**Section: DBS211-NBB -Group 7**

**Student Name: Ruolin Wu, Tsz Wa Wong, Yong Li**

**Milestone 1 – Project Idea and Proposal**

**Introduction:**

As more people have pets, the demand for efficient pet clinic services grows. The relationship between customers, clinics, and veterinarians is crucial but often complex. Our project aims to streamline this process by developing an application that simplifies appointment scheduling for surgeries and connects pet owners with professional veterinarians for specific illnesses. Our research in the pet clinic industry has revealed significant complexities in the current system. Service quality can vary greatly between clinics based on the veterinarians' expertise. To address these challenges, we propose creating a comprehensive database to manage and simplify the clinic visit process. This database will store detailed medical histories and related information for each pet, enhancing the overall efficiency and effectiveness of pet care. By providing a centralized platform for managing pet medical records, our application not only simplifies the visit process for pet owners but also enables clinics to improve their business models and enhance their services.

**Problem Statement:**

The pet clinic industry is facing challenges in meeting the increasing demand for services, particularly regarding appointment scheduling. Both pet clinics and pet owners require precise records to trace the medical history of pets. Implementing a database could significantly enhance the efficiency of visiting pet clinics.

**Solution:**

We are assuming that the application will combine the function of making appointments based on the services and veterinarians. We analysis the connections in this industry, so we will recognize the entities first. The entities will cover all the major functions in this application, providing the application sufficient data to implement the functions, and then we will figure out the relationships between each other. So far, the database framework will be built up. The details of each entity, we plan on dividing the whole database into three parts (client, services, and veterinarian), each member will oversee one part, and fulfill the attributes of entities. The last step is that we finalize the design of database by connecting each part, carry out a mock implementation of the application to test our design.

In summary, the database will decompose the large and complicated data into several functional parts, it is able to support various functions via relationships between entities, it would facilitate the efficiency of the medical process.

**Requirements:**

According to the design of our database, the app can meet the following requirements:

* User login/registration.
* Browse services details.
* Check the available timeslot.
* Make appointments based on available time.
* Set up Appointment reminder.
* Make changes/cancel existing appointments.
* Check Appointment history.
* Profile management/editing.
* Business analysis

After creating a profile for their own, clients can easily store their pet's information in the app and make appointments independently, eliminating the need to call the clinic and rely on staff assistance. Appointments can be scheduled at any time, even outside of clinic hours. Additionally, clients can access and review previous appointments and medical records instantly through the app, simplifying the appointment-making process and medical record retrieval, particularly in emergencies.

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Milestone 2 – Data Design**

**Business Rule:**

1. Each clinic can have one or more veterinarians.

2. Each veterinarian can only work in one and only one clinic.

3. Each owner can have one or more pets.

4. Each pet can have one and only one owner.

5. Each pet can have zero (new pets that just registered to this clinic but didn’t make any appointment yet) or more appointments records.

6. Each appointment can only serve one pet.

7. Each appointment can only be taken care of by one veterinarian.

8. Each veterinarian can be responsible for zero (newly hired veterinarian) or more appointments.

9. Each appointment can only provide one service.

10. Each service can be booked for zero (new services) or more appointments.

**ERD:**

A screenshot of a computer screen

Description automatically generated

**Data Dictionary:**

**TABLE: Clinic**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Data Type** | **Size, Precision** | **Default** | **PK/FK** | **Required** | **Range** | **Sample Data** | **Notes** |
| clinicID | NUMBER | 5 |  | PK | Y | 1-99999 | 12345 | The unique identifier |
| clinicName | String | 30 |  |  | Y |  | "Seneca Pet Clinic" |  |
| clinicAddress | String | 50 |  |  | Y |  | "3020 Finch Avenue" |  |
| clinicEmail | String | 50 |  |  | Y |  | [petclinic999@gmail.com](mailto:petclinic999@gmail.com) |  |
| clinicPhoneNum | NUMBER | 11 |  |  | Y | 1234567890-99999999999 | 4163057799 | Assuming North American phone number |

**TABLE: Veterinarians**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Data Type** | **Size, Precision** | **Default** | **PK/FK** | **Required** | **Range** | **Sample Data** | **Notes** |
| vetID | NUMBER | 5 |  | PK | Y | 1-99999 | 12345 | The unique identifier |
| clinicID | NUMBER | 5 |  | FK | Y | 1-99999 | 12345 | Connect to Clinic Table |
| vetFirstName | String | 25 |  |  | Y |  | "Tony" |  |
| vetLastName | String | 25 |  |  | Y |  | "Stark" |  |
| vetEmail | String | 30 |  |  | Y |  | [doctor999@gmail.com](mailto:doctor999@gmail.com) |  |
| vetPhoneNum | NUMBER | 11 |  |  | Y | 1234567890-99999999999 | 4163057799 | Assuming North American phone number |

**TABLE: Services**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Data Type** | **Size, Precision** | **Default** | **PK/FK** | **Required** | **Range** | **Sample Data** | **Notes** |
| serviceName | String | 30 |  | PK | Y |  | "ultrasound" | The unique identifier |
| price | NUMBER | 6,2 |  |  | Y | 1-999999 | 102.33 | Unit: Canadian dollar |
| serviceDes | String | 100 |  |  | Y |  | "Diagnostic imaging, guiding surgeries" | The service introduction |

**TABLE: Owners**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Data Type** | **Size, Precision** | **Default** | **PK/FK** | **Required** | **Range** | **Sample Data** | **Notes** |
| ownerId | NUMBER | 5 |  | PK | Y | 1-99999 | 12345 | The unique identifier |
| ownerFirstName | String | 25 |  |  | Y |  | "Tony" |  |
| ownerLastName | String | 25 |  |  | Y |  | "Stark" |  |
| ownerEmail | String | 30 |  |  | Y |  | [peter99@gmail.com](mailto:peter99@gmail.com) |  |
| ownerAddress | String |  |  |  | N |  | "2030 Markham Road" |  |
| ownerPostalCode | String | 6 |  |  | N |  | L6E0N4 |  |
| ownerPhoneNum | NUMBER | 11 |  |  | Y | 1234567890-99999999999 | 14163057799 | Assuming North American phone number |

**TABLE: Pets**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Data Type** | **Size, Precision** | **Default** | **PK/FK** | **Required** | **Range** | **Sample Data** | **Notes** |
| petID | NUMBER | 5 |  | PK | Y | 1-99999 | 12345 | The unique identifier |
| ownerId | NUMBER | 5 |  | FK | Y | 1-99999 | 12345 | The connection to Owners |
| petsName | String | 25 |  |  | Y |  | "Stark" |  |
| breeds | String | 25 |  |  | Y |  | "Husky" |  |
| age | NUMBER | 2 |  |  | Y | 1--99 | 12 |  |
| isNeutered/Spayed | String | 5 |  |  | Y |  | Yes |  |
| petType | String | 25 |  |  | Y |  | "Dog" |  |

**TABLE: Appointments**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Data Type** | **Size, Precision** | **Default** | **PK/FK** | **Required** | **Range** | **Sample Data** | **Notes** |
| appointID | NUMBER | 5 |  | PK | Y | 1-99999 | 12345 | The unique identifier |
| petID | NUMBER | 5 |  | FK | Y | 1-99999 | 12345 | The connection to PETS |
| serviceName | NUMBER | 5 |  | FK | Y | 1-100001 | 12345 | The connection to Service |
| vetID | NUMBER | 5 |  | FK | Y | 1-100002 | 12345 | The connection to veterinarians |
| appointmentDate | Date |  |  |  | Y |  | 3/22/2023 | Appoint Date  (YYYY-MM-DD) |
| appointmentTime | String | 10 |  |  | Y |  | 10:30 AM | Appoint Time (HR:MN A/PM) |
| reasonForVisit | String | 1000 |  |  | Y |  | "Regular checkup" |  |