AN-Najah National University

Faculty of Engineering and Information Technology

Department of Computer Science with
Computer Science in the job market

Action Plan Report

Course Title: Software engineering

report title: pet health

Group Members:

by :aye mali, karam abu ghosh

omar haj daoud,thraa hadwi

Supervisor Name: Mai abu sair

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1. Introduction

1.1 Purpose

The purpose of this SRS document is to describe the functional and nonfunctional requirements for the pet health system, designed to serve veterinarians and clients by improving clinic management, patient care quality, and client satisfaction. This document targets stakeholders such as developers, veterinarians, clinic staff, and IT personnel responsible for deploying and maintaining the system.

1.2 Product Scope

Pet health is a system that addresses common issues faced by veterinary clinics, such as scheduling, record-keeping, communication, and inventory management. The software aims to modernize clinic operations by introducing a user-friendly interface for web and mobile platforms. It facilitates booking, medical records management, pet adoption, buying and selling, and offers an online marketplace for veterinary products.

1.3 Definitions, Acronyms, and Abbreviations

- Pet health : Veterinary clinic management system
- API : Application Programming Interface
  UI : User Interface
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1.4 References

- "Veterinary Information System Best Practices," An-Najah National University, 2024.
- Previous clinic management software documentation for user feedback analysis.

1.5 Overview

The document outlines the overall system structure, functional requirements, and constraints, providing a clear guide for developing the pet health software.

3.1.2 Hardware Interfaces 3.1.3 So4ware Interfaces 3.1.4 Communica:ons Interfaces 3.2 Func:onal Requirements 3.3 Nonfunc:onal Requirements

2. Overall Description

2.1 Product Perspective

Vet Care is a new system intended to replace traditional manual methods in veterinary clinics. It functions as a comprehensive management tool for appointment scheduling, patient records, inventory, and pet adoption. The system is designed to be scalable and integrate seamlessly with existing infrastructure.

- **Scalability:**
  The system is designed to be scalable, adapting to the growth of the clinic and its future needs.
- **Integration with Existing Infrastructure:**Vet Care provides seamless integration with the clinic's current infrastructure, facilitating a smooth transition to digital operations without disrupting daily workflows.

2.2 Product Functions

- **Appointment Management:** A flexible scheduling system that enables automatic reminders and notifications for veterinarians and pet owners.
- **Patient Medical Records Management:** Create and manage detailed records for each animal, including medical history, vaccinations, past treatments, and future recommendations.
- **Inventory Management:** Precise monitoring of stock levels for medical supplies and medicines needed by the clinic, with alerts when restocking is required.
- **Communication with Pet Owners:** An integrated system to send updates about the animals' conditions, appointment reminders, and essential medical alerts.
- **Pet Adoption and Sales Platform:** Full support for pet adoption processes and showcasing animals for potential pet owners.
- **Online Ordering:** An online store for purchasing veterinary products, where pet owners can buy medications and supplies directly.

2.3 User Classes and Characteristics

- **Veterinarians:** Require quick and easy access to medical records and appointment schedules.
- **Clinic Managers:** Responsible for managing appointments, inventory, and the clinic’s financial aspects.
- **Pet Owners:** Can book appointments, view their pet’s medical records, and purchase products.
- **Warehouse Managers:** Oversee inventory levels to ensure the necessary medical supplies are available.

2.4 Operating Environment

The system will operate on web and mobile platforms, compatible with major browsers and mobile operating systems (iOS and Android). It also supports integration with desktop applications in the veterinary clinic to ensure easy data access.

2.5 Design and Implementation Constraints

- Compliance with data privacy regulations (GDPR, HIPAA) to protect user privacy.
- Support for cloud-based infrastructure to ensure accessibility and high reliability.

2.6 Assumptions and Dependencies

- Users will have basic knowledge of using web and mobile applications.
- Integration with third-party payment gateways for secure transactions.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

- The system will provide intuitive web and mobile interfaces, supporting appointment booking, access to medical records, and inventory management,The design will prioritize ease of use, with a clean layout and minimal steps for each action, ensuring accessibility for users of varying technical skills.

3.1.2 Hardware Interfaces

- The system will interface with clinic hardware, such as barcode scanners for efficient inventory management and identification of products and supplies. Additionally, it will support integration with other hardware like printers for printing receipts and records.

3.1.3 Software Interfaces

- The system will integrate with third-party APIs for payment processing, cloud services, and secure data storage, supporting common services like PayPal, Stripe, and major cloud providers (AWS, Azure). This will ensure smooth transactions and enhance the system's flexibility in data management.

3.1.4 Communications Interfaces

- To maintain effective communication, the system will support email and SMS notifications for appointment reminders, health checkup alerts, and important clinic updates. Push notifications on mobile devices will also be available to enhance user engagement and ensure timely notifications.

3.2 Functional Requirements

- **Appointment Management :** Users can schedule, view, reschedule, and cancel appointments as needed. The system will also offer an overview of available time slots, making scheduling easier and reducing appointment conflicts.

- **Medical Records** : The system will securely store and manage patient medical histories, with access restricted based on user roles. This feature will allow veterinarians to update records in real-time and access previous treatments, ensuring continuity in patient care.

- **Inventory Management :**Authorized users can add, update, and track clinic supplies, ensuring critical items are always in stock. Automated alerts will notify the warehouse manager when stock levels are low.

- **User Communication :**The system will facilitate direct communication between veterinarians and pet owners, allowing them to share medical updates, advice, and reminders. A message log will keep records of all communications for reference.

- **Adoption and Sales :**The platform will support pet adoption processes and product sales, including tracking of pet status, adoption inquiries, and transactions. This feature will streamline the adoption process and allow pet owners to buy veterinary products from the clinic directly.

3.3 Nonfunctional Requirements

3.3.1 Performance Requirements

- The system will ensure a response time of under 2 seconds for actions like booking appointments and accessing records, providing a seamless user experience even during peak hours

3.3.2 Safety Requirements

- Data backup protocols should be implemented daily to prevent data loss. In the event of system failure, backup files will ensure that critical information is quickly restored.

3.3.3 Security Requirements

- User authentication, role-based access control, and data encryption are required to protect sensitive information. The system will comply with security standards to safeguard data from unauthorized access.

3.3.4 Software Quality Attributes

- **Usability:** The interfaces will be user-friendly and accessible, with an intuitive design that reduces the learning curve.
- **Maintainability:** The system architecture will support updates and minor modifications without disrupting service, ensuring longevity.
- **Scalability:** The system will handle an increasing number of users and records, supporting growth and expansion.

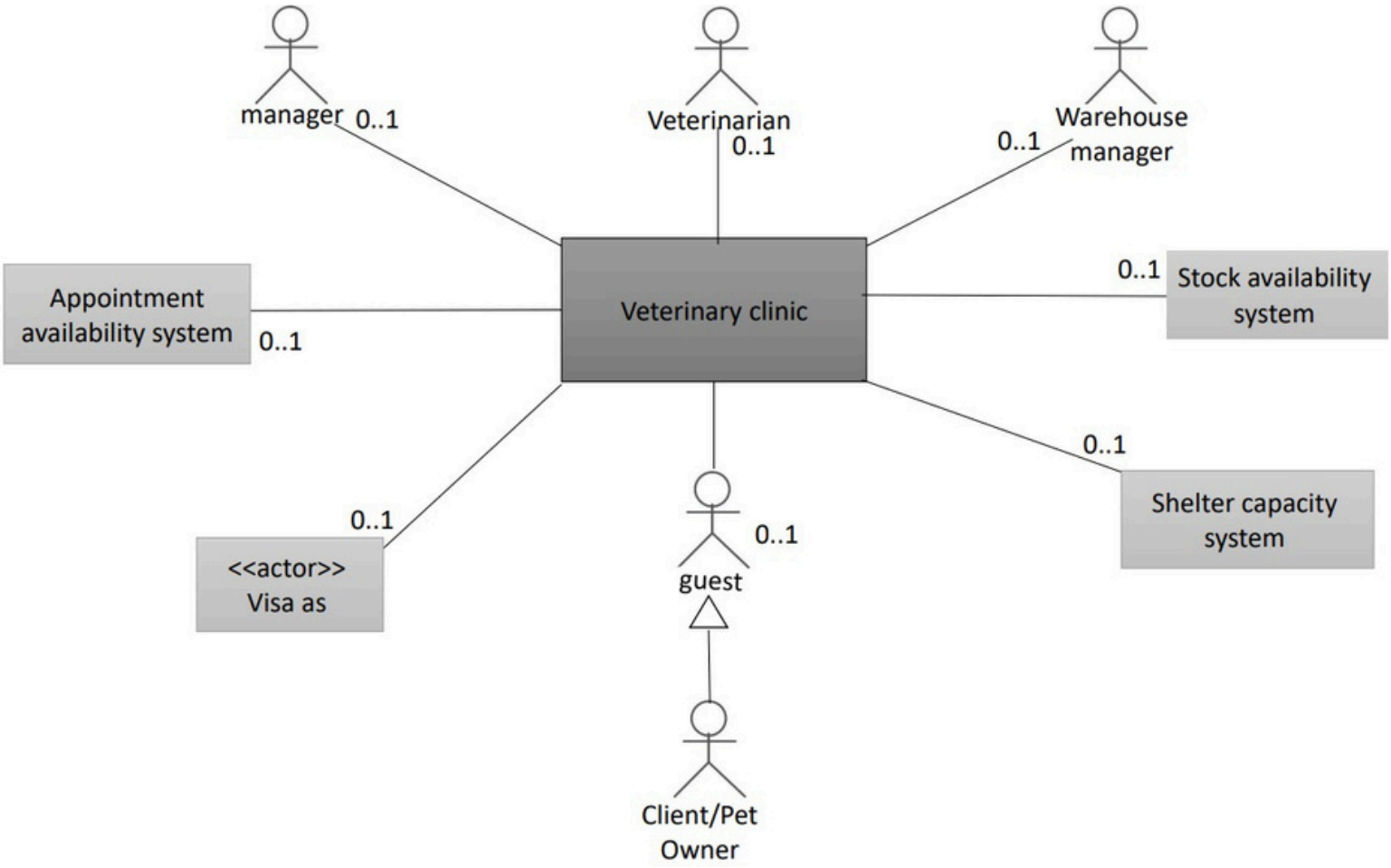
3.4 Logical Database Requirements

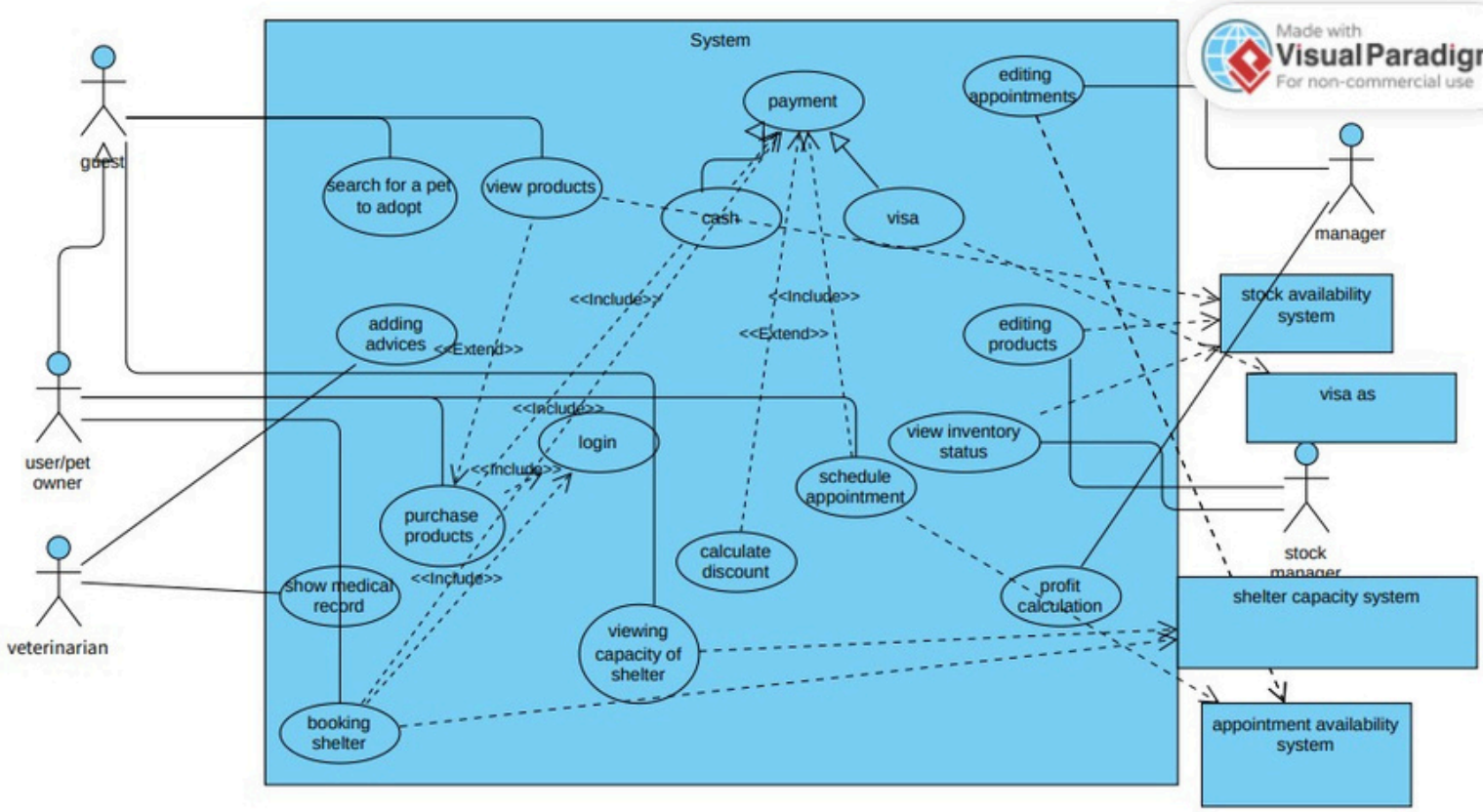
- Store patient medical records, inventory data, and user information securely.

- Efficient Indexing:Indexing will be optimized to support fast data retrieval.
-
- Support for data retrieval based on search criteria (e.g., pet
- type, appointment dates).

Revision History

Version	Reason for changes	Date	Name
1.0	Initial draft created	20/07/20240	whole team
1.1	Update system requirments section	01/08/2024	whole team
1.2	Added use cases and functional requirements	15/08/2024	whole team
1.3	Edited security requirements and encryption	22/08/2024	whole team
1.4	Added data privacy and user management	01/9/2024	whole team
1.5	Review final adjustments	10/09/2024	whole team


manager
0..1
Veterinarian
0..1
0..1
Warehouse manager
Appointment availability system
0..1
Veterinary clinic
0..1
Stock availability system
0..1
Shelter capacity system
0..1
guest
0..1
<<actor>> Visa as
Client/Pet Owner


System
guest
user/pet owner
veterinarian
manager
stock manager
search for a pet to adopt
view products
payment
cash
visa
editing appointments
adding advices
<<Extend>>
<<Include>>
<<Include>>
<<Extend>>
editing products
login
<<Include>>
<<Include>>
<<Include>>
purchase products
schedule appointment
view inventory status
calculate discount
show medical record
profit calculation
viewing capacity of shelter
booking shelter
stock availability system
visa as
shelter capacity system
appointment availability system
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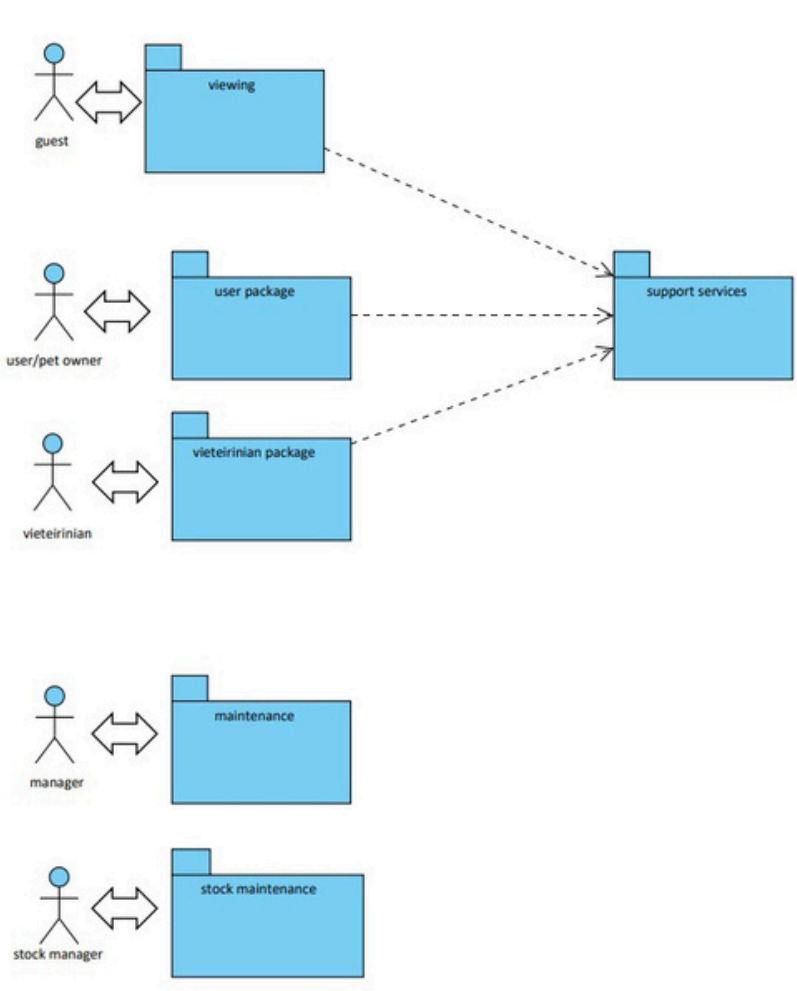
guest
viewing
user/pet owner
user package
support services
vieteirinian
vieteirinian package
manager
maintenance
stock manager
stock maintenance
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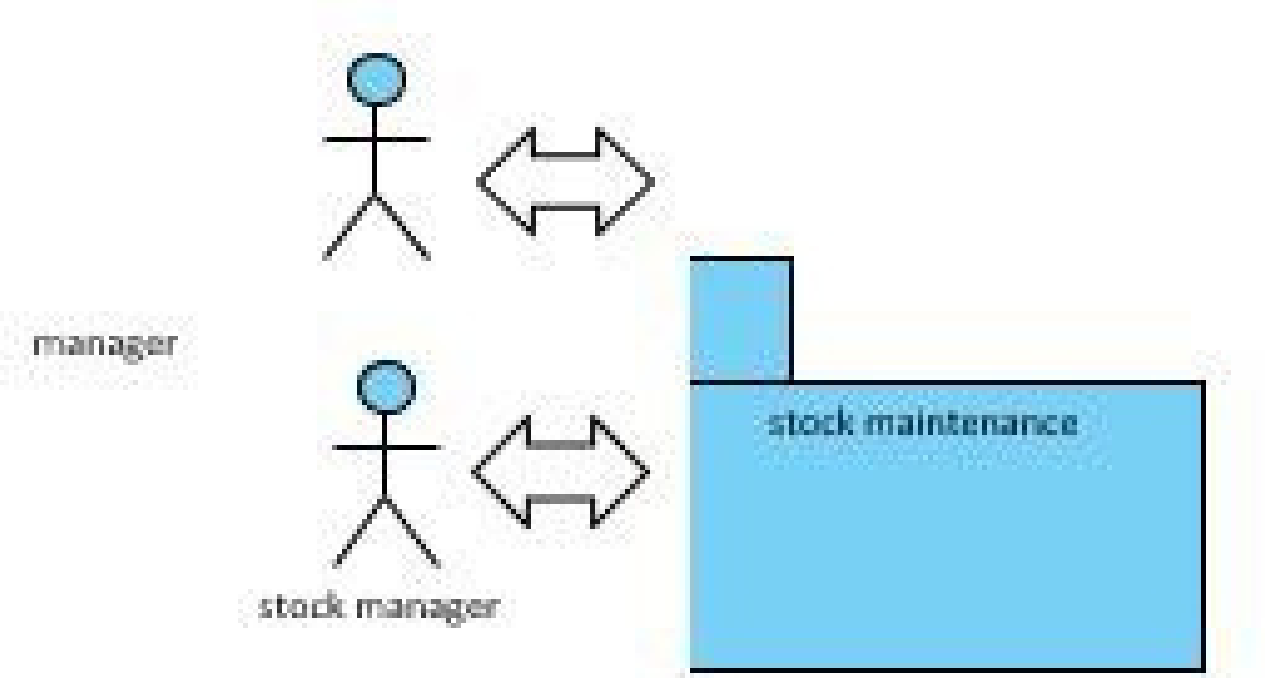
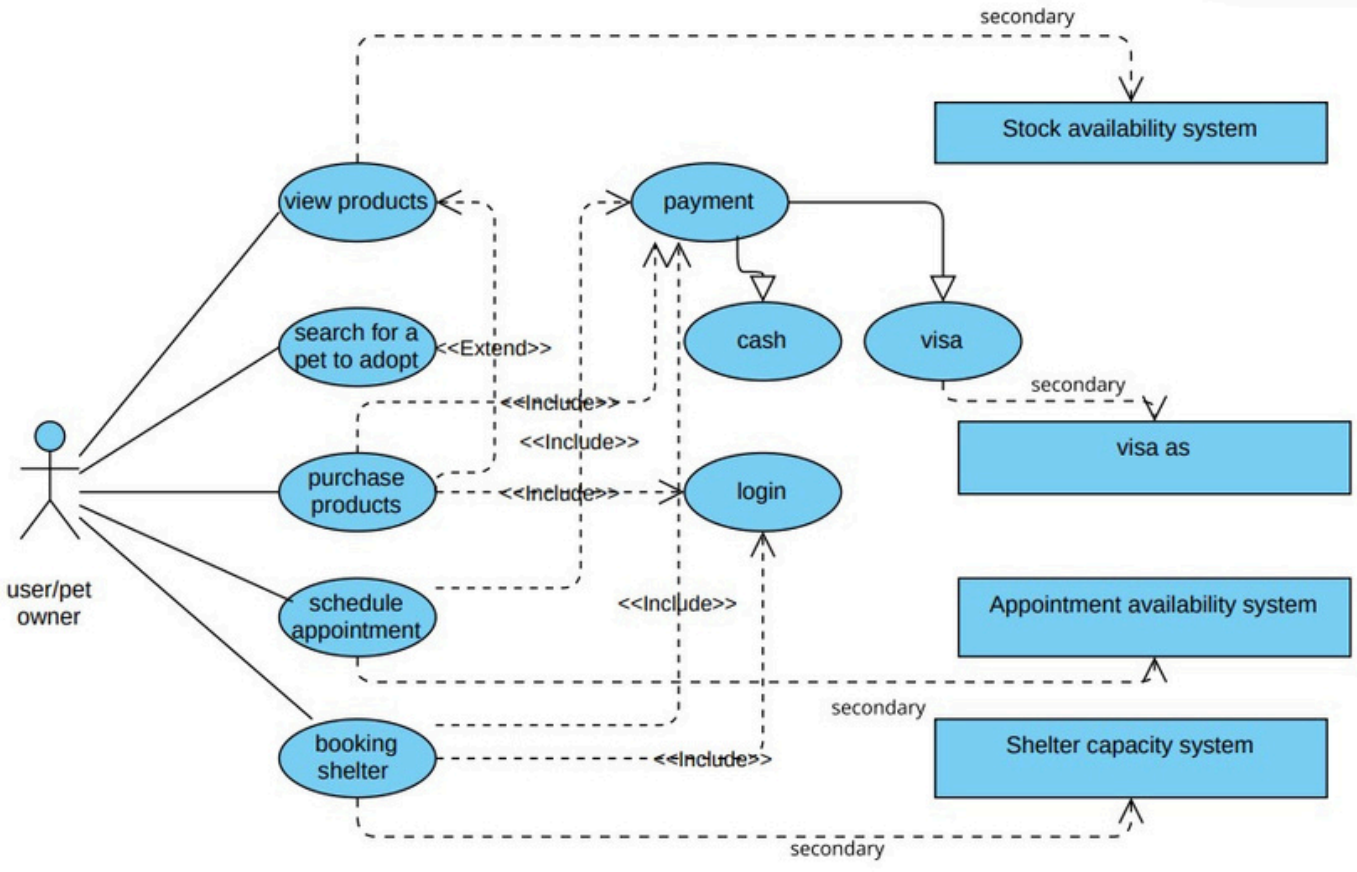
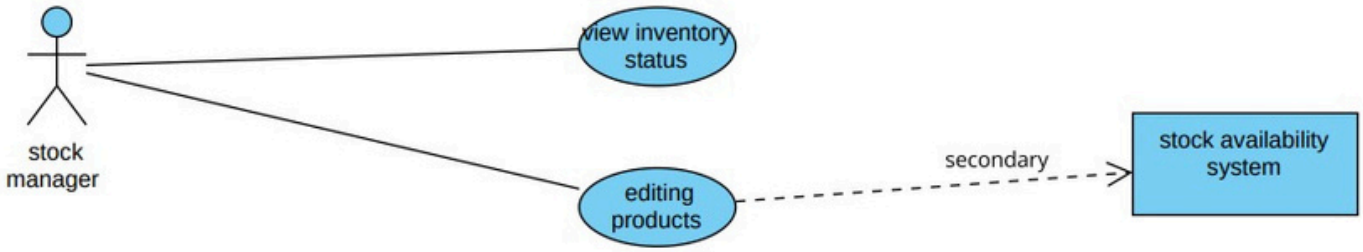
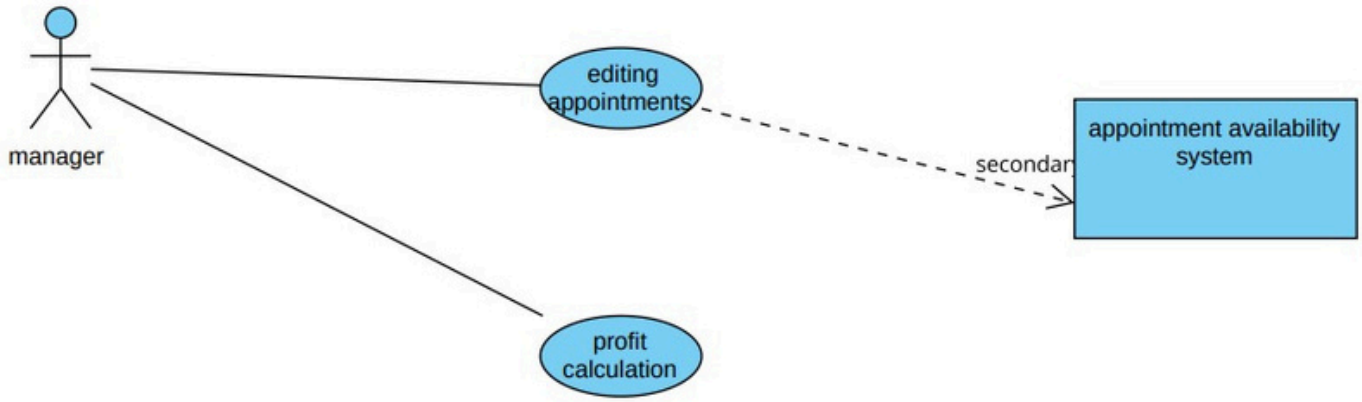
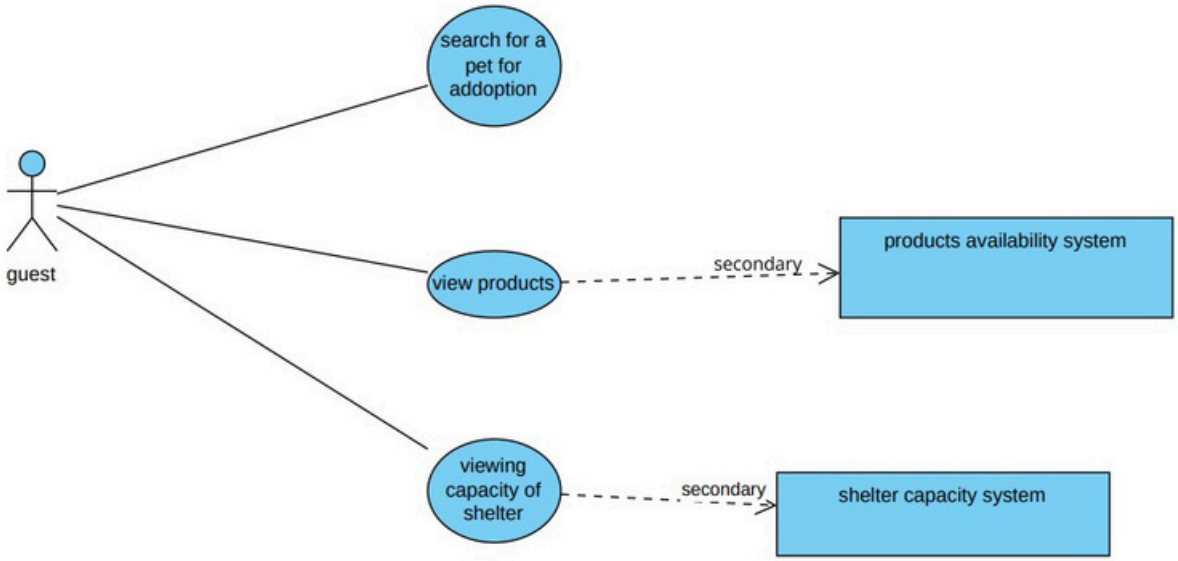
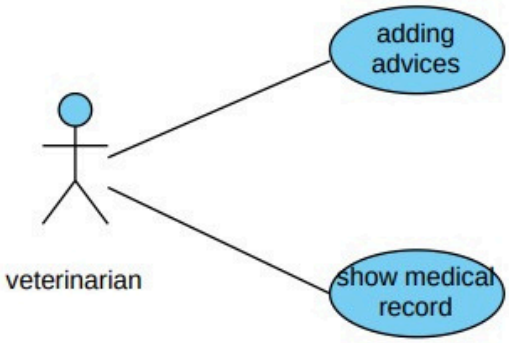


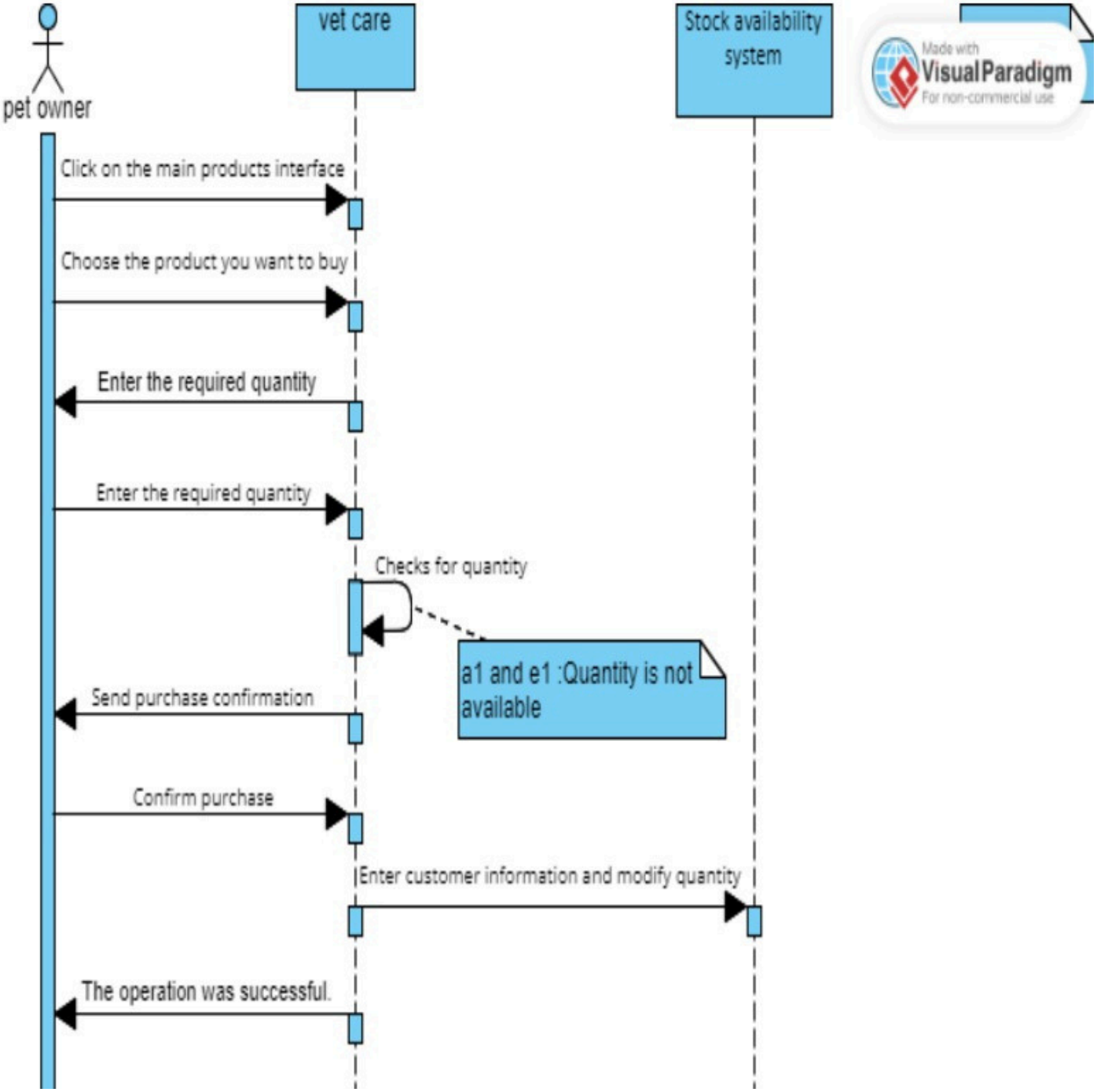



stock manager
view inventory status
editing products
secondary
stock availability system


manager
editing appointments
profit calculation
secondary
appointment availability system


guest
search for a pet for addoption
view products
viewing capacity of shelter
secondary
products availability system
secondary
shelter capacity system


adding advices
veterinarian
show medical record


pet owner
vet care
Stock availability system
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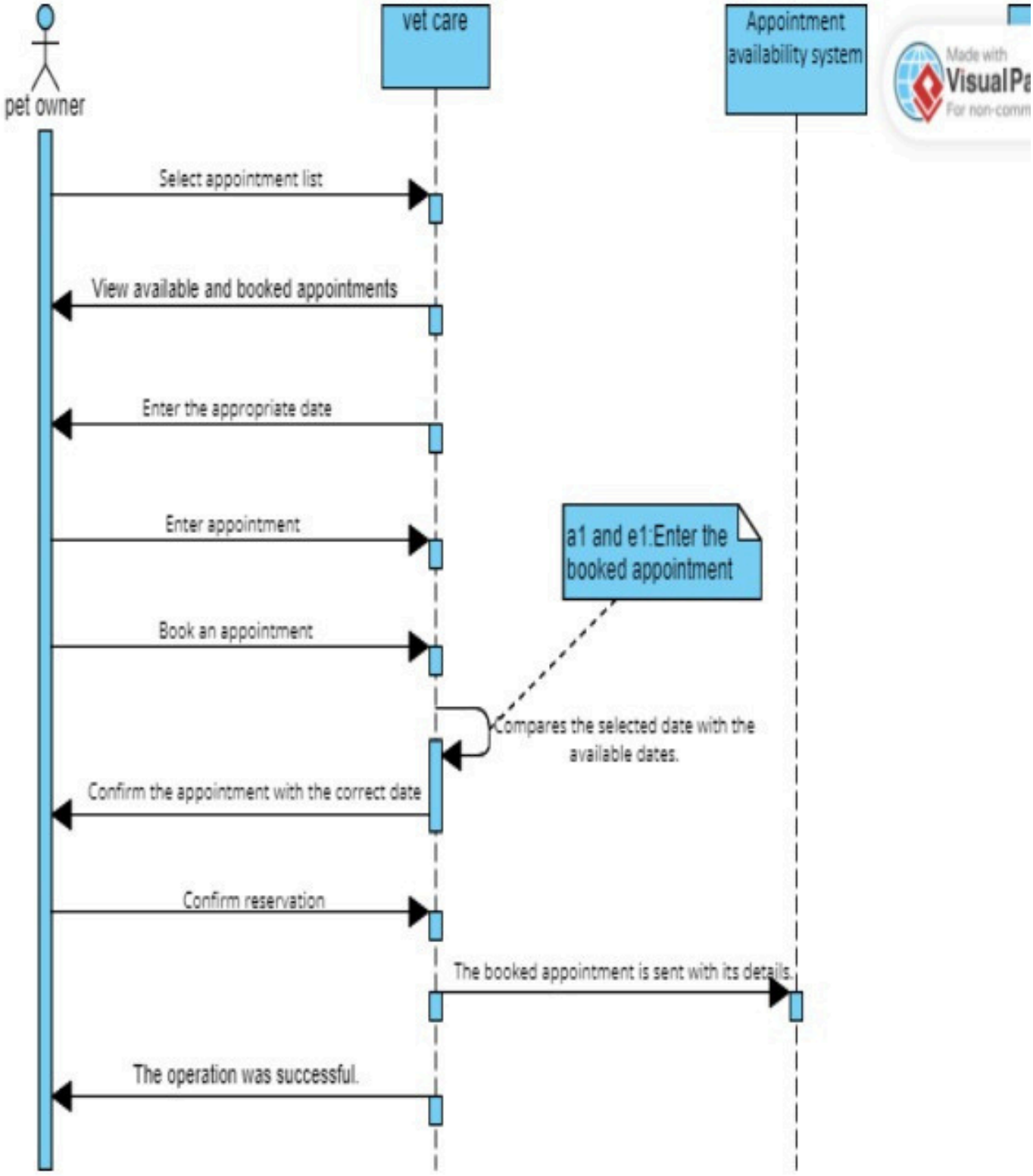
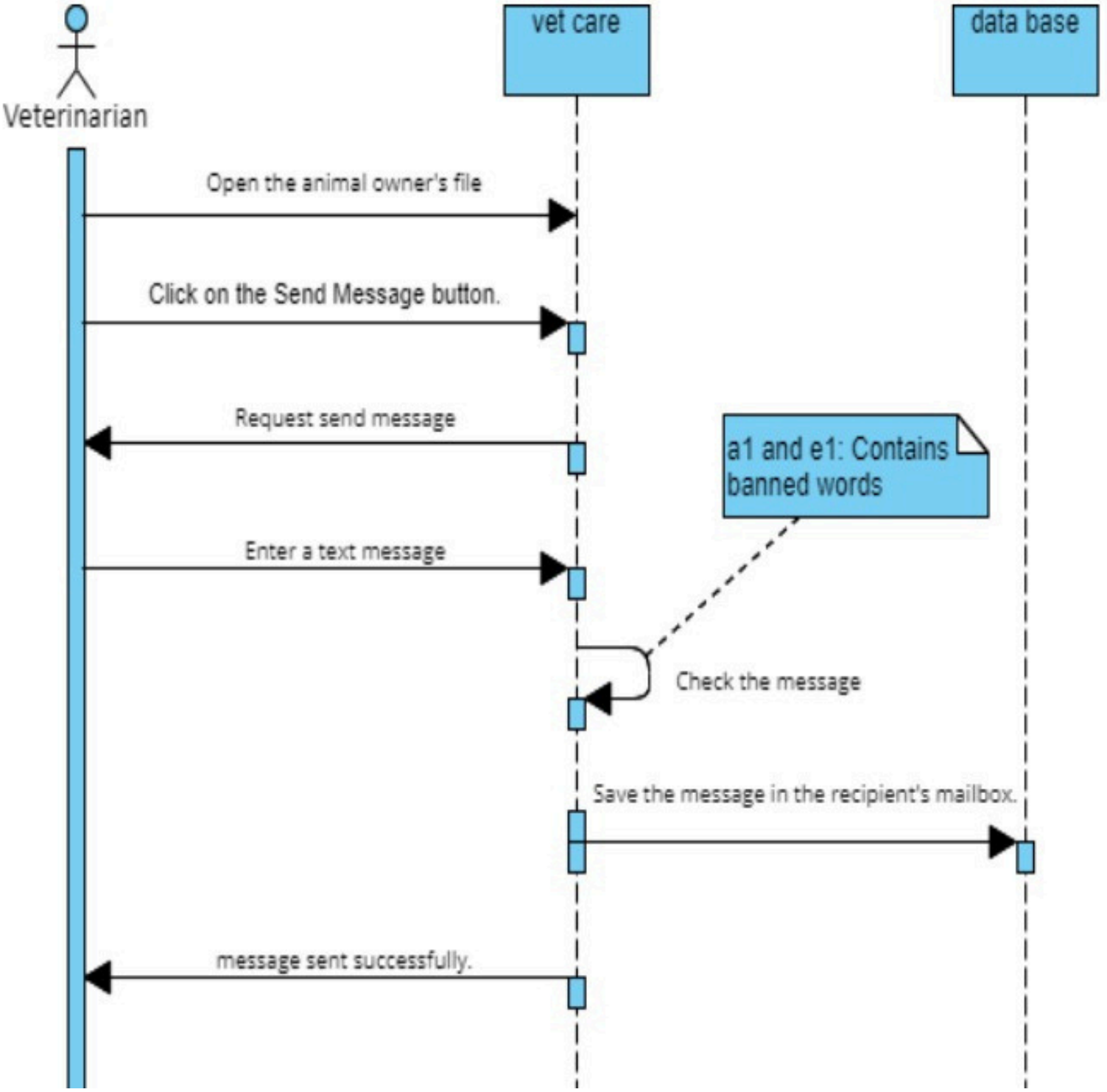
Click on the main products interface
Choose the product you want to buy
Enter the required quantity
Enter the required quantity
Checks for quantity
a1 and e1 :Quantity is not available
Send purchase confirmation
Confirm purchase
Enter customer information and modify quantity
The operation was successful.

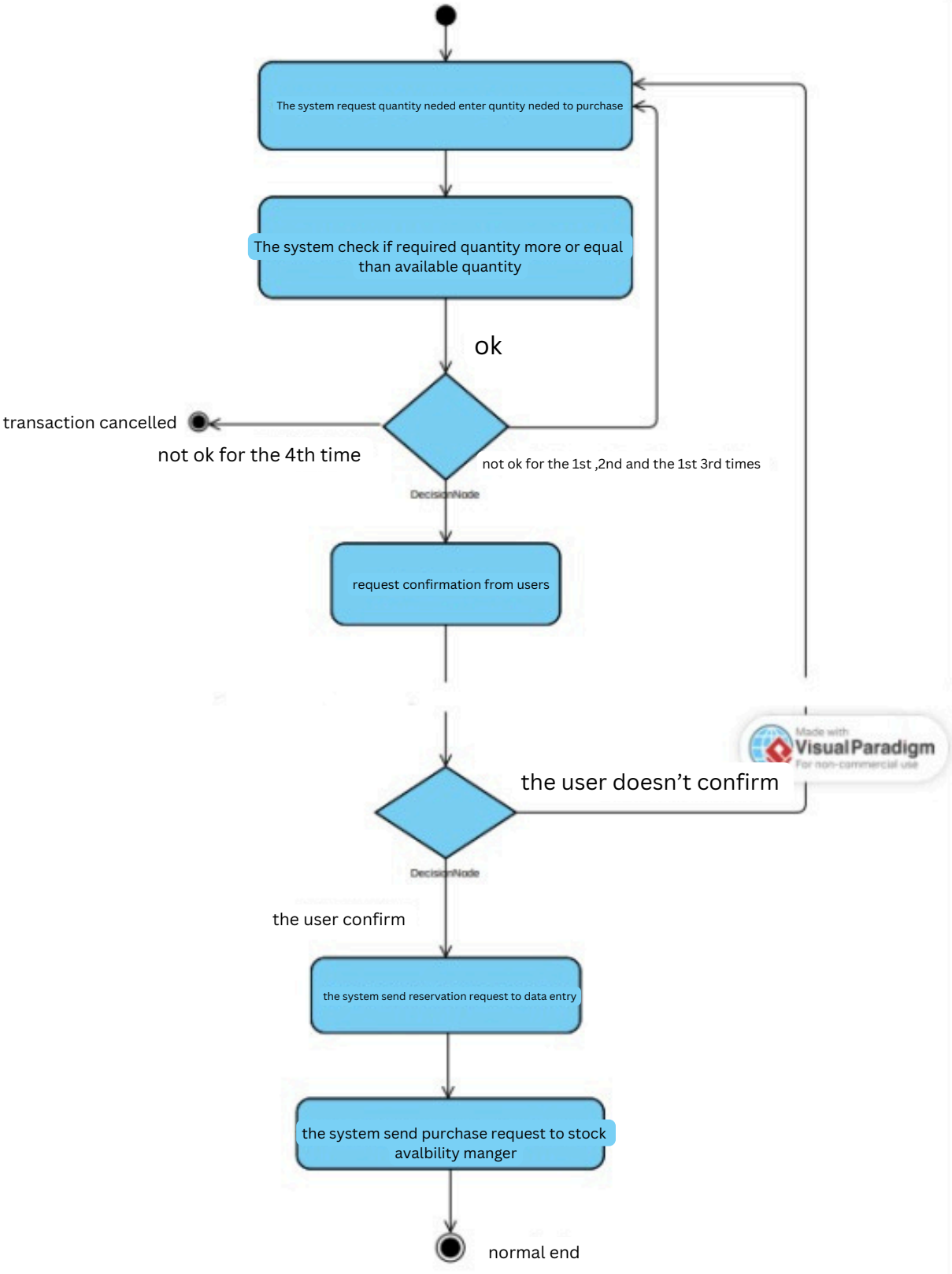
reserve from available appointments:



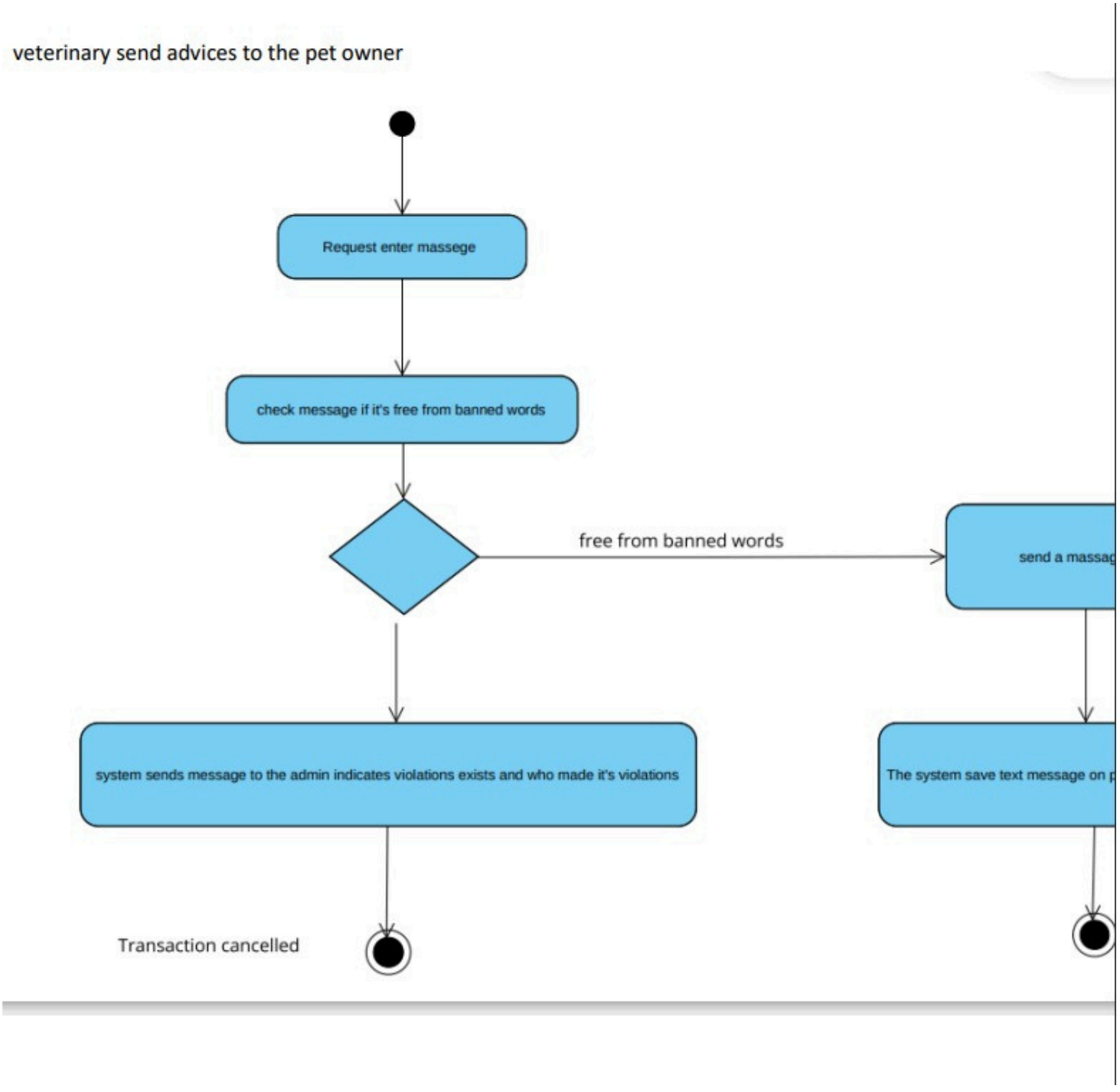
veterinary send advices to the pet owner:

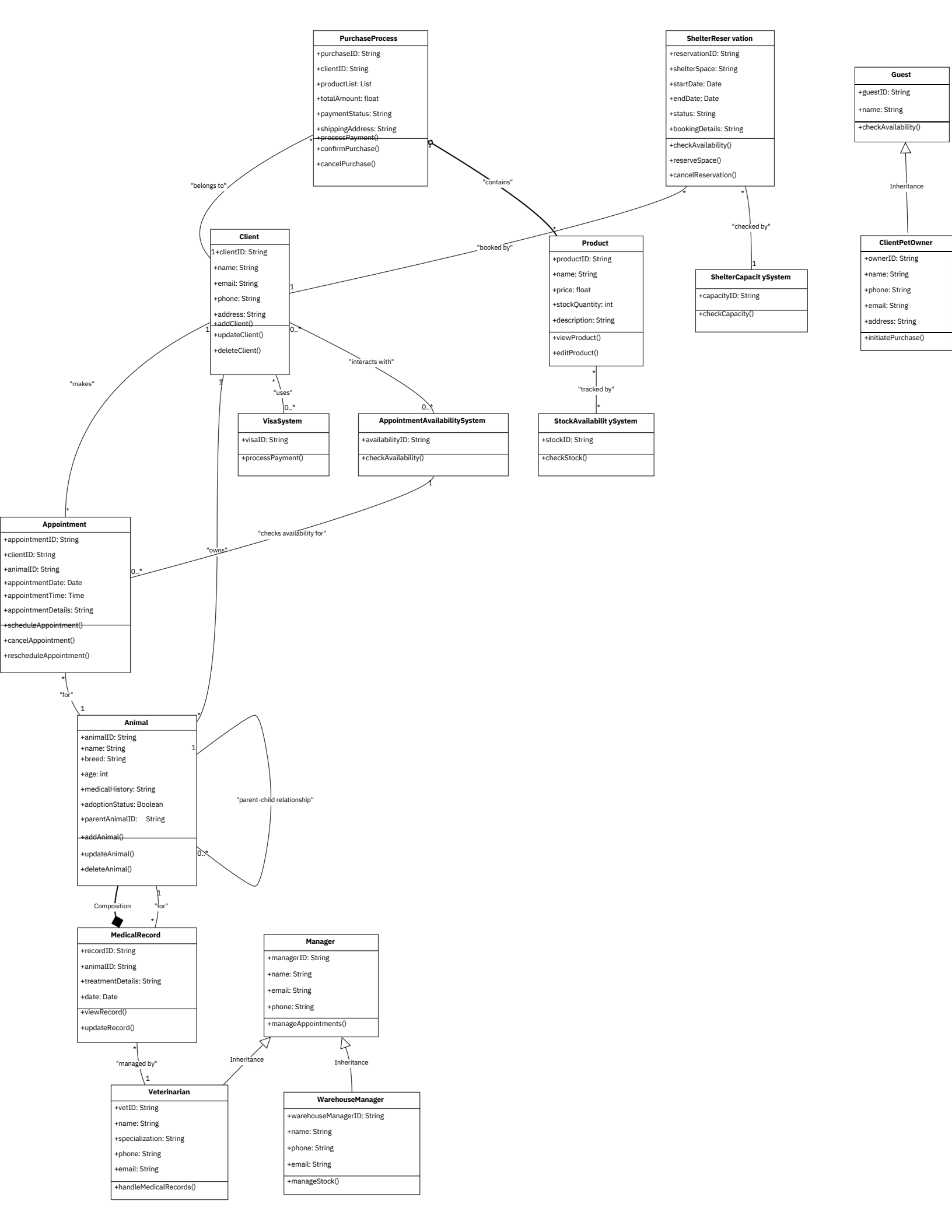


purchase product



veterinary send advices to the pet owner

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+clientID: String
+productList: List
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+paymentStatus: String
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+processPayment()
+confirmPurchase()
+cancelPurchase()
ShelterReser vation
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+checkAvailability()
+reserveSpace()
+cancelReservation()
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+checkAvailability()
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"contains"
"booked by"
"checked by"
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+addClient()
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+deleteClient()
Product
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"uses"
"interacts with"
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StockAvailabilit ySystem
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"owns"
"for"
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Inheritance
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WarehouseManager
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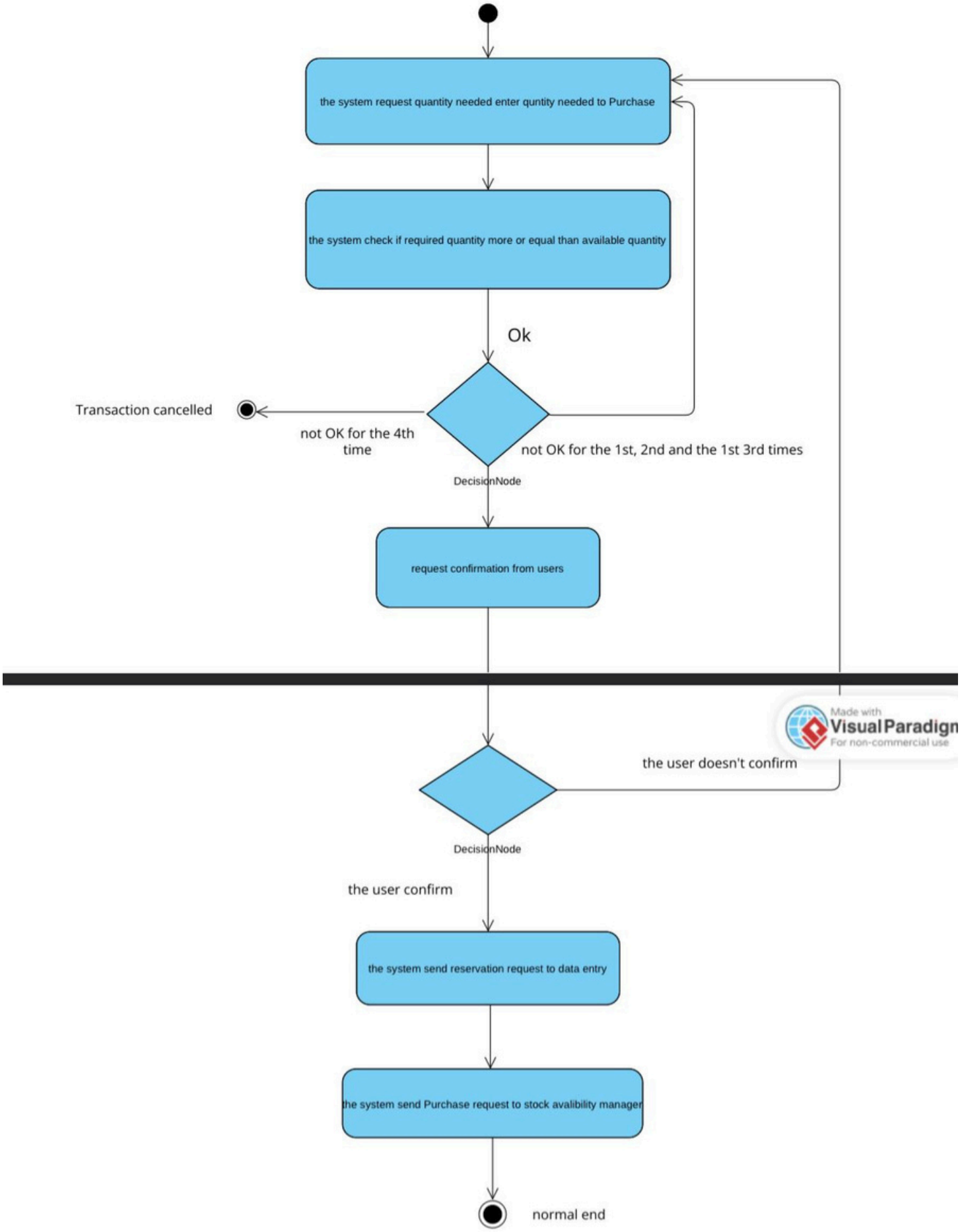
purchase product



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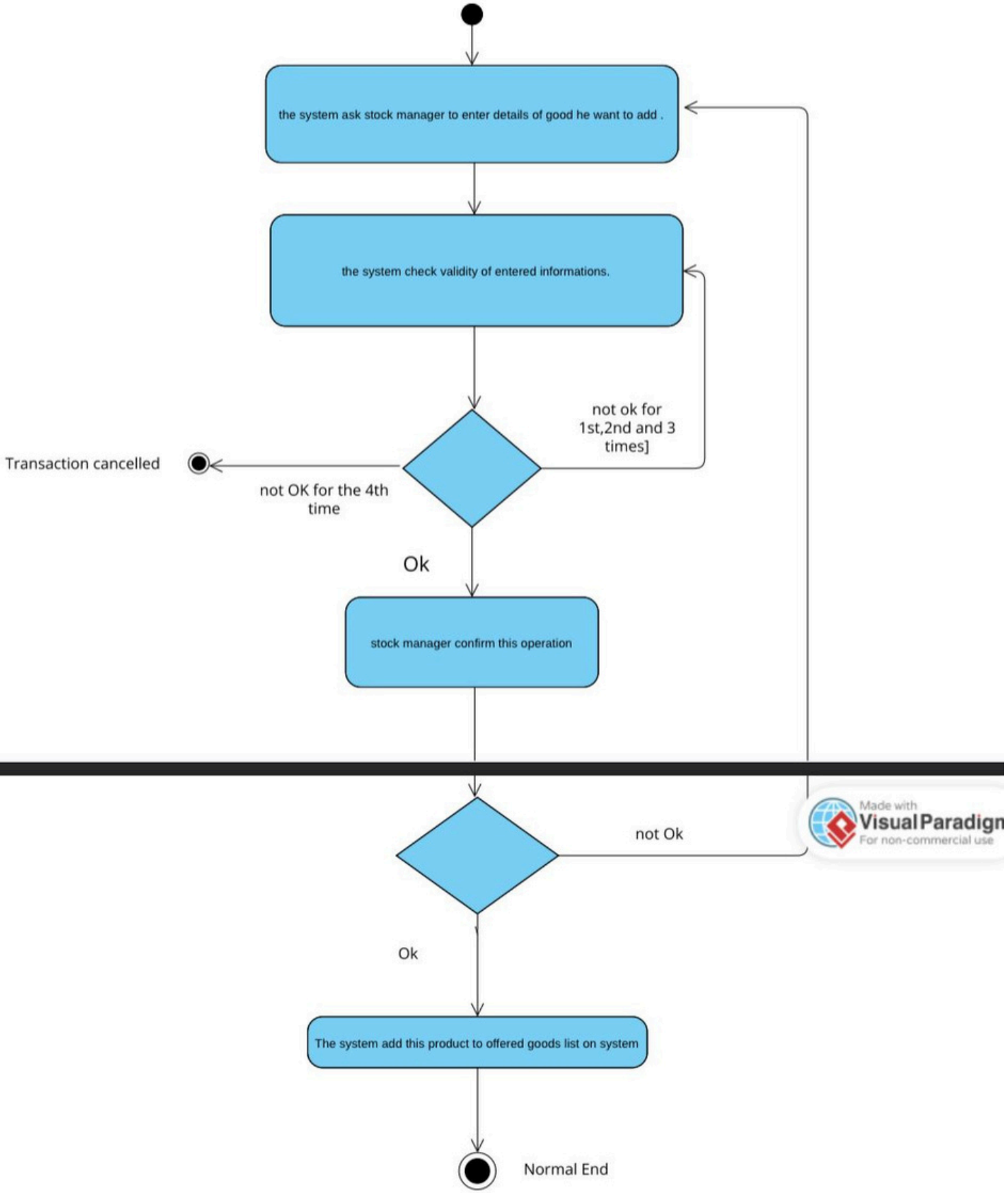
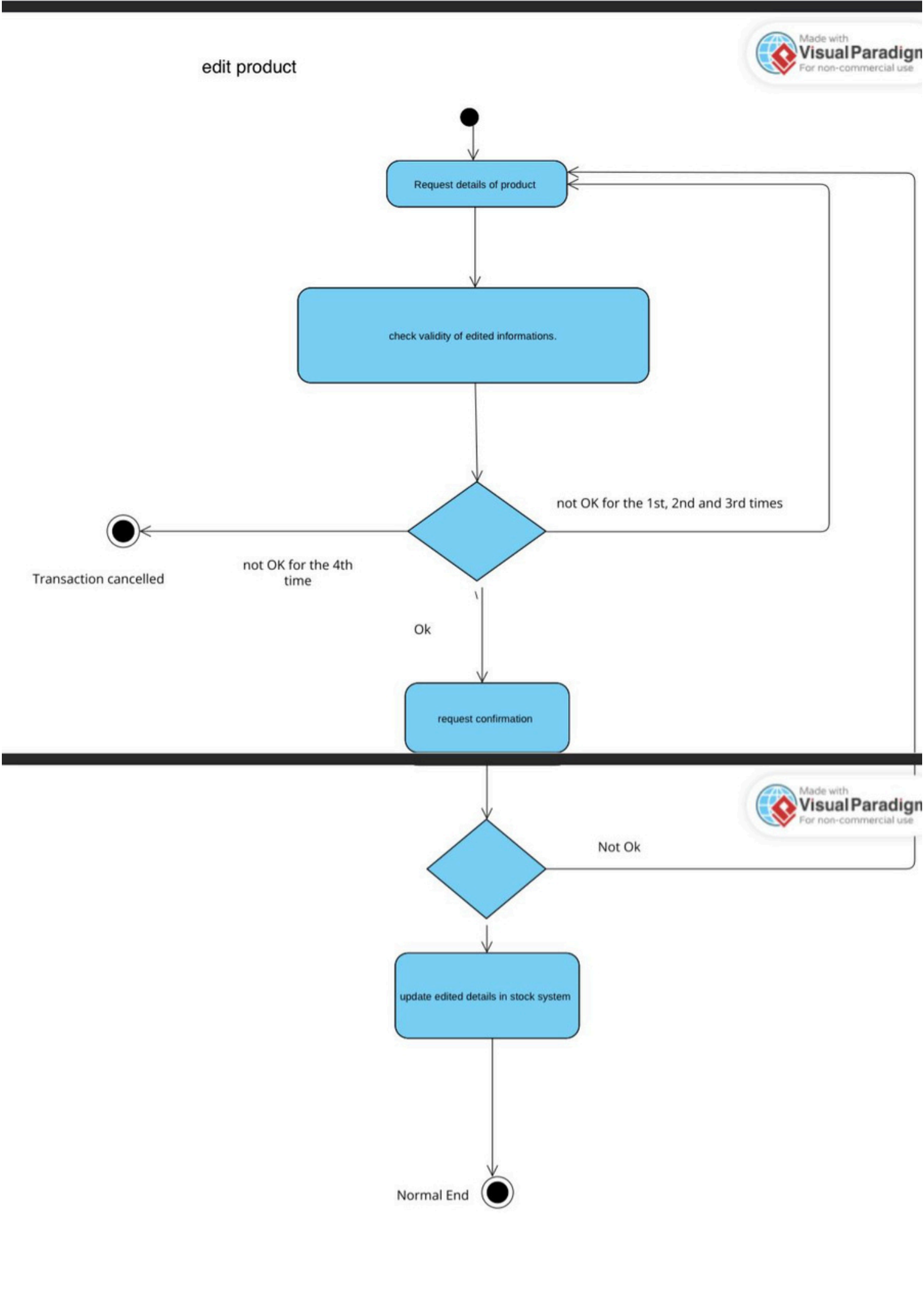
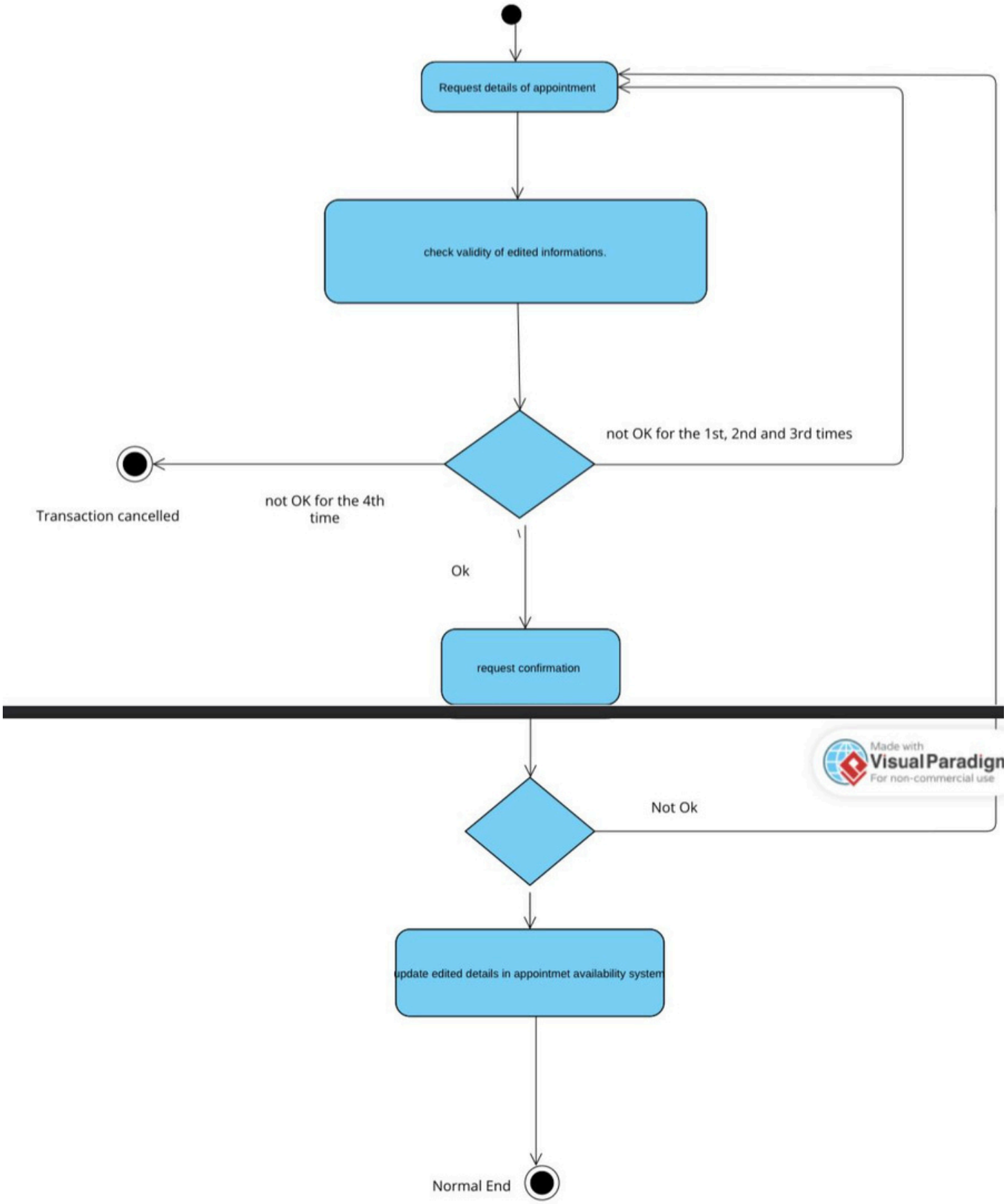
add product




edit product
Request details of product
check validity of edited informations.
not OK for the 1st, 2nd and 3rd times
Transaction cancelled
not OK for the 4th time
Ok
request confirmation
Not Ok
update edited details in stock system
Normal End

edit appointments



add pet for adoption