Software Requirements Specification

for

Animal Care

Prepared by

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

Animal care app is all about helping animal, where we're on a mission to make caring for pets and animals easier and more accessible for everyone. Our app is like a helpful friend, providing all the tools and resources you need to keep your pet happy and healthy.

1.1 Purpose: Our app is designed to be your go-to guide for everything pet-related. Whether you're looking for advice on preventing common pet illnesses, finding the nearest pet store or animal hospital, adopting a new pet, fostering animals in need, or supporting animal welfare organizations through donations, we've got you covered. Our main goal is to ensure that all animals receive the care and attention they deserve, filling in the gaps where they might be overlooked.

1.2 Document Conventions: In creating this document, we've kept things simple and clear. We've prioritized the most important tasks and requirements, making sure they're easy to understand for everyone involved in the app's development and use. We might use different fonts or styles to highlight important points, but overall, we've aimed for clarity and simplicity.

1.3 Intended Audience and Reading Suggestions: This document is for anyone involved in our app, from the developers building it to the people using it and everyone in between. Whether you're a developer, project manager, marketer, user, tester, or documentation writer, there's something here for you. We suggest starting with the overview sections and then diving into the parts that are most relevant to your role.

1.4 Product Scope: Our app is all about making life better for pets and their owners. It's a hub of information, services, and support aimed at promoting animal welfare and enriching the lives of both pets and their humans. By providing easy access to resources and services, our app aligns with our mission to make the world a better place for all creatures, big and small.

2. Product Perspective:

Our animal care app is like a brand-new tool for pet owners, created to make caring for pets easier. It's not replacing anything else – it's a whole new thing on its own. Think of it as a helpful assistant for pet owners, packed with features to simplify pet care. While it works by itself, it also connects with other services, like finding nearby pet shops or processing donations. In the world of pet care, our app is a helpful addition, fitting in alongside other resources. It's like having a friendly guide in the community of pet lovers, always ready to lend a hand.

2.1 Product Functions:

- **Provide information on common pet diseases and preventive measures.**
- **Assist users in locating nearby pet shops and animal hospitals.**
- **Facilitate the adoption process for pets.**
- **Enable users to foster animals in need.**
- **Support donations to organizations dedicated to animal welfare.**

These functions form the core features of our animal care app, ensuring that users have access to essential resources and support for caring for their pets and animals.

2.2 User Classes and Characteristics:

Our animal care app is for different types of users, including:

1. **Pet Owners:**
    - **They use the app regularly to take care of their pets.**
    - **They use all features related to pet care, adoption, fostering, and donations.**
    - **They may have varying levels of technical knowledge and experience with pets.**

2. **Animal Enthusiasts:**

    - **They care about animals and use the app often.**
    - **They mainly use features for pet care information, adoption, fostering, and donations.**
    - **Their technical knowledge and experience with animals vary.**

3. **Animal Shelter Staff:**

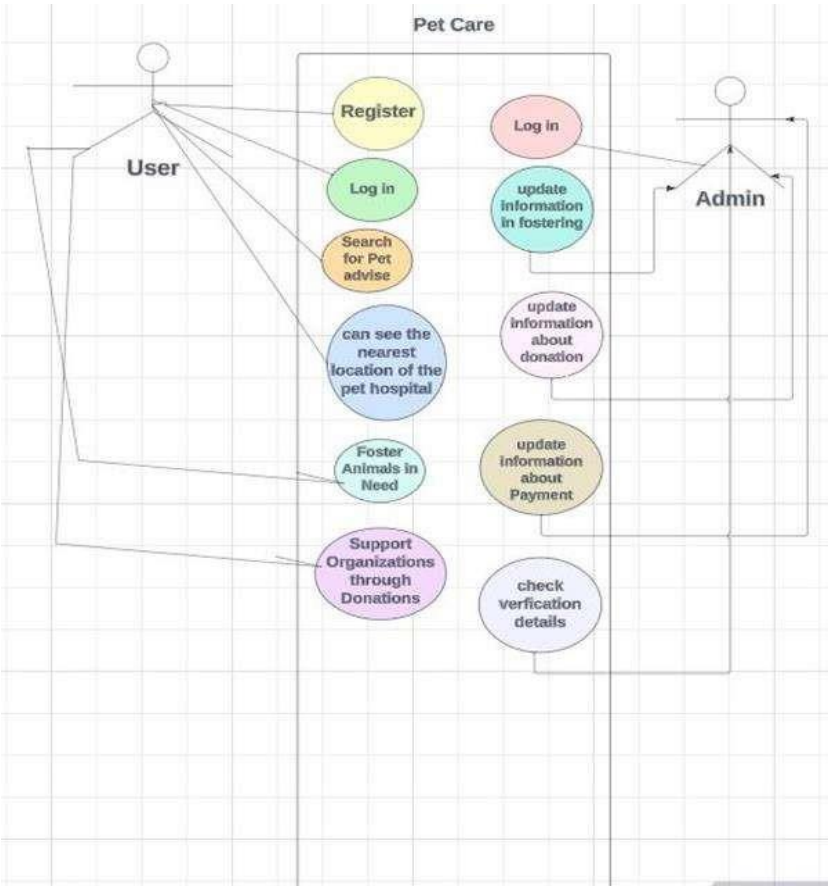
    - **They work at shelters and use the app regularly.**
    - **They primarily use features for adoption and fostering.**
    - **They have moderate to high technical knowledge and experience in animal care.**

4. **Nonprofit Organization Representatives:**

    - **They represent animal welfare organizations and use the app frequently.**
    - **They mainly use features related to donations.**
    - **They have moderate to high technical knowledge and experience in nonprofit management.**

2.3 Operating Environment:

Our animal care app works on phones, tablets, and computers. It runs on iOS, Android, Windows, and macOS. It can connect with location services, payment systems, and adoption databases. It's designed to work smoothly with other apps you use on your devices.

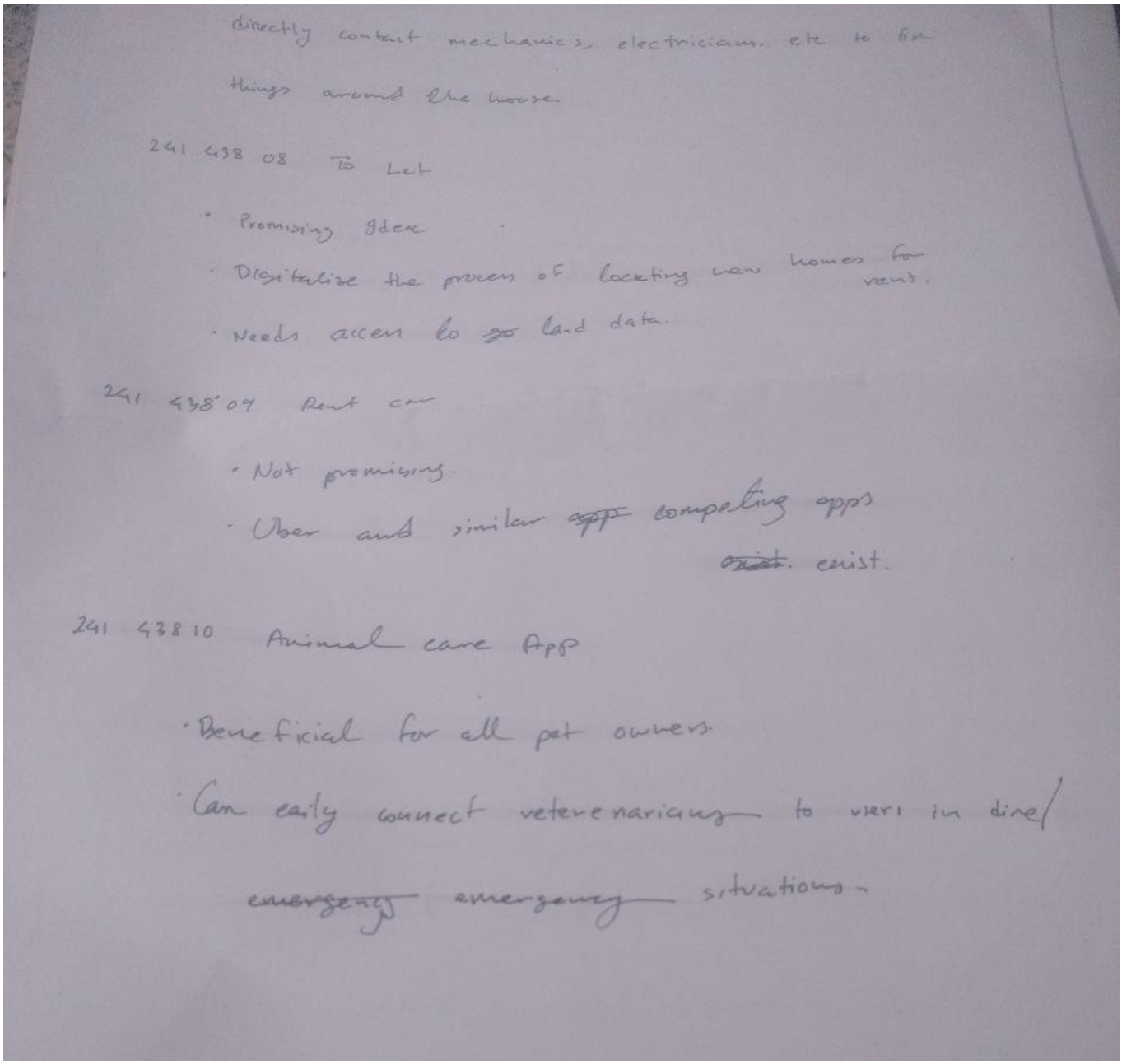


2.4 Use case diagram:

2.5 Design and Implementation Constraints:

The animal care app, developed using Flutter, faces certain design and implementation constraints. Due to its cross-platform nature, ensuring consistent performance and user experience across various operating systems (iOS, Android, Windows, macOS) presents a challenge. Compatibility with different device sizes and resolutions also needs to be considered for optimal usability. Additionally, integrating with external services such as location services, payment systems, and adoption databases requires adherence to their respective APIs and security protocols. The use of Flutter imposes limitations on accessing native platform functionalities, necessitating workarounds or compromises for certain features.

2.6 **User Documentation**



2.7 Assumption and Dependencies:

Assumptions:

1. User Engagement: We assume that pet owners and animal enthusiasts will actively engage with the app to seek information, adopt pets, foster animals, and support animal welfare causes.
2. Technical Infrastructure: It is assumed that users will have access to devices (phones, tablets, computers) with compatible operating systems (iOS, Android, Windows, macOS) to run the app effectively.
3. Data Accuracy: We assume that users will provide accurate and reliable information during the adoption and fostering processes to ensure the well-being of animals.
4. Internet Connectivity: The app's functionality relies on stable internet connectivity. We assume that users will have access to reliable internet connections for accessing features like locating nearby pet shops, processing donations, and accessing information on common pet diseases.
5. User Privacy and Security: It is assumed that the app will adhere to strict privacy and security standards to protect user data and ensure a safe browsing and transactional experience.

Dependencies:

1. External APIs: The app depends on external APIs for services like location tracking, payment processing, and accessing adoption databases. Any changes or disruptions in these APIs may impact the app's functionality.
2. Resource Availability: The development and maintenance of the app depend on the availability of resources, including funding, skilled personnel, and technical infrastructure.
3. Regulatory Compliance: Compliance with local regulations and laws governing pet adoption, animal welfare, and data privacy is essential. Changes in regulations may necessitate updates to the app's features and functionalities.
4. Integration with Partner Organizations: The success of certain features, such as facilitating adoptions and donations, relies on partnerships with animal shelters, nonprofit organizations, and adoption agencies. Effective collaboration and integration with these partners are crucial for the app's effectiveness.
5. User Feedback and Adoption: The app's success depends on user adoption and engagement. Regular feedback from users will be essential for iterating on features and improving the app's overall user experience.

3. External Interface Requirements

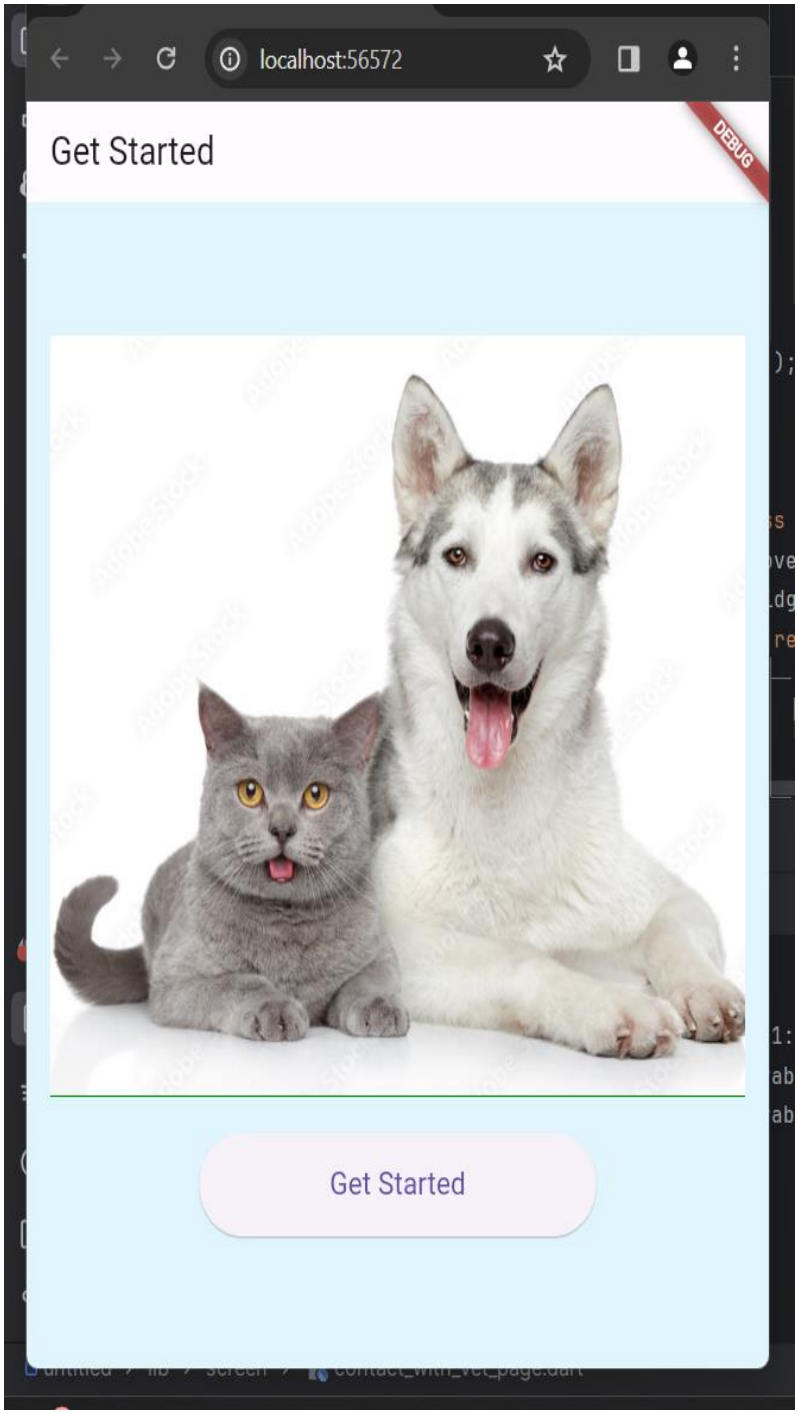
3.1 User Interfaces:

The Animal Care App makes it easy for you to take care of your pets and help other animals too. Here's what you'll find:

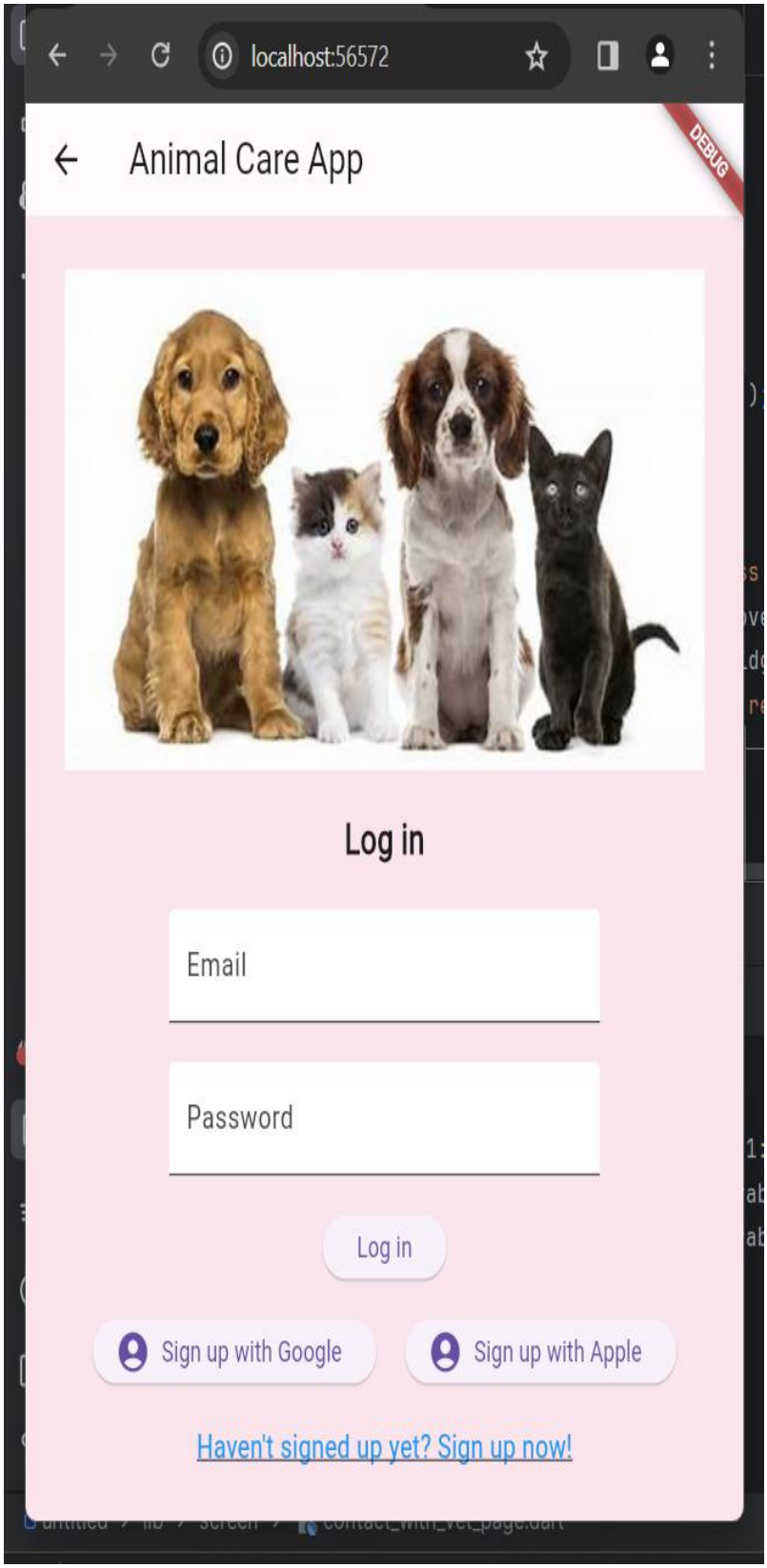
1. **Pet Shop Finder:** Need to find pet shops nearby? The app shows you all the pet shops in your area, along with their location, prices, and other details, so you can pick the best one for your needs.
2. **Adoption Features:** Thinking about adopting a pet? The app helps you create adoption posts and find animals that need a loving home. You can browse through profiles of pets available for adoption and connect with shelters or rescue organizations to make the adoption process smooth and easy.
3. **Foster Home Finder:** Want to foster an animal in need? The app helps you find foster homes where animals can stay temporarily. You can search for available foster homes and connect with organizations that facilitate fostering arrangements.
4. **Pet Care Information:** Get all the info you need to keep your pets healthy and happy. The app provides details about different diseases, their symptoms, and first aid measures you can take. You can also find information about vaccinations to protect your pets from illnesses.
5. **Contact with Vet:** In case of emergencies or if you need advice from a veterinarian, the app allows you to quickly get in touch with vet clinics. You can find contact details and directions to the nearest animal hospitals or veterinary clinics.
6. **Donation**: Want to support animal welfare organizations? You can donate money through the app to help animals in need. Choose where you want your donation to go and make a difference in the lives of animals.
7. **Animal Hospital Locator:** If your pet needs medical attention, the app helps you find animal hospitals or clinics nearby. You can locate emergency veterinary services and get your pet the care they need quickly.

Picture of the Interface

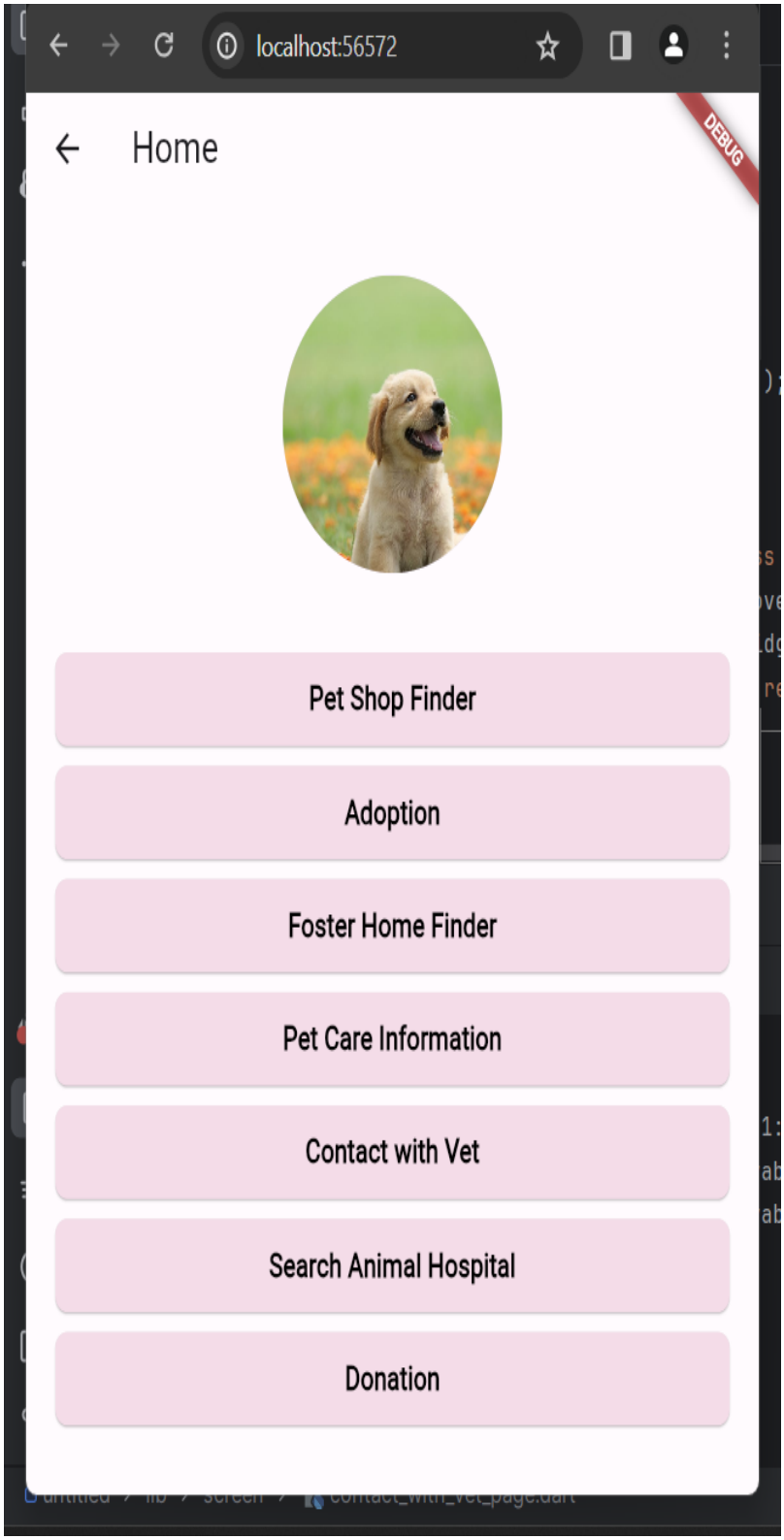
Get started page



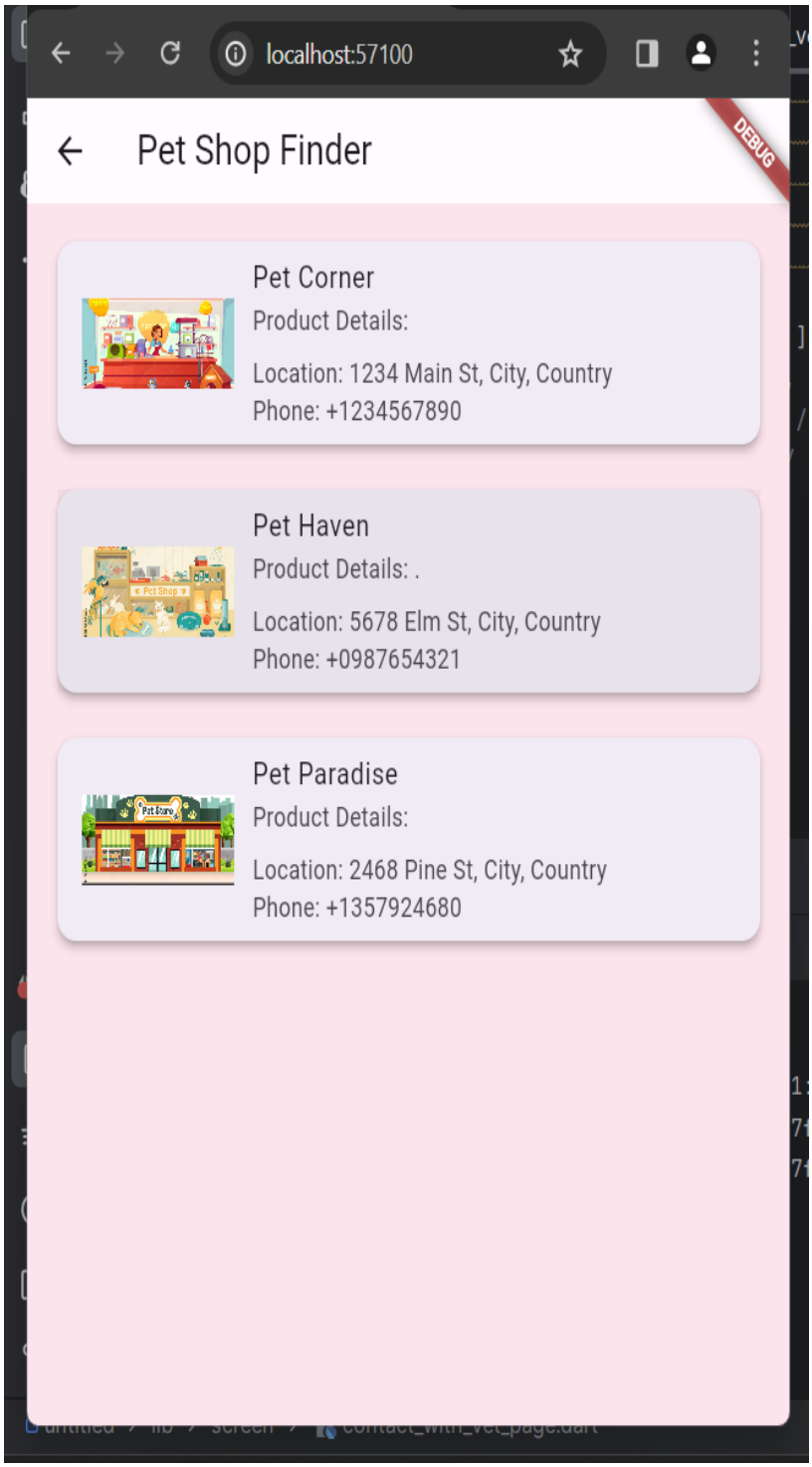
Log in page


localhost:56572
Animal Care App
DEBUG
Log in
Email
Password
Log in
Sign up with Google
Sign up with Apple
Haven't signed up yet? Sign up now!

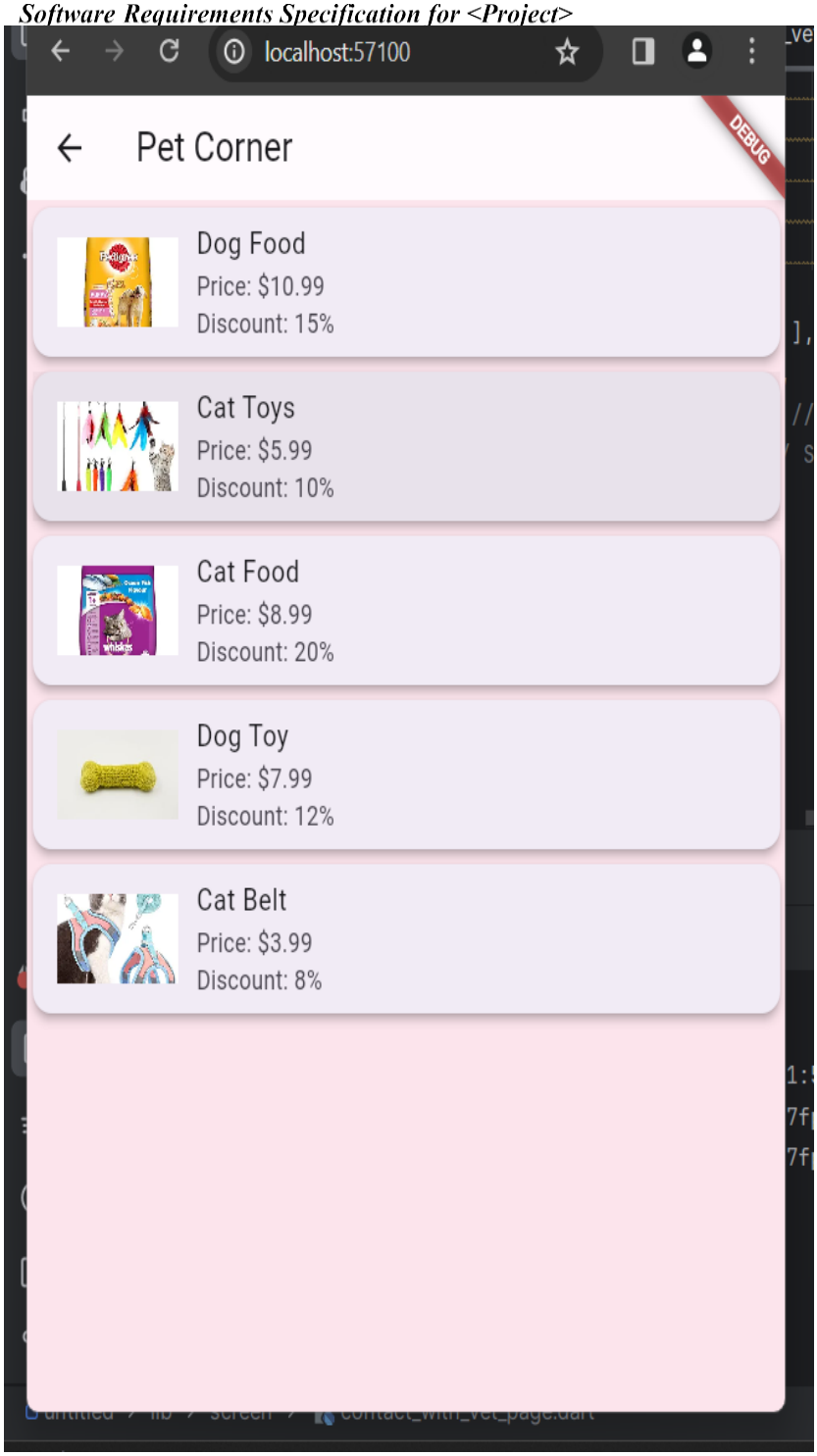
Home Page: It contains all Features we have as button



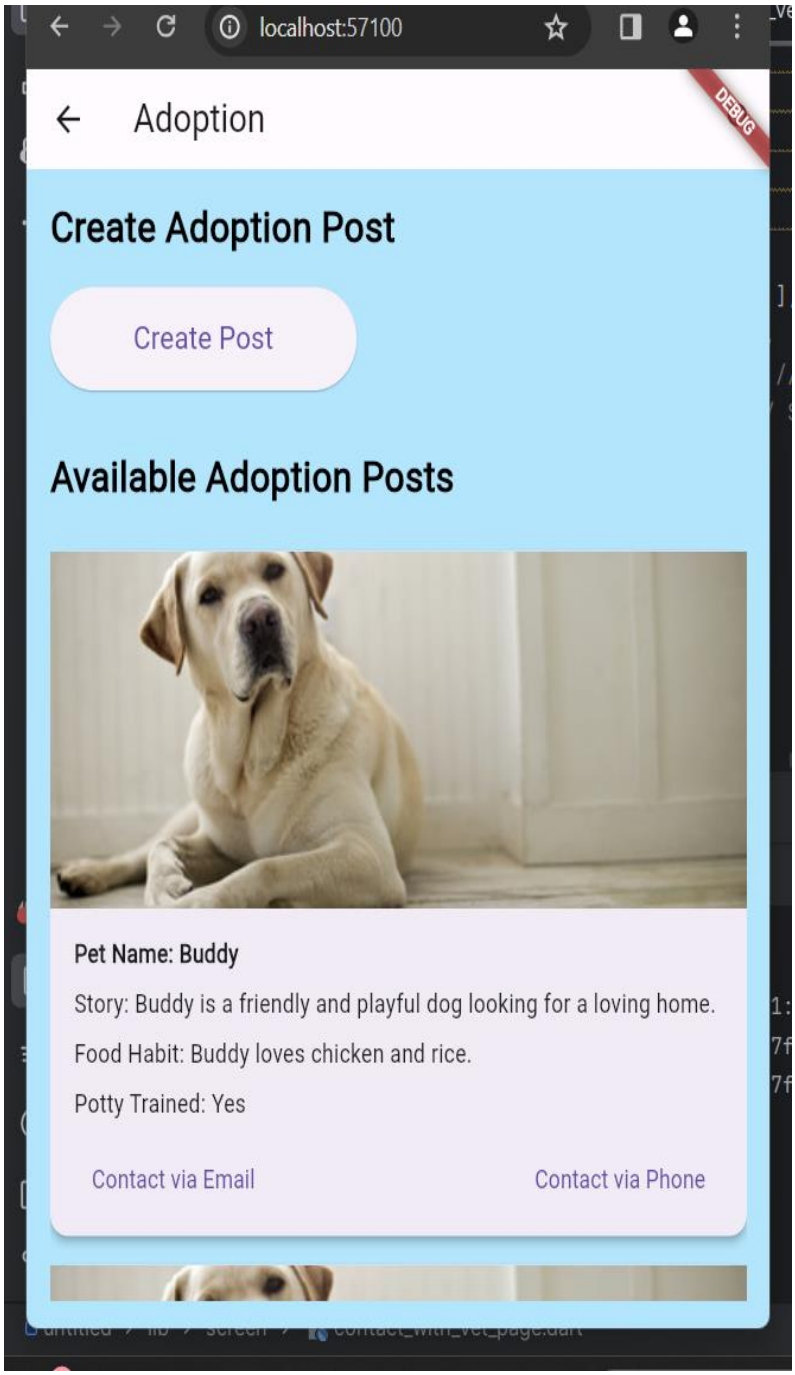
Pet Shop Finder page: It contains different pet shop details with location and their product price details



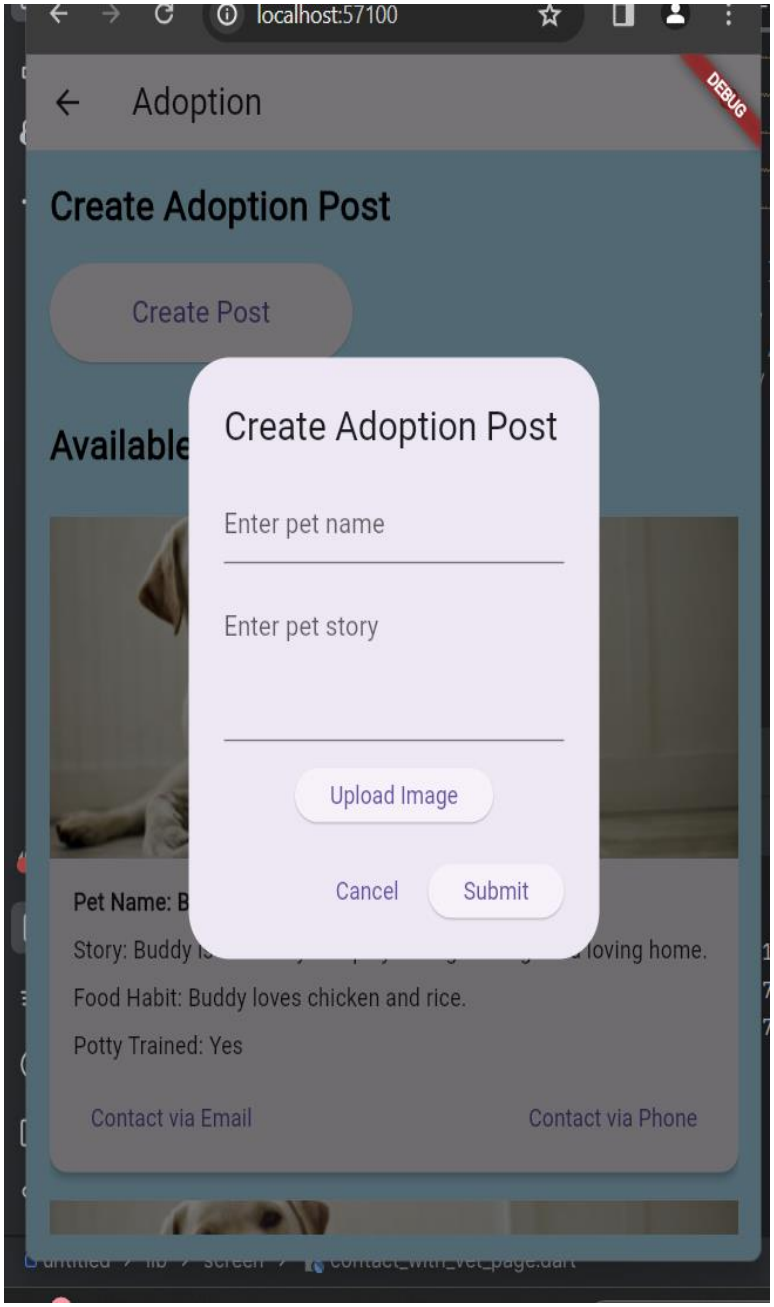
All pet shop contains all product price details and discount


localhost:57100
Pet Corner
DEBUG
Dog Food
Price: $10.99
Discount: 15%
Cat Toys
Price: $5.99
Discount: 10%
Cat Food
Price: $8.99
Discount: 20%
Dog Toy
Price: $7.99
Discount: 12%
Cat Belt
Price: $3.99
Discount: 8%

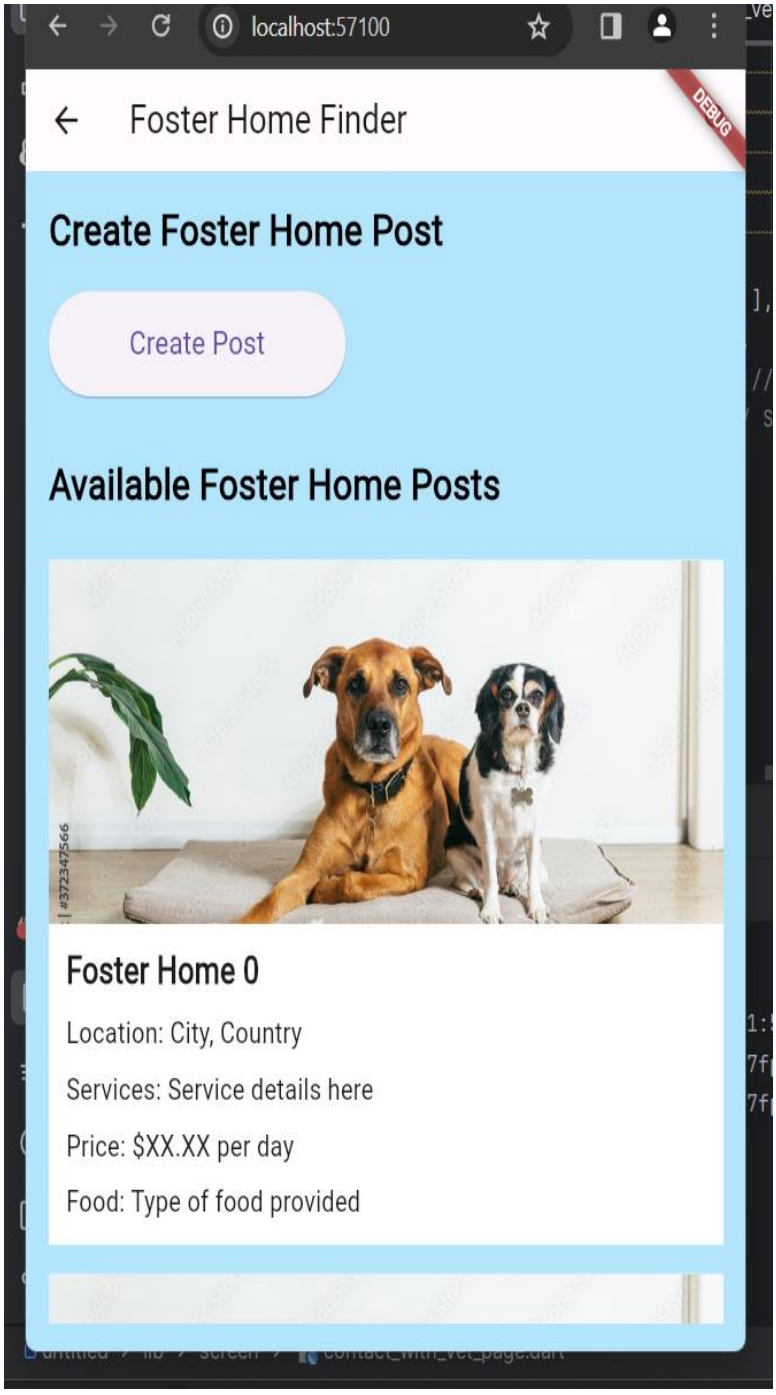
Adoption Page: With this page anyone can create adoption post and see available adoption post with all contact details and pet details.

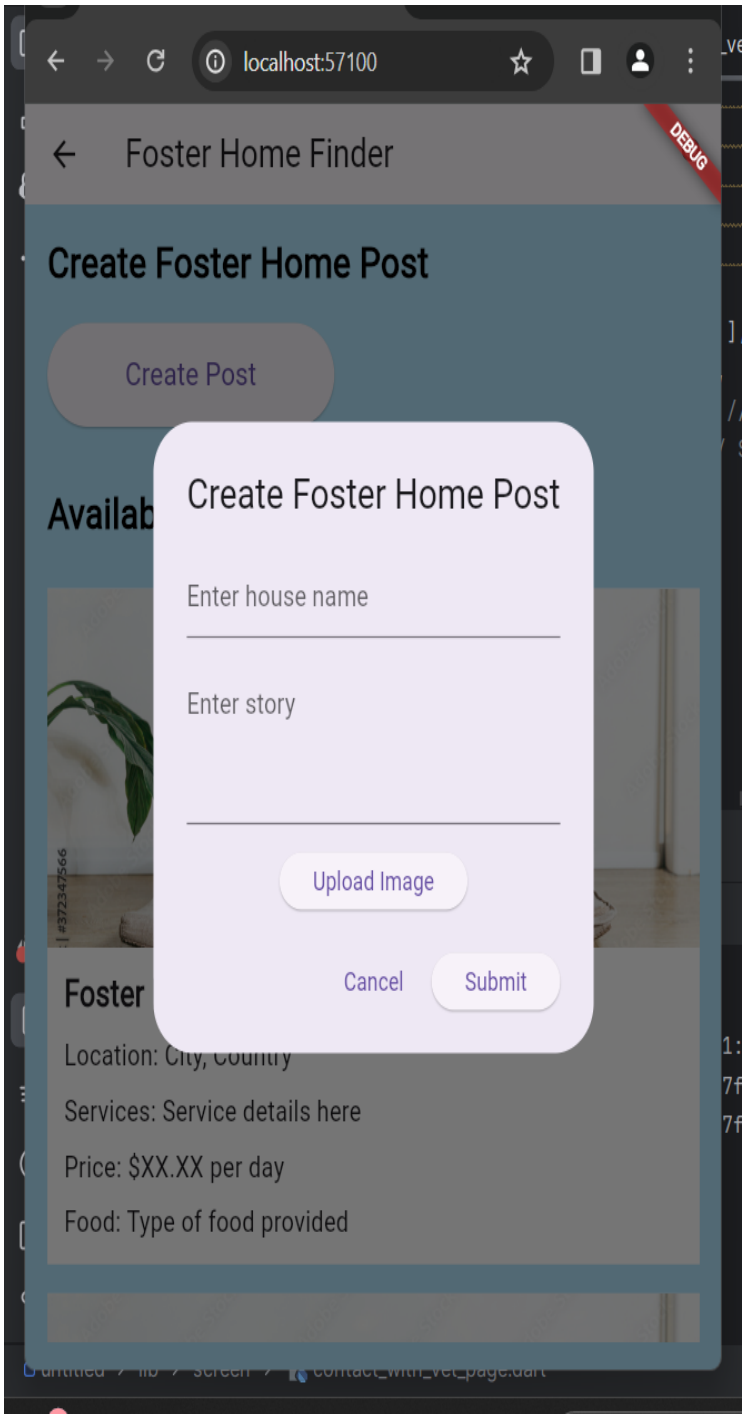


Adoption post Creating Option

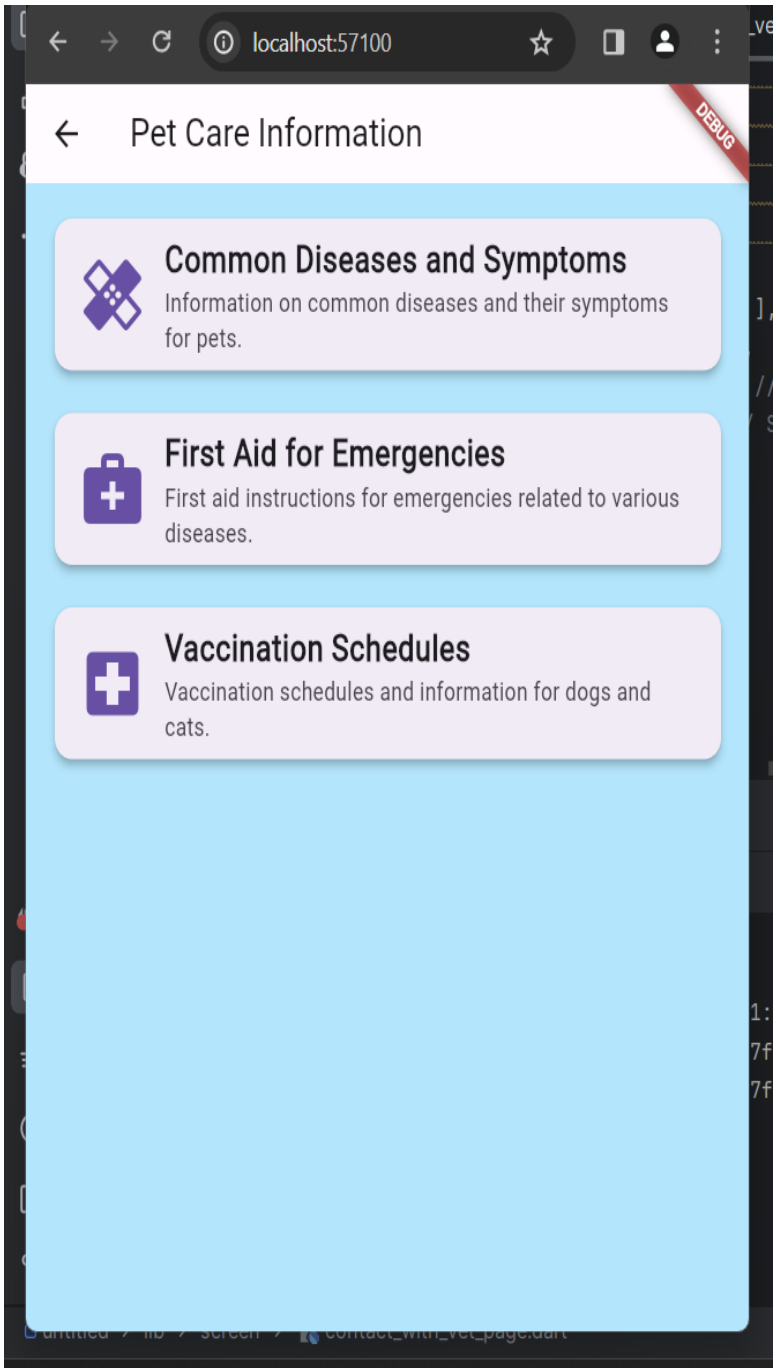


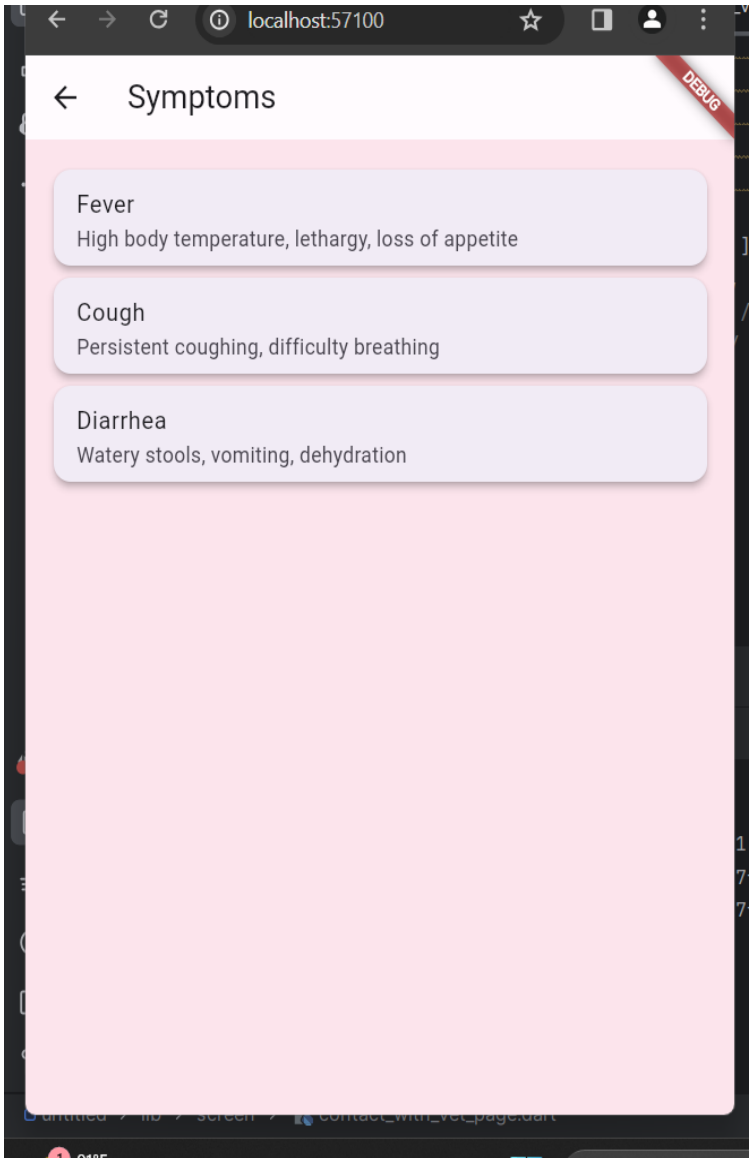
Foster home Finder Page: With this feature anyone can create foster home post if they want to be foster parents and earn some money by fostering. Also, anyone can find poster home available post with all service details and price.

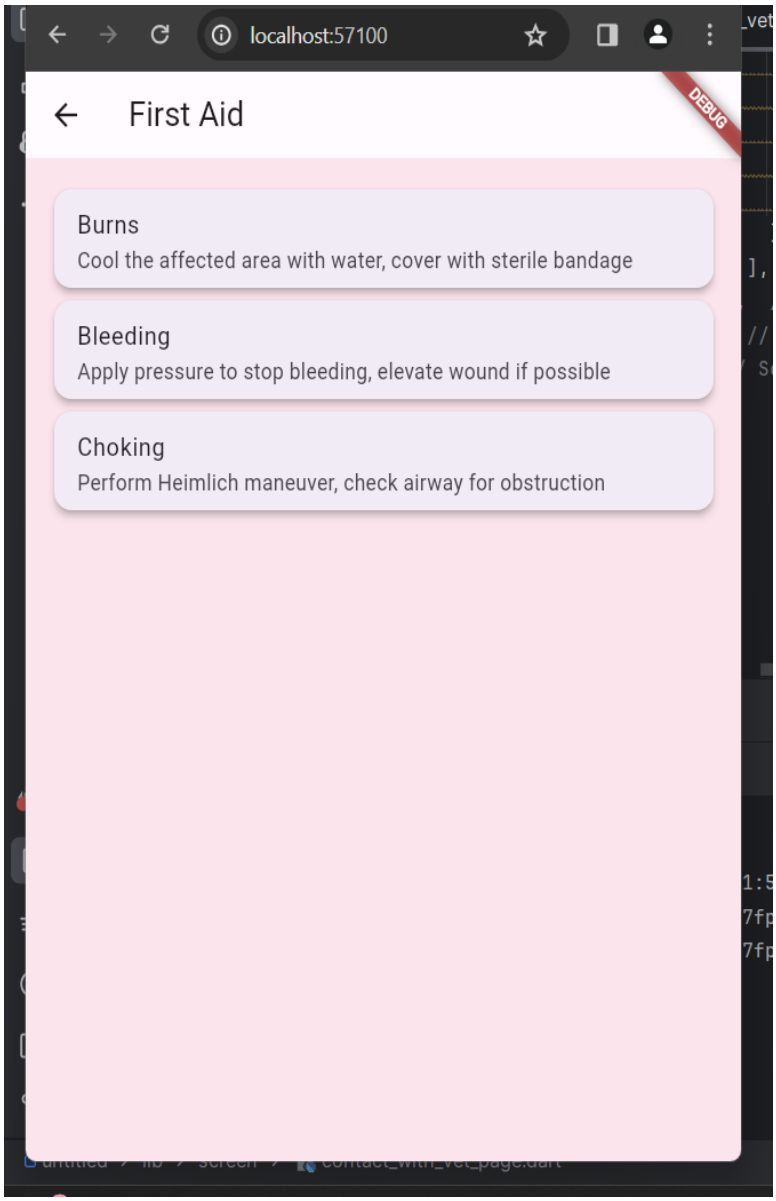


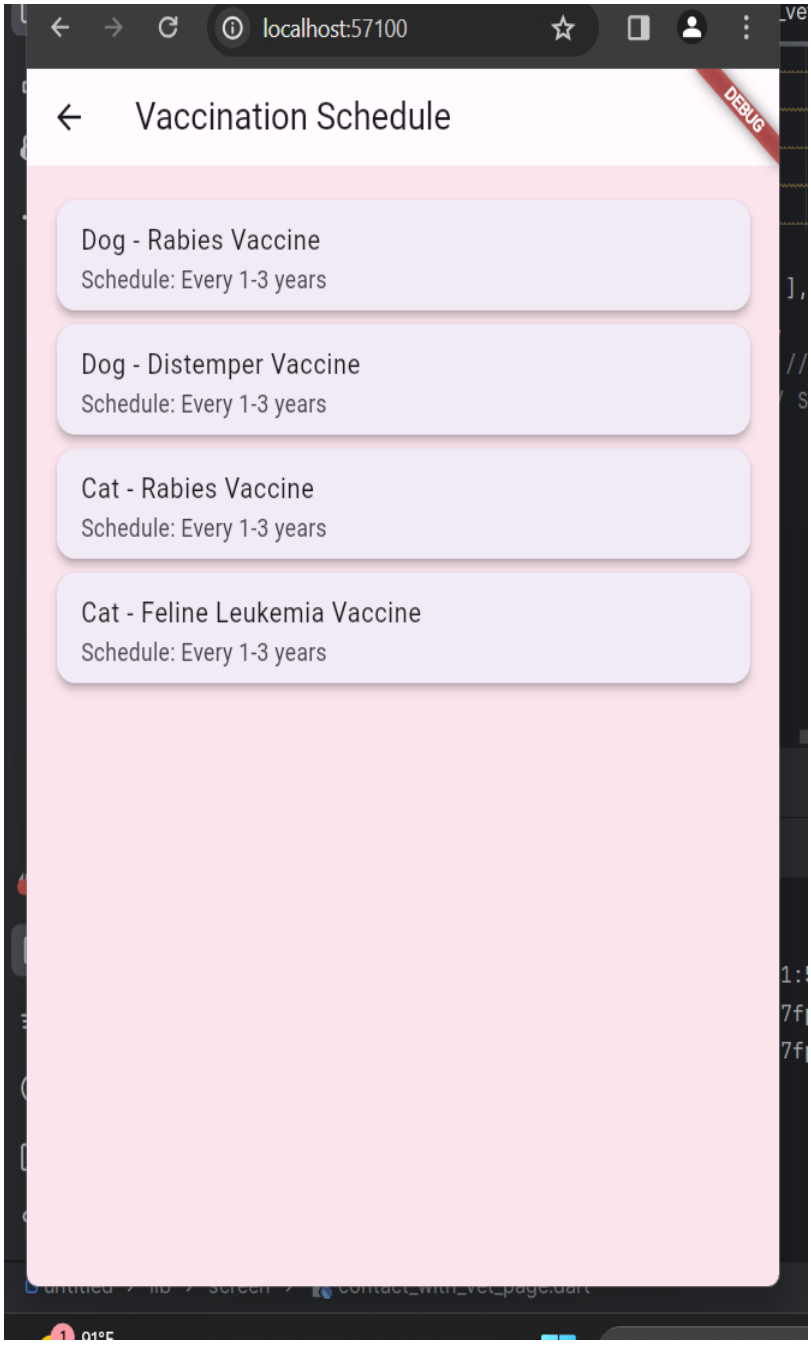

localhost:57100
Foster Home Finder
DEBUG
Create Foster Home Post
Create Post
Availab
Create Foster Home Post
Enter house name
Enter story
Upload Image
Cancel
Submit
Foster
Location: City, Country
Services: Service details here
Price: $XX.XX per day
Food: Type of food provided

Pet Care Information Page: In this page you will get all kind of pet related suggestion like knowing different disease symptoms, First Aid in any emergency situation and all Vaccination details.

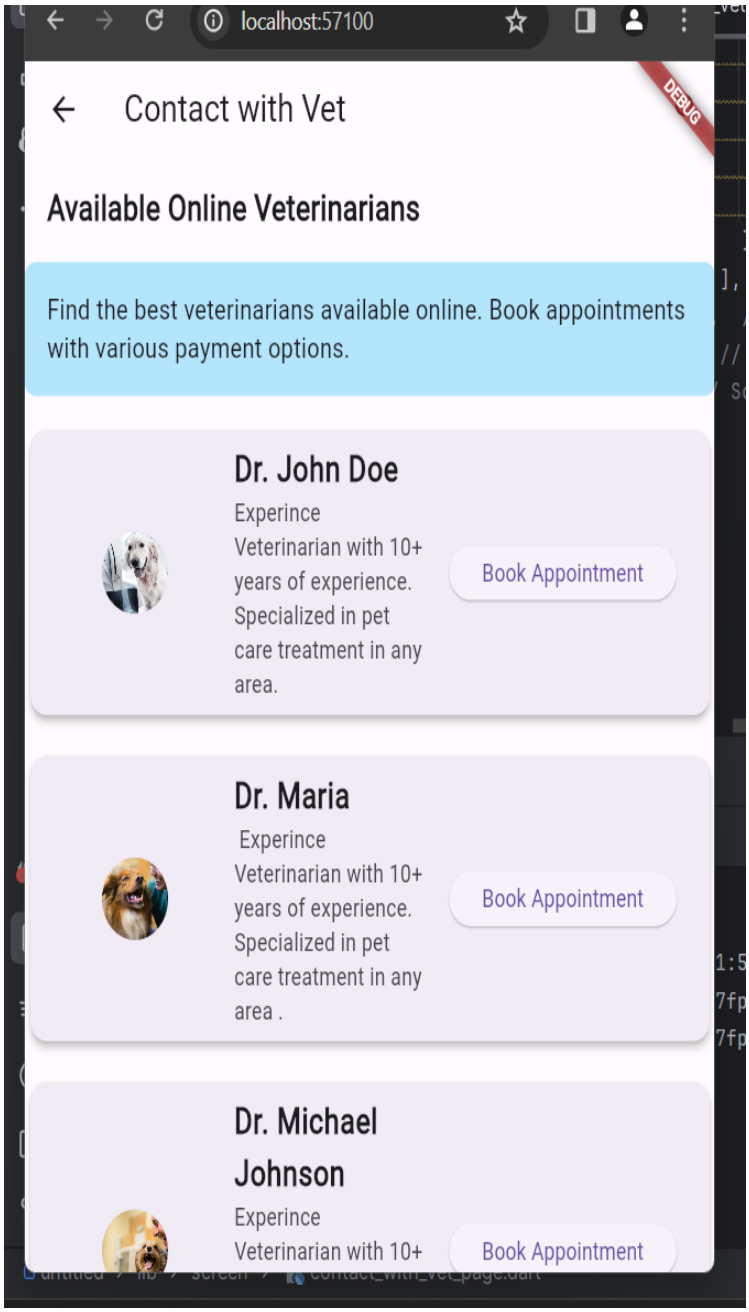



localhost:57100
Symptoms
DEBUG
Fever
High body temperature, lethargy, loss of appetite
Cough
Persistent coughing, difficulty breathing
Diarrhea
Watery stools, vomiting, dehydration

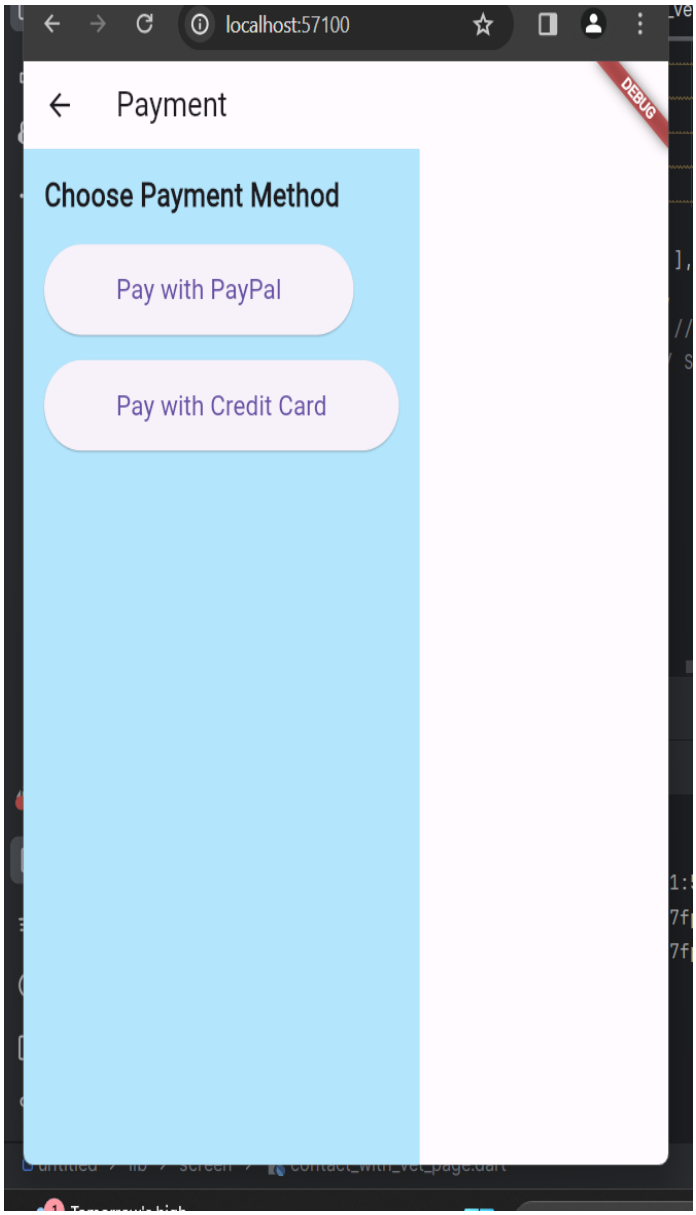

localhost:57100
First Aid
DEBUG
Burns
Cool the affected area with water, cover with sterile bandage
Bleeding
Apply pressure to stop bleeding, elevate wound if possible
Choking
Perform Heimlich maneuver, check airway for obstruction


localhost:57100
Vaccination Schedule
DEBUG
Dog - Rabies Vaccine
Schedule: Every 1-3 years
Dog - Distemper Vaccine
Schedule: Every 1-3 years
Cat - Rabies Vaccine
Schedule: Every 1-3 years
Cat - Feline Leukemia Vaccine
Schedule: Every 1-3 years

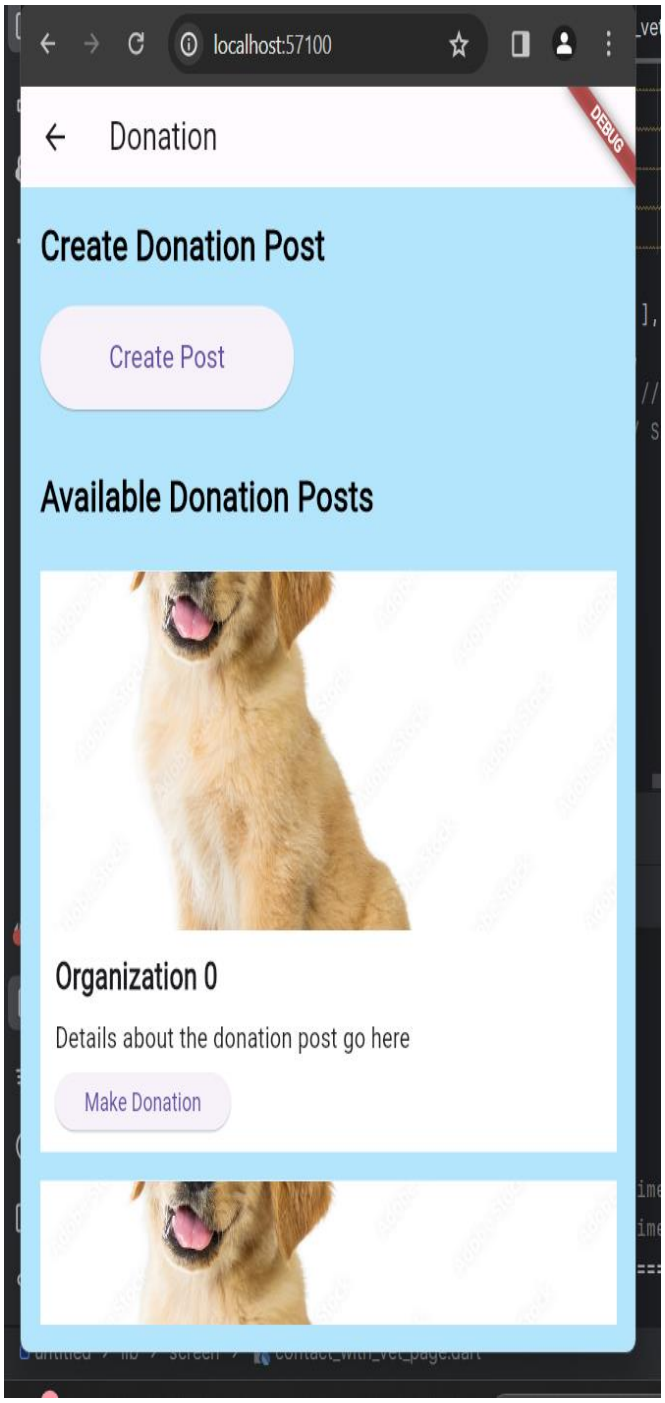
Contact with Vet page: With this page anyone can contact with vet and book appointment via online. And see all available vet in online with their details.



Book appointment Payment details



Donation page: With this feature anyone Can create donation post to help animal and also can donate for nonprofit organization who works for streets animal.



3.2 Software Interfaces:

1. **API Integration**: The app interacts with external APIs to fetch or send data, such as weather updates or user information. This involves sending HTTP requests, processing responses, and handling errors.
2. **Database Integration**: Flutter apps use databases for local or remote data storage. Operations like CRUD (Create, Read, Update, Delete) are performed for managing user profiles, settings, or cached data. Attention to data modeling and error handling ensures data integrity.
3. **Authentication Service**: Authentication services like Firebase Authentication or OAuth providers manage user login, registration, and session handling. Security measures like password hashing and token management are crucial for user data protection.
4. **External Services Integration**: Apps may integrate with payment gateways, messaging services, or analytics platforms. This involves using SDKs or client libraries provided by the service providers and ensuring robust communication through error handling and retry mechanisms.

3.3 Communication Interface:

1. HTTP Communication: The app utilizes HTTP communication to interact with external APIs, fetching data such as pet care information, adoption listings, or donation opportunities. Packages like http facilitate sending requests and handling responses from web servers, ensuring up-to-date information for users.
2. WebSocket Communication: Real-time communication is enabled through WebSocket interfaces, allowing for instant updates on adoption availability or emergency alerts. WebSocket packages like web_socket_channel support bidirectional data exchange, ensuring timely notifications and interactive features within the app.
3. Platform Channels: Integration with native platform functionalities or third-party SDKs is achieved through platform channels. By defining method channels, the app accesses device features such as camera for pet photos or location services for finding nearby pet services. This integration enhances the app's capabilities and user engagement.
4. Custom APIs and Protocols: Custom communication interfaces are implemented to interact with specialized systems or protocols relevant to animal welfare, such as veterinary databases or adoption management systems. These interfaces ensure compatibility and seamless integration with existing infrastructure, providing comprehensive support for users and organizations.

5. Local Communication: Inter-app communication or data sharing within the device ecosystem is facilitated through local communication mechanisms. Method channels or shared preferences enable collaboration between app modules, ensuring efficient data exchange and synchronization for features like offline mode or background tasks.

5. Other Non-Functional Requirements:

The app should respond to user interactions promptly, with minimal loading times for accessing information or performing actions. Response times for fetching data from external APIs or services should be optimized to ensure a smooth user experience.

1.**Safety Requirements**: The app should prioritize the safety and well-being of animals and users. This includes providing accurate information on pet care, adhering to ethical standards in adoption and fostering processes, and implementing safety measures for handling emergency situations or reporting animal abuse.

2. Security Requirements: User data should be securely stored and transmitted to prevent unauthorized access or data breaches. Authentication mechanisms should be implemented to ensure that only authorized users can access sensitive features or information within the app.

3. Software Quality Attributes: The app should be reliable, robust, and easy to use. It should be compatible with a variety of devices and platforms, ensuring a consistent experience for all users. Additionally, the app should be scalable to accommodate potential growth in user base and feature enhancements over time.

4. Business Rules: The app should adhere to business rules and regulations related to animal welfare, adoption procedures, and charitable donations. This includes compliance with local laws and regulations governing pet care, adoption processes, and nonprofit organizations' operations.

4.1 Performance Requirements:

- The app should load within a reasonable time frame, typically within a few seconds, to provide quick access to information and features.
- Response times for fetching data from external sources, such as pet adoption listings or nearby pet services, should be optimized to ensure a seamless user experience.

4.2 Safety Requirements:

- The app should provide accurate and reliable information on pet care to ensure the safety and well-being of animals.
- Adoption and fostering processes within the app should adhere to ethical standards and prioritize the welfare of animals.
- Emergency contact information for veterinary services or animal shelters should be readily accessible to users in case of urgent situations.

4.3 Security Requirements:

- User authentication mechanisms, such as login credentials or biometric authentication, should be implemented to ensure that only authorized users can access the app's features and data.
- User data, including personal information and payment details for donations, should be encrypted and securely stored to prevent unauthorized access or data breaches.

4.4 Software Quality Attributes:

- The app should be reliable and robust, with minimal crashes or errors during regular use.
- It should provide a user-friendly interface that is easy to navigate and understand, catering to users of all technical skill levels.
- Compatibility with various devices and platforms, including smartphones, tablets, and computers, should be ensured to reach a wide audience of users.

4.5 Business Rules:

- The app should follow ethical guidelines and legal regulations governing pet care, adoption procedures, and nonprofit organizations' operations.
- Donations made through the app should be transparently allocated to reputable animal welfare organizations, adhering to established guidelines for charitable giving.
- Adoption and fostering processes should prioritize the well-being of animals, ensuring responsible placement and care under the supervision of accredited shelters or rescue organizations.

6. Conclusion

The Animal Care App can help any animals to lead a good life. And supports pet owner take care of their pet with our app functionalities such as pet shop finder with location and price details, adoption facilitation, foster home search, pet care information including disease symptoms and first aid, vaccination details, contact with vet in emergencies, and donation support, the app addresses various aspects of pet care and animal welfare. However, despite its extensive capabilities, the app has few limitations for animal hospital finding page. In future we aim to solve all of those limitation and improve app functionality more.