

VIAPets – Analysis Document

Students

Ana-Maria Patriche – 302976

Bartosz Kołando – 354539

Elina Grumbina – 355013

Piotr Gała – 355451

Neegam Singh Kunwar - 355461

Supervisors

Mona Wendel Andersen

Joseph Chukwudi Okika

Software Engineering

Semester 1

[11.10.2024]

Summary

Bob Oldenuff needs a website and a local software solution for his company, VIAPets. The company has two areas of activity: petshop and kennel. They function at the same location, in separate rooms.

The process of selling a pet has 3 parts:

1. Register customer
2. Register sales data
3. Assign purchased pet from petshop to customer

The process of booking a stay for a pet in the kennel has steps:

1. Verify room available in the kennel at the desired date (max 10 bookings possible at once)
2. Identify customer
3. Identify pet
4. Record booking period

The software solution must be simple to use and the information about customers, pets, sales and bookings must be stored on local files. It needs to allow a clear delimitation between pets for sale and pets in the kennel, but also permit moving them between the two categories since the business also offers rehoming services. The owner does not want to include a login option.

The website must function at an informative level, all sales and bookings being handled at the shop location, on their local system. The website must have the following pages: Homepage, Our story, Petshop, Kennel and Contact. The petshop page must include pictures and information about the animals currently available for purchase. The kennel page must include real-time information on the available room for booking animals.

Table of contents:

Summary.....	2
Functional requirements	4
Non-functional requirements	4
Use case diagram	5
Use case description.....	6
Manage pet information	6
Manage customer information.....	7
Manage Booking.....	7
Sell a pet.....	8
Move a pet to petshop.....	9
Relation between requirements and use cases	9

Functional requirements

1. As a User, I want to add new pet information to the system, so that I can track and manage the pets in the pet shop and kennel.
2. As a User, I want to view details of pets in the system, so that I can easily access and review information about pets available in the system.
3. As a User, I want to be able to modify pet information, so that I can update or correct any details about a pet as needed.
4. As a User, I want to assign a pet to petshop, so that I can easily differentiate between pets that can be sold and those that already have an owner.
5. As a User, I want to register new customers, so their information is stored in the system.
6. As a User, I want to view customer information, so that I can check if the customer's information is already in the system
7. As a User, I want to edit customer information, so that I can keep it up to date if information changes.
8. As a User, I want to sell pets because this is a major activity of my company.
9. As a User, I want to verify the availability of bookings, so that I know if there is a place for a new pet.
10. As a User, I want to view kennel details, so that I know every important information about the kennel.
11. As a User, I want to create bookings for the kennel in the system, so that I can easily keep track of them.
12. As a User, I want to modify booking information from the kennel, so that I can keep the information up to date.
13. As a User, I want to end a pet's stay in the kennel, so that I know when the pet leaves kennel

Non-functional requirements

14. The total number of bookings available at one time is limited to 10
15. The information registered through the system must be stored locally.

Use case diagram

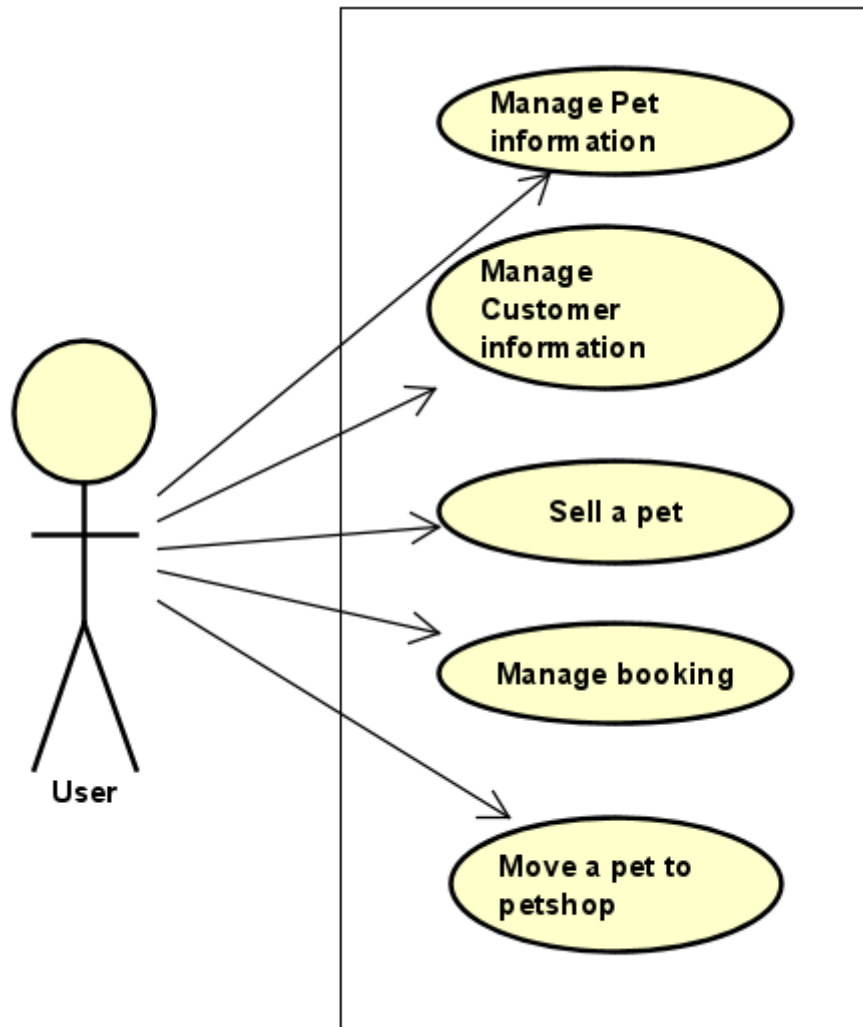


Figure 1 :Use Case Diagram

Use case description

Use case	Manage pet information
Summary	Add, view or edit pet information
Actor	User
Precondition	Information about a pet needs managing (add, edit, view)
Postcondition	Pet information is successfully viewed/added/modified
Base sequence	<ol style="list-style-type: none"> 1. User opens the program. 2. User selects a pet or chooses to add a new pet. 3. If searching for a pet: <ul style="list-style-type: none"> • User enters the pet's name and initiates a search. • The system validates the input. • If valid, the system displays a list of pets matching the search. [ALT1] • User selects a pet to view its information. • User can choose to edit or close the pet's details: <ul style="list-style-type: none"> - Edit: Opens fields for modification with options to Save or Cancel. - If Save: <ul style="list-style-type: none"> ▪ The system validates the updated data and saves the changes.[ALT2] ▪ The system displays a success message. 4. If adding a new pet: <ul style="list-style-type: none"> • The system displays a blank form for pet information (e.g., name, species, age, gender, color, photo, comments). • Species-specific fields (e.g., Breed for Cats/Dogs, Freshwater/Saltwater for Fish) are dynamically displayed. • User assigns the pet to either a customer or the pet shop: <ul style="list-style-type: none"> - For pet shop assignments, price information must be provided. • User chooses Save or Cancel: <ul style="list-style-type: none"> - Save: <ul style="list-style-type: none"> - The system validates the data and adds the pet to the system.[ALT2] - The system displays a success message.
Alternate sequence (branch or exception)	<p>[*ALT0] Cancel Process: At any step, the user may cancel, ending the use case.</p> <p>[ALT 1] Search Errors:</p> <ul style="list-style-type: none"> • If no pets match the search, the system displays a "Pet not found" message and allows the user to try again. <p>[ALT 2] Validation Errors:</p> <ul style="list-style-type: none"> • If required fields are empty during editing or adding, the system shows an "Invalid information" message. • For pet shop assignments: <ul style="list-style-type: none"> ○ Price must be specified and valid (greater than 0 and numeric). • Pets must be assigned to a customer or the pet shop. • Missing species-specific fields (e.g., Breed) trigger a validation error.
Note	<p>Pet records can be created without a name.</p> <p>A new pet must be assigned to either a customer or the pet shop.</p> <p>This Use case covers requirements 1,2 ,3, and 4</p>

Use case	Manage customer information
Summary	Register new customers, view and edit existing customers information in the system
Actor	User
Precondition	The user are able to manage customer information
Postcondition	Customer information is created, displayed, or updated.
Base sequence	<ol style="list-style-type: none"> 1. User choose to search customer.[ALT1] 2. User can view customer list and choose customer. 3. User can view customer information or edit it. 4. System shows customer details, if user choose to edit. 5. User update customer data. 6. System confirm update.
Alternate sequence (branch or exception)	<p>[*ALT0] In step 1, the process can be cancelled ending the use case.</p> <p>[ALT1] If customer is not found, then register new customer.</p>
Note	<p>Customer registration requires a Name, Phone number, and Email. In order to purchase a pet, customers must provide personal data so they can log in to the system.</p> <p>This Use case covers requirements 5, 6, 7.</p>

Use case	Manage Booking
Summary	<ul style="list-style-type: none"> • Allows users to manage kennel bookings on behalf of customers in the system. • Users can create new bookings, modify bookings, and cancel bookings for kennel services as per customer's.
Actor	User
Precondition	<ol style="list-style-type: none"> 1. The pet's profile is set up in the system. 2. Kennel services are available with open slots.
Postcondition	<ol style="list-style-type: none"> 1. The booking is created and canceled as per the user's action, and notifications are sent to both the customer and kennel provider. 2. System updates kennel availability in real-time. 3. For modifications, previous booking details are replaced with the new data. 4. For cancellations, the booked slot is released for new customers.
Base sequence	<p>Create a New Booking</p> <ul style="list-style-type: none"> • Users selects the "Create Booking" option. • Users input the customer's desired booking dates. • System checks for available kennel slots on the selected dates and shows options.

	<ul style="list-style-type: none"> • [ALT1] If no slots are available, the system displays an unavailability message, allowing the users to propose alternative dates to the customer. • Users selects an appropriate kennel with open slots. • Users confirms booking details and proceed to payment on behalf of the customers if required. • System confirms the booking. • The system sends booking confirmation to both the customer and kennel provider. <p>Cancel Booking</p> <ul style="list-style-type: none"> • User selects the “Cancel Booking” option for specific booking. • System confirms the cancellation request with the user, allowing verification. • User confirms cancellation. • System processes the cancellation and sends a notification to the customer and kennel provider. • System releases the reserved slot, making it available for new bookings.
Alternate sequence (branch or exception)	[ALT1] If no Kennel is available on the selected dates, the system displays a message indicating unavailability message, allowing the user to suggest alternative dates or requirements to the customer.
Note	<p>This use case supports the user's ability to act on behalf of customers for smooth booking management.</p> <p>This use case covers requirements 9,10,11.</p>

Use case	Sell a pet
Summary	Record the sale of a pet to a customer.
Actor	User
Precondition	The pet is registered in the system, and the customer's information is available.
Postcondition	The pet is marked as sold and assigned to the customer. Sales details are recorded.
Base sequence	<ol style="list-style-type: none"> 1. User selects the pet to be sold. 2. User selects customer. 3. User confirms the sale.

	4. System marks pet as sold and assigns it to the customer. 5. System records the sale details and shows a success message.
Alternate sequence (branch or exception)	[ALT1] If pet or customer data is incomplete, prompt an error message and request missing information. [ALT2] If the user cancels at any step, terminate the use case.
Note	Sales data include pet ID, customer details, sale date, and price.

Use case	Move a pet to petshop
Summary	Assign a pet to be transferred to the pet shop, making it available for sale
Actor	User
Precondition	Pet information is visible on the website.
Postcondition	Pet is available for sale in the petshop, with price and relevant information.
Base sequence	<ol style="list-style-type: none"> 1. Open program 2. Select a Pet 3. System displays a Pet 4. Select "Move to Petshop" 5. Enter a price for a pet 6. System validated the data 7. Save changes 8. System displays a success of the operation
Alternate sequence (branch or exception)	[ALT1] If the user cancels the selection, abort the operation. [ALT2] If pet's information is invalid, display an error and ask the user to correct the information before proceeding. [ALT3] If the user leaves some of the information about the pet empty, ask to fill in all boxes. [ALT4] If price information is invalid (negative number), show error message.
Note	User must type in following information about the pet: name, breed, price, color, age, and gender. This use case covers requirements 1, 2, 3 and 4.

Relation between requirements and use cases

Use Case	Covered requirements
Manage Pet Information	1, 2, 3, 4
Manage Customer Information	5, 6, 7
Sell a Pet	2, 3, 5, 6, 8
Manage Booking	9,10,11
Move a Pet to Petshop	1,2,3,4

