E-Pet
3

SE 305 – Software Specification and Design
Term Project Design Document

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1. Introduction

Our pets, which are members of our homes, will have a unique identity with the obligatory chip application, and the E-pet system will be a health record and tracking system for them. It is very important for animal owners to have an online health system for animals as it is for humans. The e-pet system works as a web and mobile application. The application is intended for use by pet owners and veterinarians.

2. Problem Definition

There are some problems experienced because pets do not have an online health system like humans do. Some of those:

- The treatment histories of pets cannot always be followed properly,
- Inability to obtain sufficient and fast information about drug stocks,
- The inability to find the veterinary clinics located nearby,
- The absence of an easy appointment system.

Thanks to the E-Pet system, all the problems that listed above will solved.

3. Proposed System Design

3.1. Requirements

FUNCTIONAL REQUIREMENTS

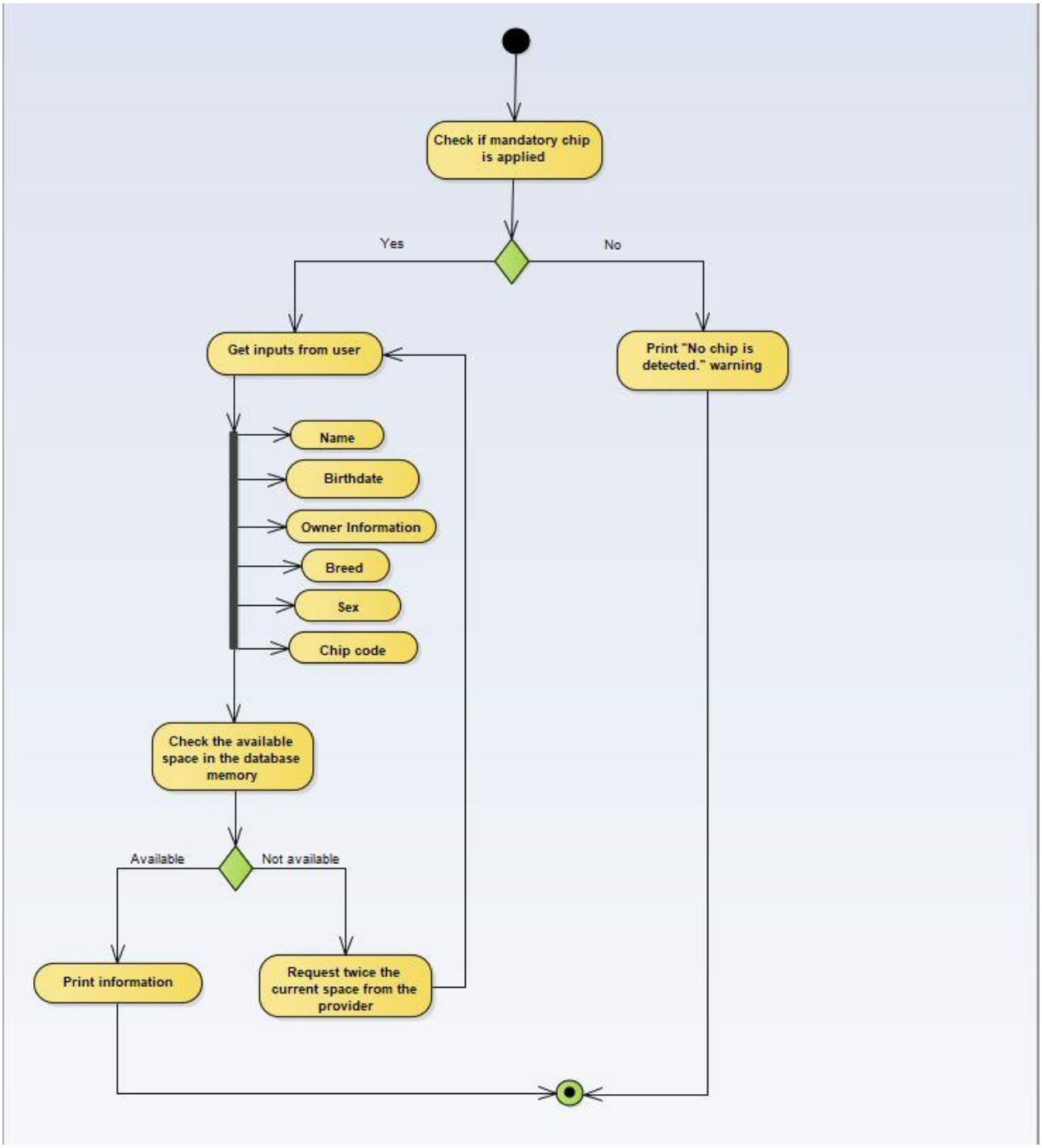
1. The E-Pet System records the pet's characteristics and details in the system.
2. The E-Pet System creates an appointment between the customer and the veterinarian.
3. The E-Pet System allows the veterinarian to update medication and procedures.
4. The E-Pet System allows the customer to follow detailed information such as pets, appointments, medications.
5. The E-Pet System allows the veterinarian to view the stocks of necessary medications.
6. The E-Pet System allows customer and veterinarians to easily view treatment detail information such as vaccinations, complete blood count, urine analysis.
7. The E-Pet System easily provides to veterinarians to add medication or a procedure to application to the system's database.
8. The E-Pet System allows customers and veterinarians to register and update their basic information (name,surname, phone, address) to the system.
9. The E-Pet System provides to customers to show the nearest veterinary in their location via using GPS.

NON-FUNCTIONAL REQUIREMENTS

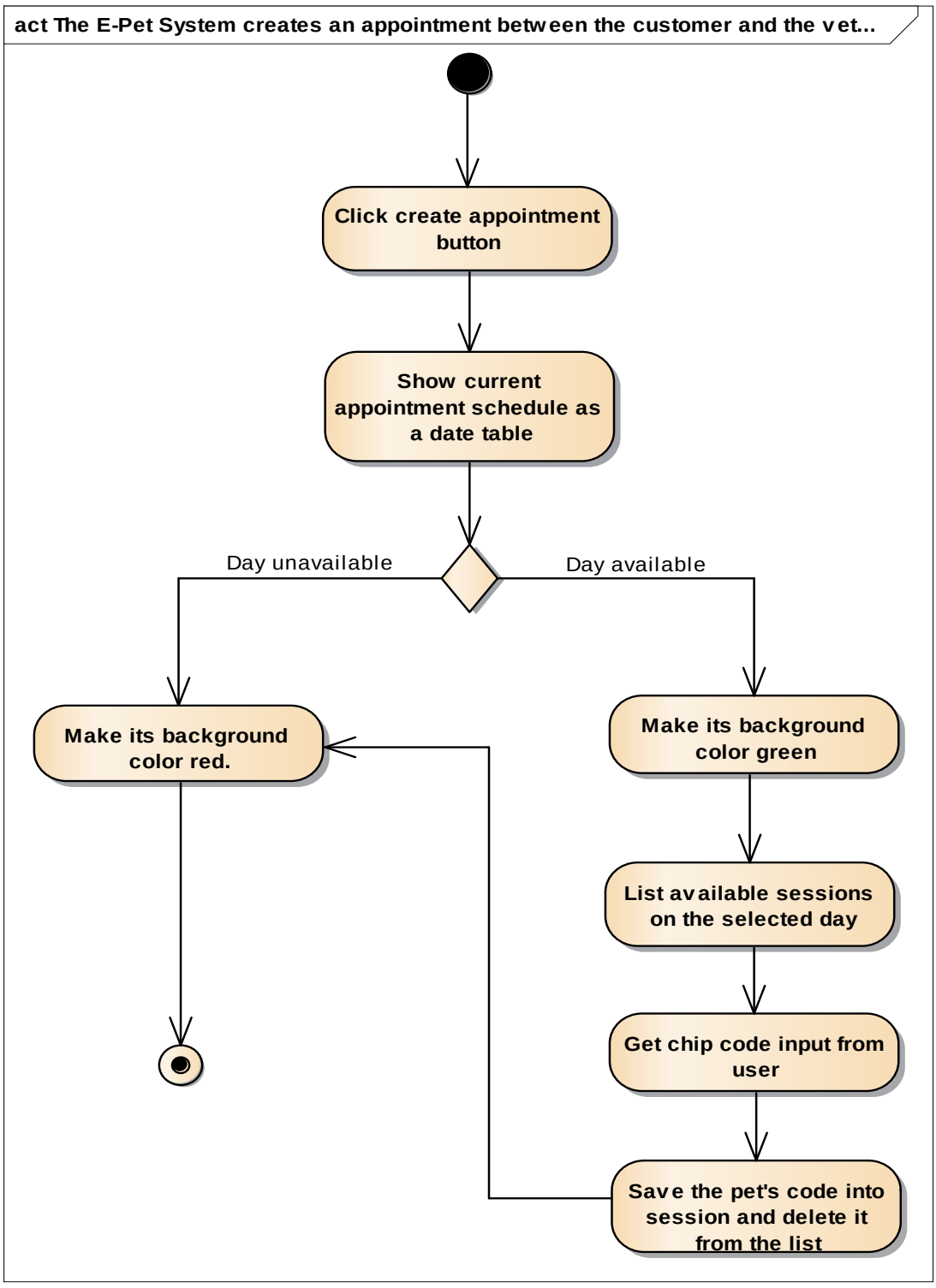
1. The system will be available 24/7.
2. The system will go through a data backup process on the first day of each month at 6 AM.
3. The system will be remotely accessable with accurate username and password.
4. The system will store all the data in a seperate hard-drive and purchased cloud storage server to provide better data protection.
5. The system must be working in latest operating system environments; windows 7 to 11

3.2. Activity Diagrams

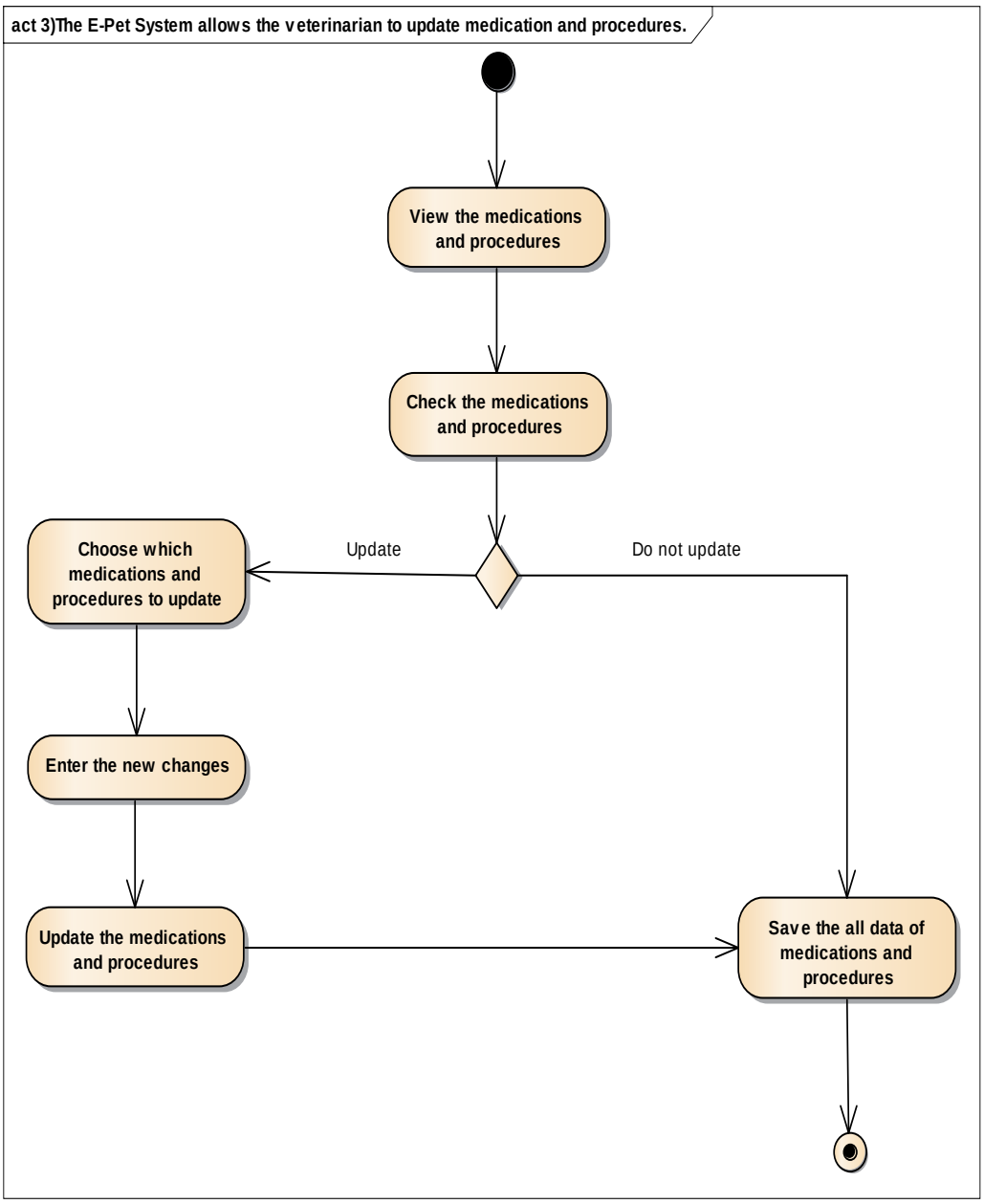
3.2.1. Activity Diagram 1: The E-Pet System records the pet's characteristics and details in the system.



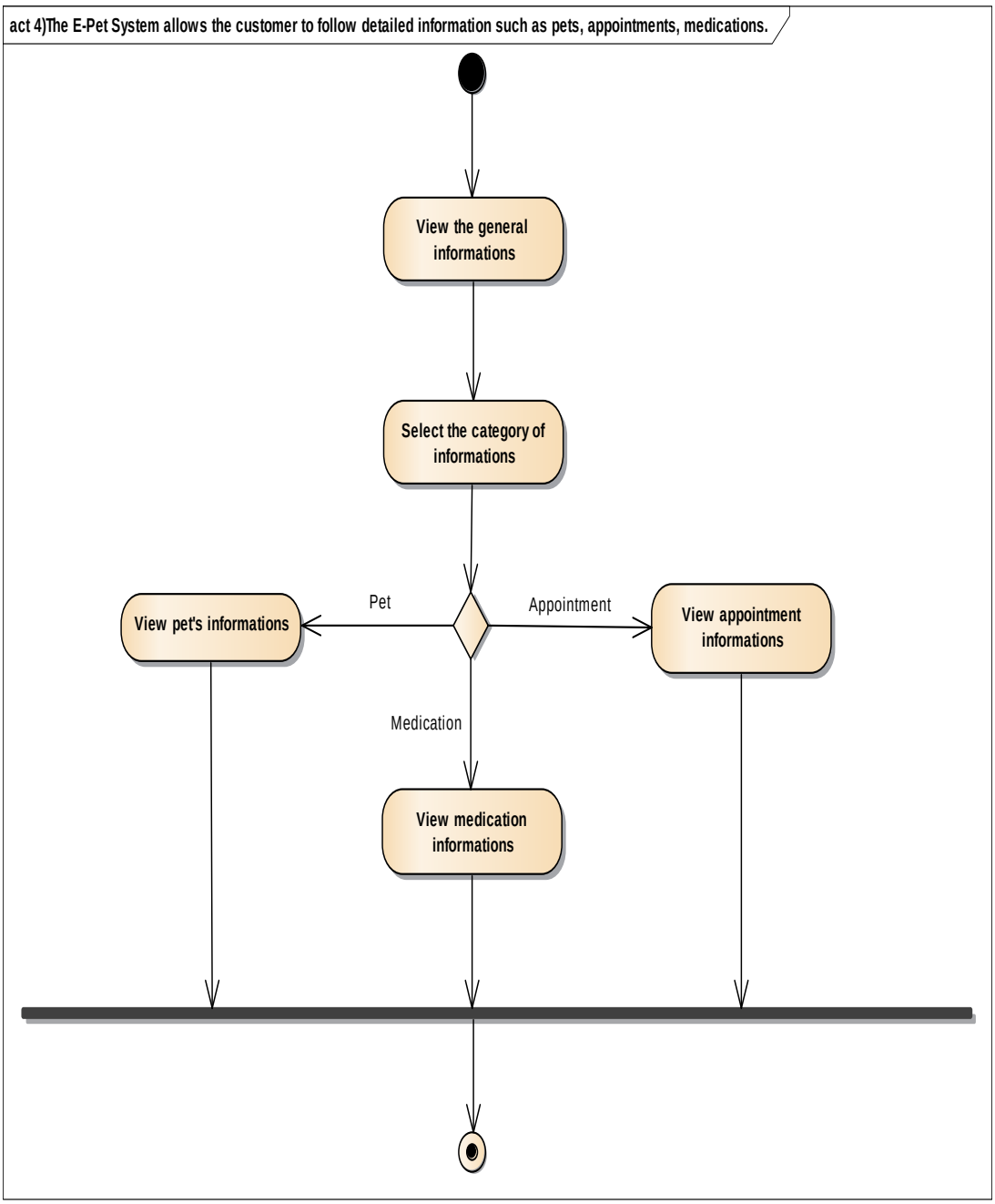
3.2.2. Activity Diagram 2: The E-Pet System creates an appointment between the customer and the veterinarian.



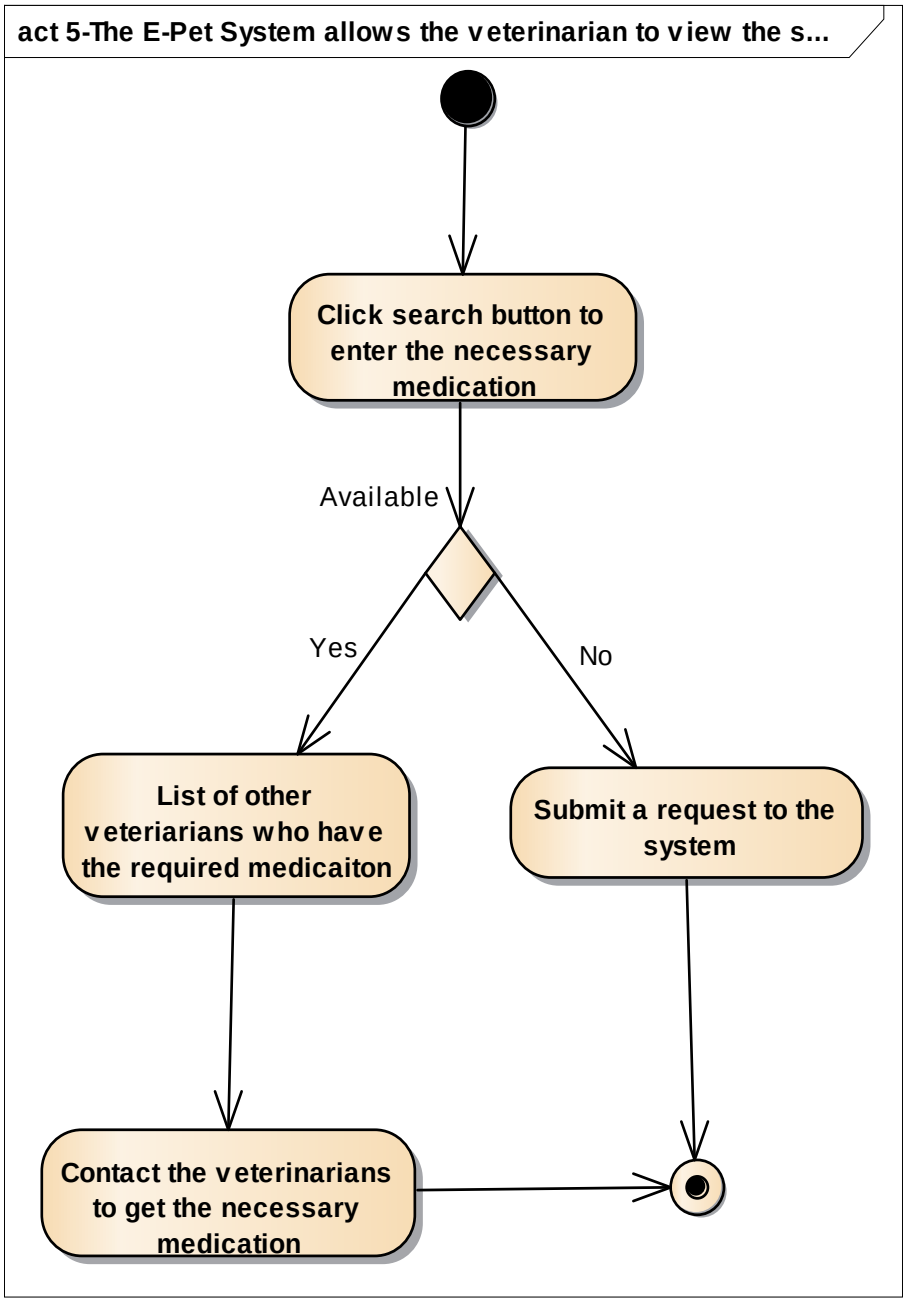
3.2.3 Activity Diagram 3: The E-Pet System allows the veterinarian to update medication and procedures.



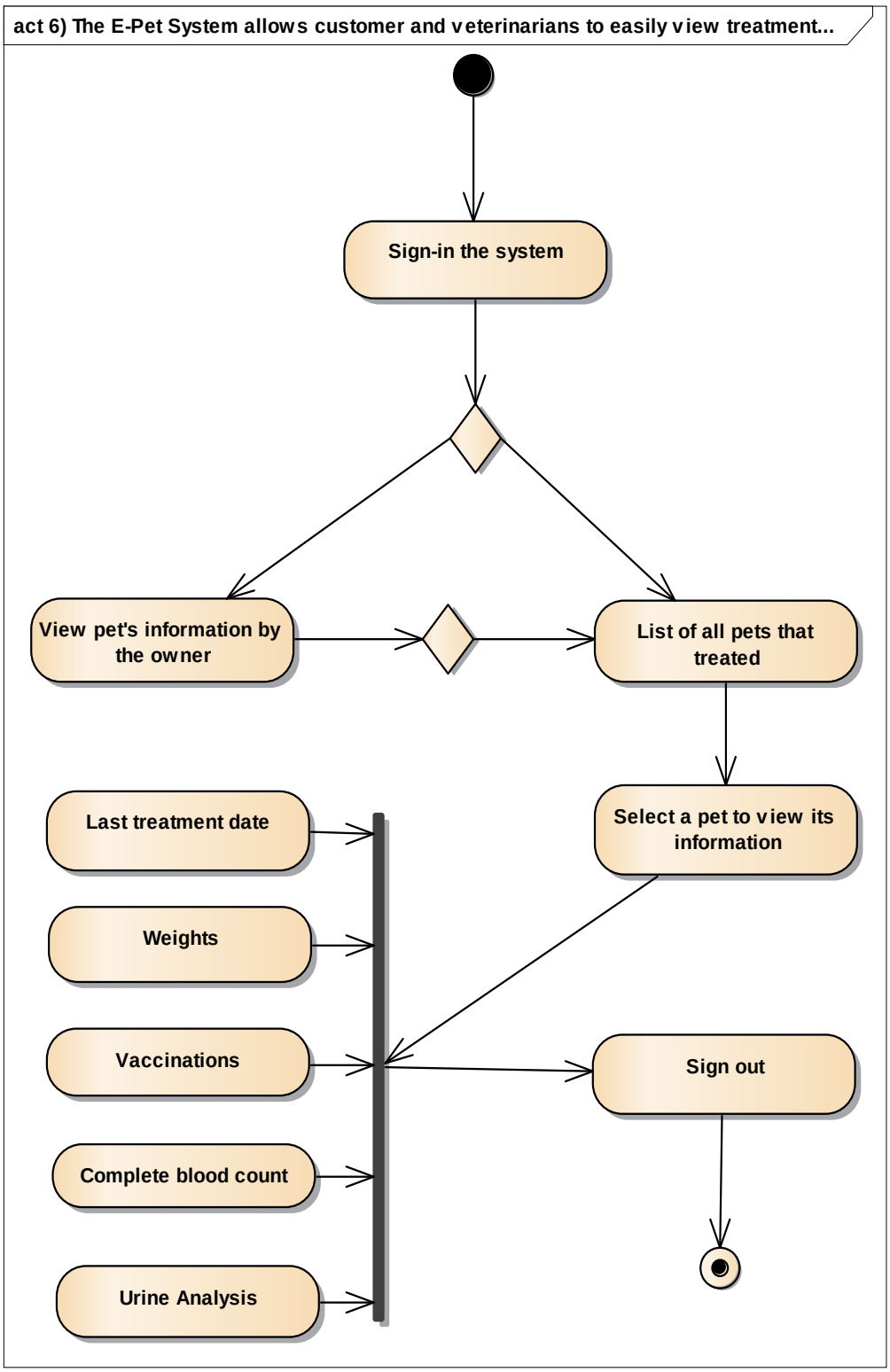
3.3.3 Activity Diagram 4: The E-Pet System allows the customer to follow detailed information such as pets, appointments, medications.



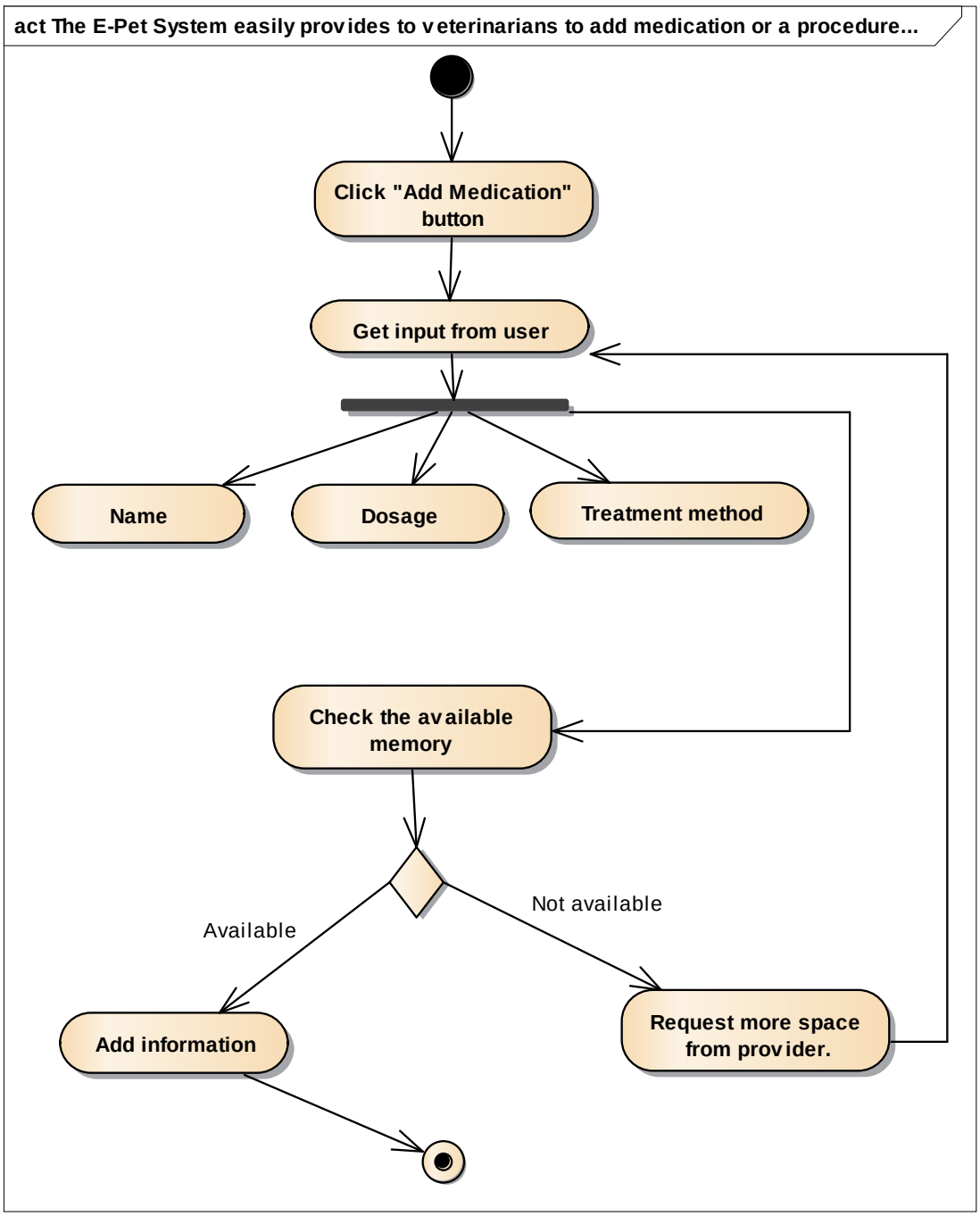
3.2.5 Activity Diagram 5: The E-Pet System allows the veterinarian to view the stocks of necessary medications.



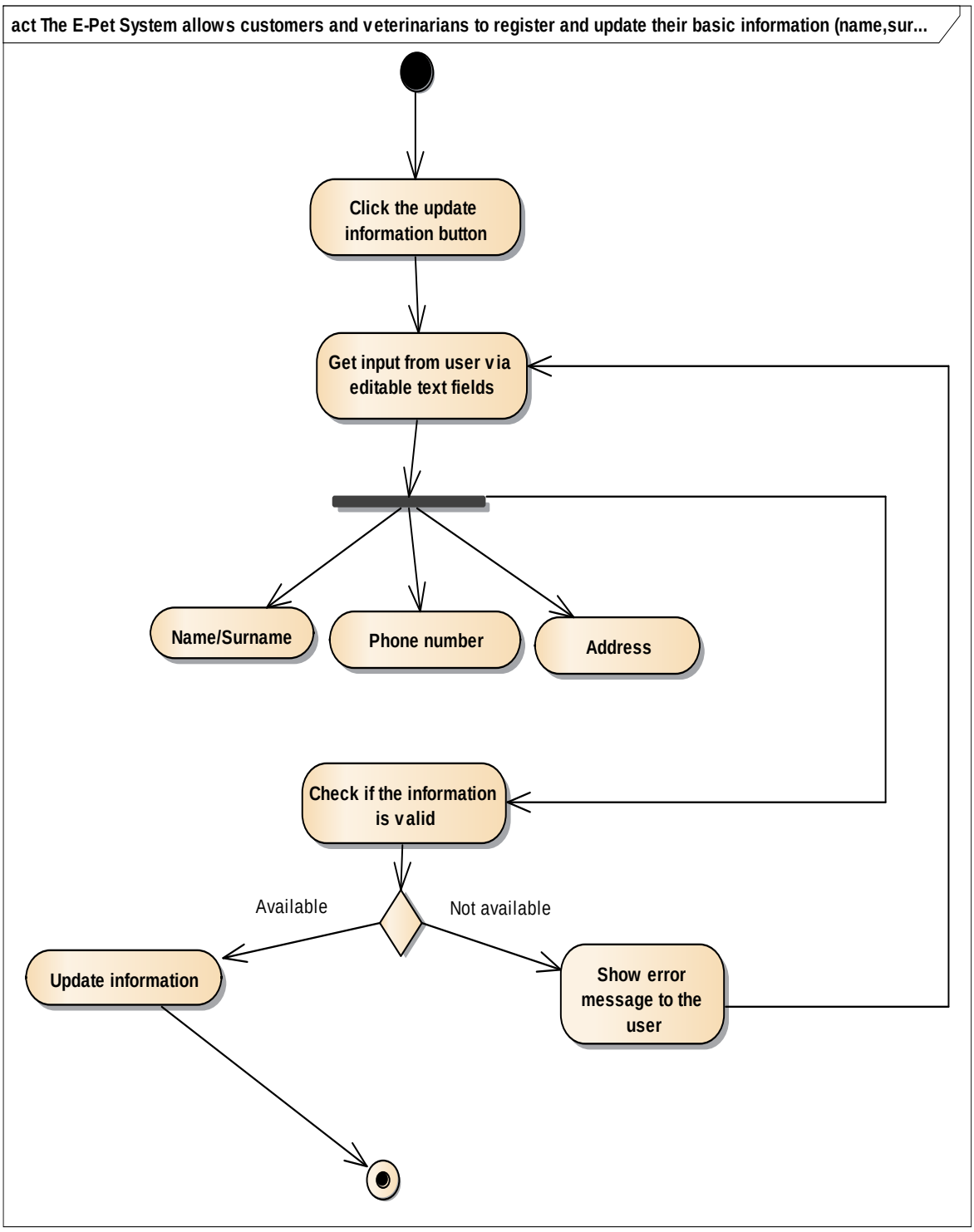
3.2.6 Activity Diagram 6: The E-Pet System allows customer and veterinarians to easily view treatment detail information such as vaccinations, complete blood count, urine analysis.



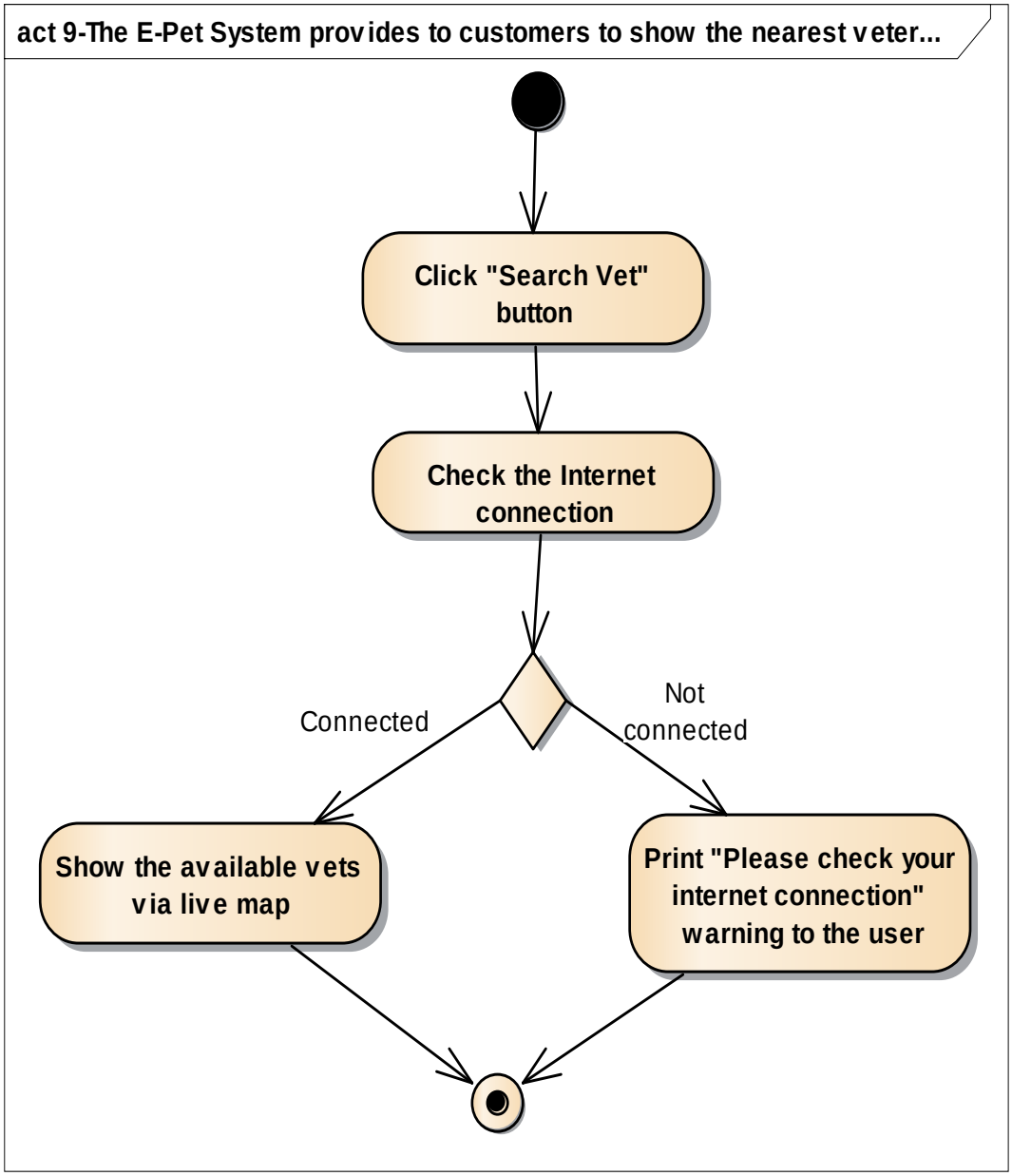
3.2.7 Activity Diagram 7: The E-Pet System easily provides to veterinarians to add medication or a procedure to application to the system's database.



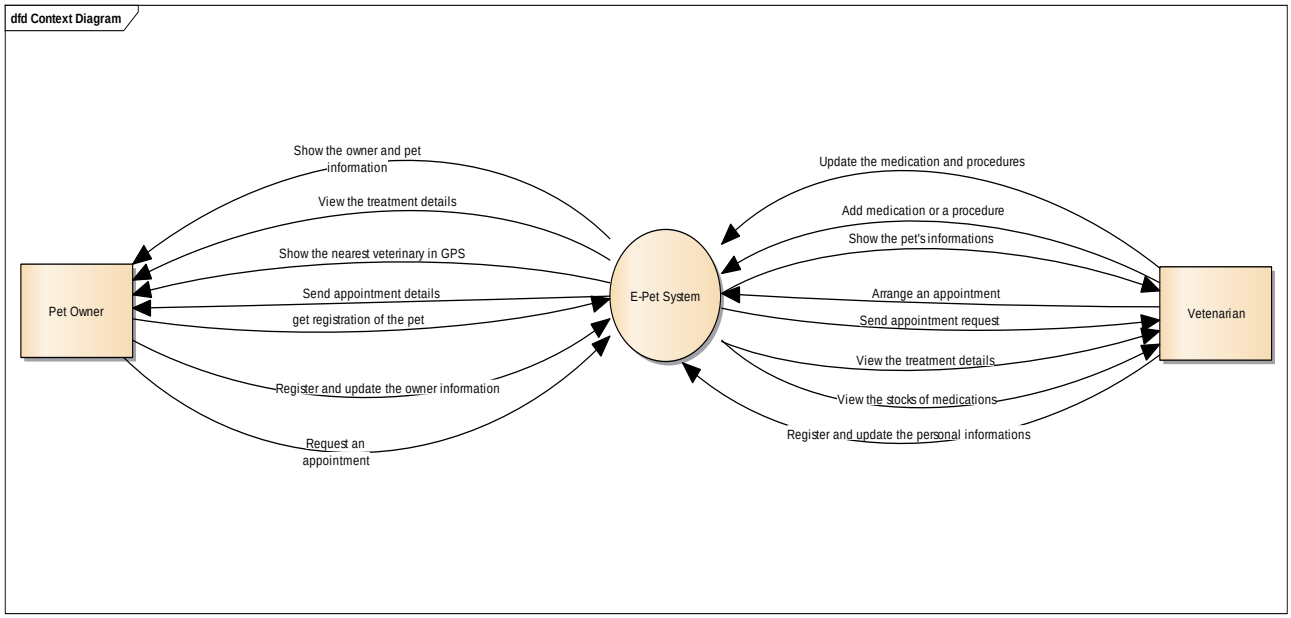
3.2.8 Activity Diagram 8: The E-Pet System allows customers and veterinarians to register and update their basic information (name,surname, phone, address) to the system.



3.2.9 Activity Diagram 9: The E-Pet System provides to customers to show the nearest veterinary in their location via using GPS.

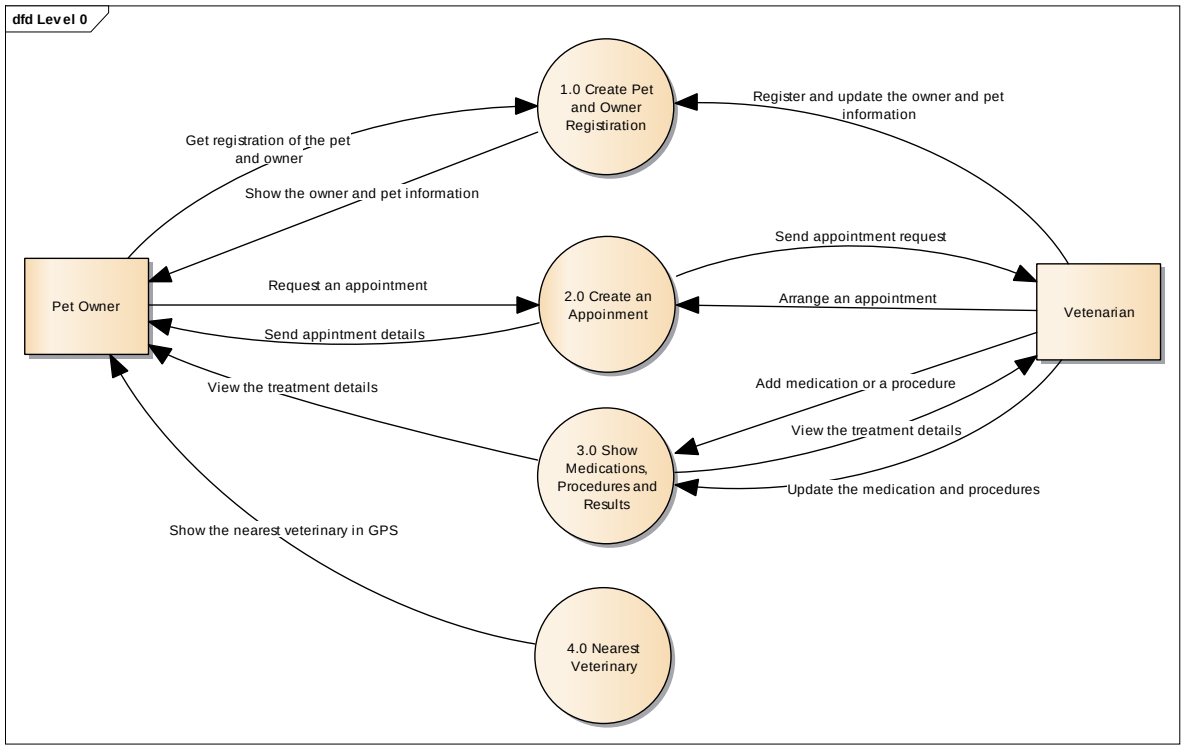


3.3. Context Model

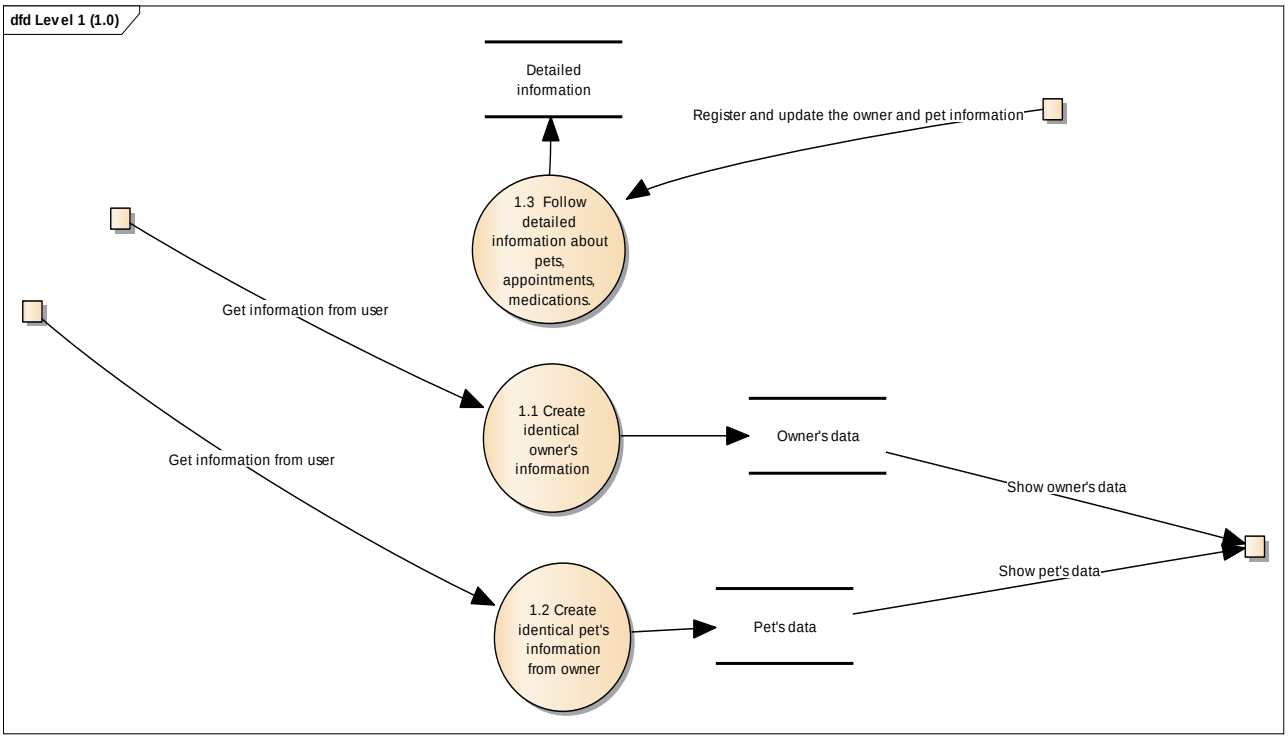


3.4. Data Flow Diagrams

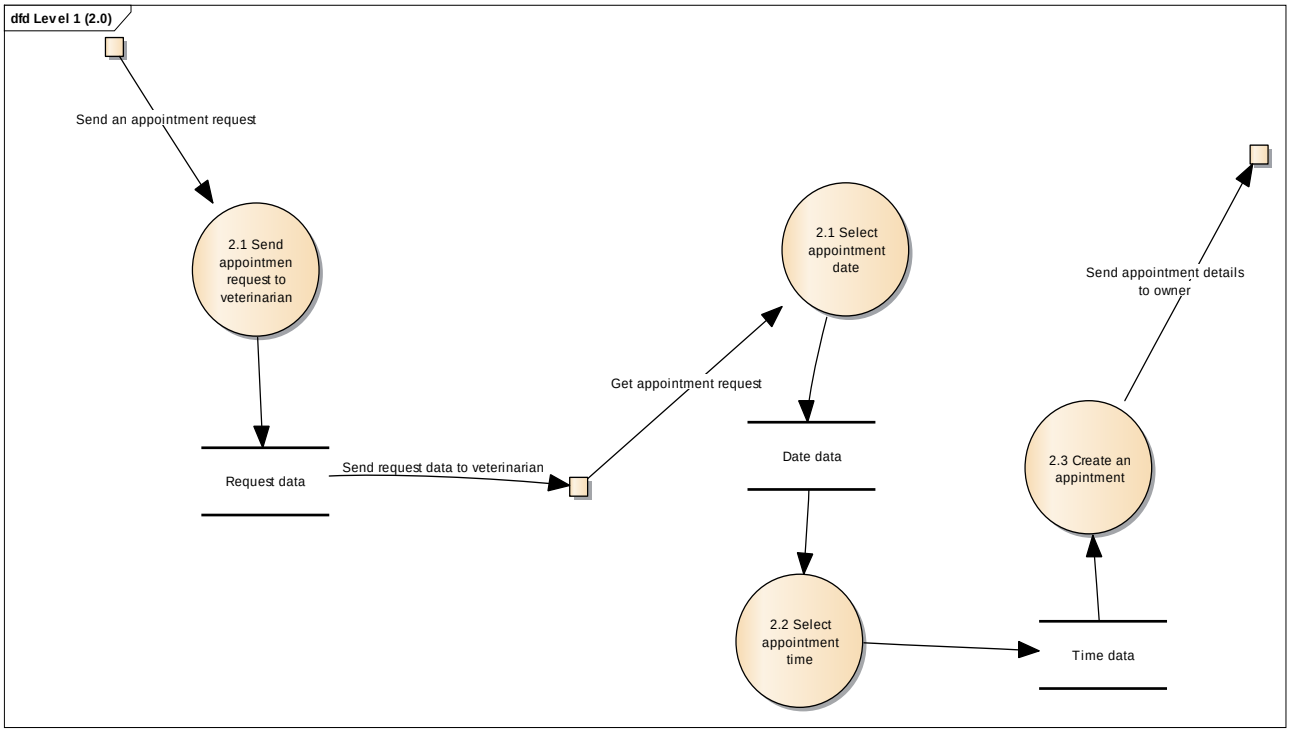
3.4.1 Level 0



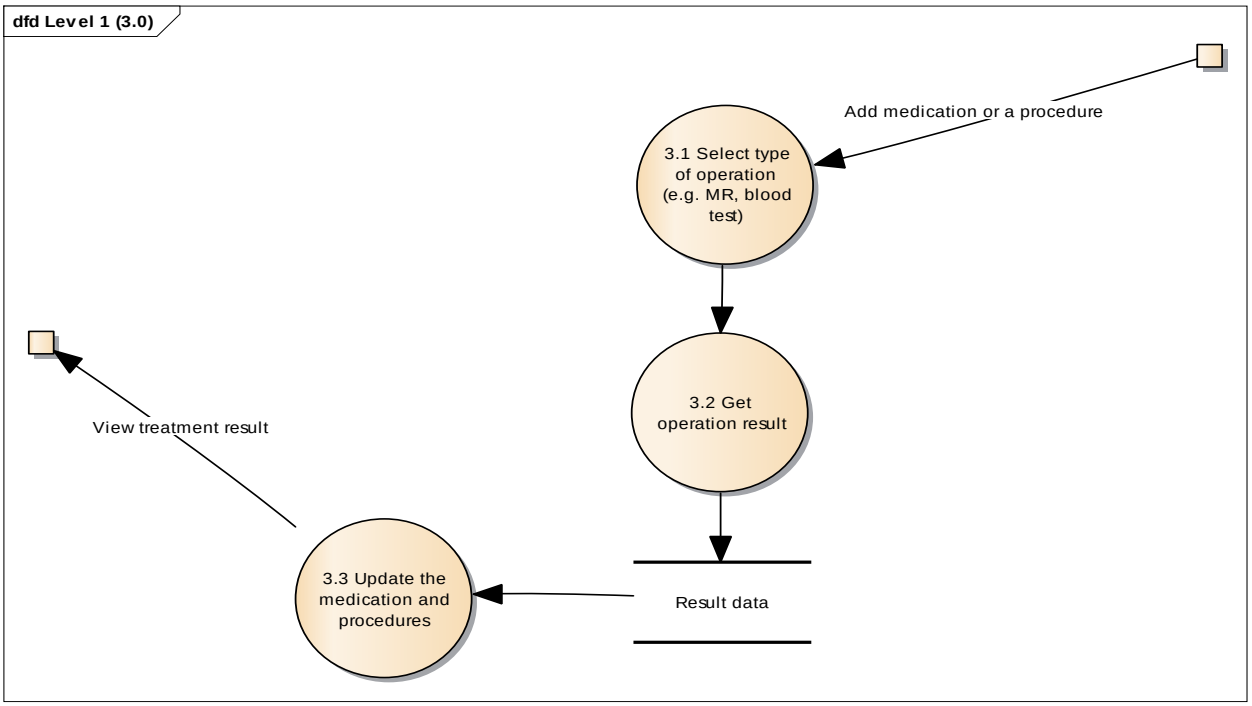
3.4.2 Level 1(1.0)



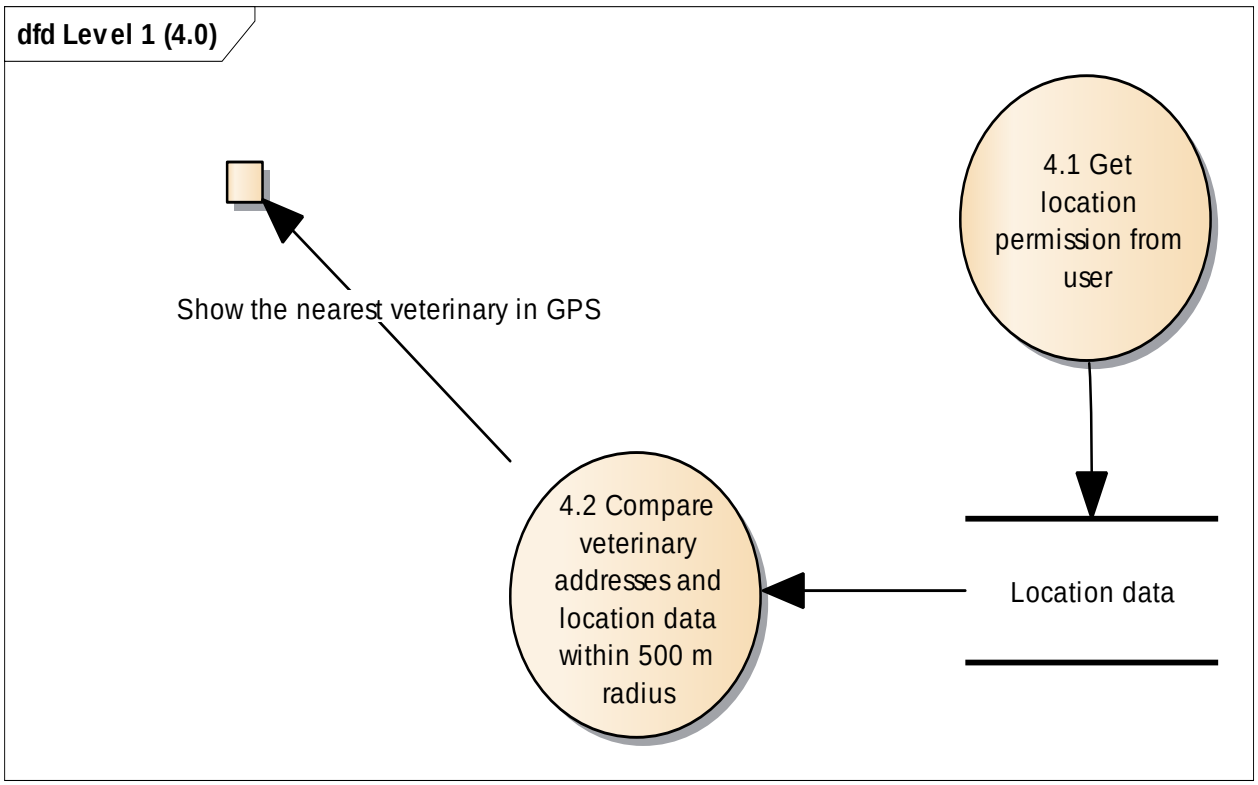
3.4.3 Level 1(2.0)



3.4.4 Level 1(3.0)



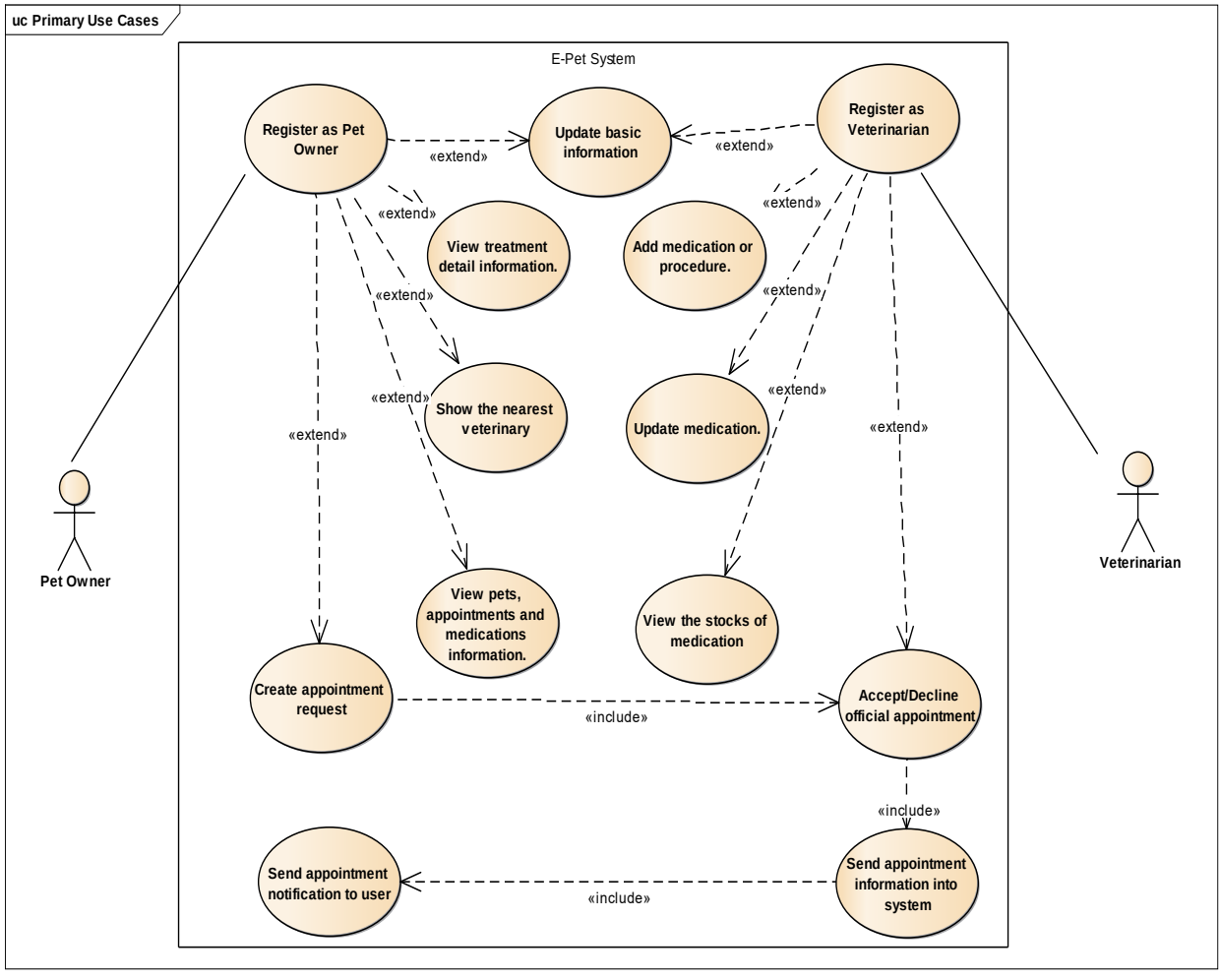
3.4.5 Level 1(4.0)



3.5. Use Cases

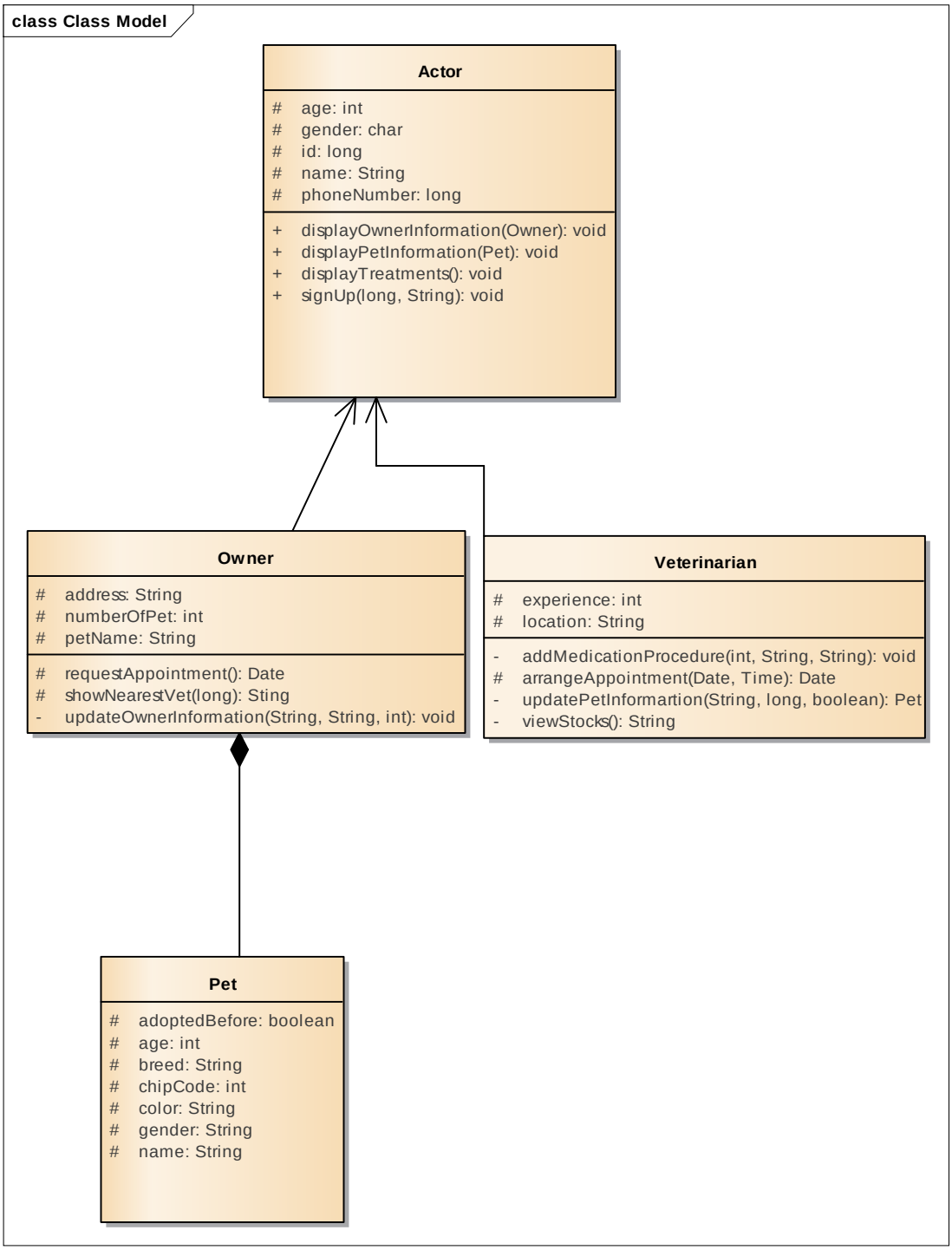
3.5.1. Actors

3.5.2. Use Case Diagrams



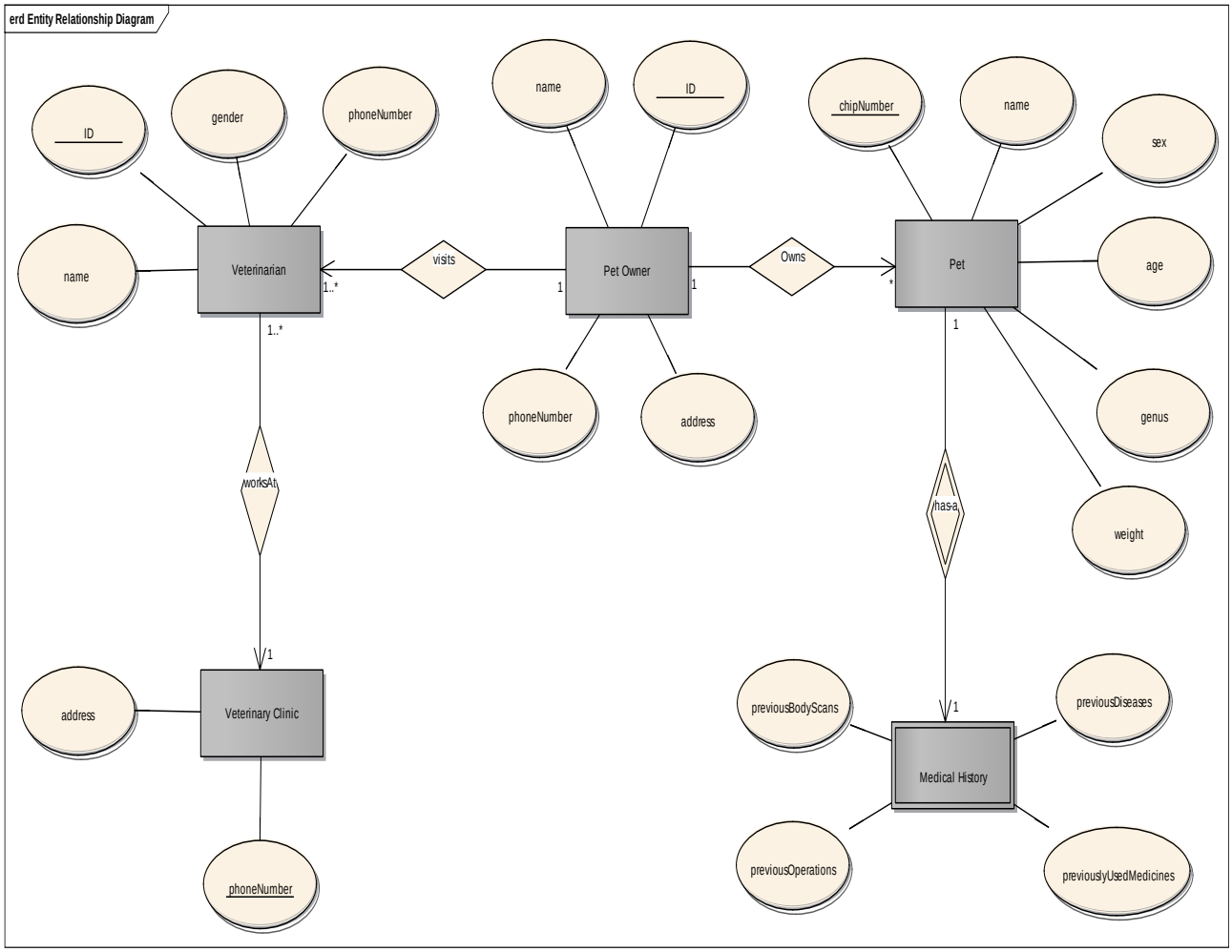
3.6. Class Diagrams

3.6.1. Class Diagram 1



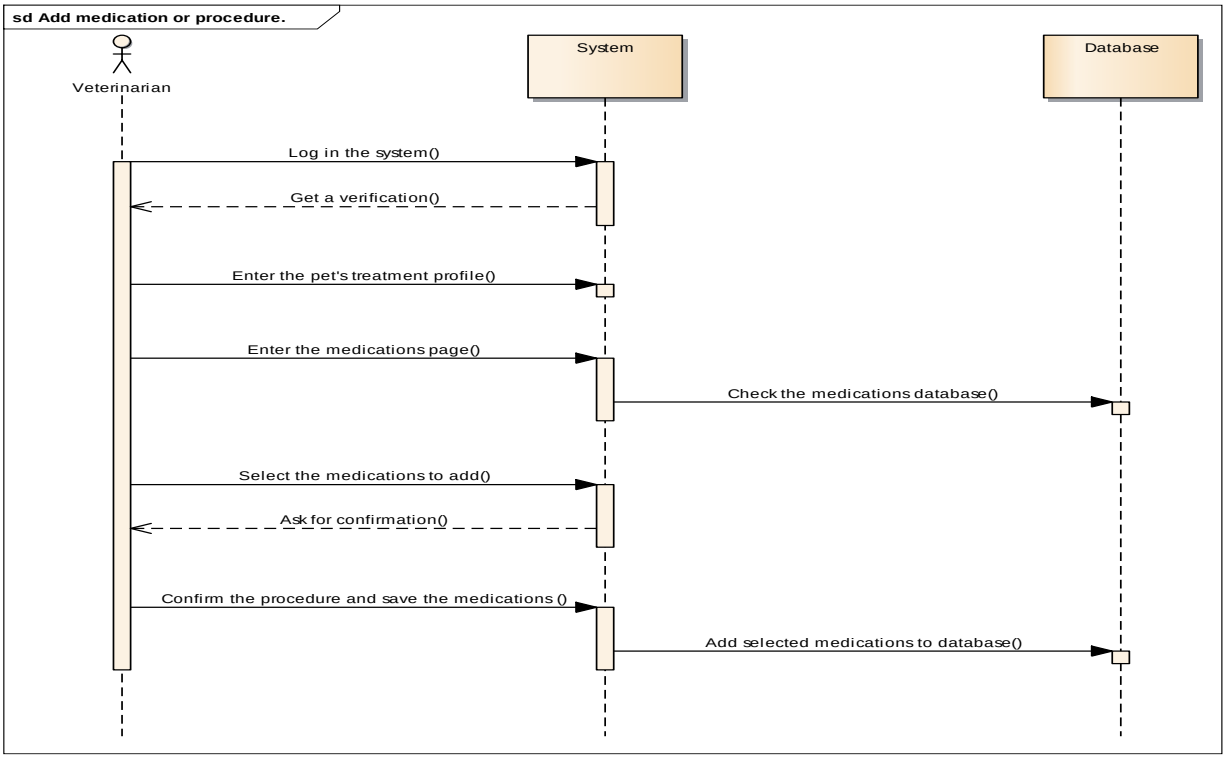
3.7. E/R Diagrams

3.7.1. E/R Diagram 1: Entity relationship diagram

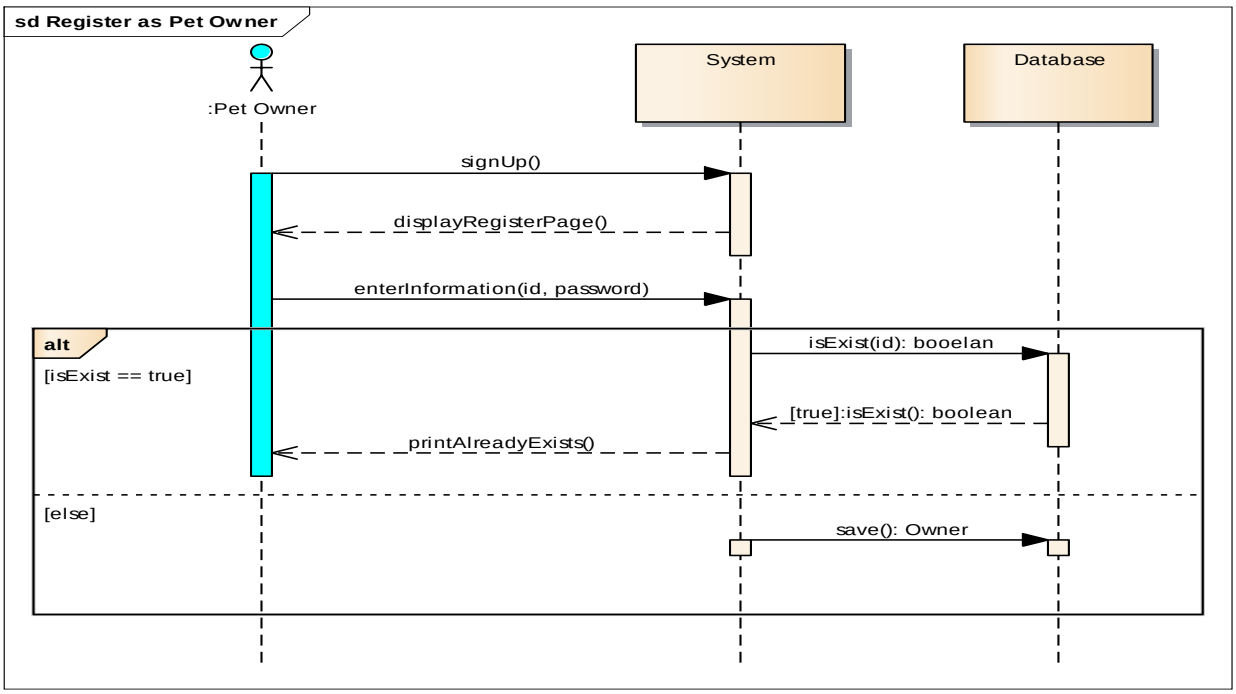


3.8. Sequence Diagrams

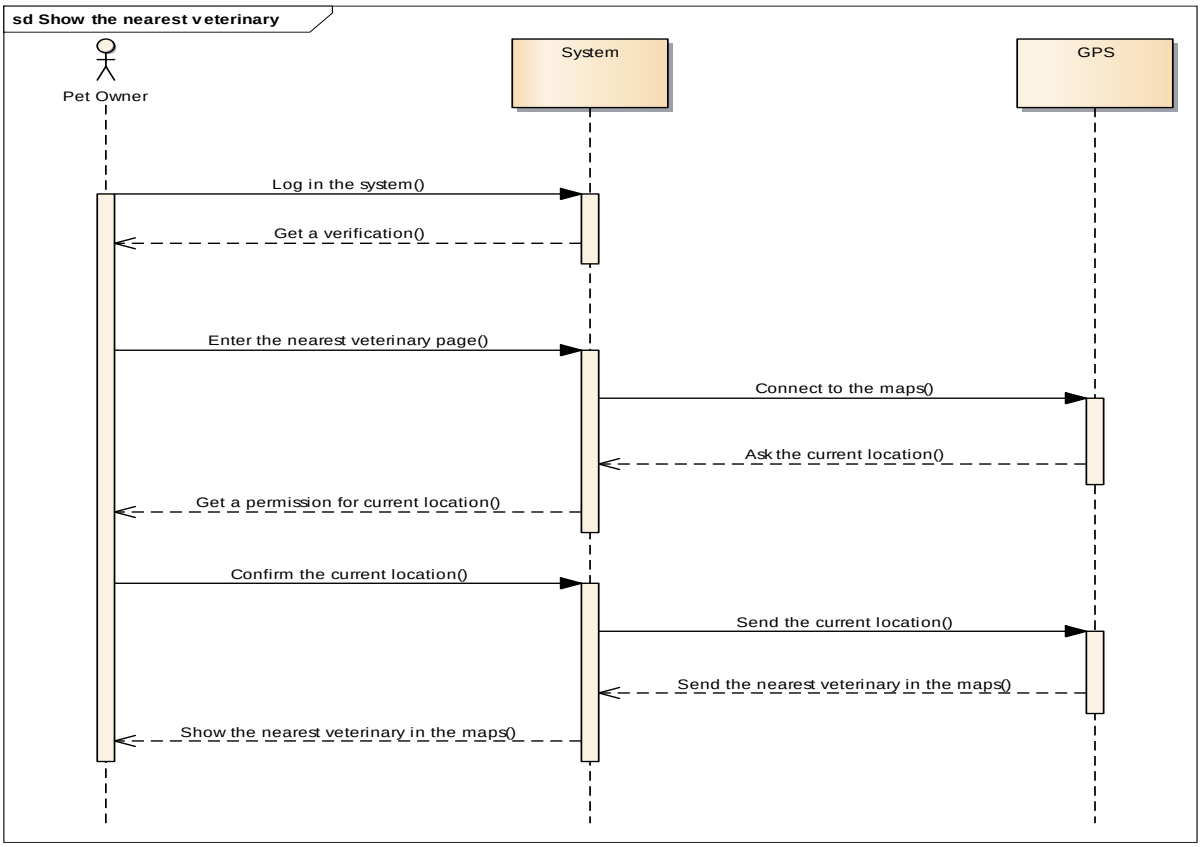
3.8.1. Sequence Diagram 1: Add medication or procedure.



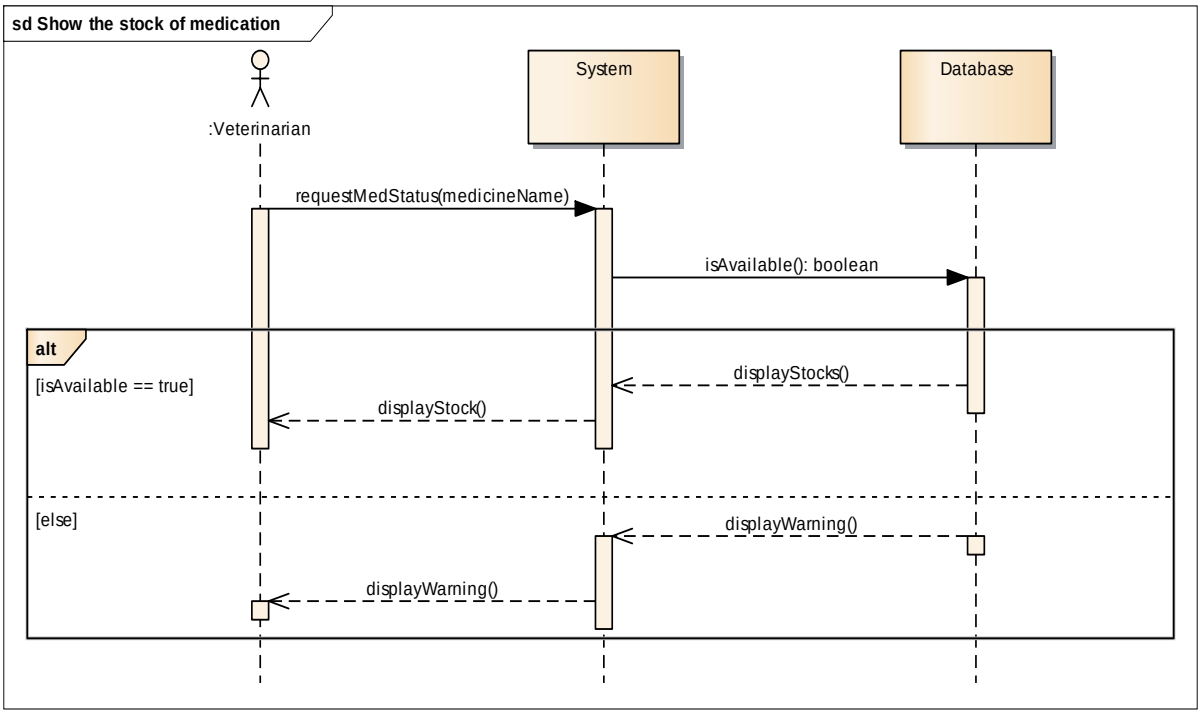
3.8.2. Sequence Diagram 2: Register as Pet Owner



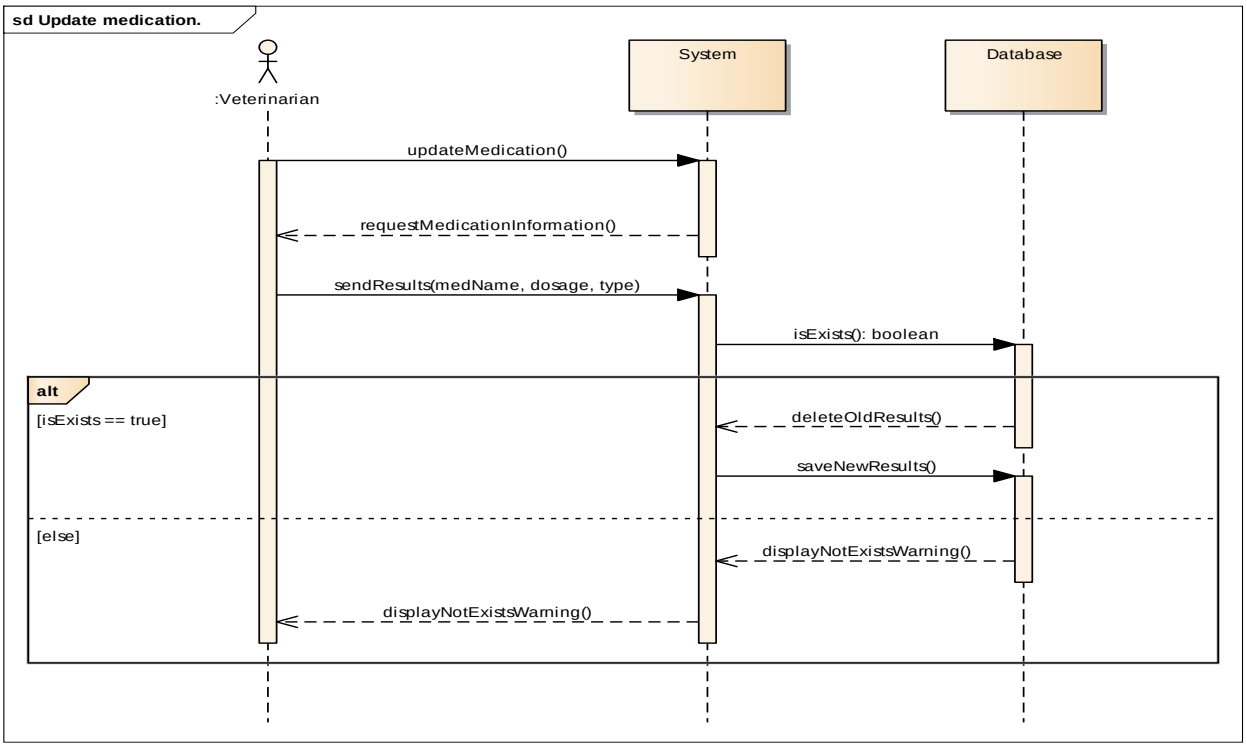
3.8.3. Sequence Diagram 3: Show the nearest veterinary



3.8.4. Sequence Diagram 4: Show the stock of medication

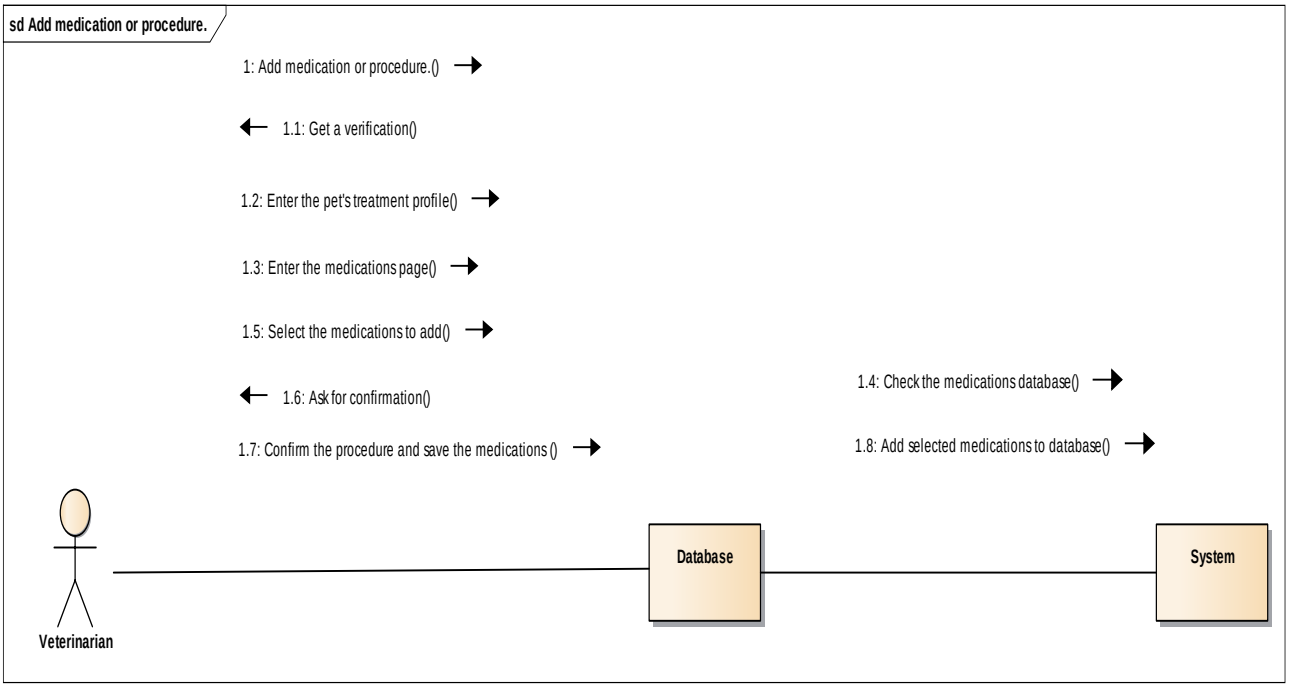


3.8.5. Sequence Diagram 5: Update medication.

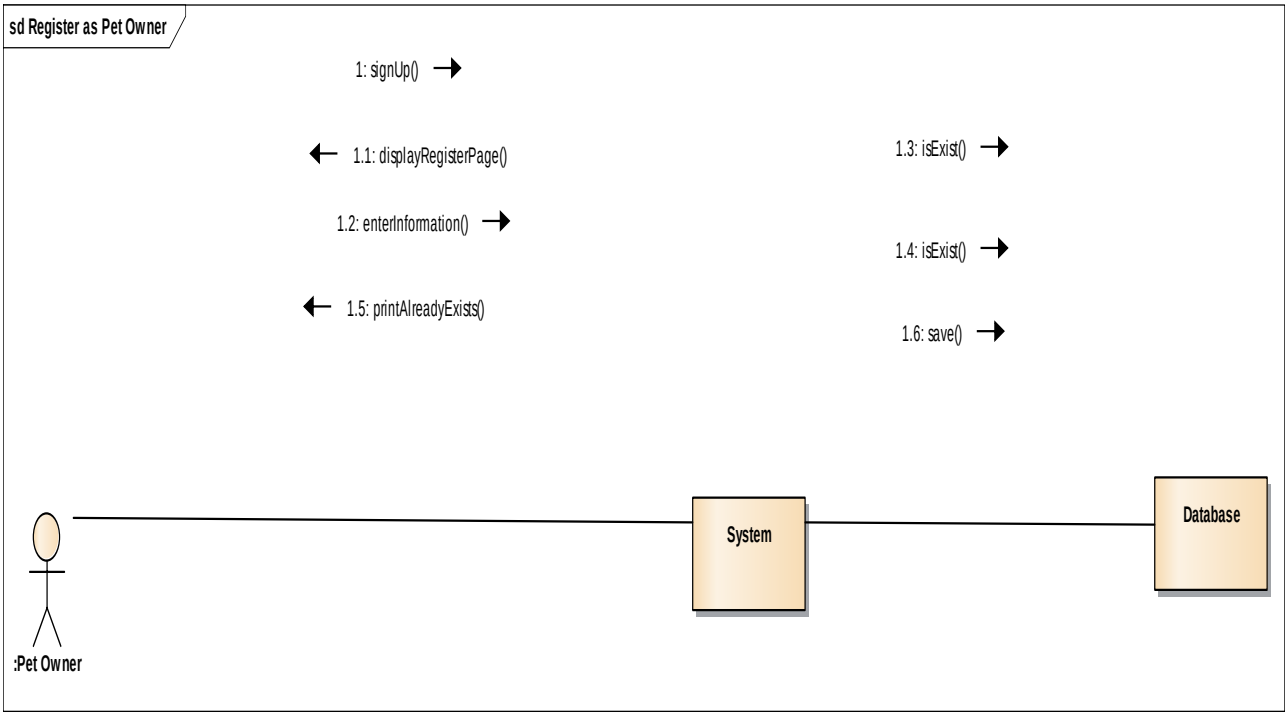


3.9. Communication Diagrams

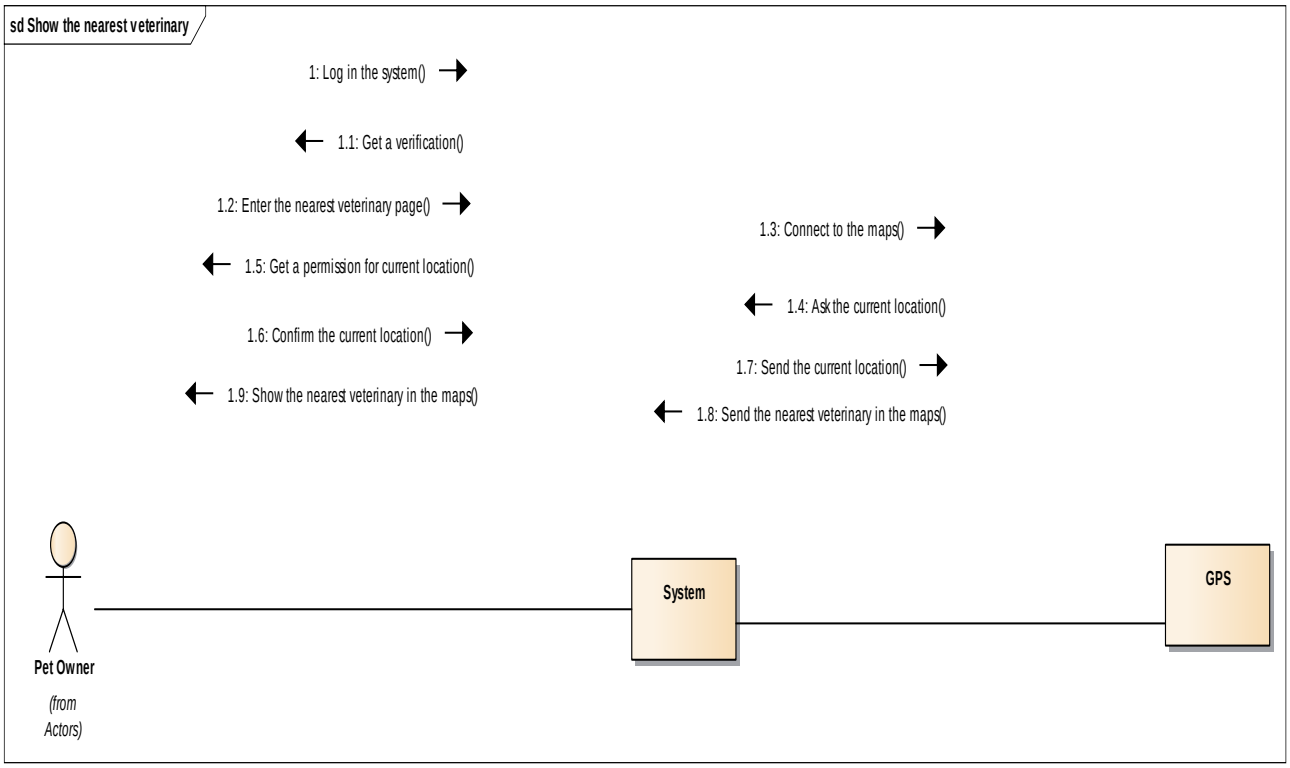
3.9.1. Communication Diagram 1: Add medication or procedure.



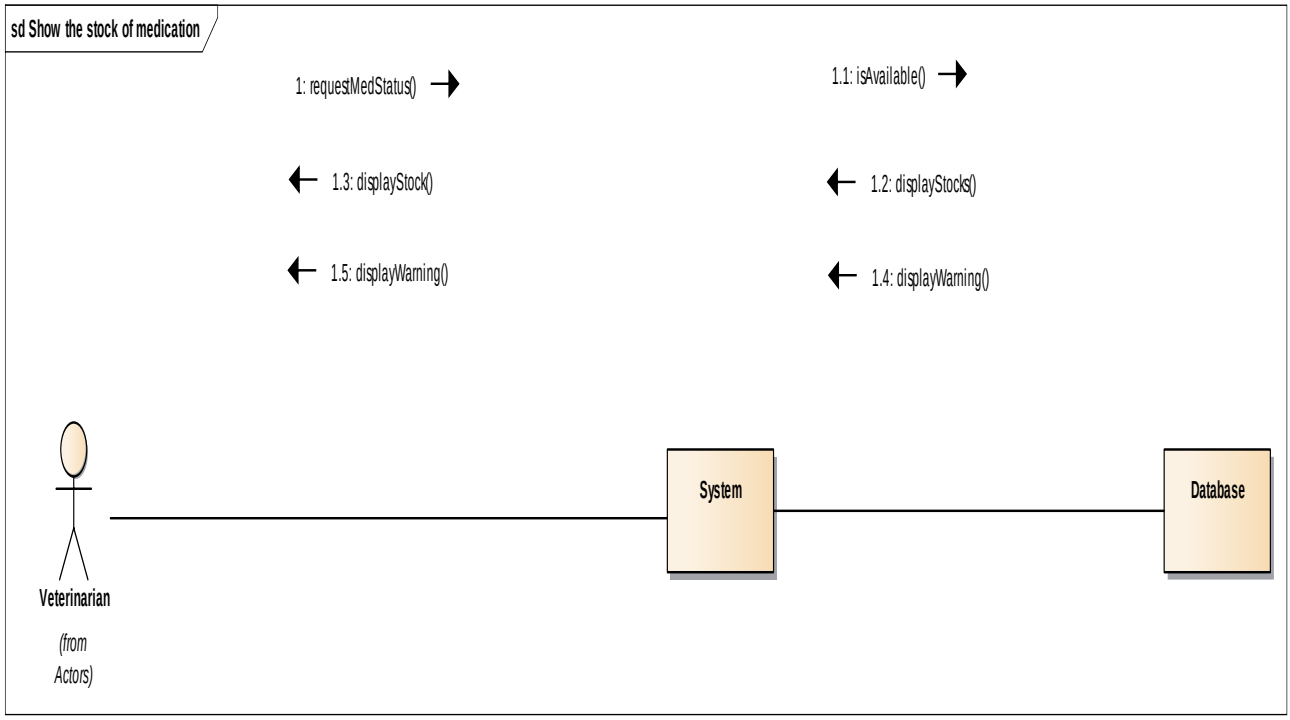
3.9.2. Communication Diagram 2: Register as Pet Owner



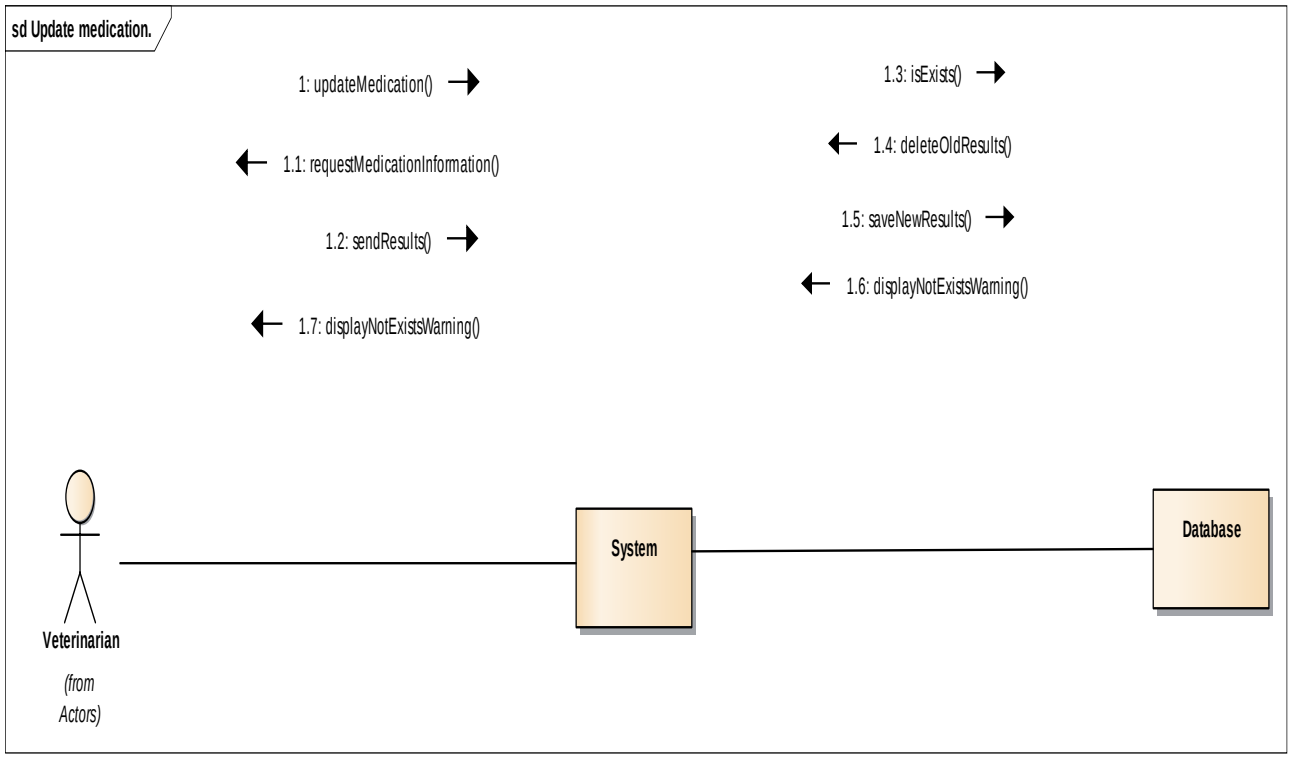
3.9.3. Communication Diagram 3: Show the nearest veterinary



3.9.4. Communication Diagram 4: Show the stock of medication



3.9.5. Communication Diagram 5: Update medication.



4. Conclusion

To summarize, the E-Pet system is an online healthcare system with several advantages for both veterinary clinics and pet owners. It avoids wasted time and problems when making an appointment or searching for veterinary clinics nearby. At the same time, since it provides the opportunity to view the medical history of the pet, it ensures the application of the correct treatment. Provides tracking of drug stocks in the market. Thanks to all these, pets receive the most accurate treatment, and a reliable and easily accessible system is established for veterinarians and pet owners.