

Sale Module

Christy's customers are individuals in her community, some of whom have multiple pets.

Christy has developed a list of services by species. For example, she washes and grooms dogs, washes cats and trims nails, trims nails for guinea pigs and trims nails and files teeth for rabbits. Her prices depend on the size, the species and the condition of animal.

Christy would like a system that helps her record sales for customers. Ideally, she would like to be able to retrieve sales for customers, so that she can see what happened in the past. Also, she would like to see how much money she makes working with different species.

Task

Create a class diagram and sequence diagrams to support the following user stories and systems use case specifications.

Use Case: Maintain Customer

User Story

As the owner of this business, I would like to record my customer's contact information and a list of the pet's that they own. Recording pet species, breed, gender and birth year will aid me in preparing for my customer visits.

Acceptance Criteria:

1. Must be able to record multiple pets for a customer
2. Must be able to flag a pet as not serviceable (example: dog bites)
3. Must be able to query pets by species.
4. Must be able to query sales by customer.

Use Case Descriptions

Use Case Name	Create Customer Information		
Triggering Event	New customer requests services.		
Brief Description	Allows the Owner to record a new customer's information.		
Actors	Owner		
Related Use Cases			
Preconditions	Owner has opened the Main Menu.		
Post Conditions	Customer is saved to the database. Sales can be created for the customer		
Flow of activities	Actor		System
	1.	Requests to add a new Customer	Prompts for Customer name, address, telephone and email

			address
	2.	Enters customer name, address, telephone number and email address	Verifies that name, address, telephone number and email address have been entered. Creates a unique customer identifier Displays the customer's identifier, name, address, telephone number and email address Prompts to add pets
	loop	Chooses to add new pet	Displays a list of pet species for selection
	3.	Selects a pet species	Prompts for pet name, breed, birth year, and colour. Displays a list of pet gender for selection. Displays a list of breeds (assigned to species) for selection.
	4.	Enters pet name, birth year and colour. Selects a breed, Selects a pet gender. Selects a breed.	Pet name must be entered, breed must be selected, birth year and colour must be entered. Gender must be selected. Data is valid Creates a unique pet identifier Displays the pet's information including identifier, name, breed, birth year, colour and gender.
	End loop	Request to save	Saves the customer and pets
Exception Conditions	<ul style="list-style-type: none"> Owner chooses to cancel adding the customer 		

User Story

As the owner of this business, I would like to record my sales so that I can quickly see how much money I've made.

Acceptance Criteria:

1. Must be able to record multiple services for multiple pets belonging to a customer in one sale.
2. Must be able to query sales by customer.

Use Case Descriptions

Use Case Name	Create Sales		
Triggering Event	Customer has requested service and the service is complete		
Brief Description	Allows the Owner to record a new sales		
Actors	Owner		
Related Use Cases			
Preconditions	Owner has opened the Main Menu.		
Post Conditions	Sales is created and can now be queried		
Flow of activities	Actor		System
	1.	Requests to add a new sale	Displays a list of customers and prompts for selection
	2.	Selects a customer	Prompts for service date
	3.	Enters service date	Verifies that service date has been entered and generates a unique sale number. Prompts to select pets.
	loop	Chooses to add a pet	Displays a list of pets and prompts for selection
	4.	Selects the pet	Prompts to select services
	loop2	Chooses to add services	Displays a list of services including service name and price/hour prompting for selection
	5.	Selects services that apply	Adds services to the invoice.
	6.	Updates hours and price	Calculates the detail amount (hours * price). Calculates taxes and updates sale total. Displays the sale total, total taxes, sale service details, prompting for changes to hours and price Prompts for another pet

			Prompts to save
	End2	Until all services for a pet have been selected	
	End	Until pets have been selected.	Displays the sale total, total taxes, invoice service details and prompts to save
	5.	Chooses to save	Saves the sale. Return to the main menu
Exception Conditions	<ul style="list-style-type: none"> Owner chooses to cancel adding the sale invoice 		

Use Case Name	Query Sales by Customer		
Triggering Event	Owner requires a list of sale details by customer		
Brief Description	Allows the Owner to retrieve sale details for a specific customer for a specified date range		
Actors	Owner		
Related Use Cases			
Preconditions	Owner has opened the Main Menu.		
Post Conditions	sales are retrieved, totaled and displayed		
Flow of activities	Actor		System
	1.	Requests to query sales (by customer, by date) transactions	Displays a calendar
	2.	Selects date range	Verifies that dates are selected. Displays a list of customers and prompts for selection
	3.	Selects a customer	Retrieves sale detail in the specified date range for the specified customer. Calculate and displays totals Prompts to exit
	4.	Request to exit	returns to the main menu
Exception Conditions	Owner requests to cancel query		

Diagram Requirements

1. Create a class diagram to support the above case study and *Systems Use Case Specifications*.
2. Create an object level sequence diagram, detailing the *Create Customer* systems use case specification.
3. Create an object level sequence diagram, detailing the *Create Sales* use case specification.
4. Create an object level sequence diagram, detailing the *Query Sales (by customers)* system use case specification.