Pet Adoption & Animal Shelter Management System

Project Description

This system is a full-stack web application designed to manage animal shelter operations, including animal intake, adoptions, medical records, volunteer management, and activity tracking. It implements full CRUD functionality for all major collections and provides advanced analytics and visualizations.

Project Members

- Member 1: [Your Name]

- Member 2: [Optional: Team Member]

Technologies Used

- Backend: FastAPI (Python)

- Database: MongoDB (NoSQL)

- Frontend: HTML, CSS, JavaScript, Bootstrap

- Templates: Jinja2

- Charts: Chart.js

Core Functionalities

- Animals Management (CRUD)

- Adopters Management (CRUD)

- Adoptions Management (CRUD + automatic status updates)

- Medical Records (CRUD)

- Volunteers (CRUD + skills-based matching)

- Volunteer Activities (CRUD + hour tracking)

- Real-time dashboard and analytics

- Search operations across collections

- Filtering system applied across all charts

Database Collections

- animals
- adopters
- adoptions
- medical_records
- volunteers
- volunteer_activities

Search Queries

1. Find all animals adopted by a specific adopter.
2. Medical records joined with animal details.
3. Volunteer activities with volunteer and animal names.
4. Monthly adoptions with species-based filtering.

Visualizations

- Species distribution
- Breed distribution
- Status breakdown
- Monthly adoptions
- Medical visits over time
- Volunteer hours tracking

Screenshots (Placeholders)

[Insert Screenshot: Dashboard]

[Insert Screenshot: Animals Page]

[Insert Screenshot: Adoptions Page]

[Insert Screenshot: Charts Page]

Team Member Accomplishments

- Member 1: Backend routes, database integration, CRUD operations.

- Member 2: Frontend UI, charts, filtering system.

Conclusion

This system demonstrates end-to-end full-stack development, NoSQL database design, data visualization, and multi-collection search functionalities required for modern management applications.