COMP122 (Sec. 403) Group Project: Veterinarian's Clinic

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1.0 Introduction

Our group topic is veterinary clinic. A veterinary clinic is a place where provides medical care and treatment to both pets and livestock. is operated by a team of expert veterinarians and animal healthcare professionals who specialize in diagnosing, treating, and preventing various animal diseases and injuries.

However, managing and organizing patient data can be very challenging for many veterinary clinics. It is common for the veterinary clinic to misplaces the patient's information if they do not have a well-organized database. With a large number of animal patients, it can be difficult to keep track of medical histories, medications, and other essential information of the animal patients. This can lead to inaccurate diagnoses and treatments to the animal patients, or chaos in clinic management, which can impair the animals' well-being.

Therefore, there is a growing need for an efficient and well-organized database system that can help veterinarians access and manage patient data easily and comprehensively.

2.0 Our Solution

Our solution is to implement an efficient and well-organized database system, which can solve common challenge of managing patient data in a veterinarian clinic. By having a database system for the clinic, veterinarians can easily access and manage patient data, including medical history, medications, test results, and other relevant information.

This will enable them to make more accurate diagnoses and develop more effective treatment plans for the animals, ultimately improving the animals' wellbeing. Moreover, a database system can help reduce the likelihood of errors caused by manual record-keeping, such as misplacing or misinterpreting patient information. It can also enable the clinic to generate reports and statistics that can aid in monitoring patient health, identifying trends, and informing decisions regarding resource allocation and clinic operations.

Therefore, an efficient database system is essential in providing veterinarians with the necessary tools to manage patient data easily and comprehensively, ultimately enhancing the quality of care provided to animals.

3.0 Integration

The database we made will play a critical role in the overall system architecture of the veterinarian's clinic. Our database system is anticipated that will be accessed through the clinic network and allows veterinarians and other staff members to add or retrieve patient data easily. The data stored in the database will then be used by other components of the system, such as the clinic's medical records system, laboratory systems, and imaging systems, to provide a solution for managing patient care. For instance, the medical records system can utilize the data stored in the database to generate medical reports and track patient progress over time.

The laboratory systems can use the database to store test results and communicate with veterinarians about the necessary follow-up care. The imaging system can also use the database to store and retrieve images for diagnosis and treatment planning, such as CT scans. Ultimately, the database will be a central component of the system architecture, providing critical patient data to other parts of the system to enable veterinarians and other staff members to provide high-quality and comprehensive care to animals.

4.0 Business Requirements

Requirement/Rules	Description
Patient Data Management	The veterinarian clinic database system should be able to store and manage patient data, including medical history, medications, test results, and other relevant information.
Scalability	The veterinarian clinic database system should be scalable and flexible, able to accommodate the growth of the clinic and new features as needed.

Security and Data Privacy	The veterinarian clinic database system should be designed with security and data privacy in mind, password or other safety measurements will be required patient data.
Integration	The veterinarian clinic database system should integrate with other components of the system, such as the clinic's medical records system, laboratory systems, and imaging systems, to enable the data to be shared and retrieved between systems.
Searching and Filtering	The veterinarian clinic database system should enable easy searching and filtering of patient data, supporting quick access to relevant information.
Reporting and Statistics	The veterinarian clinic database system should support the generation of reports and statistics that can aid in monitoring patient health, identifying trends, and informing decisions regarding resource allocation and clinic operations.
Appointment Tracking	The veterinarian clinic database system should enable the tracking of appointment schedules and treatment plans, allowing veterinarians to manage their workload easily.
User-Friendly	The veterinarian clinic database system should be user-friendly and intuitive, requiring minimal training for staff to use effectively.
Cost-Effective	The veterinarian clinic database system should be cost-effective to implement and maintain, enabling the clinic to manage its budget efficiently.
Compliance	The veterinarian clinic database system should comply with relevant laws and regulations, such as those related to data privacy and security.

5.0 Database Table List

1. Patients: Contains information about each patient, such as name, species, breed, age, weight, and medical history.
2. Owners: Contains information about each patient's owner, such as name, address, phone number, and email address.
3. Appointments: Contains information about each appointment, including the date and time, patient, veterinarian, and reason for the appointment.
4. Medical Records: Contains detailed information about each patient's medical history, including diagnoses, treatments, medications, and lab test results.
5. Veterinarians: Contains information about each veterinarian, including name, contact information, areas of expertise, and schedule.
6. Staff: Contains information about other staff members, such as receptionists, technicians, and assistants, including name, contact information, and job title.

7. Services: Contains information about the different services offered by the clinic, such as routine check-ups, vaccinations, surgeries, and lab tests.
8. Inventory: Contains information about the clinic's inventory, including medical supplies, medications, and equipment.
9. Referrals: Contains information about referrals to other clinics or specialists, including the reason for the referral, the clinic/specialist's name, and contact information.
10. Patient-Service: A bridge table that connects patients to the services they have received, including the date of the service, the service provided, and any associated costs.

6.0 Modifications Made

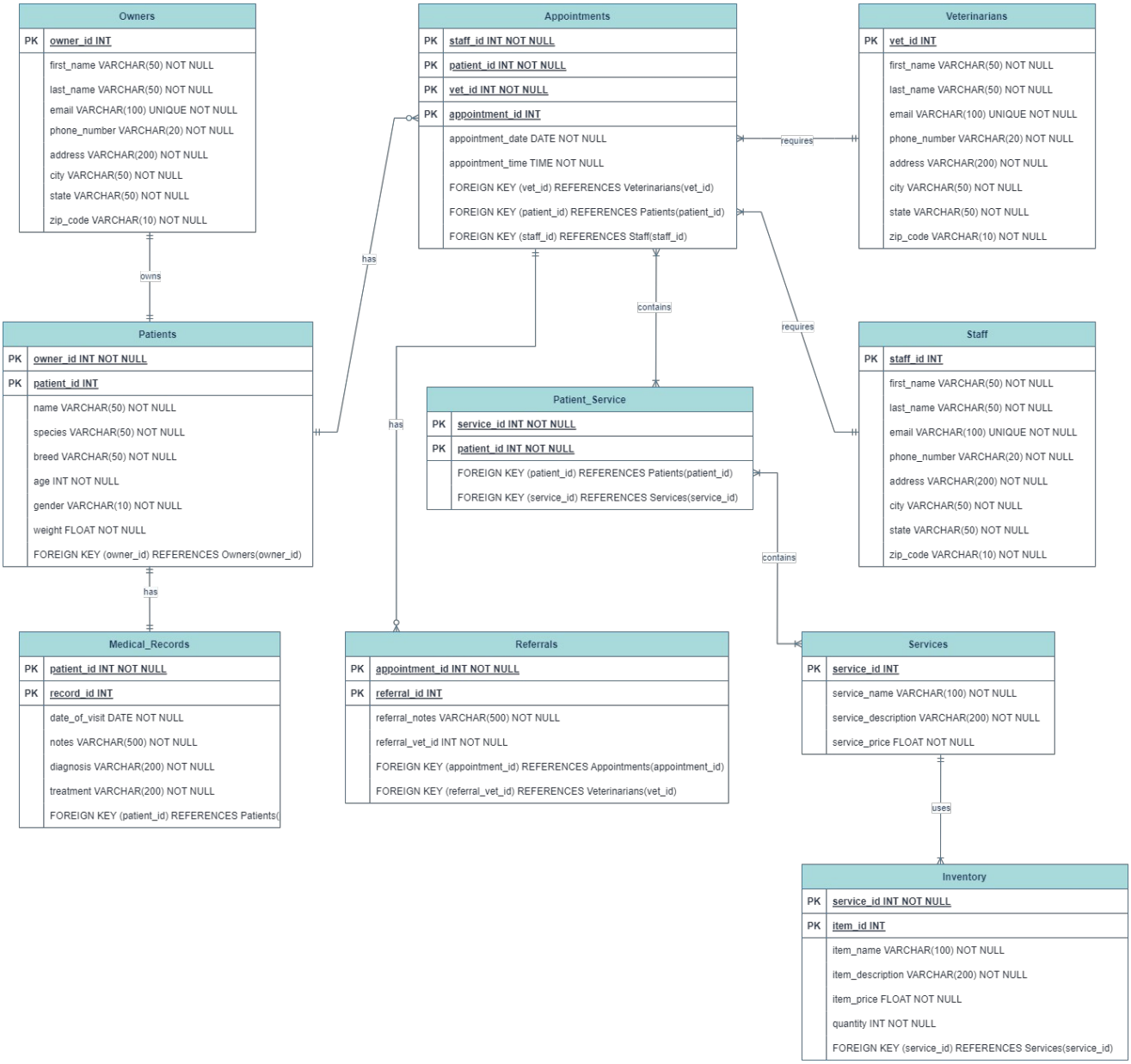
We added the Patient-Service table to our database system. Patient-Service bridge table serves as an intermediary table between the Patients table and the Services table. It allows for a many-to-many relationship to exist between these two tables, which is necessary because a patient can receive multiple services, and a service can be provided to multiple patients.

Without the bridge table, you would either have to duplicate data in both the Patients and Services tables or create a separate table for every possible combination of patient and service. Both of these options would be inefficient and would result in a lot of redundant data.

With the bridge table, the clinic can create a record for each instance of a patient receiving a particular service, and the relationship between the patient and service is maintained through the bridge table. This allows for more efficient data storage and easier querying of the data.

Overall, the Patient-Service bridge table is an important component of this database because it enables the many-to-many relationship between patients and services to be properly represented and managed.

7.0 ERD Diagram



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