

INFO 5100 – Final Project Proposal

Pet Care Collaboration Ecosystem

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1. Project Title

Pet Care Collaboration Ecosystem

Boarding, Clinic, Insurance Workflow Platform

2. Problem Statement

Pet owners face fragmented communication when their pets go through boarding services, medical treatments, and insurance claims.

Currently:

- Boarding centers detect pet health issues but often rely on manual calls to contact clinics.
- Pet clinics diagnose and treat pets but lack an integrated channel to communicate with boarding centers or insurance companies.
- Insurance companies handle claims manually, causing delays due to missing documents, unclear diagnoses, or improper communication.

These disconnected processes lead to:

- Delayed medical attention may cause serious results.
- Missed or inaccurate information sharing.
- Inefficient claim process.
- Stress on pet owners
- Poor coordination between organizations

A unified digital ecosystem can significantly improve safety, efficiency, and service quality for pet care services.

3. Project Objectives and Goals

-Create a multi-enterprise communication ecosystem

connecting **Pet Boarding**, **Pet Clinic**, and **Pet Insurance** enterprises.

-Enable real-time WorkRequest between enterprises

- 1) HealthCheckRequest
- 2) LabTestRequest
- 3) InsuranceClaimRequest
- 4) CompensationNotificationRequest

-Implement clear role-based work areas

-Provide a convenient and comfortable experience for pet owners

through smoother operation between all three organizations.

4. User Roles We will implement 8 unique roles:

Pet Boarding Enterprise	1. PetCaretakerRole	<ul style="list-style-type: none">-Record pet daily activity (food, sleep, mood).-Submit HealthCheckRequest to Clinic when abnormal symptoms occur.-Receive medical updates from Clinic and Insurance.
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	2. BoardingManagerRole	<ul style="list-style-type: none"> -Approve/assign boarding tasks. -Communicate updates to pet owners.
	3. CustomerSupporterRole	<ul style="list-style-type: none"> -Communicate with customer the insurance claim status and notification. -Review compensation results from Insurance.
	4. FrontDeskRole	<ul style="list-style-type: none"> -Assign doctor to the Health Check Request. -Submit InsuranceClaimRequest. -Tracking Insurance Claim Request.
Pet Clinic Enterprise	5. VetDoctorRole	<ul style="list-style-type: none"> -Review HealthCheckRequest sent by Boarding. -Create LabTestRequest. -Give treatment needed.
	6. LabAssistantRole	<ul style="list-style-type: none"> -Perform lab tests and upload results. -Return LabTest results to VetDoctor.
	7. InsuranceAgentRole	<ul style="list-style-type: none"> -Create and manage insurance policies. -Register pets and coverage.

Pet Insurance Enterprise	8. ClaimProcessorRole	<ul style="list-style-type: none"> -Evaluate InsuranceClaimRequest. -Approve or reject claims. -Send CompensationNotification to Boarding / Clinic.
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5. High-Level Architecture

Ecosystem

- Contains one **Network (PetCareNetwork)**
- Manages system-wide authentication and enterprise administration.

Enterprises (3 total)

1. PetBoardingEnterprise
2. PetClinicEnterprise
3. PetInsuranceEnterprise

Organizations (6 total)

Enterprise	Organizations
Boarding	BoardingServiceOrganization PetCareOrganization
Clinic	FrontDeskOrganization VetDoctorOrganization VetLabOrganization
Insurance	InsurancePolicyOrganization InsuranceClaimOrganization

WorkRequest Communication

- **HealthCheckRequest** **Boarding** —> **Clinic** —> **Insurance**
 - **LabTestRequest** **Clinic (Doctor)** —> **Clinic (Lab)**
 - **InsuranceClaimRequest** **Clinic** <—> **Insurance**
 - **CompensationNotificationRequest** **Insurance** —> **Boarding**

6. Object Model (UML Class Diagram)

A. Ecosystem UML Structure

<https://miro.com/app/board/uXjVJmkiKcw=/>

7. Data Input & Output

Input

- User login
 - Pet boarding details
 - Health symptoms
 - Medical diagnosis & lab results
 - Insurance policy details
 - Claim submission
 - Fake auto-generated data: pets, lab results, treatment plans, insurance policies

Output

- Daily care reports
- Lab test results
- Claim approval / rejection
- System-level reporting dashboard (analytics)
e.g., number of incidents, claims, treatments, etc.

8. Implementation Plan & Timeline

Week 1 (Nov 15–Nov 21)

- Finalize proposal
- Set up ecosystem skeleton
- Implement enterprises, organizations, roles

Week 2 (Nov 22–Nov 30)

- Implement all WorkRequests
- Build WorkArea panels
- MainJFrame login

Week 3 (Dec 1–Dec 7)

- Reporting module
- Faker data
- UI polishing
- Testing + bug fixes
- PPT and presentation

9. Assumptions & Limitations

- Pet Owner UI will be simplified (not fully implemented).
- Real-world diagnosis logic is simplified.
- Insurance approval rules are predetermined, not AI-based.
- No database.
- Limited pet types (e.g: dog, cat)