <ol style="list-style-type: none"> 1. The system shall display "Incorrect email or password" to the user. 2. The system returns to Step 1.
Exceptions:	None
Includes:	Singpass Login
Special Requirements:	None
Assumptions:	The user has an existing PetCare account
Notes and Issues:	None

Singpass Login

Use Case ID:	3		
Use Case Name:	Singpass Login		
Created By:	Keng Jia Chi	Last Updated By:	Keng Jia Chi
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allows users to login into their PetCare account using their Singpass account.
Preconditions:	<ol style="list-style-type: none"> 1. The user must have an active SingPass account that can be used for authentication. 2. The user must have an existing account in the PetCare application that is associated with their SingPass account. 3. The PetCare application must have a functional integration with the SingPass API 4. The user must have granted the necessary permissions for the PetCare application to access their SingPass information.
Postconditions:	User is logged into the PetCare application and is navigated to the home screen of the application.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The user is redirected to the Singpass mobile application for verification. 2. If the Singpass verification is successful, the system will redirect users to PetCare's home page.
Alternative Flows:	AF-S2: Singpass verification is unsuccessful <ol style="list-style-type: none"> 1. The system will redirect users to the PetCare's login screen and display "Singpass login unsuccessful" .
Exceptions:	None
Includes:	None
Special Requirements:	Access and usage of Singpass API.
Assumptions:	The user has the Singpass mobile app.
Notes and Issues:	None

Reset Password

Use Case ID:	4		
Use Case Name:	Reset Password		
Created By:	Keng Jia Chi	Last Updated By:	Keng Jia Chi
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allows users to reset their password when they have forgotten it or need to change it for security reasons.
Preconditions:	<ol style="list-style-type: none"> 1. The user has an existing PetCare account. 2. The user must have access to the email address associated with their PetCare account. 3. The user must have access to their email account.
Postconditions:	<ol style="list-style-type: none"> 1. The user password is successfully reset. 2. The user can log in with the new password
Priority:	High
Frequency of Use:	Moderate
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the "Forgot Password" button. 2. The system displays the password reset page. 3. The user enters their registered email address. 4. If the email address is valid, the system sends a password reset link to the user's email. 5. The user clicks on the reset link in their email. 6. The system displays a new password creation page. 7. The user enters a new password and confirms it. 8. If the password meets the complexity requirements, the system updates the user's password in the database. 9. The system shall display "Password reset successfully" to the user. 10. The user is redirected to the login page.
Alternative Flows:	<p>AF-S4: The user's email address is invalid</p> <ol style="list-style-type: none"> 1. The system will display "Invalid email address" to the user. 2. The system will prompt the users to re-enter their email address. 3. The system returns to Step 3. <p>AF-S8: The user's password does not meet the complexity requirements</p> <ol style="list-style-type: none"> 1. The system will display "Invalid password" with password guidelines to the user. 2. The system will prompt the users to enter a new password. 3. The system returns to Step 7.
Exceptions:	<ol style="list-style-type: none"> 1. The password reset link expires before the user clicks on it.
Includes:	None
Special Requirements:	<ol style="list-style-type: none"> 1. The password reset link should expire after 24 hours. 2. The new password must meet the system's complexity

	requirements.
Assumptions:	1. The user has access to their registered email account.
Notes and Issues:	None

View Personal Account

Use Case ID:	5		
Use Case Name:	View Personal Account		
Created By:	Keng Jia Chi	Last Updated By:	Keng Jia Chi
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allow users to view their personal account information.
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged into their account. 2. The user has navigated to the Account Information page.
Postconditions:	The user's account information is displayed.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user selects the "Personal Account" page. 2. The system retrieves the user's information from the database. 3. The system displays the following information: <ol style="list-style-type: none"> a. Name b. Email address c. Phone number d. Address 4. The user can edit their information using the included use case Edit Information. 5. The user logs out from their existing account using the included use case Log Out.
Alternative Flows:	None
Exceptions:	None
Includes:	<ol style="list-style-type: none"> 1. Edit Information 2. Log Out
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Edit Personal Information

Use Case ID:	6		
Use Case Name:	Edit Personal Information		
Created By:	Keng Jia Chi	Last Updated By:	Keng Jia Chi
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allow users to edit their personal account information.
Preconditions:	1. The user has navigated to the Account Information page.
Postconditions:	The user's account information is updated with the new details.
Priority:	Medium
Frequency of Use:	Medium
Flow of events:	<ol style="list-style-type: none"> 1. The user clicks the "Edit Information" button. 2. The system makes the field editable. 3. The user enters the new information. 4. The user clicks the "Save" button. 5. The system validates the new information. 6. If valid, the system updates the database with the new information. 7. The system displays an "Information update successfully" message to the user and shows the updated information.
Alternative Flows:	AF-S6: Information is invalid <ol style="list-style-type: none"> 1. The system displays an error message. 2. The user is prompted to correct the information. 3. Return to step 3.
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Log Out

Use Case ID:	7		
Use Case Name:	Log Out		
Created By:	Keng Jia Chi	Last Updated By:	Keng Jia Chi
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allows users to securely log out of their account.
Preconditions:	1. The user has navigated to the Account Information page.
Postconditions:	The user is logged into their account
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks the "Log Out" button. 2. The system displays a confirmation dialog. 3. The user confirms the logout action. 4. The system terminates the user's session. 5. The system clears any local session data. 6. The system redirects the user to the login page..
Alternative Flows:	AF-S3: The user cancels log out <ol style="list-style-type: none"> 1. The user clicks "Cancel" on the confirmation dialog. 2. The system closes the dialog.
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

View Home Page

Use Case ID:	8		
Use Case Name:	View Home Page		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	The Home page provides a comprehensive view of relevant information to the user. It displays details about the user's pets, shows new pets available for adoption in shelters and provides information about nearby amenities related to pet care.
Preconditions:	<ol style="list-style-type: none"> 1. The user must have PetCare installed 2. The user must be logged in and authenticated. 3. The user has granted location permissions to the app.
Postconditions:	<ol style="list-style-type: none"> 1. The Home page displays a personalised view including: <ol style="list-style-type: none"> a. The user's pets with details like name and photos. b. Pet's related article
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The user opens PetCare and navigates to the Home page. 2. The system retrieves and displays the user's pets, displaying information such as name and images. 3. The system retrieves and displays the latest news article added by user. 4. The user can interact with the displayed information: <ol style="list-style-type: none"> a. Click on a pet in the "My Pets" section to view, edit or remove the pet from "My Pets" section. b. Click on the "see all" button to navigate to the "Article" page.
Alternative Flows:	<p>AF-S2: No pets registered under user</p> <ol style="list-style-type: none"> 1. System displays a message stating "You have no registered pets" <p>AF-S3: No article added by user</p> <ol style="list-style-type: none"> 1. System displays a message stating "There are currently no article"
Exceptions:	
Includes:	<p>XXX - View Pet Information</p> <p>XXX - View All Articles</p>
Special Requirements:	None
Assumptions:	<ol style="list-style-type: none"> 1. Users have Internet access
Notes and Issues:	None

View All Articles

Use Case ID:	9		
Use Case Name:	Browse All Articles		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	31st August 2024	Date Last Updated:	31st August 2024

Actor:	User
Description:	Allows a user to browse and view all pet-related articles.
Preconditions:	<ol style="list-style-type: none"> 1. The user has tapped on the "See All" button in the Home page. 2. The user is logged in and authenticated.
Postconditions:	<ol style="list-style-type: none"> 1. The user can view all available articles categorized by type. 2. The articles are displayed with specific details, including a thumbnail image, title, poster's name, profile picture, and the relative time since the article was published. 3. The user can tap on any article to view its full content.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user opens the Home page and navigates to the Browse Articles section. 2. The user taps on the "See All" button. 3. The system redirects the user to the "Browse Articles" page. 4. The system displays a bottom navigation bar that has a "All" and "Posted" section. 5. The system highlights the "All" section in the bottom navigation bar of the "Browse Articles" page. 6. The system categorizes and displays articles into the following sections: Lifestyle, Grooming, Community, Health and Wellness and Others. 7. For each article, the system displays: <ol style="list-style-type: none"> a. A thumbnail image of the article b. Title of the article c. The name of the poster who posted the article d. The profile picture of the poster e. The relative time since the article was published. 8. The user scrolls through the list of articles. 9. The user taps on an article to view its full content.
Alternative Flows:	AF-S3: No Articles Available <ol style="list-style-type: none"> 1. If no articles are available in a selected category, PetCare displays a message saying "No articles available"
Exceptions:	None
Includes:	XXX - Home Page XXX - View Article Details
Special Requirements:	None
Assumptions:	None

Notes and Issues:	None
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View Article Details

Use Case ID:			
Use Case Name:	View Article Details		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	31st August 2024	Date Last Updated:	31st August 2024

Actor:	User
Description:	Allows the user to view the full details of the selected pet article.
Preconditions:	<ol style="list-style-type: none"> 1. The user has selected an article either from the article carousel in Home page, browse all articles page or posted articles page.
Postconditions:	<ol style="list-style-type: none"> 1. The user can view the full details of the selected article, including the article's content and all related information.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The user opens the "Browse All" articles page and taps on an article. 2. The system opens a new page displaying the full article details: <ol style="list-style-type: none"> a. The thumbnail image of the article b. The title of the article c. The full text of the article d. The name of the poster e. The profile picture of the poster f. The relative time since the article was published 3. The user scrolls through the article content.
Alternative Flows:	<p>AF-S6: Accessing an Article from Home page</p> <ol style="list-style-type: none"> 1. The user taps on an article from the article carousel in the Home page. 2. The user continues with Step 2. <p>AF-S6: Accessing an Article from Posted article page</p> <ol style="list-style-type: none"> 1. The user taps on an article from the "Posted Article" page. 2. The user continues with Step 2. <p>AF-S3: Back button</p> <ol style="list-style-type: none"> 1. The user taps on the 'Back' button. 2. The system redirects the user back to the previous page.
Exceptions:	<p>EX3: Article Not Found</p> <ol style="list-style-type: none"> 1. If the selected article has been deleted or is unavailable, PetCare displays a popup message saying "Article not found" 2. The system redirects the user back to the page they were previously at.
Includes:	<p>XXX - Home Page</p> <p>XXX - View All Articles</p>

Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Add New Article

Use Case ID:			
Use Case Name:	Add New Article		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	31st August 2024	Date Last Updated:	31st August 2024

Actor:	User
Description:	Allows a user to create and submit a new pet-related article to the PetCare application.
Preconditions:	1. The user is on the "Posted Articles" page of the application.
Postconditions:	<ol style="list-style-type: none"> 1. A new article is created and stored in the system. 2. The system assigns the article to the poster in the database. 3. The new article appears in the "All Articles" section 4. The new article appears in the "Posted Articles" section only to the original poster.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user taps on the file icon located at the bottom right of the bottom navigation bar in the "Posted Articles" page. 2. The system displays the article creation form. 3. The user fills in the following information: <ol style="list-style-type: none"> a. Title of the article b. Body text of the article c. Category of the article from the given options (Lifestyle, Grooming, Community, Health and Wellness, Others) d. Thumbnail image for the article (optional) 4. The user taps on the "Submit" button. 5. The system saves the new article to the database. 6. The system displays a success popup message. 7. The system redirects the user to the "Posted" section where the new article is now visible and posted.
Alternative Flows:	<p>AF-S3: User Cancels Article Creation</p> <ol style="list-style-type: none"> 1. During step 3, the user can tap on the "Back" button to stop the article creation. 2. The system displays a popup message to confirm the action. 3. If the user taps on the "Ok" button, the system closes the form and returns the user back to the "Posted Articles" page without creating a new article. 4. If the user taps on the "No" button, the system closes the popup message and the user returns to the article creation form. <p>AF-S4: No thumbnail image</p> <ol style="list-style-type: none"> 1. During Step 3, if the user does not select a thumbnail image for the article, a default image provided by the system will be used.
Exceptions:	<p>EX3: Image Upload Failure</p> <ol style="list-style-type: none"> 1. If there is an issue with uploading the image, PetCare displays an error message and asks the user to re-upload the image.

Includes:	XXX - View Posted Articles XXX - View All Articles
Special Requirements:	None
Assumptions:	<ul style="list-style-type: none"> - The user publishes articles that are related to pets. - The user selects the correct category for the article.
Notes and Issues:	None

View Posted Articles

Use Case ID:			
Use Case Name:	View Posted Articles		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	31st August 2024	Date Last Updated:	31st August 2024

Actor:	User
Description:	Allows users to view the articles that each user has posted onto the PetCare app.
Preconditions:	<ol style="list-style-type: none"> 1. The user has navigated to the "Browse Articles" page and has tapped on the "Posted" section in the bottom navigation bar.
Postconditions:	<ol style="list-style-type: none"> 1. The user can see a list of all the articles that they have posted under the "Posted" section. 2. The user is able to interact with their posted articles.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to the "Browse Articles" page. 2. The user taps on the "Posted" section on the bottom navigation bar. 3. The system displays the "Posted Article" page. 4. The system retrieves and displays all articles posted by the user. 5. The user can scroll through the list of their posted articles. 6. The user can tap on article(s) to view the full details of the article.
Alternative Flows:	AF-S3: No articles posted <ol style="list-style-type: none"> 1. If the user has not posted any articles, the system displays a message stating "No articles posted. Share your articles."
Exceptions:	EX1: Network Error <ol style="list-style-type: none"> 1. If there is a network or database issue while fetching the articles, PetCare displays an error message indicating that articles could not be loaded and suggests the user to try again later.
Includes:	XXX - Add New Article XXX - View Article Details
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Edit Article

Use Case ID:			
Use Case Name:	Edit Article		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	31st August 2024	Date Last Updated:	31st August 2024

Actor:	User
Description:	Allows a user to edit an article that they have previously posted on the PetCare app.
Preconditions:	<ol style="list-style-type: none"> 1. The user has posted at least one article. 2. The user has selected an article from the "Posted Article" page.
Postconditions:	<ol style="list-style-type: none"> 1. The user's changes to the article are saved and updated in the PetCare database. 2. The edited article is updated in both the "Posted Article" and "All Article" sections.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to the "Posted" section from the bottom navigation bar in the Browse Articles page. 2. The user selects an article that they previously posted. 3. The user taps on the vertical ellipsis icon on the top right corner of the article detail page which is only visible to the original poster of the article. 4. PetCare displays the "Edit" and "Delete" options. 5. The user taps on the "Edit" options. 6. PetCare redirects the user to the Edit Article form, pre-filled with the existing details of the article: <ol style="list-style-type: none"> a. Title of the article. b. Body text of the article. c. Selected category of the article. d. Existing thumbnail image of the article. 7. The user can modify any of the article details: <ol style="list-style-type: none"> a. Changing the title b. Updating the body text c. Selecting a different category d. Uploads a new thumbnail image 8. The user taps on the "Save" button to submit the changes. 9. The system displays a success message. 10. The system updates the edited article details in both the "Posted" and "All" sections. 11. The system redirects the user back to the article view to show the updated content.
Alternative Flows:	<p>AF-S3: User Cancels Editing</p> <ol style="list-style-type: none"> 1. During steps 6-7, the user can tap on the "Back" button to stop the editing process. 2. The system displays a popup message to confirm the action. 3. If the user taps on the "Ok" button, the system closes the form and returns the user back to the article details without making any changes.

	4. If the user taps on the “No” button, the system closes the popup message and the user returns to the edit process.
Exceptions:	EX1: Network Error 1. If there is a network or database issue while updating the article details, PetCare displays an error message indicating that articles could not be updated and suggests the user to try again later.
Includes:	XXX - View Article Details
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Delete Article

Use Case ID:			
Use Case Name:	Delete Article		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	31st August 2024	Date Last Updated:	31st August 2024

Actor:	User
Description:	Allows the user to delete an article that they have previously posted on the PetCare app.
Preconditions:	<ol style="list-style-type: none"> 1. The user has posted at least one article. 2. The user has selected an article from the "Posted Article" page.
Postconditions:	<ol style="list-style-type: none"> 1. The selected article is permanently removed from the PetCare database. 2. The deleted article is no longer visible in both the "Posted" and "All" sections in the "Browse Articles" page.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to the "Posted" section from the bottom navigation bar in the Browse Articles page. 2. The user selects an article that they previously posted. 3. The user taps on the vertical ellipsis icon on the top right corner of the article detail page which is only visible to the original poster of the article. 4. PetCare displays the "Edit" and "Delete" options. 5. The user taps on the "Delete" option. 6. PetCare displays a popup box asking the user to confirm the deletion, "Are you sure you want to delete this article? This action cannot be undone." 7. The user taps on the "Yes" button to confirm the deletion. 8. PetCare permanently deletes the article from the database. 9. PetCare updates the "Posted" and "All" sections to remove the deleted article from view. 10. PetCare displays a confirmation message indicating that the article has been deleted successfully. 11. The system redirects the user back to the article view to show the updated content.
Alternative Flows:	<p>AF-S3: User Cancels Deletion</p> <ol style="list-style-type: none"> 1. In Step 7, if the user taps on the "No" button in the confirmation popup, PetCare closes the pop-up box without deleting the article. 2. PetCare redirects the user back to the article details without making any changes.
Exceptions:	<p>EX1: Network Error</p> <ol style="list-style-type: none"> 1. If there is a network or database issue while updating the article details, PetCare displays an error message indicating that articles could not be deleted and suggests the user to try again later.

Includes:	XXX - View Article Details
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Display Active Missing Pets

Use Case ID:			
Use Case Name:	Display Active Missing Pet		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User
Description:	Allows a user to view a list of active missing pets reported by other users.
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated to PetCare 2. The user has a GPS-enabled device. 3. The application has access to the user's current location.
Postconditions:	<ol style="list-style-type: none"> 1. The system displays a map with markers showing the last seen location of missing pets. 2. The user can tap on a marker to view detailed information about the missing pet.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to the "Missing Pets" section in the app. 2. The app retrieves the user's current location using GPS. 3. The system sends queries to the database for active missing pet reports nearby to the user. 4. The system displays the missing pets' images as markers on the map at their last known locations. 5. The user taps on a marker to view more information about the specific missing pet: <ol style="list-style-type: none"> a. Name b. Breed c. Age d. Gender e. Photo f. Contact details of the owner g. Description posted by the owner 6. The system displays a new map interface displaying the record of multiple last seen details for the selected missing pet. 7. The new map interface includes: <ol style="list-style-type: none"> a. A timeline of sightings as markers on the map b. Date and time of each reported sighting c. Image posted by reporter (if available) d. Sighting description by reporter (if available)
Alternative Flows:	<p>AF-S4: Incomplete Information</p> <ol style="list-style-type: none"> 1. If some missing pets have incomplete information: <ol style="list-style-type: none"> a. Missing sighting image(s), system displays a default image b. Missing sighting description, system omits this information from the report.
Exceptions:	<p>EX1: Location services unavailable</p> <ol style="list-style-type: none"> 1. If GPS is disabled or the device is unable to determine the

	user's location, the system notifies the user and provides an option to manually input a location by postal code or keyword.
Includes:	None
Special Requirements:	Device permission for location access is enabled.
Assumptions:	The missing pet database is up-to-date and returns accurate information.
Notes and Issues:	None

Report Pet as Missing

Use Case ID:			
Use Case Name:	Report Pet as Missing		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	Pet Owner
Description:	Allows the pet owner to report their missing pet by providing details about the pet and the circumstances under which it went missing.
Preconditions:	<ol style="list-style-type: none"> 1. The pet owner is logged in and authenticated. 2. The pet owner has saved the profile of the pet that went missing.
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully saves and publishes the missing pet report made by the pet owner to the app. 2. Other users are able to view the missing pet report.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The pet owner taps on the "Report Missing Pet" option on the "Home" page. 2. The system displays a list of the pet owner's registered pets from the "My Pets" section. 3. The pet owner selects the profile of the pet that went missing. 4. The system automatically fills in the report form with the selected pet's details: <ol style="list-style-type: none"> a. Name b. Breed c. Age d. Gender e. Photo 5. The pet owner inputs additional information in the form: <ol style="list-style-type: none"> a. Last seen location - postal codes only b. Last seen time c. Last seen date d. Owner's contact details e. Additional descriptions 6. The pet owner submits the report. 7. The system confirms the submission and displays the reported pet in the "Missing Pets" section.
Alternative Flows:	<p>AF-S2: No pets registered under "My Pets"</p> <ol style="list-style-type: none"> 1. The system displays a prompt to add a pet profile before reporting it as missing so that the pet owner can get updates. 2. Once the user adds the missing pet's profile, the pet owner can continue with step 2.
Exceptions:	<p>EX3: Form submission error</p> <p>Form submission fails due to network issues or server errors, the system displays an error popup message asking the pet owner to try again at a later time.</p>

	EX3: Invalid Last Seen Location 1. When the pet owner inputs an invalid postal code in last seen location, the system prompts the user to re-input a different valid postal code
Includes:	XXX - My Pets
Special Requirements:	None
Assumptions:	1. The pet owner's registered pet information is accurate. 2. The pet owner consents to share the missing pet's information with other users.
Notes and Issues:	None

Update Last Seen Location

Use Case ID:			
Use Case Name:	Update Last Seen Location		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	25th August 2024	Date Last Updated:	25th August 2024

Actor:	User (other than the pet owner/ reporting user)
Description:	Allows other users to update the last seen location, time and date of a missing pet.
Preconditions:	<ol style="list-style-type: none"> 1. The original pet owner has made a missing report. 2. The selected missing pet marker is an active case in the system.
Postconditions:	<ol style="list-style-type: none"> 1. The system updates the map with the new last seen location, time, and date for the missing pet. 2. All users of the app can see the updated information on the map. 3. The original reporting user receives a notification about the updated details.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to the "Display Missing Pets" page in the app. 2. The system retrieves and displays the map with active missing pet markers. 3. The user selects an active missing pet marker on the map. 4. The system displays a pop-up of the details of the missing pet. 5. The user taps on the "Add Report" icon. 6. The user enters the new time, date and location when the user last saw the pet. 7. The user can optionally add image(s) and sighting descriptions. 8. The system validates the entered data. 9. The system updates the map with the new last seen location, time and date for the missing pet. 10. The system notifies the original reporting user of the updated information.
Alternative Flows:	<p>AF-S2: User inputs incorrect data</p> <ol style="list-style-type: none"> 1. If the user inputs an incorrect or incomplete address, time or date, the system displays an error message and prompts the user to change the input. <p>AF-S7: User cancels form submission</p> <ol style="list-style-type: none"> 1. The user can cancel the form submission by tapping on the "Back" button and return back to the "Display Active Missing Pets" page. <p>AF-S4: Image upload error</p> <ol style="list-style-type: none"> 1. If there is an error with the upload process of the image, the system displays an error message and prompts the user to re-upload a different image.

	2. The selected image is not uploaded to the system.
Exceptions:	EX3: Form submission error 1. Form submission fails due to network issues or server errors, the system displays an error popup message asking the user to try again at a later time.
Includes:	XXX - Display Active Missing Pets
Special Requirements:	None
Assumptions:	Users provide accurate and honest updates about the missing pet.
Notes and Issues:	None

Edit Missing Pet Report

Use Case ID:			
Use Case Name:	Edit Missing Pet Report		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	28th August 2024	Date Last Updated:	28th August 2024

Actor:	Pet Owner
Description:	Allows a pet owner to make changes to details of their posted missing pet report.
Preconditions:	<ol style="list-style-type: none"> 1. The pet owner has previously created a missing pet report of their registered pet. 2. The missing pet report is currently active in the database. 3. The user is logged in and authenticated as the owner of the selected missing pet report.
Postconditions:	<ol style="list-style-type: none"> 1. The system reflects the changes made by the pet owner. 2. The updated information is displayed in the "Display Active Missing Pets" page.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The pet owner navigates to the "Display Missing Pets" page. 2. The pet owner selects the marker of their missing pet on the map. 3. The system displays the details of the selected missing pet report. 4. The pet owner taps on the "Edit" button. 5. The pet owner makes updates to one or more of the input below: <ol style="list-style-type: none"> a. Last seen location - postal codes only b. Last seen time c. Last seen date d. Owner's contact details e. Additional descriptions 6. The pet owner taps on the 'Save' button. 7. The system updates the details of the missing pet report. 8. The system displays a pop-up to confirm the change. 9. The pet owner is redirected back to the "Display Active Missing Pets" where the updated details of their report is updated.
Alternative Flows:	<p>AF-S3: The pet owner cancels the Edit process</p> <ol style="list-style-type: none"> 1. The user taps on the back button. 2. The system displays a pop-up to inform the pet owner that no changes will be made to the missing pet report. 3. The user taps on the 'Ok' button. 4. The missing pet details remain unchanged. <p>AF-S3: Missing or Incomplete form</p> <ol style="list-style-type: none"> 1. The system displays a prompt to inform users that there are missing fields/ wrong data types that require attention. 2. Once all inputs are validated, the system returns back to step 7.

Exceptions:	EX2: Data update failure <ul style="list-style-type: none"> 1. If the system is unable to update the pet's status due to network issues or server issues. 2. The system displays an error message and prompts the user to try again later. 3. The pet status has not changed.
Includes:	XXX - Report Pet as Missing XXX - Mark Pet as Found
Special Requirements:	None
Assumptions:	The pet owner provides accurate and most up-to-date information during editing.
Notes and Issues:	None

Mark Missing Pet as Found

Use Case ID:			
Use Case Name:	Mark Missing Pet as Found		
Created By:	Jasmine Tye	Last Updated By:	Jasmine Tye
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	Pet Owner
Description:	Allows the pet owner to mark their missing pet report.
Preconditions:	<ol style="list-style-type: none"> 1. The pet is currently in the missing pets database. 2. The pet owner has reported a pet as missing and it is currently active in the "Display Missing Pets" page.
Postconditions:	<ol style="list-style-type: none"> 1. The system updates the pet's status to inactive in the database. 2. The missing pet report is no longer being displayed on the "Display Missing Pets" page.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The pet owner navigates to the "Display Missing Pets" page in the app. 2. The pet owner selects the marker of their missing pet on the map. 3. The details of the selected missing report is shown. 4. The pet owner taps on the "Found" toggle switch which is only accessible to the pet owner. 5. The toggle switch changes to "ON" to indicate the pet has been marked as found. 6. A pop-up message displays to confirm that the pet has been found. 7. The pet owner taps on the "OK" button. 8. The system updates the pet's status to inactive in the database. 9. The pet listing is hidden from the "Display Missing Pets" map interface. 10. The system shows a popup message to confirm that the report has been closed.
Alternative Flows:	AF-S3: Canceling the toggling of "Found" switch <ol style="list-style-type: none"> 1. The user taps on the "Cancel" button. 2. The pop-up messages closes without making any changes to the pet's status. 3. The missing pet continues to be displayed in the "Display Missing Pets" map interface.
Exceptions:	EX2: Data update failure <ol style="list-style-type: none"> 1. If the system is unable to update the pet's status due to network issues or server issues. 2. The system displays an error message and prompts the user to try again later. 3. The pet status has not changed.
Includes:	XXX - Display Active Missing Pets

Special Requirements:	None
Assumptions:	The pet owner is authorized to update the status of the missing pet.
Notes and Issues:	None.

Explore Pet-Care Amenities

Use Case ID:			
Use Case Name:	Explore Pet-Care Amenities		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	25th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows a user to search for nearby pet-care amenities including veterinarian clinics, groomers and pet adoption centers based on current location using a GPS enabled mobile device. The system will display the search results as landmarks on a map interface. It will also display a list of nearby amenities on the Explore Pet-Care Amenities page, providing options to sort, filter and search for a specific amenity.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with [APPNAME] installed. 2. The user is logged in and authenticated. 3. The user has a device with GPS capabilities. 4. The application has access to the user's current location. 5. The user's device has Internet access. 6. The GoogleMap API is fully functionable and returns the latest pet amenities information.
Postconditions:	<ol style="list-style-type: none"> 1. The system displays a map with nearby pet amenities marked. 2. The user can interact with the map to view the detailed information about a selected vet. 3. The user can search, filter and sort the list of nearby pet amenities.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the "Explore Pet-Care Amenities" icon on the navigation bar. 2. The system prompts the user to grant location permissions. 3. The system retrieves the user's current location using GPS. 4. The system queries the Google Maps API to search for nearby pet amenities. 5. The system receives a list of nearby pet amenities. 6. The system displays the returned locations as markers on the map. 7. The system also displays them as listings with their information on the Explore Pet-Care Amenities page. 8. The user can sort the amenities alphabetically in ascending or descending order and the app will display the results in the order that user selects. 9. The user can filter the pet amenities by distance, ratings and/ or whether the amenity is open now. 10. The system will display the results according to the filter applied. 11. The user can search for a specific pet amenity by name or a keyword using the search bar. 12. The user can tap on a marker in the map to view more detailed information about the amenity, including its storefront image, distance, ratings, name, address, contact information, website and operating hours.

Alternative Flows:	<p>AF-S2: User declines location access</p> <ol style="list-style-type: none"> 1. The system prompts the user to manually enter their location or search a specific area. 2. The system displays the nearby pet amenities based on the user input location. <p>AF-S5: No nearby pet amenities found</p> <ol style="list-style-type: none"> 1. The system displays a message indicating that no results were found. 2. The system prompts the user to manually input a location or keyword and display it as a marker on the map and show its information in a listing below the map. <p>AF-S7: Specific Information unavailable</p> <ol style="list-style-type: none"> 1. Certain information of the selected amenity is unavailable: <ol style="list-style-type: none"> a. Storefront image - Display a default image provided by system b. Other info: Display “-”
Exceptions:	<p>EX-S1: Location services unavailable</p> <ol style="list-style-type: none"> 1. If the GPS is disabled or the system is unable to determine the user's location, the system notifies the user and provides an option to manually input a location. <p>EX-S2: Google Maps API Error</p> <ol style="list-style-type: none"> 1. If the Google Maps API fails or returns an error, the system displays an error message that suggests the user to try again later.
Includes:	<p>UCXXX - View Pet-Care Amenity Information</p> <p>UCXXX - Sort and Filter Pet-Care Amenities</p> <p>UCXXX - Search for Pet-Care Amenities</p>
Special Requirements:	Location service is enabled on the user's device.
Assumptions:	Google Maps API provides accurate and up-to-date data for the pet amenities.
Notes and Issues:	

View Pet-Care Amenity Information

Use Case ID:			
Use Case Name:	View Pet-Care Amenity Information		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	25th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows a user to view the detailed information of a nearby pet-care amenity including storefront image, distance, ratings, name, address, contact information, website and operating hours.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with [APPNAME] installed. 2. The user is logged in and authenticated. 3. The application has access to the user's current location. 4. The user's device has Internet access.
Postconditions:	<ol style="list-style-type: none"> 4. The system displays the selected pet-care amenities details on a pop-up.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on one of the pet-care amenities listings. 2. The system displays a pop-up with all the detailed information about the selected amenity. 3. The user can tap on the close button to exit the pop-up.
Alternative Flows:	AF-S2: Specific Information unavailable <ol style="list-style-type: none"> 2. Certain information of the selected amenity is unavailable: <ol style="list-style-type: none"> a. Storefront image - Display a default image provided by system b. Other info: Display "-"
Exceptions:	EX1: Fail to retrieve data from Google Map API
Includes:	None
Special Requirements:	None
Assumptions:	Google Maps API provides accurate and up-to-date data for the pet amenities.
Notes and Issues:	None

Sort and Filter Pet-Care Amenities

Use Case ID:			
Use Case Name:	Sort and Filter Pet-Care Amenities		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows a user to sort the list of pet-care amenities alphabetically and filter by ratings, distance and/ or whether it is open now.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with [APPNAME] installed. 2. The user is logged in and authenticated. 3. The user has a device with GPS capabilities. 4. The application has access to the user's current location. 5. The user's device has Internet access. 6. The GoogleMap API is fully functional and returns the latest pet amenities information.
Postconditions:	<ol style="list-style-type: none"> 1. The system displays the list of nearby pet-care amenities sorted and/or filtered according to the options selected by the user. 2. The user is able to view the updated locations on the map and the listings.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user browses the Explore Pet-Care Amenities page. 2. The user taps on the "Sort" or "Filter" icon on the screen. 3. For sorting, the system allows the user to sort alphabetically in ascending or descending order. 4. The system reorders the list of nearby pet-care amenities based on the selected sorting options by the user. 5. For filtering, the system allows the following filtering conditions: <ol style="list-style-type: none"> a. Distance range (eg. within 1km, 5km, 10km) b. Amenity ratings (eg. 3 stars and above) c. Operating hours (eg. open now) 6. The user selects one or more filtering options. 7. The system applies the filters and only displays amenities that fit conditions. 8. The user can interact and tap on any of the displayed amenities on the map to view its details.
Alternative Flows:	<p>AF-S7: No results returned after filtering</p> <ol style="list-style-type: none"> 1. If selected filtering criteria results in no amenities being displayed on the map, the system displays a popup message indicating that no results match the filters. 2. The system prompts the user to reapply different filters or remove all the filters to view all nearby amenities. <p>AF-S7: User resets filters and sorting conditions</p> <ol style="list-style-type: none"> 1. User clicks on the "Reset" button to remove all filter and sorting conditions. 2. The system returns to display the full list of nearby amenities

	without any filter and sorting options.
Exceptions:	EX-S1: Location services unavailable 1. If the GPS is disabled or the system is unable to determine the user's location, the system notifies the user and provides an option to manually input a location
Includes:	None
Special Requirements:	The system must sort and filter the results without refreshing or reloading the page.
Assumptions:	The Explore Pet-Care Amenities page must be fully functionable and display accurate results.
Notes and Issues:	None

Search for Pet-Care Amenities

Use Case ID:			
Use Case Name:	Search for Pet-Care Amenities		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows a user to search for a specific pet amenity by its name or a keyword.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with PetCare installed. 2. The user is logged in and authenticated. 3. The user has a device with GPS capabilities. 4. The application has access to the user's current location. 5. The user's device has Internet access. 6. The GoogleMap API is fully functional and returns the latest pet amenities information.
Postconditions:	The system displays the pet-care amenities that match the user's search query.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user browses the Explore Pet-Care Amenities page. 2. The user inputs a location or keyword in the search bar and taps the "Search" icon. 3. The system uses Google Map API to query for pet-care amenities that match the user's input. 4. The map updates to only display the pet-care amenities that matches the user input. 5. The user can interact and tap on any of the displayed pet-care amenities to view its details.
Alternative Flows:	<p>AF-S5: Clear search bar</p> <ol style="list-style-type: none"> 1. The user clears the input in the search bar. 2. The system displays all the nearby pet-care amenities on the map and shows the listings below. <p>AF-S3: No results found</p> <ol style="list-style-type: none"> 1. If no pet-care amenity matches the search query (Google Map API does not return any result), the system displays a message indicating that no results were found.
Exceptions:	<p>EX1: Location services unavailable</p> <ol style="list-style-type: none"> 1. If the GPS is disabled or the system is unable to determine the user's location, the system notifies the user and provides an option to manually input a location
Includes:	None
Special Requirements:	None
Assumptions:	Google Maps API can query based on user input and return results based on the search query.

Notes and Issues:	None
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View Pet Information

Use Case ID:			
Use Case Name:	View Pet Information		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allow users to view their pet information such as name, date of birth, breed, sex, weight, coat color, special markings and medic conditions.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with [APPNAME] installed. 2. The user is logged in and authenticated. 3. The user has added at least a pet.
Postconditions:	Display the pet(s) information on the Pet Information pop-up.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the picture or the name of the pet in the My Pets section located on the Home page to view the details of their registered pet. 2. The system displays the following details on the Pet Information pop-up: <ul style="list-style-type: none"> - Pet name - Date of birth - Breed - Sex - Weight - Coat color - Special markings - Medic conditions 3. On the Pet Information pop-up, the user can click on the "Edit" button to edit the pet's details. 4. On the Pet Details pop-up page, the user can click on the "Delete" button to delete the pet and its details.
Alternative Flows:	AF-S2: If the database returns an empty result (no pets are found), the system displays a message showing that the user has not registered any pets.
Exceptions:	EX2: Data retrieval error <ol style="list-style-type: none"> 1. If the system is unable to connect to the database, the system returns a message prompting the user to try again later.
Includes:	XXX - Edit Pet Information XXX - Delete Pet
Special Requirements:	None
Assumptions:	Database is connected successfully.
Notes and Issues:	None

Edit Pet Information

Use Case ID:			
Use Case Name:	Edit Pet Information		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allow users to update their pet information such as name, date of birth, breed, sex, weight, coat color, special markings and medic conditions.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with [APPNAME] installed. 2. The user is logged in and authenticated. 3. The user has registered at least a pet.
Postconditions:	Save and display the user's updated pet(s) information.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The user taps on the image or name of one of their pets on the My Pets section. 2. The user taps on the "Edit" icon on the Pet Information pop-up. 3. The user can update the details of their pet including: <ul style="list-style-type: none"> - Pet name - Date of birth - Breed - Sex - Weight - Coat color - Special markings - Medic conditions 4. The user taps on the "Done" button after editing the details. 5. The system redirects the user to the Pet Information pop-up with the updated pet information displayed.
Alternative Flows:	AF-S4: The user does not save the changes <ol style="list-style-type: none"> 1. If the user clicks on the "Cancel" button on the editing page, all the edits will not be saved to the database. 2. The user will be redirected to the Pet Information pop-up with no pet information updated.
Exceptions:	EX5: Data update failure <ol style="list-style-type: none"> 1. If the system is unable to update the pet due to network issues or server issues, the system displays an error message and prompts the user to try again later. 2. The pet information will not change.
Includes:	None
Special Requirements:	None
Assumptions:	Database is connected.
Notes and Issues:	None

Add Pet

Use Case ID:			
Use Case Name:	Add Pet		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allow users to add a new pet and its information such as name, date of birth, breed, sex, weight, coat color, special markings and medic conditions.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with [APPNAME] installed. 2. The user is logged in and authenticated. 3. The user has registered at least a pet.
Postconditions:	The new registered pet is added successfully into the database and the system displays it in the My Pets section on the Home page
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the '+' icon in the My Pets section on the Home page. 2. The system displays a pop-up form for users to input the following information: <ol style="list-style-type: none"> a. Pet name b. Date of birth c. Breed d. Sex e. Weight f. Coat color g. Special markings h. Medic conditions 3. The user taps on the "Done" button to submit the form after entering the information of its pet. 4. The system redirects the user to the Home page.
Alternative Flows:	AF-S3: The user do not want to add a new pet <ol style="list-style-type: none"> 1. If the user taps on the "Cancel" button, the system will redirect the user back to the Home page with no new pet added.
Exceptions:	EX3: Form submission error <ol style="list-style-type: none"> 1. Form submission fails due to network issues or server errors, the system displays an error pop-up message asking the user to try again later.
Includes:	None
Special Requirements:	None
Assumptions:	Database is connected.
Notes and Issues:	None

Delete Pet

Use Case ID:			
Use Case Name:	Delete Pet		
Created By:	Sih Jia Qi	Last Updated By:	Sih Jia Qi
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allow users to delete their pet and its information.
Preconditions:	<ol style="list-style-type: none"> 1. The user has a device with [APPNAME] installed. 2. The user is logged in and authenticated. 3. The user has registered at least a pet.
Postconditions:	The deleted pet will be removed from the My Pets section.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The user taps on the image or name of one of their pets in the My Pets section on the Home page. 2. The user taps on the "Delete" icon on the Pet Information pop-up. 3. The system displays a pop-up with the "Confirm" and "Cancel" buttons. 4. The user taps on the "Confirm" button. 5. The user is redirected to the Home page.
Alternative Flows:	AF-S3: Cancel delete option <ol style="list-style-type: none"> 1. If the user taps on the "Delete" button, the user will be redirected back to the Home page with no changes made to the pet information.
Exceptions:	EX5: Data deletion failure <ol style="list-style-type: none"> 1. If the system is unable to delete the pet due to network issues or server issues, the system displays an error message and prompts the user to try again later. 2. The pet is not deleted and will be displayed in the My Pets section.
Includes:	None
Special Requirements:	None
Assumptions:	Database is connected.
Notes and Issues:	None

Upload Secondhand Item

Use Case ID:			
Use Case Name:	Upload Secondhand Item		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows the users to sell or give away any unwanted pets item in resale format by providing information regarding the items
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated. 2. The user has the physical item.
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully saves and publishes the items to the app. 2. Other users are able to view the available listing in listview format.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The system displays a "Add" button at "Secondhand" page for user to post their listing on a particular Item. 2. When user selects the "Add Button", the system will bring user to another page to fill up the details on the secondhand Items 3. User will manually fills in the item form: <ol style="list-style-type: none"> a. Item Name b. Price c. Description d. Condition e. Upload Images <ol style="list-style-type: none"> i. There will be 2 options for users to upload images , it is through taking photos directly from a phone camera or uploading from their own storage. f. Quantity 4. If the user selects the "Submit" button, the system will save this information into the database and display a prompt to inform the user that "Items have been successfully posted".
Alternative Flows:	<p>AF-S4: Missing or Incomplete form</p> <ol style="list-style-type: none"> 1. The system displays a prompt to inform the user that there are missing fields / wrong data types that require attention. 2. Once everything is validated , the system will go to step 4. <p>AF-S4: Existing item</p> <ol style="list-style-type: none"> 1. The system displays a prompt to inform user that there are existing item added by user previously 2. Give user a pop out dialog box to ask user whether they want to update the detail of the item
Exceptions:	EX1: Form submission fails due to network issues or server errors, the system displays an error popup message asking the user to try again at a later time.

Includes:	None
Special Requirements:	System needs to validate user input data
Assumptions:	The user has the product and wishes to give or sell the item.
Notes and Issues:	None.

Edit Secondhand Item

Use Case ID:			
Use Case Name:	Edit Secondhand Item		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows the users to edit the item that have uploaded for listings
Preconditions:	<ul style="list-style-type: none"> The user is logged in and authenticated. The user has uploaded or created the item posting in the database
Postconditions:	<ul style="list-style-type: none"> The system successfully saves and updates the information in the app. Other users are able to view the updated listing in listview format.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> The system displays a "Edit " button at "Secondhand" page under "own posting" for user to edit their listing on a particular item When the user selects the "Edit Button",the system will bring the user to another page and retrieve the information that has been uploaded previously by the user. User will be able to modify the information in the form: <ol style="list-style-type: none"> Item Name Price Description Condition Upload Images <ol style="list-style-type: none"> There will be 2 options for users to upload images , it is through taking photos directly from a phone camera or uploading from their own storage. Quantity If the user selects the "Submit" button,the system will save this information into the database and display a prompt to inform the user that "Item have been successfully edited".
Alternative Flows:	<p>AF-S4: Missing or Incomplete form</p> <ol style="list-style-type: none"> The system displays a prompt to inform users that there are missing fields / wrong data types that require attention. Once everything is validated, the system will go to step 4. <p>AF-S4: Existing item</p> <ol style="list-style-type: none"> The system displays a prompt to inform the user that there are existing items added by the user previously.
Exceptions:	EX1: Form submission fails due to network issues or server errors, the system displays an error popup message asking the user to try again at a later time.

Includes:	None
Special Requirements:	System needs to validate user input data
Assumptions:	The user has uploaded the Item and the data is captured in the database.
Notes and Issues:	None

Delete Secondhand Item

Use Case ID:			
Use Case Name:	Delete Secondhand Item		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows the users to delete the secondhand item from listing when item sold or on user wishes
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated. 2. The user has created the item posting in the database
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully removes the item from listing and updates the information in the database. 2. The secondhand item is removed from the "Mine" page.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The system displays a "Delete" button at the individual item page under "mine". 2. When the user selects the "Delete Button", the system will prompt the user for confirmation. 3. When confirmation is clicked, the system will display a dialogue box informing the user that "Item have been successfully deleted".
Alternative Flows:	AF-S2 : User cancel the deletion <ol style="list-style-type: none"> 1. System will go back to individual item page
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	User wants to remove the item from the item listings
Notes and Issues:	None

Display Secondhand Item

Use Case ID:			
Use Case Name:	Display Secondhand Item		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows the users to view the available secondhand items uploaded by other users and make contact with the seller.
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated. 2. The user has the information in the database
Postconditions:	<ol style="list-style-type: none"> 1. The buyer successfully make contact with the seller and meet up for collection
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the Secondhand page. 2. System retrieves and display all the currently available item for sale 3. User click on one of the item listing to view more detail regarding the product 4. User clicks on "Contact Seller",the system will open WhatsApp and make contact with the Seller. 5. Buyer and Seller meet up for payment and collection.
Alternative Flows:	AF-S2 : User uses the search function <ol style="list-style-type: none"> 1. User will need to prompt the search engine via product name 2. System will return a list of items related to the prompt given by user 3. Flow will return back to step3.
Exceptions:	EX1: User doesn't have whatsapp
Includes:	XXX- Add Item XXX- Delete Item
Special Requirements:	None
Assumptions:	Both parties are trustworthy and can settle the payment and collection on their own User do not misused the system
Notes and Issues:	None

Edit Secondhand Item

Use Case ID:			
Use Case Name:	Edit Secondhand Item		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows the users to edit the item that have uploaded for listings
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated. 2. The user has uploaded or created the item posting in the database
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully saves and updates the information in the app. 2. Other users are able to view the updated listing in listview format.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The system displays a "Edit " button at "Carousel" page under "own posting" for user to edit their listing on a particular Item 2. When the user selects the "Edit Button",the system will bring the user to another page and retrieve the information that has been uploaded previously by the user. 3. User will be able to modify the information in the form: <ol style="list-style-type: none"> a. Item Name b. Price c. Description d. Condition e. Upload Images f. Quantity 4. If the user selects the "Submit" button,the system will save this information into the database and display a prompt to inform the user that "Item have been successfully edited".
Alternative Flows:	<p>AF-S3: Missing or Incomplete form</p> <ol style="list-style-type: none"> 1. The system displays a prompt to inform users that there are missing fields / wrong data types that require attention. 2. Once everything is validated , the system will go to step 4. <p>AF-S4: Existing item</p> <ol style="list-style-type: none"> 1. The system displays a prompt to inform user that there are existing item added by user previously
Exceptions:	EX1: Form submission fails due to network issues or server errors, the system displays an error popup message asking the user to try again at a later time.
Includes:	None

Special Requirements:	System needs to validate user input data
Assumptions:	User have uploaded the item and the data is captured in the database.
Notes and Issues:	None

Upload Pet for Adoption

Use Case ID:			
Use Case Name:	Upload pet for adoption		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	Adoption Center
Description:	Allows the adoption center to upload pets that are available for adoption.
Preconditions:	<ol style="list-style-type: none"> 1. The adoption center is logged in and authenticated in admin format 2. The adoption center has the pet and wants to publish an adoption.
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully saves and publishes the pets to the app. 2. Other users are able to view the available pets in listview format.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The system displays a "Add" button at "Adoption" page for adoption center to post their listing on a particular pets to the "adophome" 2. When adoption center selects the "Add Button", the system will bring to another page to fill up the details on the pets 3. Adoption center will manually fills in the item form: <ol style="list-style-type: none"> a. Pets Name b. Price c. Description d. Age e. Breed f. Color g. Gender h. Upload Images <ol style="list-style-type: none"> i. There will be 2 options for users to upload images, it is through taking photos directly from a phone camera or uploading from their own storage. i. Type j. Adoption Center : Name k. Adoption Center : Phone Number l. Adoption Center : Email 4. If the adoption center selects the "Submit" button, the system will save this information into the database and display a prompt to inform the user that "pets have been successfully posted".
Alternative Flows:	<p>AF-S4: Missing or Incomplete form</p> <ol style="list-style-type: none"> 1. The system displays a prompt to inform the user that there are missing fields / wrong data types that require attention. 2. Once everything is validated, the system will go to step 4.

	AF-S4: Existing Pets <ol style="list-style-type: none"> 1. The system displays a prompt to inform user that there are existing Pets added by user previously 2. Give user a pop out dialog box to ask user whether they want to update the detail of the item
Exceptions:	EX1: Form submission fails due to network issues or server errors, the system displays an error popup message asking the user to try again at a later time.
Includes:	None
Special Requirements:	System needs to validate input data.
Assumptions:	Pets are in good or proper condition for adoption.
Notes and Issues:	None

Edit Pet Adoption Information

Use Case ID:			
Use Case Name:	Edit Pet Adoption Information		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	Adoption Center
Description:	Allows the users to edit the pet detail that have uploaded for listings
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated in admin state. 2. The user has uploaded or created the pet posting in the database
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully saves and updates the information in the app. 2. Other users are able to view the updated listing in listview format.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The system displays a "Edit " button at page under a particular pets 2. When user selects the "Edit Button",User will be able to modify the information in the form: <ol style="list-style-type: none"> a. Pets Name b. Price c. Description d. Age e. Breed f. Color g. Gender h. Upload Images <ol style="list-style-type: none"> i. There will be 2 options for users to upload images , it is through taking photos directly from a phone camera or uploading from their own storage. i. Type j. Adoption Center : Name k. Adoption Center : Phone Number l. Adoption Center : Email 3. If the user selects the "Submit" button,the system will save this information into the database and display a prompt to inform the user that "Pets have been successfully edited".
Alternative Flows:	<p>AF-S3: Missing or Incomplete form</p> <ol style="list-style-type: none"> 3. The system displays a prompt to inform users that there are missing fields / wrong data types that require attention. 4. Once everything is validated , the system will go to step 3. <p>AF-S3: Existing Pet</p> <ol style="list-style-type: none"> 1. The system displays a prompt to inform user that there are existing item added by user previously

Exceptions:	EX1: Form submission fails due to network issues or server errors, the system displays an error popup message asking the user to try again at a later time.
Includes:	None
Special Requirements:	System needs to validate user input data
Assumptions:	User have uploaded information of the pets and the data are captured in the database.
Notes and Issues:	None.

Delete Pet Adoption

Use Case ID:			
Use Case Name:	Delete Pet Adoption		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	Adoption Center
Description:	Allows adoption center to delete the detail of the pets once it has been adopted or not for adoption anymore
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated in the adoption center account. 2. The user has created the pet posting in the database
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully deletes the pet's details and updates the information in the database. 2. Item is removed from the "my pets house" page.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The system displays a "Delete" button at individual pet page under individual page(adoption user) 2. When the user selects the "Delete Button",the system will prompt the user for confirmation. 3. When confirmation is clicked ,the system will display a dialogue box informing the user that "Pet has been successfully deleted".
Alternative Flows:	AF-S2 : User cancel the deletion <ol style="list-style-type: none"> 1. System will go back to individual pet page
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	User want to remove the pet from the adoption listings
Notes and Issues:	None

Display Pet for Adoption

Use Case ID:			
Use Case Name:	Display Pet for Adoption		
Created By:	Lim Chun Wen	Last Updated By:	Lim Chun Wen
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User
Description:	Allows the users to view the available pets uploaded by the adoption center and make contact with them.
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in and authenticated. 2. The adoption center has the information of pets in the database.
Postconditions:	<ol style="list-style-type: none"> 1. The buyer successfully makes contact with the adoption and makes an appointment.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the Adoption page. 2. System retrieves and display all the currently available pets for adoption 3. User click on one of the pet listing to view more detail regarding the detail of the pets 4. User clicks on "Book an appointment", the system will open WhatsApp and make contact with the adoption center. 5. Buyer successfully booked an appointment with the adoption center.
Alternative Flows:	AF-S2 : User filter pet by type <ol style="list-style-type: none"> 1. System will filter out and only display the type of pet selected by the user at the filter section 2. Flow continue back to step 3
Exceptions:	EX1: The user does not have WhatsApp installed on their mobile device.
Includes:	
Special Requirements:	None
Assumptions:	User do not misused the system
Notes and Issues:	None

Sequential Conversation

Use Case ID:			
Use Case Name:	Sequential Conversation		
Created By:	Hng Cherng Khai	Last Updated By:	Hng Cherng Khai
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	User PetBuddy Chatbot
Description:	This use case describes the interaction between the user and the PetBuddy Chatbot, focusing on a sequential conversation where the chatbot assists the user with pet care queries. The chatbot starts the conversation and awaits user input, then responds accordingly based on the user's prompt, using external APIs like Tavily and Gemini to generate appropriate responses.
Preconditions:	<ol style="list-style-type: none"> 1. The user has accessed the PetBuddy web or mobile app and navigated to the chatbot interface. 2. Tavily API and Gemini API are functioning and integrated into the system.
Postconditions:	<ol style="list-style-type: none"> 1. The user receives a detailed response or report based on their pet care-related prompt and online sources. 2. The conversation flow follows a structured sequence of input and response, ensuring that only relevant prompts are processed. 3. If the prompt is unrelated to pet care or involves map locations, the chatbot informs the user of its limitations.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. User clicks on the PetBuddy Chatbot icon. 2. The user is navigated to the PetBuddy Chatbot page. 3. PetBuddy Chatbot automatically initiates the conversation with a greeting: <ul style="list-style-type: none"> • "Hi there! 🐾 I'm PetBuddy, your pet care research assistant. How can I help you and your pet today?" 4. User inputs a text prompt into the chat interface. 5. PetBuddy chatbot displays the user's input in the chat interface. 6. If the user's prompt is related to a pet care topic and does not involve a map location search, the PetBuddy chatbot forwards the user's prompt to the Tavily API for information retrieval. 7. Tavily API searches online sources, scrapes and filters relevant information based on the prompt. 8. PetBuddy chatbot receives the relevant information from Tavily API. 9. System sends a system prompt to the Gemini API to generate a report based on the received information. 10. Gemini API generates the report, including reference links, and sends it to the PetBuddy chatbot. 11. The PetBuddy chatbot displays the report in the chat interface. 12. Step 4 to Step 11 repeats until the user clicks on the "close" button to close the chat.

	13. The user navigates back to the home screen.
Alternative Flows:	<p>AF-S6: If the prompt is unrelated to pet care</p> <ol style="list-style-type: none"> 1. The PetBuddy chatbot responds with a message clarifying its limitations: <ul style="list-style-type: none"> - "I'm sorry, I can only assist with pet care-related questions. Please ask me something about pets, their care, or related topics." 2. The system returns to step 4. <p>AF-S6: If the prompt involves map location search</p> <ol style="list-style-type: none"> 1. The PetBuddy chatbot responds with a message clarifying its limitations: <ul style="list-style-type: none"> - "I'm sorry, I cannot assist in searching map locations. Please ask me something about pets, their care, or related topics that are not related to map location search." 2. The system returns to step 4.
Exceptions:	<p>EX1: APIs Unavailable:</p> <p>If either the Tavily API or Gemini API is unavailable, the PetBuddy chatbot must respond with a fallback message:</p> <ul style="list-style-type: none"> - "Error occurred. Please try again later."
Includes:	<p>xxx- Retrieve Information</p> <p>xxx- Generate Report</p>
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Retrieve Information

Use Case ID:			
Use Case Name:	Retrieve Information		
Created By:	Hng Cherng Khai	Last Updated By:	Hng Cherng Khai
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	Tavily API PetBuddy chatbot
Description:	This use case describes the process by which the PetBuddy chatbot retrieves relevant pet care information based on the user's prompt. The chatbot forwards the user's query to the Tavily API, which searches online sources for relevant information.
Preconditions:	<ol style="list-style-type: none"> 1. The user has entered a valid pet care-related prompt. 2. The user's prompt does not involve map location search. 3. The Tavily API is online and accessible by the system.
Postconditions:	The PetBuddy chatbot successfully retrieves pet care information extracted from online sources in Google via the Tavily API.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. PetBuddy chatbot sends the user's prompt to the Tavily API for information retrieval. 2. Tavily API performs an online search, scraping data from websites based on the user's prompt. 3. Tavily API filters and extracts relevant information based on the user's pet care prompt. 4. Tavily API sends the extracted information back to the system.
Alternative Flows:	None
Exceptions:	<p>EX1: APIs Unavailable:</p> <p>If Tavily API is unavailable, the PetBuddy chatbot must respond with a fallback message:</p> <ul style="list-style-type: none"> - "I'm currently unable to retrieve information. Please try again later."
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Generate Report

Use Case ID:			
Use Case Name:	Generate Report		
Created By:	Hng Cherng Khai	Last Updated By:	Hng Cherng Khai
Date Created:	26th August 2024	Date Last Updated:	26th August 2024

Actor:	Gemini API PetBuddy chatbot
Description:	This use case describes the process by which the PetBuddy Chatbot generates a detailed report for the user based on their pet care-related query. After retrieving relevant information via the Tavily API, the PetBuddy chatbot uses the Gemini API to generate a comprehensive report that is returned to the user through the chatbot interface.
Preconditions:	<ol style="list-style-type: none"> 1. The user has entered a valid pet care-related prompt. 2. The user's prompt does not involve map location search. 3. The PetBuddy chatbot has successfully retrieved pet care information extracted from online sources in Google. 4. The Gemini API is online and accessible by the system.
Postconditions:	<ol style="list-style-type: none"> 1. The system successfully receives a detailed report using the Gemini API. 2. The PetBuddy chatbot is ready to display the report to the user
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The PetBuddy chatbot shall send a system prompt to the Gemini API . <ol style="list-style-type: none"> a. The PetBuddy chatbot prompt is formulated to ask Gemini API to generate a report. <ol style="list-style-type: none"> i. The report must be based on the original prompt provided by the user ii. The report must be based on the received information returned from the Tavily API call. iii. The report must include reference links. 2. Gemini API generates the report. 3. Gemini API sends the report to the PetBuddy chatbot.
Alternative Flows:	None
Exceptions:	EX1: APIs Unavailable: If Gemini API is unavailable, the PetBuddy chatbot must respond with a fallback message: - "I'm currently unable to retrieve information. Please try again later."
Includes:	None
Special Requirements:	None

Assumptions:	The Gemini API can generate a detailed and accurate report based on the data received.
Notes and Issues:	None

Appendix A: Data Dictionary

Term	Definition
Account	A registered user's personal profile associated with an application. It may include personal information, contact details, etc.
Application	A mobile application installed on users' smartphones that relies on an internet connection to fully utilize all of its intended features. The app may request certain system permissions to enable specific functionalities.
Adoption Center	Adoption center refers to a staffed facility where homeless animals are seized by authorities and are up for adoption.
API	API refers to mechanisms that enable two software components to communicate with each other using a set of definitions and protocols.
Chatbot	Chatbot refers to a computer program that is capable of simulating conversation with the users.
Carousel	Carousel is a multi-content format used on various visual social media platforms to display articles or images of pet related information.
Database	Database refers to an organized collection of structured information, or data, typically stored electronically in a computer system
Dialog	A small area on a screen in which the user is prompted to provide information or select commands.
Display Article Page	A page that displays all the articles added by the user
Explore Pet-Care Amenities	A visual representation of the location of pet amenities, displayed using the GoogleMap API.
GPS	GPS, or the Global Positioning System, is a global navigation satellite system that provides location, velocity and time synchronization.
Home Page	Refers to the page that users see right after they log into their account. Users will be able to access all other pages from here.
Listings	A list or catalog.
Missing Pet Page	A visual representation of the location of a missing pet reported by the pet owner displayed using the map.

Pet Owner	Pet Owner refers to a person that own a pet and is responsible for its well being
Pet Seekers	Pet Seekers refers to any user that is seeking or wanting a new pet.
Profile page	A page that displays information of the user.
Pop-up	A dialog that automatically appears (“pops up”) on the screen while the user performed certain action,
Sequential Conversation Flow	A turn-based interaction where the user and the PetBuddy chatbot take turns to send messages in a sequential manner.
System Prompt	A formatted input prepared by the system to interact with an external API (Gemini) for generating detailed reports.
System	PetCare application.
Secondhand Page	A list of secondhand items that are available to buy or sell.
User	The person using the PetCare mobile application after creating a PetCare account.
UI	User interface
View Pet Page	A page that displays all the information related to the pet.
View Adoption Center Pet Page	A page that displays all the available pets for adoption added by the adoption center for users to view.