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

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**Final Submission:**

**Milestone 1 – Project Idea and Proposal**

**Milestone 2 – Data Design**

**Milestone 3 – Database Scripting and Creation**

**Introduction:**

As the number of people keeping pets increases, the requirement of the pet clinic is becoming more demanding, the connection between customers, clinics and veterinarians bind tightly. But according to the investigation into this industry, the process of making appointments for surgery and finding professional veterinarians for certain illnesses is complicated. The service of different clinics varies based on the veterinarians. So, the pet clinic calls for an application that could manage and simplify the process of visiting the clinic. As pet lovers, we think we can create a database to simplify the process and keep the medical history record and more information which is related to the medical records for each pet. For the clinic side, they can use data to upgrade their business model and update their services.

**Problem Statement:**

In this industry, both the pet clinic and pet owners need a precise record to trace the pet’s medical history. And the database will elevate 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 medical history.
* Profile management/editing.
* Business analysis

After creating a profile for their own, clients can store their pet’s information on the app and make appointments on their own instead of calling the clinic and making appointments with the help of a staff. Appointments can be made any time, not only when the clinic is open. Also, clients can check previous appointments and medical records through the app with no delay in case of an emergency. This can make the appointment making processes and medical record searching easier.

**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:**

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**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 | 5,2 |  |  | Y | 1-99999 | 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 | 100 |  |  | 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 | STRING | 25 |  | 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" |  |

**Milestone 3 – Database Scripting and Creation**

Based on the previous milestones design, we created the scripts for this database which include the tables creation, sample data and the business report. Here is creation for six tables:

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After creating the tables, we insert the sample data, according to the Rule of Thumb, each table contains at least 20 rows data:

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For the business report, based on our design, we create 5 views to achieve the business requirements. On top of this, we also provide extra insights to use this data internally from the client’s perspective to fulfill some possible needs of clients. The five views are: 1. userInfo, fulfill the management of user information; 2. medicalHistory, follow up the medical history, offer the references for diagnosis; 3. makeAppointment, enable the customer to make the appointment independently; 4. clinicIncom, offer the data for clinic to make the wise decision; 5. clinicServices, provide the customer with information of various services, clinics and veterinarians. (screenshots below, details in attachment of “DBS\_Final\_Business Report.sql”)

**Table: CLINICSERVICE**

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**Table: CLINICINCOME**A screenshot of a computer

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**Table: MEDICALHISTORY**A screenshot of a computer

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**Table: MAKEAPPOINTMENT**

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**Table: USERINFO**

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