Final Project - WebTechnology INSY 8322

Topic: Veterinary Appointment Scheduling Management System

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Group A

I- Project Requirements:

1. The Goal of the Project:

- To facilitate pet information administration and appointment scheduling for both users and veterinary doctors, create a comprehensive veterinary appointment scheduling management system.

2. Users of the System:

- Users who Own Pets:
  - To manage pet data, create accounts.
  - Species, breed, medical history, and other pet-related information can be added, updated, or removed.
  - Make, modify, or revoke pet-related appointments.
  - Remind yourself of your appointments.

- Veterinary Doctors:
  - Enter your special login details.
  - See and reject requests for appointments.
  - Control the time they are available.
  - Respond to consumer questions on the health of pets.

3. System Features

- User Administration:
  - User registration and login.
  - profile management (password and personal information updates).
  - Management of pet information (add, update, delete).

- Appointment Management:
  - Appointment Management:
  - Calendar view for available slots.
  - Booking, rescheduling, and cancellation of appointments.
  - Notification system (email, SMS) for appointment confirmation and reminders.

- Doctor Interface:
  - Approval/rejection of appointment requests.
  - Availability management (set working hours, days off).
  - Respond to user queries.

- Notification System:
  - Automated reminders for upcoming appointments.
  - Instant notifications for appointment status changes.

- User-Doctor Interaction:
  - Query submission form for users.
  - Doctor responses to user queries.

- Security:
  - Secure user authentication.
  - Data encryption for sensitive information.

4. Expected Outcomes

- Improved efficacy in setting up appointments for veterinary professionals and pet owners.
- Improved management of pet information.
- Providing prompt and efficient communication between physicians and patients.
- Reduced conflicts in the scheduling of appointments.

5. Constraints/Limitations

- Initial deployment of the system was restricted to a specific area.
- system compatibility for mobile devices and contemporary web browsers.
- adherence to privacy and information safety laws.

II- Project Plan

1. Project Scope

- Develop a web application that works on desktop and mobile platforms.
- Put in place a safe system for user authentication.
- Provide doctor and user interfaces with logical design.
- Include a powerful algorithm for scheduling appointments.
- Incorporate a real-time update notification mechanism.
- Implement a safe database to store user and pet data.

2. Timeline

- Phase 1: Planning and Design (4 weeks)
  - Requirement analysis.
  - Design of the system architecture.
  - Design of a database schema.

- Phase 2: Development (8 weeks)
  - Frontend and backend development.
  - Integration of user and doctor interfaces.
  - Implementation of appointment scheduling logic.

- Phase 3: Testing (4 weeks)
  - Individual component unit testing.
  - comprehensive system integration testing.
  - Testing for user acceptance.

- Phase 4: Implementation (2 weeks)
  - final testing through deployment on a staging environment.
  - introduction to the production setting.

- Phase 5: Ongoing Upkeep and Updates
  - Track the functionality of the system.
  - Take user comments into account and release updates.

3. Resources

- Development Team:
  - Project Manager
  - UI/UX Designer
  - Frontend Developer
  - Backend Developer
  - Database Administrator
- Testing Team:
  - Quality Assurance Tester
- Others:
  - Server and Hosting Services
  - Security Consultant (if needed)

4. Review and Evaluation

- progress meetings every week.
- User acceptance testing following development.
- ongoing evaluation of the system's functionality following deployment.
- Continual enhancements and modifications driven by user input.

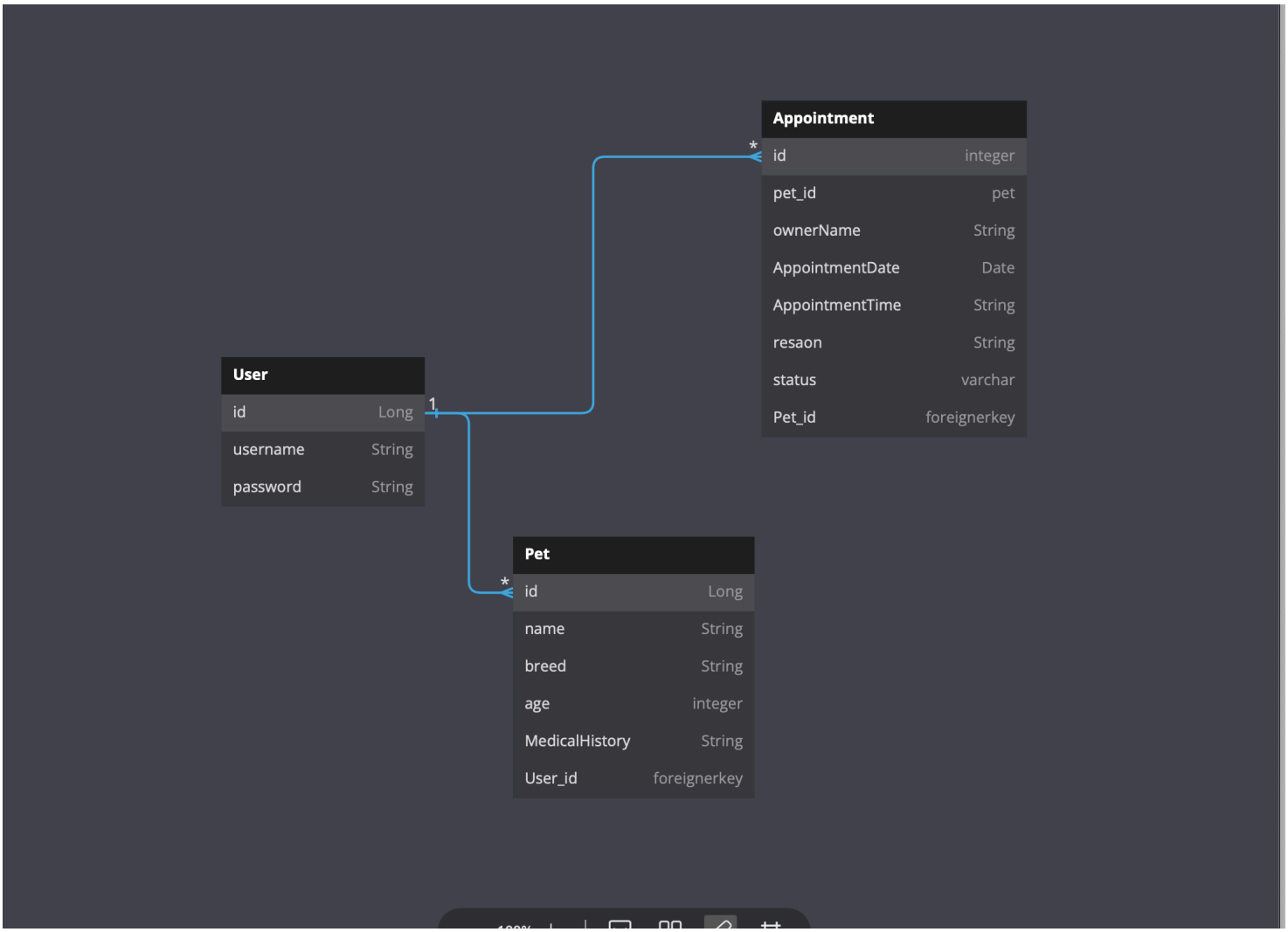
5. Back-up Plan

- Determine any possible risks, such as user adoption or technical problems.
- To reduce hazards, create backup plans.
- Continue to evaluate risks and revise the contingency plan as needed.

6. Documentation

- Create comprehensive guidelines for veterinary professionals and pet owners alike.
- Make sure you record the database schema and system architecture.
- To ensure continued assistance and updates, keep a knowledge base.

*III- Source Code (*all sources on Github*)*
IV- Database Schema



V- User Documentation

1. Getting on the App:

The Veterinary Appointment Scheduling Management System can be accessed by going to [application URL].
To log in, use the given login information.

2. Sign-up of Users:
To register as a new user, click the 'Register' button.
Please complete the essential fields with your personal information and pet's information.
To finish the registration procedure, click “Submit."

3. Overview of the dashboard:
You will be redirected to the dashboard upon successful login.
The dashboard shows a summary of your dogs that are registered, your forthcoming appointments, and any outstanding questions.

4. Including Pets:
Go to the 'My Pets' section to add a new animal companion.
After selecting "Add Pet," fill in the required fields with your pet's name, breed, age, and medical history.

5. Booking an appointment:
Go to the 'Appointments' area to schedule a pet appointment.
Decide on the preferred day and hour.
Give any specific information or worries you may have regarding your pet.
Press 'Submit' to make an appointment.

6. Checking the Status of an Appointment:
In the 'Appointments' area, keep track of the progress of your request for an appointment.
Appointments that are accepted will be marked as "Confirmed," while those that are rejected will be marked as “Cancelled."

7. Submitting a Query:
Please utilize the 'Queries' area to ask the veterinary professionals any inquiries you may have.

8. Viewing Responses:
Look under the 'Queries' section for the doctors' answers to the questions you sent in.

VI- Technical Documentation

1. **Architecture Overview**
   - The client-server architecture of the application is used.
   - Front-end: [Front-end framework/library] was used in development.
   - Back-end: Data is stored in a Database Management System and is implemented in Back-end programming language.

2. **Authentication and Authorization**
   - Secure access is ensured by handling user authentication through the use of Authentication Mechanism.
   - Doctors and users (pet owners) can set authorization levels to restrict access to particular features.

3. **Database Structure**
   - There are tables in the database structure for pets, users, appointments, and queries.
   - Table relationships are created to facilitate effective data retrieval.

4. **Frameworks and Libraries**
   - Front-end: For interactive and responsive user interfaces, [Front-end framework/library] is used.
   - Back-end: To expedite development, [Back-end framework/library] was used in its construction.

5. **API Documentation**
   - API endpoints are recorded for future development or external integration.
   - There is an explanation of API requests, responses, and error handling.

6. **Appointment Management**
- Based on the preferences of the pet owner and the availability of doctors, the scheduling algorithm assigns appropriate slots.
- Users receive automated messages when their appointments are accepted or denied.

7. **Query Handling**
- Doctors mark questions that need further attention and save them in the database.
- Via the app, physicians can directly answer questions from patients.

8. **Security Measures**
   - To protect user data, the program uses encryption techniques.
   - To guarantee a reliable and secure system, regular security assessments and updates are carried out.