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# Pet Clinic Management System - Use Case Diagram

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## System Use Cases Overview

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This diagram illustrates all the use cases for the Pet Clinic Management System, showing the interactions between different actors (Pet Owners, Secretaries, Veterinarians) and the system functionalities.

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Parse error on line 1:
flowchart TB      %%
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Expecting 'NEWLINE', 'SPACE', 'GRAPH', got 'ALPHA'
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## Detailed Use Case Descriptions

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## Authentication Module

Use Case ID	Use Case Name	Actor	Description
UC001	Register Account	Pet Owner	Pet owner creates a new account with personal details
UC002	Login to System	All Users	User authenticates using email and password
UC003	Reset Password	All Users	User resets forgotten password via email verification
UC004	Logout	All Users	User securely logs out of the system



## Profile Management

Use Case ID	Use Case Name	Actor	Description
UC005	View Profile	Pet Owner	View personal information and linked pets
UC006	Update Profile	Pet Owner	Edit personal details (email, phone, address)
UC007	View Pet List	Pet Owner	View all pets associated with the account



## Pet Management

Use Case ID	Use Case Name	Actor	Description
UC008	Add New Pet	Secretary	Add a new pet to a client's account
UC009	Edit Pet Info	Secretary	Update pet details (name, breed, weight, etc.)

Use Case ID	Use Case Name	Actor	Description
UC010	Upload Pet Image	Pet Owner	Upload and update pet profile picture
UC011	View Pet Details	Pet Owner	View comprehensive pet information
UC012	Deactivate Pet	Secretary	Mark a pet as inactive (e.g., deceased)



## Appointment Management

Use Case ID	Use Case Name	Actor	Description
UC013	Schedule Appointment	Pet Owner, Secretary	Book a new appointment for a pet
UC014	View Appointments	All Users	View scheduled appointments
UC015	Edit Appointment	Pet Owner, Secretary	Modify appointment details
UC016	Cancel Appointment	Pet Owner, Secretary	Cancel an existing appointment
UC017	Request Emergency Appointment	Pet Owner	Request urgent care appointment (\$1000)
UC018	Confirm Appointment	Secretary, Veterinarian	Confirm appointment attendance
UC019	Complete Appointment	Secretary, Veterinarian	Mark appointment as completed



## Prescription Management

Use Case ID	Use Case Name	Actor	Description
UC020	Create Prescription	Secretary	Create new prescription for a pet
UC021	View Prescriptions	Pet Owner, Secretary, Veterinarian	View prescription history
UC022	Update Prescription Status	Secretary	Mark prescription as fulfilled/unfulfilled
UC023	Search Prescriptions	Pet Owner, Secretary	Search prescriptions by various criteria
UC024	Delete Prescription	Secretary	Remove a prescription record

## Treatment History

Use Case ID	Use Case Name	Actor	Description
UC025	View Treatment History	Pet Owner, Veterinarian	View complete medical history
UC026	Add Treatment Record	Secretary, Veterinarian	Add new treatment entry
UC027	Update Treatment Notes	Secretary, Veterinarian	Modify treatment notes and details

## Staff Management

Use Case ID	Use Case Name	Actor	Description
UC028	Add Staff Member	Secretary	Add new veterinarian or staff
UC029	Edit Staff Info	Secretary	Update staff member details
UC030	View Staff List	Secretary	View all clinic staff members

Use Case ID	Use Case Name	Actor	Description
UC031	Deactivate Staff	Secretary	Mark staff member as inactive



## Patient Management

Use Case ID	Use Case Name	Actor	Description
UC032	Add New Patient	Secretary	Register new client in the system
UC033	Edit Patient Info	Secretary	Update client information
UC034	View Patient List	Secretary	View all registered clients
UC035	Search Patients	Secretary	Search for specific patients



## Communication

Use Case ID	Use Case Name	Actor	Description
UC036	Send Email Notifications	System	Automated email notifications
UC037	Use Chatbot	Pet Owner	Interactive chat assistance
UC038	Emergency Alerts	System	Send urgent notifications to staff



## Reporting & Analytics

Use Case ID	Use Case Name	Actor	Description
UC039	Generate Reports	Secretary	Create various clinic reports
UC040	View Statistics	Secretary	View clinic performance metrics
UC041	Export Data	Secretary	Export data in various formats

# Use Case Relationships

# Include Relationships

- Emergency appointments automatically include email notifications
- Appointment confirmations include email notifications
- Appointment cancellations include email notifications
- Prescription creation includes email notifications

# Extend Relationships

- Emergency appointments extend regular appointment scheduling
- Emergency alerts extend regular email notifications

# Inheritance Relationships

- All users inherit basic authentication capabilities
- Secretaries inherit all pet owner capabilities plus administrative functions
- Veterinarians inherit viewing capabilities for medical records

# Business Rules

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1. **Emergency Appointments:** Cost \$1000, available 24/7, automatically allocated to available veterinarians
2. **Pet Addition:** Only secretaries can add pets to client accounts (clients cannot self-register pets)
3. **Appointment Conflicts:** System prevents double-booking of veterinarians
4. **Prescription Validity:** Prescriptions must have future expiration dates
5. **Role-Based Access:** Different user roles have different system permissions
6. **Data Integrity:** All medical records maintain audit trails
7. **Security:** JWT-based authentication with session management
8. **Notifications:** Critical actions trigger automatic email notifications

This use case diagram provides a comprehensive view of all system functionalities and user interactions in the Pet Clinic Management System.