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The following documentation provides a professional description of the Entity Relationship Diagram (ERD) for the Pet Adoption system, outlining the database architecture and relationship logic.

Entity Relationship Diagram Documentation

The database is designed to manage the end-to-end pet adoption process, from shelter management and veterinary care to the final adoption request.

1. Entity Descriptions

- **ADMIN:** Stores administrative credentials and contact information for system oversight. It includes fields for name, email, password, and phone.
- **SHELTERS:** Represents the physical locations housing the animals. It contains shelter details, location, and contact info, and is linked to a specific admin who manages the facility.
- **PETS:** The central entity containing comprehensive data for each animal, including biological traits (species, breed, age), health status, food preferences, and adoption availability.
- **VET_VISITS:** Tracks the medical history for each pet. It records visit dates, purposes, diagnoses, treatments, and upcoming visit schedules.
- **ADOPTERS:** Stores detailed profiles of prospective pet owners, including residential addresses, employment information, social media profiles, and alternate contact details for vetting purposes.
- **ADOPTION_REQUESTS:** A transactional entity that manages the application process. It tracks interview dates, meet-and-greet statuses, and the final approval or rejection status of a specific request.

2. Relationship Logic

- **Admin to Shelters:** One admin manages one or more shelters (1:N), establishing administrative accountability for each facility.
- **Shelters to Pets:** A shelter houses multiple pets (1:N). Each pet is assigned to a single shelter at any given time.

- **Pets to Vet Visits:** One pet can have multiple veterinary visit records (1:N) to maintain a chronological medical history.
- **Adopters to Adoption Requests:** An adopter can submit multiple adoption requests (1:N) over time or for different pets.
- **Pets to Adoption Requests:** A single pet can be the subject of multiple adoption requests (1:N) until an application is approved and the status is updated.

3. Key Constraints and Data Types

The system utilizes **Integers** for Primary Keys (PK) and Foreign Keys to ensure referential integrity. String data is handled via **Varchar** with varying lengths (e.g., 100 for names, 255 for URLs/Photos), while status fields like adoption_status use **Enums** to restrict inputs to predefined values such as 'pending', 'approved', or 'rejected'.