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2. INTRODUCTION

In today's digital world, finding the perfect pet or a loving home for one should be easy, reliable, and compassionate. **Pet Connect** is a user-friendly mobile and web application designed to bridge the gap between pet lovers, breeders, shelters, and responsible pet seekers. Whether you are looking to adopt a furry friend, buy a specific breed, or responsibly rehome your pet, Pet Connect offers a seamless and secure platform to meet your needs.

With features like verified seller profiles, breed-specific filters, health record tracking, and real-time chat support, our platform ensures that every pet transaction is transparent, ethical, and in the best interest of the animal. Pet Connect also partners with local shelters and NGOs to promote adoption and raise awareness about pet care.

Our mission is simple: **Connect pets with the right people** and promote a community where every pet finds a loving home.

2.1 PURPOSE

The purpose of a pet buying and selling application is to provide a centralized, convenient, and ethical digital platform for connecting pet sellers, buyers, and adopters. It addresses several needs and challenges within the pet trade and adoption ecosystem.

↳ Main Purposes of a Pet Buying and Selling Application

1. Facilitate Easy Pet Buying and Selling

- Enable users to browse, search, and filter pets by breed, age, location, price, etc.
- Help sellers (breeders, pet shops, individual owners) showcase their pets with images, videos, and health details.
- Streamline communication between buyers and sellers through in-app chat or calls.

2. Promote Responsible Pet Ownership

- Encourage users to make informed choices by providing breed info, care tips, and pet requirements.
- Include mandatory sections for vaccination, microchipping, and health certification.

3. Support Animal Adoption and Rescue

- Integrate features for NGOs, shelters, and rescue centers to list pets for adoption at no or minimal cost.
- Raise awareness around "Adopt, Don't Shop" initiatives.

4. Build a Trustworthy Ecosystem

- Include user ratings and reviews for sellers and buyers.
- Implement identity verification and fraud prevention mechanisms to reduce scams and unethical practices.

5. Streamline Legal and Medical Processes

- Offer documentation upload (e.g., pet birth certificate, vaccination card, transfer of ownership forms).
- Notify users about required local regulations or pet ownership laws.

2.2 SCOPE

The scope defines the boundaries, features, users, and functionalities the application will cover. It clarifies what the system will do (and not do), ensuring that the development stays focused and aligned with business goals.

User Management

- User registration and login (buyers, sellers, shelters, admins)
- Role-based access (e.g., shelter vs breeder)
- KYC/identity verification for sellers

Pet Listings and Discovery

- Add/manage pet listings with images, breed info, price, health history
- Advanced search and filters (breed, age, price, location, gender, etc.)

- View detailed pet profiles

Communication

- In-app messaging or chat between buyer and seller
- Option for call scheduling or video consultation

Transactions and Payments

- Online payment gateway integration (optional cash on delivery/pickup)
- Booking/reservation of pets
- Order history and invoice generation

Adoption and NGO Integration

- Dedicated section for shelters and NGOs to list pets for adoption
- Pet adoption request forms and tracking
- Donation option to support NGOs

Health and Legal Documentation

- Upload/view vaccination, deworming, spay/neuter certificates
- Transfer of ownership forms
- Digital medical records integration (optional)

★ Ratings and Reviews

- Buyer reviews for sellers/breeders
- Seller reviews for buyers (optional)
- Reporting feature for abuse or fraud

2.3 OBJECTIVES

1. Connect Buyers and Sellers Efficiently

Provide a platform where pet buyers, breeders, pet shops, and shelters can easily connect and interact.

2. Simplify Pet Transactions

Enable users to browse, list, communicate, and complete transactions (buy/sell/adopt) seamlessly through the app.

3. Promote Ethical and Legal Practices

Ensure all listings and activities comply with animal welfare laws and discourage illegal breeding or cruelty.

4. Encourage Pet Adoption

Support shelters and NGOs by giving them a platform to list pets for adoption and raise awareness.

5. Enhance Trust and Safety

Include verified profiles, user reviews, health records, and reporting features to build a trusted environment.

6. Improve User Convenience

Offer a user-friendly experience with filters, notifications, health tracking, and digital documents in one place.

7. Support Responsible Pet Ownership

Educate users with pet care information, breed traits, and medical requirements to ensure long-term welfare of pets.

3. FUNCTIONAL REQUIREMENTS

3.1 PRIMARY ACTORS OF THE SYSTEM

_PRIMARY ACTORS OF THE SYSTEM

1. Pet Buyer

- Searches for pets to buy or adopt.
- Views listings, contacts sellers or shelters, and makes payments or requests.
- Leaves reviews and ratings.

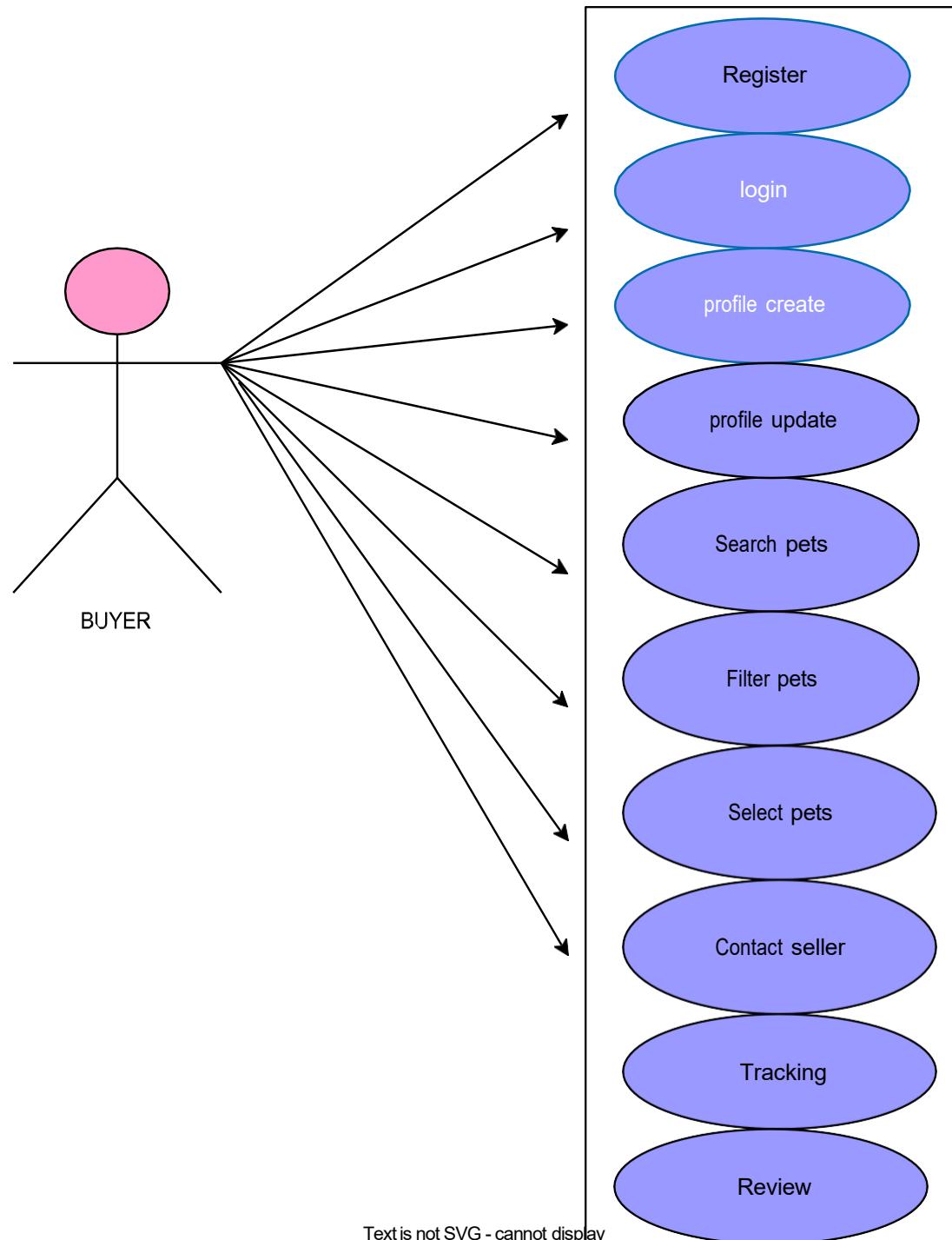
2. Pet Seller

- Registers and creates pet listings.

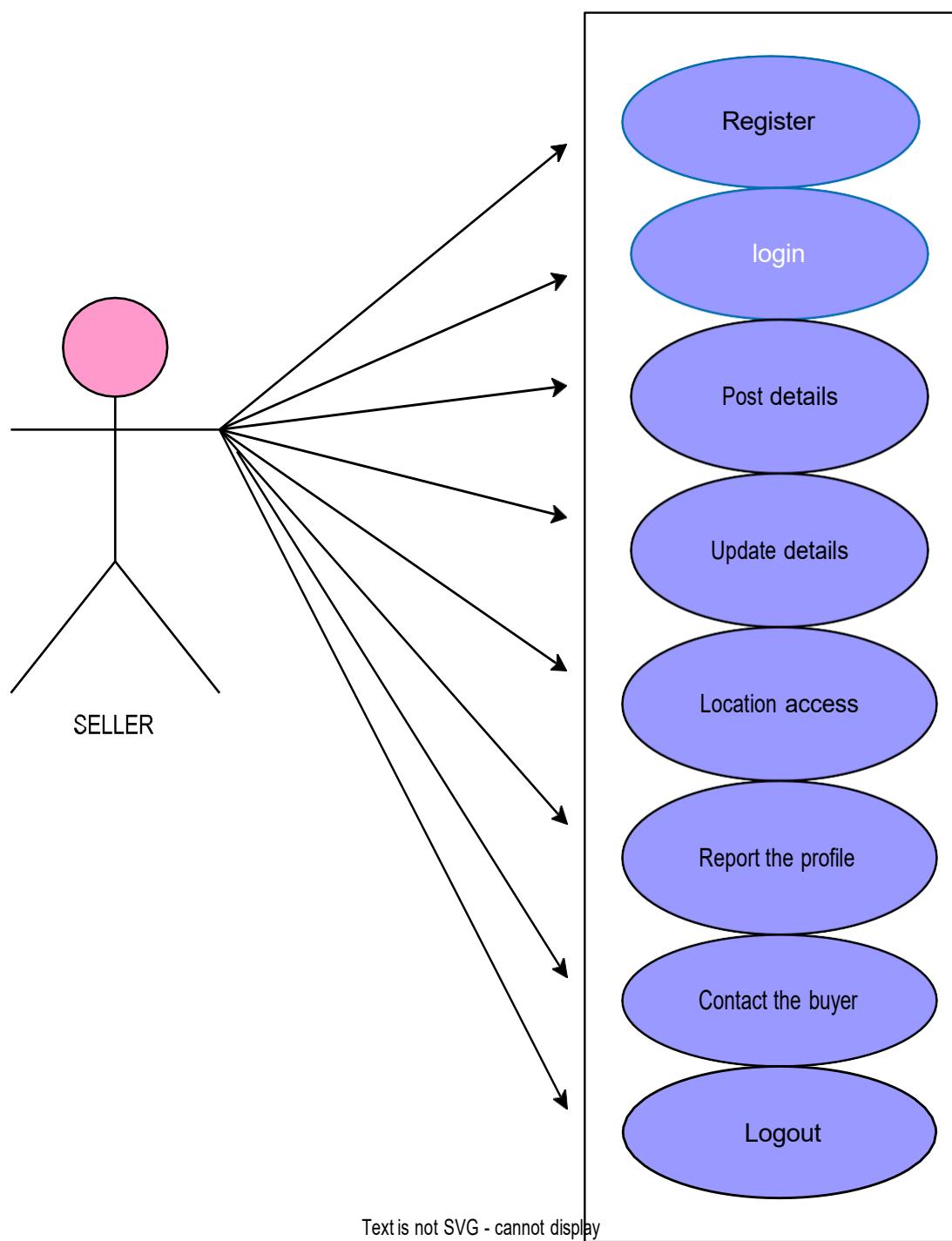
- Manages pet profiles, pricing, availability, and responds to buyer inquiries.
- Provides medical documents and updates status post-sale.

3.2 USE CASE DIAGRAM

3.2.1 PET BUYER



3.2.2 PET SELLER



3.3 USE STORIES

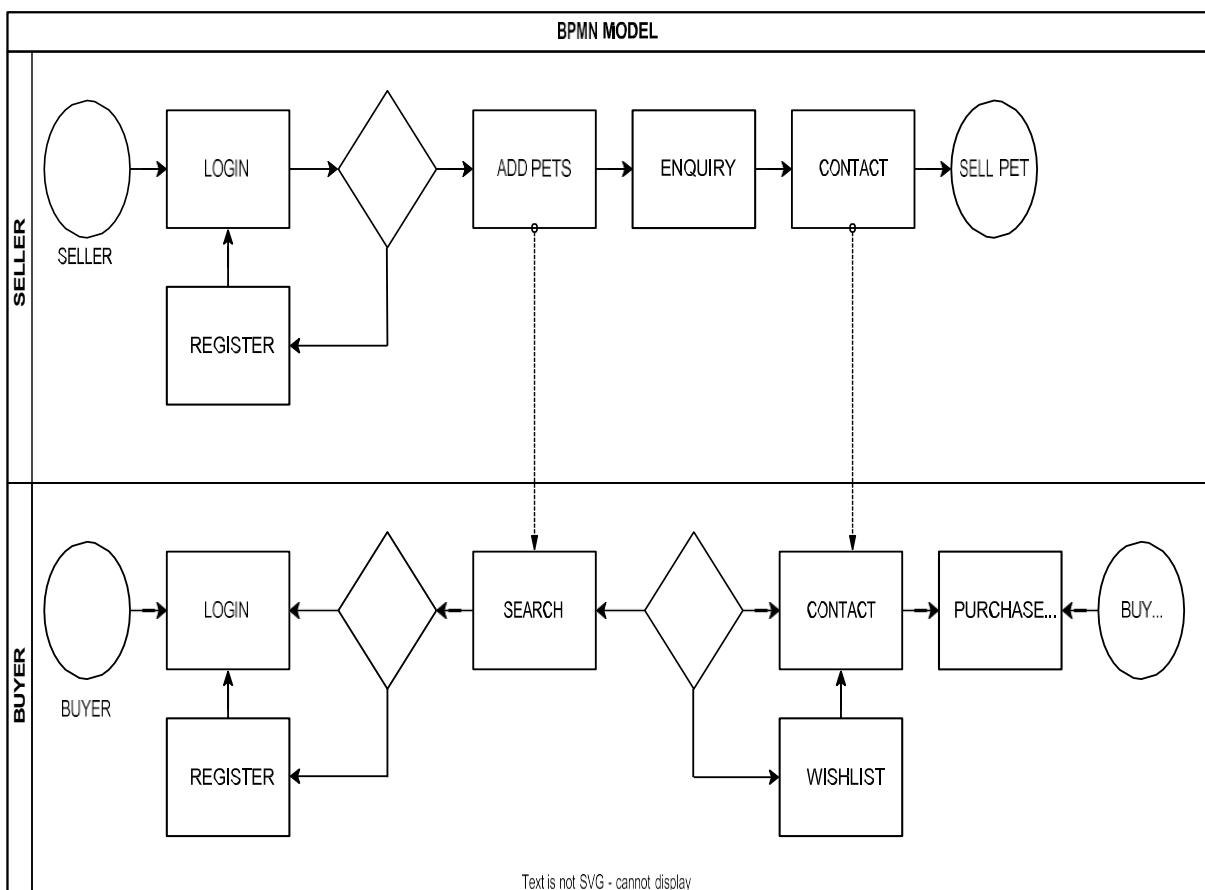
3.3.1 PET BUYER

AS A [TYPE OF USER]	I NEED TO [DO SOME WORK]	SO THAT I CAN [GET SOME RESULT]
Pet buyer	Register into the application by entering details	Register in to application
Pet buyer	Login to the application by entering details	Able to use the application
Pet buyer	Search pets	Get various pet details
Pet buyer	Filter pets	Get details the pets i want
Pet buyer	Select the pet and breed	Get the detailed information about the selected pet
Pet buyer	Contact the seller	Contact the seller and make price negotiation and confirm order
Pet buyer	Tracking	Track the location of the order I placed
Pet buyer	Review option	Post a review about the order for better experience

3.3.2 PET SELLER

AS A [TYPE OF USER]	I NEED TO [DO SOME WORK]	SO THAT I CAN [GET SOME RESULT]
Pet seller	Register into the application	I can able to use the application
Pet seller	Login into the application	the app recognizes and gives access to registered account
pet seller	post the details of pet for selling	buyer can view the pet details
Pet seller	Update the details of pet	Update the vaccination,dispatch details of dog
pet seller	add location to the application	so buyer can easily got the location
Pet seller	Report the profile	Any spam account detected
Pet seller	Contact the buyer	For communication
Pet seller	Logout from application	Logout from all the accounts

3.4 BUSINESS PROCESS DIAGRAM



4. NON-FUNCTIONAL REQUIREMENTS

Non-Functional Requirements (NFRs) define the quality attributes of a system. For a **pet buying and selling application**, the NFRs ensure the system performs well, is secure, user-friendly, and reliable. Below are the key non-functional requirements for such an application:

1. Performance Requirements

- Response Time:** The application should respond to user actions (like searching pets or posting ads) within 2 seconds.
- Throughput:** The system should support at least 100 concurrent users without performance degradation.
- Scalability:** The application should be scalable to support future growth in users and pet listings.

2. Reliability Requirements

- **Uptime:** The system should be available 99.9% of the time, excluding scheduled maintenance.
- **Fault Tolerance:** The application should handle server or database failures gracefully and recover without data loss.

3. Usability Requirements

- **User-Friendly Interface:** The UI should be intuitive and easy to navigate for all users, including those with minimal technical skills.
- **Accessibility:** The application should follow accessibility guidelines (e.g., WCAG) for users with disabilities.

4. Security Requirements

- **Data Privacy:** All personal information (user details, payment info) should be encrypted and stored securely.
- **Authentication & Authorization:** Only registered users should access specific features, with roles like admin, seller, and buyer.
- **Secure Transactions:** All payment-related interactions should use SSL/TLS encryption and follow secure payment standards.

5. Maintainability Requirements

- **Code Modularity:** The system should be built in a modular fashion to ease future updates or feature enhancements.
- **Error Logging:** The system should log all errors for quick debugging and analysis.

5. TECHNICAL REQUIREMENTS

Processor	AMD Ryzen 5 5600H with Radeon Graphic
Installed Ram	8.00 GB
System type	64-bit operating system,x64-based processor
OS	Windows 11
Front end	Flutter SDK
Backend	Visual studio with ASP.NET
Database	Microsoft SQL server
Testing	Android studio

6. CONCLUSION

In conclusion, a pet buying and selling application serves as a comprehensive digital platform that connects pet buyers with reliable sellers, breeders, and adoption centers. It streamlines the process of finding and purchasing or adopting pets by offering detailed listings, verified profiles, secure transactions, and convenient communication tools. The application not only promotes responsible pet ownership but also enhances animal welfare by ensuring pets are rehomed in safe and loving environments.

By integrating features such as user authentication, pet health records, location-based searches, and customer support, the platform ensures a trustworthy and user-friendly experience. Ultimately, this application bridges the gap between pet seekers and sellers, simplifies the overall process, and contributes positively to the pet care ecosystem.