Software Requirements Specification for Pawfection Pet Spa Management System,

Release 1.0

Version 1.0 approved

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Process Impact

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1. Introduction

1.1 Purpose

The company "Pawfection" is a chain of companies specializing in providing spa services for pets. The company focuses on affluent customers who love animals and enjoy unique experiences. The average number of customers per week at each branch is 1000, and manual record-keeping sometimes leads to receptionists double-booking or failing to update new bookings, which affects the customer experience. Given the company's scale:

-        Staff Size:

+   Total number of employees: 100+

+   Number of stores: 5 branches

+   Pet care department: 50 employees

+   Marketing department: 15 employees

+   Management department: 10 employees

-        Service Scale:

+   Pet Care Services: bathing, grooming, skin treatments, relaxation spa

+   Pet Products: food, toys, accessories

Given the aforementioned scale, managing personnel and service/customer information is quite challenging for the business. Identifying loyal customers requires a significant amount of time due to manual record-keeping. To address these challenges, the business wants to develop an application that can solve the following issues:

-        Easily manage customer purchase history.

-        Enhance customer experience and promote services and online offers.

-        Quickly update prices according to market conditions.

-        Support appointment scheduling for customers to avoid double booking.

-        Automatically calculate employee salaries based on their work schedule to avoid errors.

-        Quickly respond to customer inquiries.

-        Collect customer reviews and feedback to improve services and become more friendly and approachable to customers.

1.2 Document Conventions

No special typographical conventions are used in this SRS.

1.3 Project Scope and Product Features

1.3.1 Project Features

What is the benefit of the project?

- Convenience for Customers: Customers can easily access the website to schedule appointments for their pets without needing to visit the store in person or call. They can choose appointment times that fit their schedules.

- Efficient Appointment Management: The website helps manage appointments more efficiently. Store owners can easily track their schedules and confirm, cancel, or reschedule appointments flexibly.

- Detailed Service Information: Customers can view detailed information about the spa services offered for pets, including service packages, prices, required time, and additional services.

- Reviews and Feedback: Customers can rate and leave feedback about the store's services. This helps the store improve its service quality and attract new customers.

- Time and Effort Saving: The website saves time and effort for both customers and employees. Customers do not have to wait long to make appointments, while employees do not have to spend much time recording appointment information.

- Enhanced Business Performance: By optimizing appointment management and increasing customer convenience, the pet spa store can enhance its business performance and attract more customers.

1.3.2 Project Scope

The Pet Spa Management System (PSMS) is a web-based platform designed to streamline the operations of "Pawfaction" by facilitating efficient appointment scheduling, service management, and customer interactions. This system will enable pet spa customers to book services online, view and manage their appointments, access their purchase history, and provide feedback. Additionally, it will assist staff in managing appointments and communicating with customers, while offering managers and admins tools for overseeing operations, staff, and service quality. Detailed specifications, including the features planned for full or partial implementation in this release, are outlined in the Pet Spa Management System Vision and Scope Document.

2. Overall Description

2.1 Product Perspective

The web project for "Pet Spa" aims to address appointment management, service booking, staff scheduling, and customer feedback for the "Pawfection" chain of pet spa stores. It provides various functionalities for visitors, customers, staff, managers, and administrators to enhance customer experience and optimize business operations.
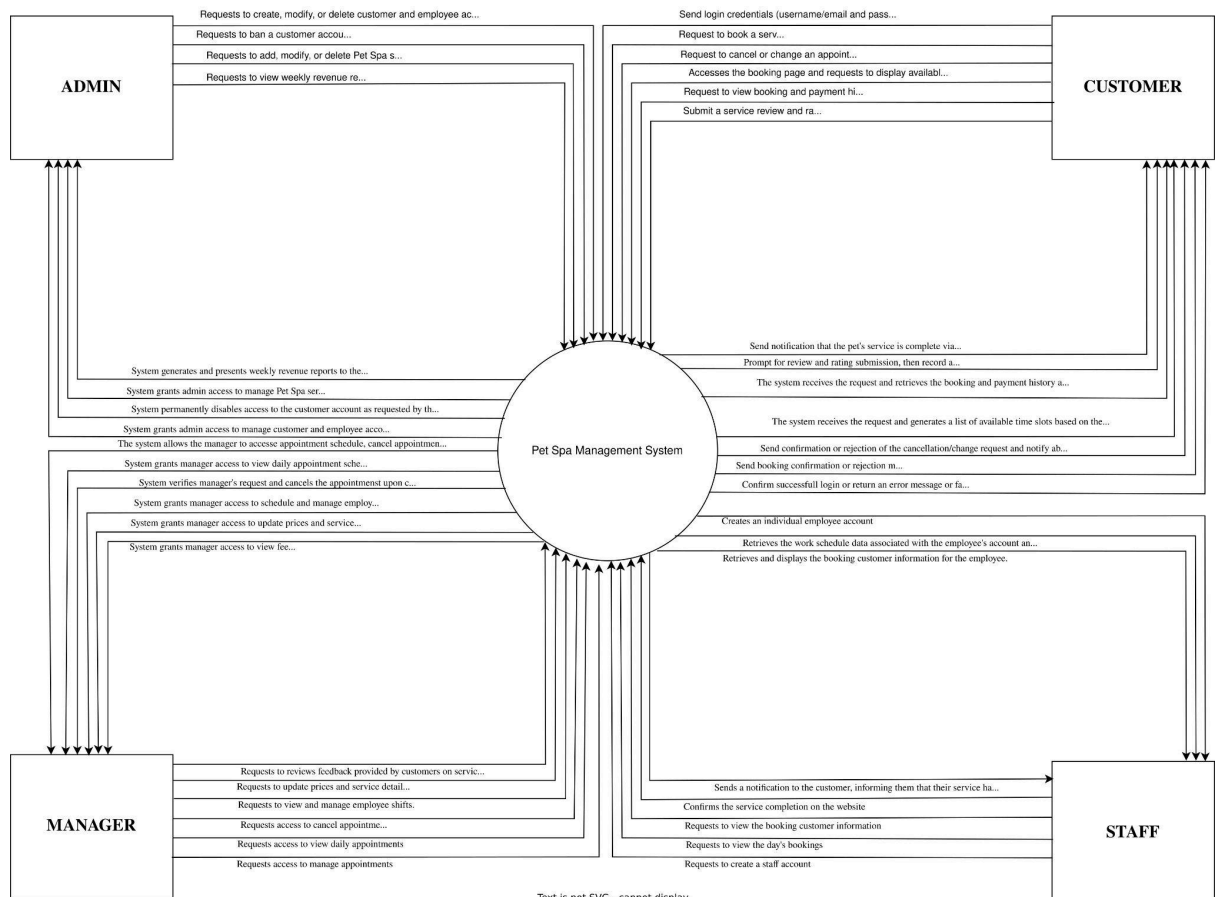
2.2 User Classes and Characteristics

2.2.1 Guest Class:

2.2.1.1 Behaviour:

- Accessing the System: Guest users can access the system, and information about the spa or services will be fully displayed, but functions will be limited.
- Viewing Content: They can view basic pages and content available publicly on the system.
- No Login: They do not have the right to log in to the system to become another type of user.

- Can be Vietnamese or Foreigners: The system should have a language switch mode to cater to various customer groups.

- Not Interested in Customization: Guest users are usually not interested in customization features or personal settings; they just want to refer to information about the services, especially prices and the spa's style. Therefore, the system should display the prices for each type of service and provide feedback from customers who have used the services to increase persuasiveness.

2.2.1.3 Functions in the System:

- View service information, images, and feedback from previous customers.

- If a guest wants to book an appointment, they must create an account or log in.

2.2.2 Customer Class:

2.2.2.1 Behavior :

- Access and Explore Services: Customers can view services, images, and feedback from previous customers on the system.

- Book Appointments: Customers can book service appointments on the system after creating an account and logging in.

- Change Appointments: Customers can change or cancel appointments within 24 hours before the scheduled time, receive notifications via email, and get a refund if canceled within the specified time.

- Payment: Customers can choose to pay by cash or online 100%.

- Receive Notifications: Customers receive notifications via email or SMS when booking, when their pet has completed the service, and when the service is confirmed.

- View History and Reviews: Customers can view their booking and payment history and rate the services.

2.2.2.2 Characteristics

- Animal Lovers with Financial Means: Customers show interest in caring for their pets by using the services.

- Preference for Convenience and Flexibility: Customers often look for flexible and convenient services that allow them to easily change appointments as needed.

- Concern for Service Quality: Customers seek high-quality services and a place that listens to their feedback for service improvement.

- Active Interaction with the System: Customers use features like online booking,

service reviews, and viewing history to optimise their experience.

- Attention to Appointment Management: Customers frequently check their history to ensure they are on time for appointments.

<u>2.2.2.3 Functions in the System:</u>

- View Services, Images, and Customer Feedback: Customers can see services, images, and feedback from previous customers.

- Services (Each Service Takes 60 Minutes): Bathing, grooming, nail trimming. (Prices and times will be determined later), booking schedules will be displayed up to 3 days in advance.

- Account Creation for Booking: When booking, customers need to create an account (providing information such as name, phone number, email).

- Booking Confirmation: After successfully booking, information will be sent via email or phone.

- Cancel or Change Appointments: Cancel, change the time, and reschedule within 24 hours before the appointment. If cancelled within the specified time, a notification will be sent via email and a refund will be processed.

- Display Available Slots: If available time slots are shown, customers can select them and the system will automatically assign staff. -> Solution: each service takes 60 minutes. The booking page will show slots every 60 minutes, e.g., 8:00 AM, 9:00 AM, etc.

- Notification When Service is Complete: The system will automatically send a notification via email and SMS when the pet has completed the service.

- Service Completion Notification: Send a notification that the service is complete via email or SMS, depending on the customer's prior choice.

- View Booking and Payment History: Customers can view their booking and payment history.

- Service Reviews: Customers can rate and review services.

2.2.3 Staff Class:

<u>2.2.3.1 Behaviour:</u>

- View Customer Appointments: Employees can view the day's service appointments and detailed information about the customers and the services booked in each time slot.

- Confirm Service Completion: After completing the service, employees need to

confirm on the website and send a notification to the customer.

- Communicate with Customers: Employees can send messages or communicate with customers through the system to inform them about their pet's status and discuss specific requirements.

<u>2.2.3.2 Characteristics</u>

- Professional and Responsible: Employees demonstrate professionalism and responsibility in booking services and caring for customers.
- Positive and Flexible: Willing to work positively and flexibly to meet customer needs.
- Creative: Able to be creative and suggest services that meet customer needs.

<u>2.2.3.3 Functions:</u>

- Service Additions Notified to Management: Employees are notified to management to book additional services for customers.
- Individual Employee Accounts: Each employee is provided with an individual account to communicate with customers about the service and the pet's status, as well as to suggest additional services.
- View Daily Appointments and Customer Information: Employees can view the day's bookings and customer information for each time slot.
- Confirm Completion on Website: After completion, employees will confirm on the website and send a notification to the customer.

2.2.4 Manager Class:

<u>2.2.4.1 Behaviour:</u>

- Add Services for Customers: Employees will go to the cashier to add services for customers in case the customer wants additional services for their pet while the service is in progress.
- Appointment Management:
    + View and manage daily appointments.
    + Ensure schedules are organised efficiently and meet customer needs.
    + Handle customer requests to cancel or change appointments.
- Confirm Customer Appointments:
    + Confirm bookings made by customers over the phone, ensuring appointment details are accurately recorded.
    + Reschedule or cancel appointments upon customer request.
- Employee Management:

- + Schedule and manage employee shifts based on appointments and customer needs.
  - + Assign tasks and supervise employee performance.
  - + Ensure employees understand and follow the store's regulations and procedures.
- Service's and Product's quality Management:
  - + Review customer feedback on services to improve quality and meet customer needs.
- Customer Interaction:
  - + Address customer requests and inquiries promptly and professionally.
  - + Provide support and advice on Pet Spa services to create the best experience for customers.

<u>2.2.4.2 Characteristics</u>

- Leadership and Management Skills: Managers must have the ability to organize work and solve problems professionally.
- Organisational and Flexible: They can organise schedules and employee tasks flexibly to meet customer needs and ensure work efficiency.
- Attention to Detail: Managers pay attention to details and ensure that all activities are performed correctly.
- Communication Skills: They have good communication skills and can handle situations flexibly and effectively.
- Patience and Decisiveness: They need to be patient to resolve issues and make quick decisions when necessary.

<u>2.2.4.3 Functions:</u>

- Appointment Management:
  - + View and manage daily appointments.
  - + Confirm bookings made by phone, reschedule or cancel appointments.
- Employee Management:
  - + Schedule and manage employee shifts.
- Service and Product Management:
  - + Update prices and detailed information about services.
  - + Review customer feedback on services.
- Customer Interaction:
  - + Address customer requests and inquiries.

+ Provide support and advice on Pet Spa services.

2.2.5 Admin Class:

2.2.5.1 Behaviour:

- Account Management: In cases where customers cancel orders too frequently, the admin can lock the customer's account.

- Service Management: Update changes in prices or new services for the Spa to attract more customers.

- Reporting and Statistics: View reports and statistics such as the number of weekly customers, online bookings, and in-store customers to develop appropriate business strategies.

2.2.5.2 Characteristics

- Professional and Organized:
    + Admins are typically professional and capable of organizing work efficiently.
    + They manage the accounts and services of the Pet Spa carefully and responsibly.

- Knowledge and Management Skills:
    + Admins have deep knowledge of system management and skills in performing management tasks such as creating, modifying, and deleting accounts, managing access rights, and managing services.
    + They understand how to manage customer and employee information and data.

- Careful and Accurate:
    + Admins often deal with sensitive and important information, such as personal information of customers and employees, so they must always be careful and accurate in their work.

2.2.5.3 Functions:

- Account Management:
    + Create, modify, and delete customer and employee accounts.
    + Manage access rights and permissions for accounts.

- Service Management:
    + Add, modify, and delete Pet Spa services (e.g., grooming, spa, health care, medical treatment for pets).
    + Update prices and detailed information about services.

- Reporting and Statistics:
  - + View weekly revenue reports.

2.3 Operating Environment

OE-1: Browser Compatibility

The web application supports the following web browsers: Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge.

OE-2: Server Environment

The application runs on servers using Red Hat Linux and Apache HTTP Server.

OE-3: User Access

Users can access the application via corporate Intranet, VPN Internet connection, and Android, iOS, and Windows smartphones and tablets

2.4 Design and Implementation Constraints

CO-1: Compliance with Development Standards

The system's design, code, and maintenance documentation must conform to the internal development standards specified by [Company Name], ensuring consistency and quality throughout the development lifecycle.

CO-2: Use of Backend Framework

The system shall utilize Spring Boot, a robust framework for building Java-based applications, for backend development. This choice leverages Spring Boot's capabilities in providing a scalable and efficient environment for handling business logic and data operations.

CO-3: Frontend Technology

The system shall employ React.js for frontend development, enabling efficient data handling and responsive user interfaces (UI). HTML and CSS will be used to construct intuitive and visually appealing UI components.

2.5 Assumptions and Dependencies

AS-1: Cafeteria Operating Hours

The system assumes the cafeteria operates for breakfast, lunch, and supper on every company business day.

DE-1: Integration with Payroll System

Operational functionality of the system depends on updates to the Payroll System for payment processing.

DE-2: Integration with Inventory System

The system's operation depends on updates to the Cafeteria Inventory System for managing food availability and delivery.

3. System Features

3.1. Appointment Booking

3.1.1 Description

Customers can schedule appointments for their pets to receive grooming services at the pet spa. Appointments can be booked online or via phone.

3.1.2 Functional Requirements

Booking: Customers should be able to view available appointment slots and book an appointment.

Customer Details: Capture customer information such as name, contact number, and pet details (e.g., breed, age, special instructions).

Service Selection: Allow customers to select from a list of grooming services offered (e.g., bath, haircut, nail trimming).

Confirmation: Provide confirmation of the appointment booking to the customer via email or SMS.

3.2. Pet Grooming Services

3.2.1 Description

The pet spa offers a variety of grooming services tailored to different pet needs. Services include bathing, grooming, nail clipping, and specialized treatments.

3.2.2 Functional Requirements

Service Catalogue: Display a catalogue of available grooming services with detailed descriptions and pricing.

Customization: Allow customers to customize their service selection based on their pet's specific needs.

Add-ons: Provide optional add-on services (e.g., teeth brushing, flea treatment) that customers can include in their grooming package.

Service Updates: Notify customers of any updates or changes to their scheduled services.

3.3. Customer Management

3.3.1 Description

Manage customer information, preferences, and service history to provide personalized grooming experiences.

3.3.2 Functional Requirements

Customer Profile: Maintain a database of customer profiles with contact details, pet information, and service preferences.

History Tracking: Record and track customer visit history, including past services availed and feedback received.

Reminder Notifications: Send reminders to customers for upcoming appointments and service due dates.

Feedback Collection: Capture customer feedback post-service to improve service quality.

3.4. Staff Management

3.4.1 Description

Manage staff schedules, roles, and tasks to ensure efficient operation of the pet spa.

3.4.2 Functional Requirements

Staff Scheduling: Create and manage staff schedules based on service demand and availability.

Task Assignment: Assign grooming tasks and appointments to staff members.

Skill Tracking: Track staff qualifications and certifications for specific grooming services.

Performance Monitoring: Monitor staff performance and customer satisfaction ratings.

3.5. Inventory Management

3.5.1 Description

Monitor and manage inventory of grooming supplies and products used in pet spa services.

3.5.2 Functional Requirements

Inventory Tracking: Track stock levels of grooming products (e.g., shampoos, brushes, towels).

Replenishment Alerts: Set alerts for low inventory levels and automate reordering processes.

Product Management: Maintain product catalogue with descriptions, suppliers, and pricing information.

Usage Reporting: Generate reports on product usage and consumption trends.

3.6. Payment Processing

3.6.1 Description

Facilitate secure payment transactions for grooming services and products offered at the pet spa.

3.6.2 Functional Requirements

Payment Options: Accept various payment methods including credit/debit cards, cash, and digital wallets.

Invoicing: Generate and send invoices to customers for services rendered.

Payment Tracking: Track payment status and history for each customer and transaction.

Refund Management: Process refunds and manage refund requests as per pet spa policies.

4. Data Requirements

4.1 Logical Data Model
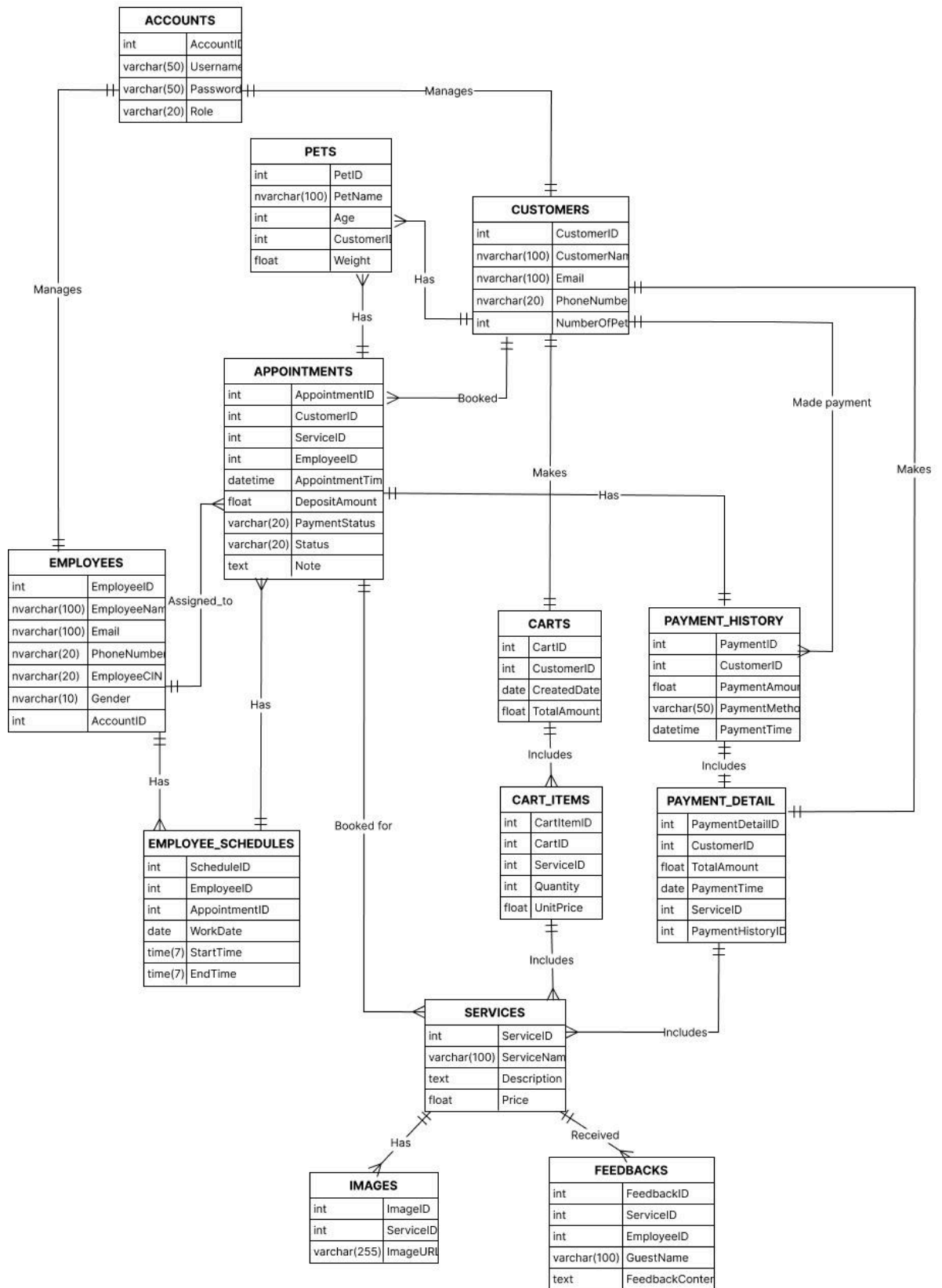
4.2 Data Dictionary

Data Element	Description	Composition or Data Type	Length	Values
CustomerID	Unique identifier for each customer	integer		PRIMARY KEY, Auto-incrementing
CustomerName	Name of the customer	alphanumeric	100	UNIQUE
Email	Email address of the customer	alphanumeric	100	UNIQUE
PhoneNumber	Phone number of the customer	alphanumeric	20	UNIQUE
NumberOfPets	Number of pets owned by the customer	integer		NOT NULL
CustomerID	Unique identifier for each customer	integer		PRIMARY KEY, Auto-incrementing
AccountID	Unique identifier for the account	Integer		Auto-incrementing unique values
Username	Username for account login	varchar	50	Alphanumeric characters

Password	Encrypted password for account	varchar	255	Encrypted values
Role	Role of the account user (e.g., Admin, Employee)	varchar	20	'Admin', 'Employee'
EmployeeID	Unique identifier for each employee	Integer		Primary key, auto-increment
EmployeeName	Full name of the employee	Varchar(100)		Not null
Email	Email address of the employee	Varchar(100)		Not null
PhoneNumber	The contact number of the employee	Varchar(20)		Not null
EmployeeCIN	Customer identification	Varchar(20)		Not null

	of the employee			
Gender	Gender of employee	Varchar(10)		Not null
ScheduleID	Unique ID for the work schedule	Integer		Auto-increment
WorkDate	Date on which the employee is scheduled to work	date, MM/DD/YYYY		Default: Display date in this month
StartTime	Start time of the employee's work shift on the scheduled date	Time	hh:mm	local time; hh = 8-17 inclusive; mm = 00, 15, 30, or 45
EndTime	End time of the employee's work shift on the scheduled date	Time	hh:mm	local time; hh = 8-17 inclusive; mm = 00, 15, 30, or 45
AppointmentID	Unique ID for the Appointment	Int		Auto-increment
AppointmentTime	Duration time of an	Time	hh	Default: 1 service will

	appointment			last for 1 hour
DepositAmount	The amount of deposit that customer pays before going to spa	Float	10	Currency: VND
PaymentStatus	The status of payment	Varchar	30	Pending/ Paid/ Fail
Status	Status of the appointment	Varchar	30	Haven't happened Happening Done
Note	Special ask from customer	varchar	100	
PaymentID	Unique ID for the Appointment	Int		Auto-increment
PaymentAmount	The total amount that customer has to pay for their services	float	10	Currency: VND, Minimum: 100.000 VND
PaymentMethod	The method that customer wants to pay	Boolean		0: Cash 1: Paying Online
PaymentTime	Time that the payment successed	Time	hh:mm: ss	local time; hh = 0-23 inclusive; mm

				= 0-59 inclusive, ss = 0-59 inclusive
PaymentDetailID	When the customer pays, there will be a payment detail to describe what services they paid	Int		Auto-increment
TotalAmount	Total Amount is calculated base on the the amount of each service they booked	float	20	Currency: VND, minimum: 100.000 VND
PaymentHistoryID	Was created when appeared a payment history	int		Auto increment

4.3 Reports

Refund money for customer

Use case name	**Refund money for customer**		
Created by:	Đoàn Phương Anh	Date created:	26/05/2024
Primary Actor	Customer	Secondary Actor:	Money Account in

				database
Description	This use case describes the process by which the Pet Spa system processes a refund for a customer. This may occur in situations where a customer has an urgent business, so she/he has to cancel a pre-booked service. The system will verify the refund request, update the customer's account balance, and issue the refund through the appropriate payment method. The system will also generate and store a transaction record for auditing purposes.			
Trigger	The use case is triggered when a customer submits a refund request either through the Pet Spa's online portal, mobile app, or directly at the spa's reception. The request could be initiated due to various reasons such as service cancellation, dissatisfaction with the service provided, or incorrect charges.			
Preconditions	PRE-1: The customer must have a valid account with the Pet Spa. PRE-2: The refund request must include necessary details such as service details, transaction ID, and reason for the refund.			
Postconditions	POST-1: The customer's account is updated to reflect the refund. POST-2: The refund is processed and credited back to the customer's payment method. POST-3: A confirmation notification is sent to the customer. POST-4: A transaction record of the refund is stored in the system for future reference and auditing.			

Normal Flows:	1. Submit Refund Request
	  - The customer logs into the Pet Spa system (via online portal, mobile app, or at the reception) and navigates to the refund request section.
	  - The customer fills out the refund request form, providing necessary details such as service details, transaction ID, and reason for the refund.			

	- The customer submits the refund request.
	2. Validate Refund Request
	- The system receives the refund request.
	- The system validates the refund request by checking the provided details against the transaction records.
	- The system confirms that the request meets the criteria for a refund (e.g., within the refund policy timeframe).
	3. Process Refund
	- The system refunds all the amount for the customer.
	- The system updates the customer's account balance to reflect the refund.
	- The system initiates the refund transaction to the customer's original payment method.
	4. Notify Customer
	- The system sends a confirmation notification to the customer via email or SMS, informing them that the refund has been processed.
	5. Log Transaction
	- The system logs the refund transaction for record-keeping and auditing purposes.
Alternative Flows:	1. Invalid Refund Request (Step 2)
	- If the system determines that the refund request is invalid (e.g., incorrect transaction ID, outside refund policy timeframe), it will:
	- Notify the customer of the issue via email or SMS, detailing why the refund request cannot be processed.
	- Provide instructions or options for the customer to correct the request or seek further assistance.
	2. Payment Method Issues (Step 3)
	- If the system encounters an issue with processing the refund to the original payment method (e.g., expired

	credit card, closed bank account), it will: - Notify the customer of the issue and request updated payment details. - Allow the customer to provide a new payment method via the system interface. - Once the new payment method is provided, the system will reattempt the refund process.
Exception Flows:	System Error During Refund Processing (Step 3) If a system error occurs while processing the refund, the system will: - Log the error details for troubleshooting purposes. - Notify the customer of the issue via email or SMS, apologizing for the inconvenience and informing them that the refund process encountered an error. - Notify the customer once the issue is resolved and the refund has been processed manually. Database Connectivity Issues (Any Step) If the system encounters database connectivity issues at any step: - The system will display an error message to the user, indicating a temporary issue. - The system will save the refund request locally and queue it for processing once connectivity is restored. - The system will periodically check the database connection and process the queued refund requests automatically when connectivity is reestablished. - The system will send a notification to the customer once the refund request has been successfully processed. Insufficient Funds for Refund (Step 3) If the system detects that there are insufficient funds in the Pet Spa's account to process the refund: - The system will notify the finance department to address the issue.

	- The system will notify the customer of the delay in processing the refund, apologizing for the inconvenience. - Once the funds are available, the system will automatically proceed with the refund process and notify the customer upon completion.
Business Rules:	BR1: A refund request must be submitted before the appointments at least 2 hours BR2: Refunds are not applicable for promotional or discounted services unless explicitly stated in the promotion terms. BR3: The refund request must include the original transaction ID, service details, and a valid reason for the refund. BR4: The customer must have a registered account with the Pet Spa to submit a refund request. BR5: If there are insufficient funds in the Pet Spa's refund account, the system must notify the finance department immediately. BR6: The refund request will be queued and processed automatically once sufficient funds are available. BR7: The customer must receive a confirmation notification once the refund has been successfully processed. BR8: If the refund request is rejected, the customer must be notified with a detailed explanation. BR9: Refunds will be credited back to the customer's original payment method.

Book a Spa Appointment for Pets

Use case name:	**Book a Spa Appointment for Pets**		
Created By:	Đoàn Phương Anh	Date Created:	24/05/2024

Primary Actor:	Customer	Secondary Actors:	Appointments in database
Description:	A customer accesses the Spa Booking System, views the available spa services for his/her pet(s), selects a service, and books an appointment. A customer can also cancel or change the appointment within 24 hours before the original time. Moreover, a customer can view booking history and evaluate the service after using it.		
Trigger:	A customer indicates that his/her wants to book a spa appointment for their pet.		
Preconditions:	PRE-1. Customer is logged in into the Spa Booking System. PRE-2. Customer has created an account with the necessary details.		
Postconditions:	POST-1. Appointment is saved in the Spa Booking System with a status of "Confirmed". POST-2. Notification will be sent to the customer confirming the booking details. POST-3. Available time slots are updated in the Spa Booking System.		
Normal Flow:	**1.0 Book a Single Spa Appointment:** 1. Customer views available spa services and times on the website. Or he/she can call the Spa via the phone number of the Spa on the website to book an appointment. 2. Spa Booking System displays available services, times and staff. 3. Customer selects a service and an available time slot. 4. Customer confirms the booking details. 5. Spa Booking System displays booking summary including service, time and staff. 6. Customer confirms the appointment.		

	7. Spa Booking System will send a confirmation notification via email/SMS. 8. Spa Booking System stores the appointment and updates available slots.
Alternative Flows:	**1.1 Book Multiple Appointments** 1. Customer requests to book multiple appointments for different services or times. 2. Return to step 1 of the normal flow for each conditional appointment. **1.2 Cancel or Change Appointment** 1. Customer requests to cancel or change an existing appointment within 24 hours before the appointment. 2. Spa Booking System processes the change or cancellation. 3. Spa Booking System sends a notification confirming the change or cancellation.
Exceptions:	**1.0.E1 No available slots for the requested time** 1. Spa Booking System informs the customer that no slots are available for the requested time. 2a. If the customer cancels the booking process, then the Spa Booking System terminates use case. 2b. Else if the customer requests another time, then the Spa Booking System restarts use case.
Business Rules:	BR-1: The customer must log in into the Spa Booking System first to book an appointment. BR-2: The customer must fill in the necessary details before booking an appointment. BR-3: The appointment must be booked before the appointment date at least 24 hours. BR-4: If the customer is more than 30 minutes late, the appointment will automatically be cancelled without warning and pay for extra fees if this situation repeats the second time.

BR-5: The customer needs to confirm the appointment.

BR-6: On the scheduled date, the customer must bring the records notebook(if the customer has) to the Spa to complete the Spa procedures.

BR-7: The customer needs to choose the payment method when booking online.

BR-8: The customer can only cancel the appointment after 30 minutes of confirming the appointment.

BR-9: The customer needs to pay extra fees when they book an appointment on holiday days.

BR-10: The customer can change the day, time,... by calling directly to the phone number on the website.

BR-11: The customer can only book at least 2 appointments in one day.

Create Employee Account (Admin)

Id and Name:	**Create Employee Account (Admin)**		
Creator:	Đoàn Phương Anh	Dated Created:	24/05/2024
Primary Actor	Admin	Secondary Actor:	Pet spa management system
Description	This use case describes the process by which an admin creates an account for a new employee in the system.		
Trigger	Admin wants to create an account for a new employee		
Preconditions	Admin login into the system by Admin's account		
Postconditions	POST-1: A new employee account is created and stored in the system. POST-2: An employee can use this account to access the PSM.		
Normal Flows:	**1. Admin selects the "Create Employee Account" function:**		

	- The admin logs into the system and selects the "Account Management" option. - The admin chooses "Create Employee Account". **2. System displays the data entry form:** - The system displays a form for the admin to input the necessary information for the new account. **3. Admin enters the new employee's information:** - Name - Phone number - Gmail **4. Admin confirms the account creation:** - The admin clicks the "Create Account" button after filling in all the information. **5. System validates the data:** - The system checks if the information fields are valid. **6. System saves the information and creates the account:** - If the information is valid, the system stores the information and creates a new account. - If there is an error, the system displays an error message for the admin to correct. **7. System displays the result:** - The system shows a message indicating that the account was successfully created.

Alternative Flows:	**1. Invalid Data:**
	 - At step 5, if the system detects invalid data:
	      + The system will display a detailed error message (e.g., incorrect email format, username already exists, etc.).
	      + The admin corrects the information and returns to step 3.
	
	 2. System Error when Saving Information.

	- At step 6, if the system encounters an error while saving the information: + The system will display an error message, and the admin can retry or contact support.

Exception Flows:	**1. Invalid Data:**
	- Trigger: The system detects invalid data during the data validation step (step 5 of the Normal flow).
	    + System Action: The system displays an error message indicating the specific field(s) with invalid data (e.g., incorrect email format, username already exists).
	    + Admin Action: The admin corrects the invalid data and resubmits the form.
	    + Re-entry Point: The admin returns to step 3 of the main flow to re-enter or correct the information.
	2. System Error when Saving Information:
	- Trigger: The system encounters an error while attempting to save the new account information (step 6 of the Normal flow).
	    + System Action: The system displays an error message indicating that there was an issue saving the information.
	    + Admin Action: The admin can either:
	        ● Retry saving the information by clicking a "Retry" button.
	        ● Cancel the operation and return to the main account management interface.
	        ● Contact technical support if the error persists.

+ Re-entry Point: If the admin chooses to retry, they return to step 4 of the main flow. If the admin cancels, the flow ends.

3. Duplicate Username:

- Trigger: The system detects that the entered username already exists during the data validation step (step 5 of the Normal flow).

    + System Action: The system displays an error message indicating that the username is already taken.

    + Admin Action: The admin provides a different username and resubmits the form.

    + Re-entry Point: The admin returns to step 3 of the main flow to enter a new username.

4. Email Sending Failure:

- Trigger: The system fails to send the account information email to the new employee after successfully creating the account (step 7 of the Normal flow).

    + System Action: The system displays an error message indicating that the email could not be sent.

    + Admin Action: The admin can choose to:

        ● Retry sending the email.

        ● Manually notify the new employee using other means (e.g., phone call or internal messaging).

    + Re-entry Point: If the admin retries sending the email, they return to step 7 of the main flow. If they choose to notify manually, the flow ends.

5. Network or System Timeout:

- Trigger: The system experiences a network or system timeout during any step of the main flow.

	+ System Action: The system displays a timeout error message and suggests the admin try again.
	+ Admin Action: The admin can choose to:
	    ● Retry the operation.
	    ● Wait for some time and try again later.
	    ● Contact technical support if the issue persists.
	+ Re-entry Point: If the admin retries the operation, they return to the last completed step of the main flow before the timeout occurred.

Business Rules	BR-10: Only the admin's account can edit employee and customer account
Frequency of Use:	Depends on the company's hiring and personnel change needs.
Assumptions:	- The admin has been trained to use the account management system. - The contact information for the new employee is provided accurately and completely.

5. External Interface Requirements

5.1 User Interfaces

UI-1: User Interface Standards: The Cafeteria Ordering System (COS) screens shall adhere to the UI standards defined in Pawfection's Internet Application User Interface Standard, Version 2.0.

UI-2: Help Link: Each webpage of the system shall include a help link to provide guidance on using that specific page.

UI-3: Keyboard Navigation: All webpages shall support complete navigation and food item selection using only the keyboard, in addition to mouse and keyboard combinations.

5.2 Software Interfaces

- SI-1: Cafeteria Inventory System
    + SI-1.1: The COS shall transmit ordered food item quantities to the Cafeteria Inventory System via a programmatic interface.
    + SI-1.2: The COS shall poll the Cafeteria Inventory System to check the availability of requested food items.
    + SI-1.3: Upon notification from the Cafeteria Inventory System that a food item is unavailable, the COS shall dynamically remove it from the menu for the current date.
- SI-2: Payroll System: The COS shall interact with the Payroll System through a programmatic interface for the following operations:
    + SI-2.1: Allow Patrons to register and unregister for payroll deduction.
    + SI-2.2: Verify whether a Patron is registered for payroll deduction.
    + SI-2.3: Verify whether a Patron is eligible to register for payroll deduction.
    + SI-2.4: Submit payment requests for purchased meals.
    + SI-2.5: Process refunds for rejected or unsatisfactory meals, or undelivered meals based on confirmed instructions.

5.3 Hardware Interfaces

No specific hardware interfaces have been identified for the COS.

5.4 Communications Interfaces

CI-1: Order Confirmation: The COS shall send email or text message notifications (based on user preferences) to Patrons confirming acceptance of their order, including price and delivery details.

CI-2: Problem Notifications: The COS shall send email or text message notifications (based on user preferences) to Patrons to report any issues with their meal order or delivery.

6. Quality Attributes

6.1 Usability Requirements

- **USE-1:** The system shall allow a customer to book a pet spa service with a maximum of three interactions.
- **USE-2:** 95% of new users shall be able to successfully book a spa appointment

without errors on their first attempt.

6.2 Performance Requirements

- **PER-1:** The system shall accommodate a total of 200 users and a maximum of 50 concurrent users during peak usage times from 9:00 A.M. to 10:00 A.M. local time, with an average session duration of 10 minutes.

- **PER-2:** 95% of webpages generated by the system shall load completely within 5 seconds over a 20Mbps or faster Internet connection.

- **PER-3:** The system shall display confirmation messages to users within an average of 2 seconds and a maximum of 4 seconds after submission of booking details.

6.3 Security Requirements

- **SEC-1:** All network transactions involving financial information or personally identifiable information shall be encrypted in accordance with the latest industry standards.

- **SEC-2:** Users shall be required to log on to the system for all operations except viewing available services.

- **SEC-3:** Only authorized administrators shall be permitted to modify service and pricing information.

- **SEC-4:** The system shall allow customers to view only their own booking history and personal information.

6.4 Safety Requirements

- **SAF-1:** The system shall provide a detailed list of ingredients for all spa products used, highlighting any ingredients that are known allergens for more than 0.5% of the population.

6.5 Availability Requirements

- **AVL-1:** The system shall be available at least 99% of the time between 6:00 A.M. and 11:00 P.M. local time and at least 95% of the time between 11:00 P.M. and 6:00 A.M. local time, excluding scheduled maintenance periods.

6.6 Robustness Requirements

- **ROB-1:** If the connection between the user and the system is lost prior to booking confirmation, the system shall save the incomplete booking so the user can continue from the last completed step once the connection is restored.

Appendix A: Diagrams

Use Case Diagram
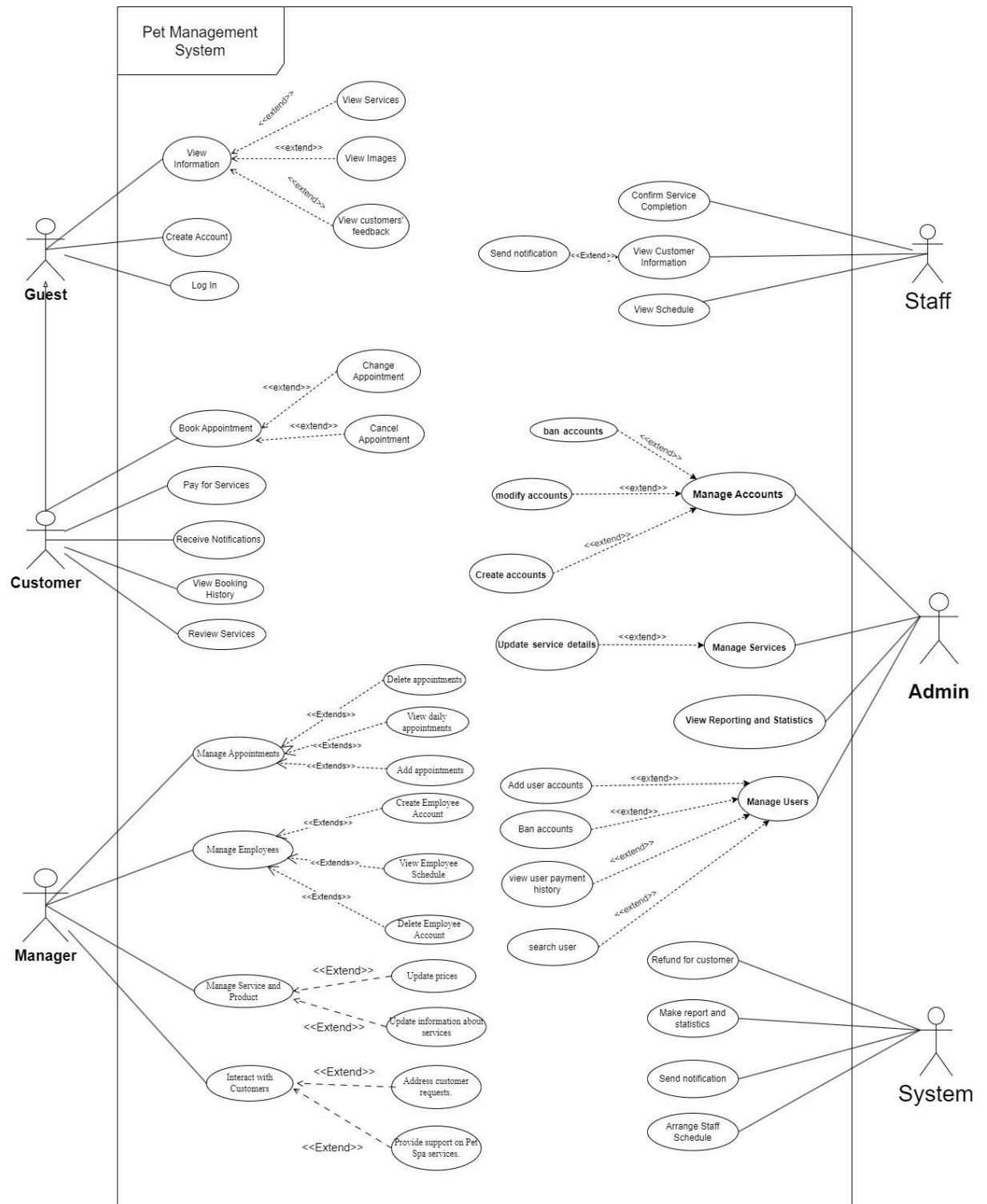
Activity Diagram

Activity Diagram for Customer

```
                    ( Start )
                        │
                        ▼
              ┌─────────────────────┐
              │  Access home page   │
              └─────────────────────┘
                        │
   ┌──────────────┐     │
   │ Search Service│◄───┤
   └──────────────┘     │
                        │
   ┌──────────────────┐ │
   │Go to service Informatio...│◄──┤
   └──────────────────┘ │
                        │
┌──────────┐            │            ┌──────────┐
│ Sign in  │            │            │ Sign up  │
└──────────┘            ▼            └──────────┘
        ▲         ◇ Register? ◇           ▲
        │                                 │
        └─────────────┐  ┌────────────────┘
                      ▼
              ┌─────────────────────┐
              │  Access home page   │
              └─────────────────────┘
                        │
                        ▼
              ┌─────────────────────┐
              │    Book service     │
              └─────────────────────┘
                        │
                        ▼
              ┌─────────────────────┐
              │Choose service, choose t...│◄──┐
              └─────────────────────┘        │
                        │                     │
                        ▼                     │
              ┌─────────────────────┐         │
              │Select payment method│      No │
              └─────────────────────┘         │
                        │                     │
                        ▼                     │
              ◇ Is information correct? ◇─────┘
                        │
                       Yes
                        │
                        ▼
              ┌─────────────┐        ┌──────────────┐
              │  Bill Page  │───────►│ Cancel service│
              └─────────────┘        └──────────────┘
                        │
                        ▼
                    ( End )
```
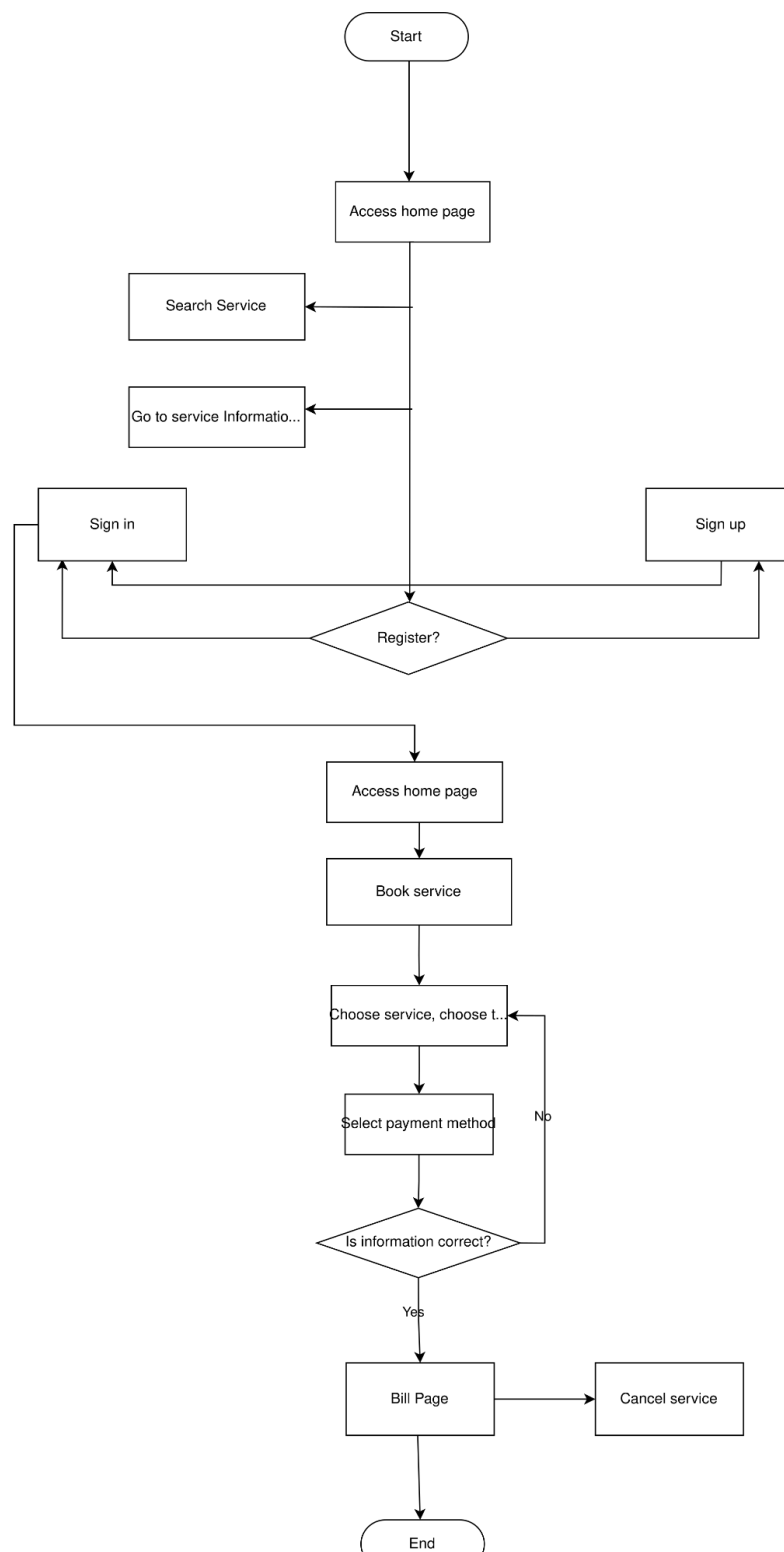
Activity Diagram for Manager
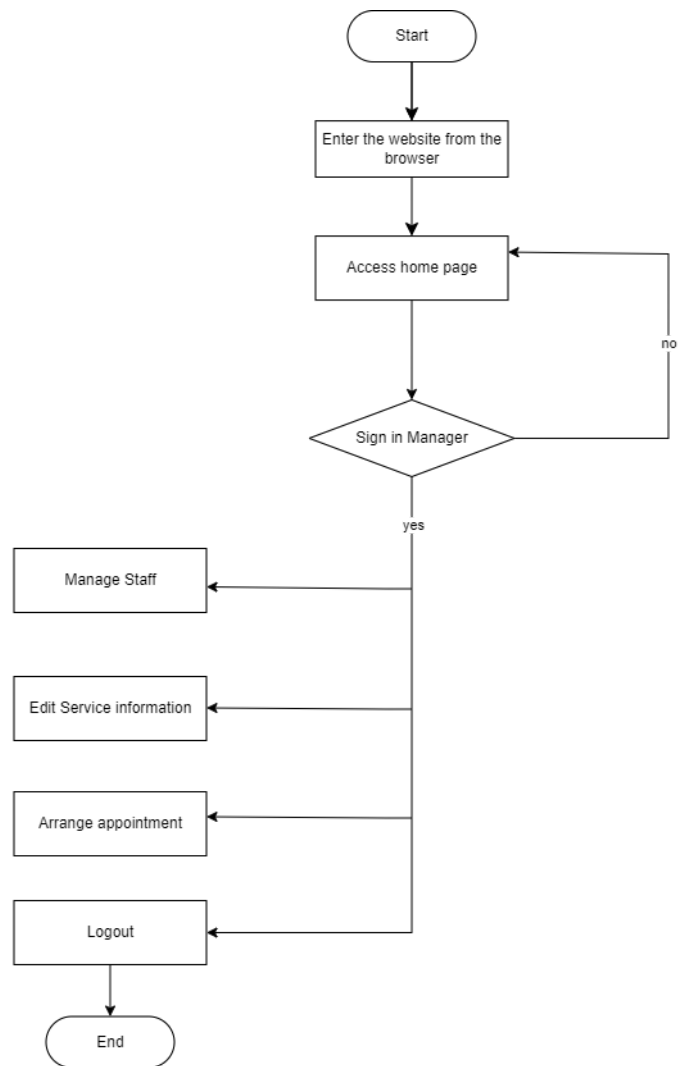
State Diagram

State Diagram for grooming process

State Diagram for booking appointment process

Sequence Diagram

Sequence Diagram for cancel appointment process
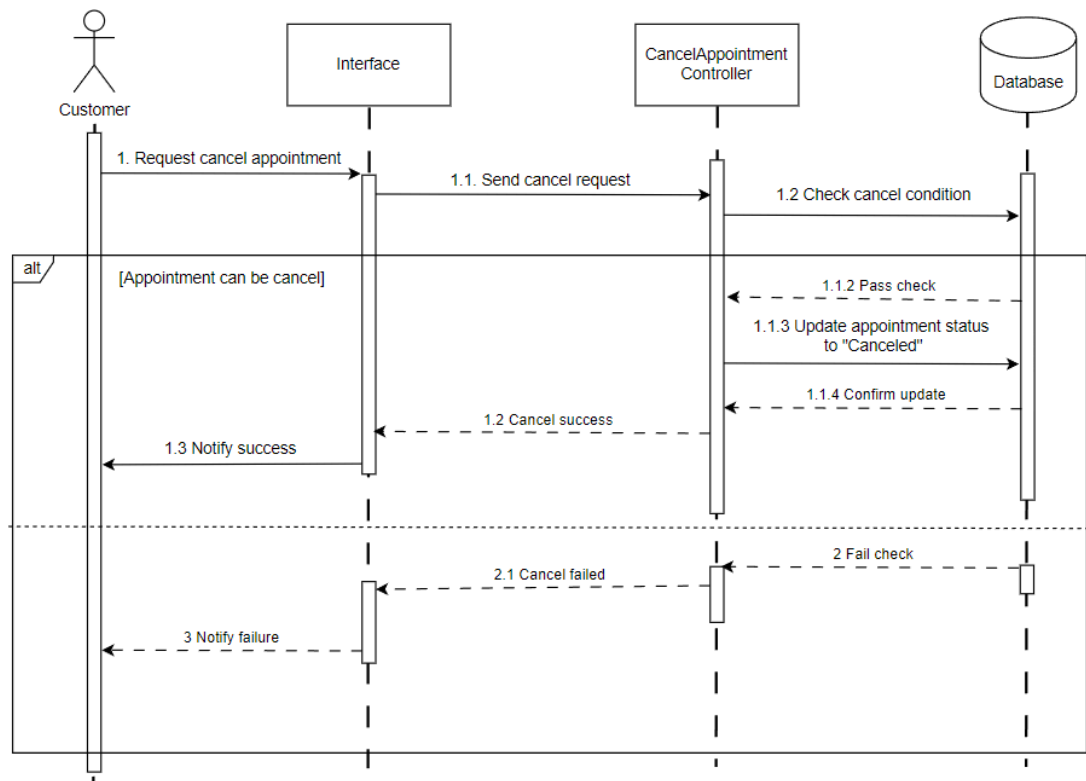
Sequence Diagram for booking process

Customer

:Interface

:BookController

:Database

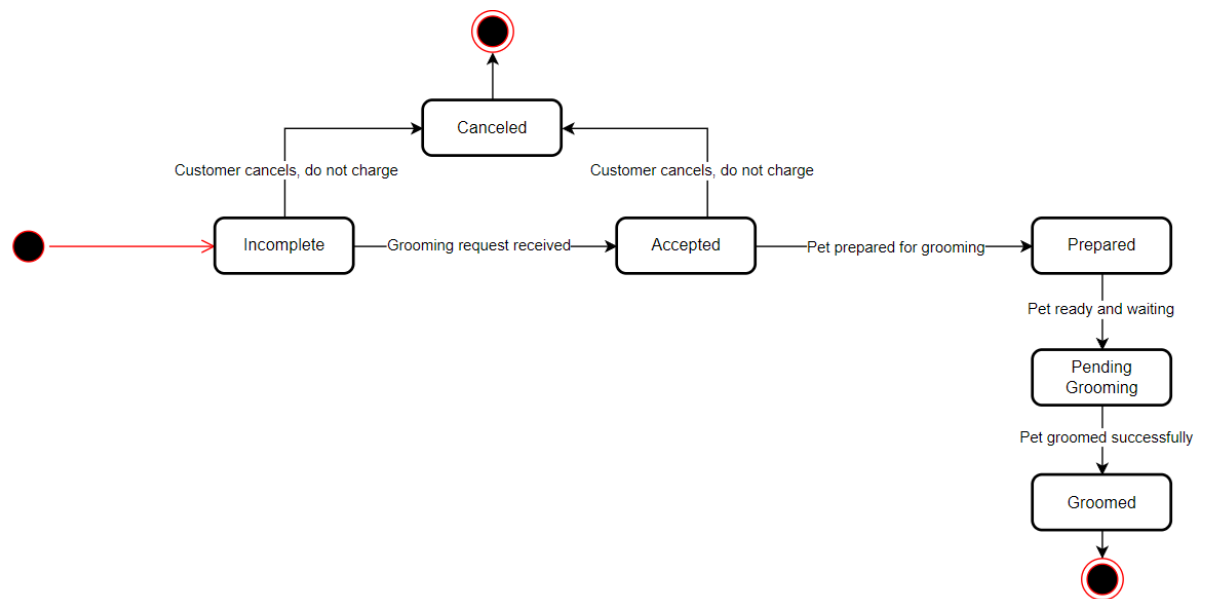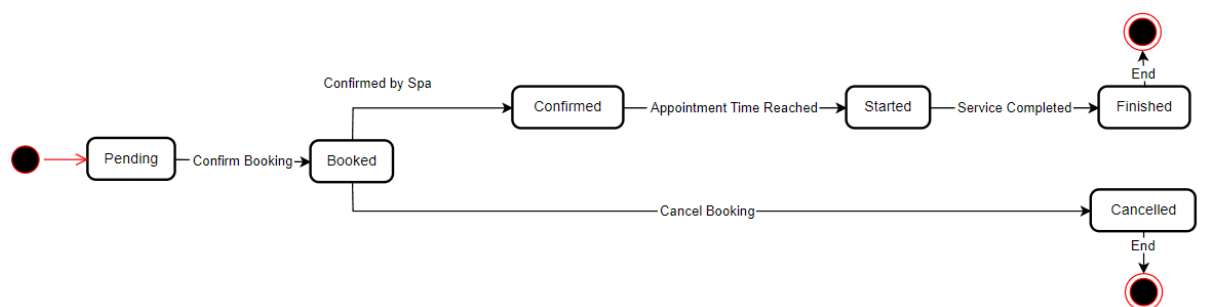1. View available spa services and times

2. Request available services and times

3. Retrieve available services and times

4. Service and times data

5. Available services and times

6. Display available services and times

7. Select service and time

8. Request booking with selected service and time

9. Update booking status to "Confirmed"

10. Confirmation update

11. Booking confirmed

12. Show booking summary (service, time)

13. Confirm appointment

14. Finalize appointment confirmation

15. Store appointment details

16. Appointment stored

17. Appointment confirmed

18. Update available slots

19. Update available slots

20. Slots updated

21. Send confirmation notification (email/SMS)

22. Confirmation notification sent

Sequence Diagram for payment process

Customer

:Interface

:BookController

:Database

1. View available spa services and times

2. Request available services and times

3. Retrieve available services and times

4. Service and times data

5. Available services and times

6. Display available services and times

7. Select service and time

8. Request booking with selected service and time

9. Update booking status to "Confirmed"

10. Confirmation update

11. Booking confirmed

12. Show booking summary (service, time)

13. Confirm appointment

14. Finalize appointment confirmation

15. Store appointment details

16. Appointment stored

17. Appointment confirmed

18. Update available slots

19. Update available slots

20. Slots updated

21. Send confirmation notification (email/SMS)

22. Confirmation notification sent

Sequence Diagram for adding to cart process