Project Title: PetPal - Your Ultimate Pet Companion

Overview:

PetPal is a backend-focused pet project aimed at building a robust and feature-rich application for pet lovers. The project will be developed using NestJS and MongoDB, with the possibility of integrating third-party APIs to enhance its functionality. PetPal will provide a RESTful API to manage various aspects of pet ownership, allowing users to create and manage pet profiles, track their health, schedule appointments, and even find nearby pet-friendly places.

Key Features:

1. User Authentication and Authorization:

- User registration and login with JWT-based authentication.

- Role-based access control to ensure secure operations.

2. Pet Management:

- Allow users to create and manage profiles for their pets.

- Capture essential information like name, age, breed, and medical history.

- Implement CRUD operations for pets.

3. Health Tracking:

- Enable users to record and monitor their pets' health details (vaccinations, medications, allergies, etc.).

- Set reminders for upcoming health check-ups or vaccinations.

4. Appointment Scheduling:

- Allow users to schedule appointments with veterinarians or pet care services.

- Implement a notification system to remind users of upcoming appointments.

5. Pet-Friendly Places:

- Integrate with third-party APIs (e.g., Google Maps) to find nearby pet-friendly locations like parks, cafes, or clinics.

- Provide details and reviews of these places.

6. Social Features:

- Enable users to connect with other pet owners.

- Implement a simple messaging system for communication.

7. Image and Video Upload:

- Allow users to upload images and videos of their pets.

- Store and retrieve media files efficiently using MongoDB.

Tech Stack:

- Backend Framework: NestJS

- Database: MongoDB

- Authentication: JWT

- Third-party API Integration: Google Maps (for finding pet-friendly places)

Stretch Goals (Optional):

- Implement real-time chat functionality using WebSockets for instant messaging between users.

- Develop a simple web-based dashboard for pet owners to manage their pets conveniently.

- Integrate with a payment gateway to allow users to make donations for animal shelters or charities.

Project Approach:

1. Set up the NestJS project structure with proper modules, services, controllers, and DTOs.

2. Create MongoDB schemas and models to store pet and user data efficiently.

3. Implement user authentication and authorization mechanisms.

4. Build API endpoints for pet management, health tracking, and appointment scheduling.

5. Integrate Google Maps API to fetch pet-friendly places and display them to users.

6. Test the API endpoints thoroughly using unit and integration testing.

7. Ensure code quality and maintainability by following best practices and applying design patterns.

By working on PetPal, you'll gain valuable experience in building a scalable backend application using NestJS and MongoDB. Additionally, the integration with third-party APIs will expose you to handling external data and services. The project will not only strengthen your skills but also contribute to the convenience and well-being of pet owners worldwide. Happy coding and pet loving!