TRƯỜNG ĐẠI HỌC FPT

CAPSTONE PROJECT REGISTER

Class: CP_SEP490 **Duration time:** From 05/01/2026 To 30/04/2026

Profession: Information Technology **Specialty:** Software Engineering

Kinds of person make registers: Lecturer: ☐ Students: ☑

1. Register information for the supervisor

	Full name	Phone	E-Mail	Title
Supervisor 1	Nguyễn Xuân Long	0905764750	longnx6@fe.edu.vn	
Supervisor 2				

2. Register information for students

	Full name	Student code	Phone	E-mail	Role in Group
Student 1	Phạm Lê Quốc Tân	SE181717	0931600767	tanplqse181717 @fpt.edu.vn	Leader
Student 2	Nguyễn Đức Tuấn	DE180807	0767007284	tuanndde180807 @fpt.edu.vn	Member
Student 3	Vũ Minh Triết	DE180687	0923131004	trietvmde180687 @fpt.edu.vn	Member
Student 4	Lưu Đặng Diệu Huyền	DE180773	0886998759	huyenlddde180773@fpt.edu.vn	Member
Student 5	Lê Phương Uyên	DE180893	0372395933	uyenlpde180893 @fpt.edu.vn	Member

3. Register the content of the Capstone Project

3.1. Capstone Project name:

English: Petties: Veterinary Appointment Booking Platform using Flutter, React Vite, Spring boot, Python, Postgres.

Vietnamese: Petties: Hệ thống đặt lịch bác sĩ thú y sử dụng công nghệ Flutter, React Vite, Spring boot, Python, Postgres.

Abbreviation: PVABP

3.2. Context:

Pet owners often face challenges when their pets require medical care. Traditional methods, such as visiting veterinary clinics, can be inconvenient, time-consuming, and stressful for both pets and owners. Many pet owners struggle to:

- Find qualified veterinarians who can provide home visits.
- Schedule appointments easily and manage multiple pets.
- Ensure timely treatment and follow-ups for their pets.
- Make secure online payments for veterinary services.

This project aims to develop a modern home veterinary booking system that connects pet owners with professional veterinarians. The platform enhances the user experience by providing real-time booking, appointment management, secure online payment, monitoring to track and update pet health status regularly, helping owners receive timely notifications and ensure continuous care for their pets at home.

3.3. Objectives:

- Provide a platform for pet owners to book home visits from veterinarians.
- Support real-time booking and appointment management between pet owners and veterinarians.
- Enable veterinarians to manage schedules, set service fees, and track earnings.
- Implement secure online payments for home veterinary services.
- Offer an admin dashboard to monitor appointments, users, and transactions.
- Enhance user experience and provide notifications, reminders, and pet health management tips.

3.4. Technology/algorithm:

- **Front-end**: React + Vite, Tailwind CSS, Flutter 3.5 for iOS/Android.
- **Back-end**: Java 21, Spring Boot, PostgreSQL, MongoDB.
- **AI & Data Layer**: Python 3.14, FastAPI + Uvicorn with WebSocket orchestrator, LangGraph for multi-agent workflows, Ollama for LLM, LlamaIndex for RAG. OpenAI embedding model. Qdrant stores all vectors for efficient multimodal search, FastMCP.
- **Object storage:** AWS S3/Cloudianry.
- **Automation & Tooling**: Docker & Docker Compose for multi-services orchestration.
- **Version Control**: Git, review on GitHub.
- **CI/CD Tools**: GitHub Actions.

3.5. Summarize the contents to be researched and the expected outputs of the project:

The project will research the problems pet owners face when booking home veterinary services and analyze how digital solutions can improve the process. The team will study booking workflows, online payments, communication features, and AI-based health monitoring to design an efficient and user-friendly system.

The expected output is a mobile application that allows pet owners to book home visits, manage pets, receive health updates, make online payments, and interact with veterinarians. The system will also include dashboards for vets and admins, notification features, and expanded modules such as e-commerce and community interaction.

- Website application: ☑
- Mobile application: ☑
- iOT: ☐
- Game: ☐
- Research: ☐
- N/A: ☐

3.6. Expected features

1. **Pet Profile Management:** Enables clients (pet owners) can manage detailed profiles for their pets, including photos, breed, age, and physical characteristics.
2. **Centralized Electronic Medical Records (EMR):** A unified medical database where clients can view their pet's history. Authorized doctors and merchants across different locations can access and update these records, ensuring a continuous medical history regardless of the clinic visited.
3. **Vaccination Tracker:** A digital vaccination booklet that tracks immunization history (e.g., rabies shots) and schedules, accessible by both owners and veterinarians.
4. **Advanced Search & Filtering:** Allows users to find doctors, clinics, or pet care shops based on geolocation (distance), medical specialty, service ratings, and price range.
5. **Flexible Appointment Booking (In-Clinic & At-Home):** Enables users to schedule veterinary services with the option to choose between a standard visit at the clinic facility or a home-service request, adapting the booking flow based on the selected location.
6. **SOS Emergency Booking:** A location-based urgent feature that identifies the nearest available online doctor for immediate consultation or emergency dispatch.
7. **In-App Video Consultation:** Integrated video calling functionality allowing remote diagnostics and consultations between the doctor and the pet owner.
8. **Electronic Prescribing (e-Rx):** Allows doctors to generate digital prescriptions which are saved to the pet's medical record and can be shared with the client.
9. **Medication & Appointment Reminders:** An automated notification system that reminds users of upcoming appointments and sends alerts for medication schedules based on the doctor’s prescription.
10. **Staff & Shift Management**: Administrative tools for clinics to manage rosters and working shifts for multiple doctors within a single facility.
11. **Appointment Request Management**: Gives merchants/doctors the ability to review incoming booking requests with options to approve, reject, or propose a reschedule.
12. **Daily Operations Dashboard:** A centralized interface for clinics to view the day's workflow, including upcoming appointments, pending tasks, and patient status.
13. **Appointment Check-in / Check-out:** A workflow feature to track the status of a visit, marking when a patient arrives and when the consultation is completed.
14. **Dynamic Distance-Based Pricing:** Allows service providers (especially for home visits) to configure pricing rules based on the travel distance/radius from their base location.
15. **Ratings & Reviews System:** Enables users to leave feedback and star ratings for services, building trust and reputation for doctors and clinics.
16. **AI-Powered Booking Assistant:** A smart chatbot that serves as a pet care expert to answer general questions and assists users in completing the booking process via natural language conversation, removing the need for manual form filling.
17. **Notifications & Communication:** Email, SMS, and push notifications for booking confirmations, reminders, and changes.
18. **Analytics & Reporting:** Interactive reports tracking bookings, revenue, occupancy, and guest sentiment across lodging services.
19. **Multi-language Support & Localization:** Support for multiple languages and region-specific formats (dates, currencies, addresses).

Da Nang, 23/11/2025

Supervisor (If have)	**On behalf of Registers**
(Sign and full name)	*(Sign and full name)*