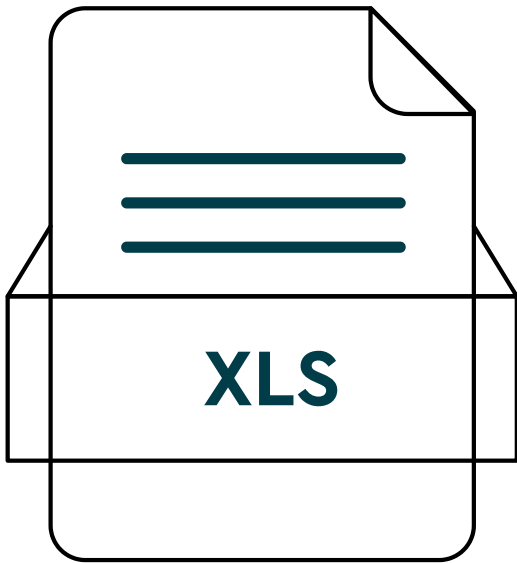


VetClinic Project

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Introduction

- Previously, records were kept in a spreadsheet
- Difficulty organizing, analyzing, and growing the data
- Need for a database to facilitate queries and reports



vetclinic_procedures (1) (1)

	PetID	Date	ProcedureType	ProcedureSubCode	Description	Price	PetName	PetGender	PetKind	PetAge	OwnerID	OwnerName	OwnerSurname	StreetAddress	City	State	StateFull	ZipCode
0	P9-6519	2016-01-10	VACCINATIONS	5	Rabies	10.0	Cookie	female	Cat	6	5737	Alden	McMiller	3111 Tennessee Avenue	Pontiac	MI	Michigan	48
342																		
1	H8-1429	2016-01-11	VACCINATIONS	5	Rabies	10.0	Lily	female	Dog	3	7772	Gustavo	Jobe	249 Amethyst Drive	Bloomfield Township	MI	Michigan	48302
2	T0-3277	2016-01-11	VACCINATIONS	5	Rabies	10.0	Humbert	male	Cat	12	1070	Jessica	Velazquez	3861 Woodbridge Lane	Southfield	MI	Michigan	48034
3	J2-3320	2016-01-11	VACCINATIONS	5	Rabies	10.0	Heisenberg	male	Dog	3	1132	Rosa	Quarles	4791 Tennessee Avenue	Southfield	MI	Michigan	48034
4	H2-8586	2016-01-12	HOSPITALIZATION	1	All Hospitalization	25.5	Antigone	female	Cat	8	5508	Charles	Swarey	2463 Charles Street	Flint	MI	Michigan	48548
5	X0-8765	2016-01-12	VACCINATIONS	5	Rabies	10.0	Vuitton	female	Parrot	11	4185	Andrew	Salazar	1968 Veltri Drive	Marquette	MI	Michigan	49855
6	J2-4382	2016-01-12	VACCINATIONS	5	Rabies	10.0	Dexter	male	Parrot	4	7101	Bessie	Yen	30 Cunningham Court	Rochester Hills	MI	Michigan	48306
7	M2-1131	2016-01-12	VACCINATIONS	5	Rabies	10.0	Rumba	male	Cat	8	1546	Joseph	Blow	556 D Street	Southfield	MI	Michigan	48075
8	H8-8856	2016-01-12	VACCINATIONS	5	Rabies	10.0	Bandit	male	Parrot	11	9037	Roger	Lade	1315 Echo Lane	Grand Rapids	MI	Michigan	49503
9	Q0-2001	2016-01-12	GENERAL SURGERIES	6	Gastric Torsion	450.0	Roomba	male	Cat	9	3661	Bruce	Hart	2497 Nash Street	Southfield	MI	Michigan	48075
10	P7-2443	2016-01-12	GENERAL SURGERIES	3	Declaw	125.5	Rumba	male	Cat	10	3245	Susan	Luna	859 Corpening Drive	Commerce	MI	Michigan	48085

Creation process



1

Analyze what information the clinic needs to store and **create a diagram**

2

Create the **database** and **tables** using the **DBeaver** tool

3

Data **cleaning** and **transformation** to insert it into the tables

4

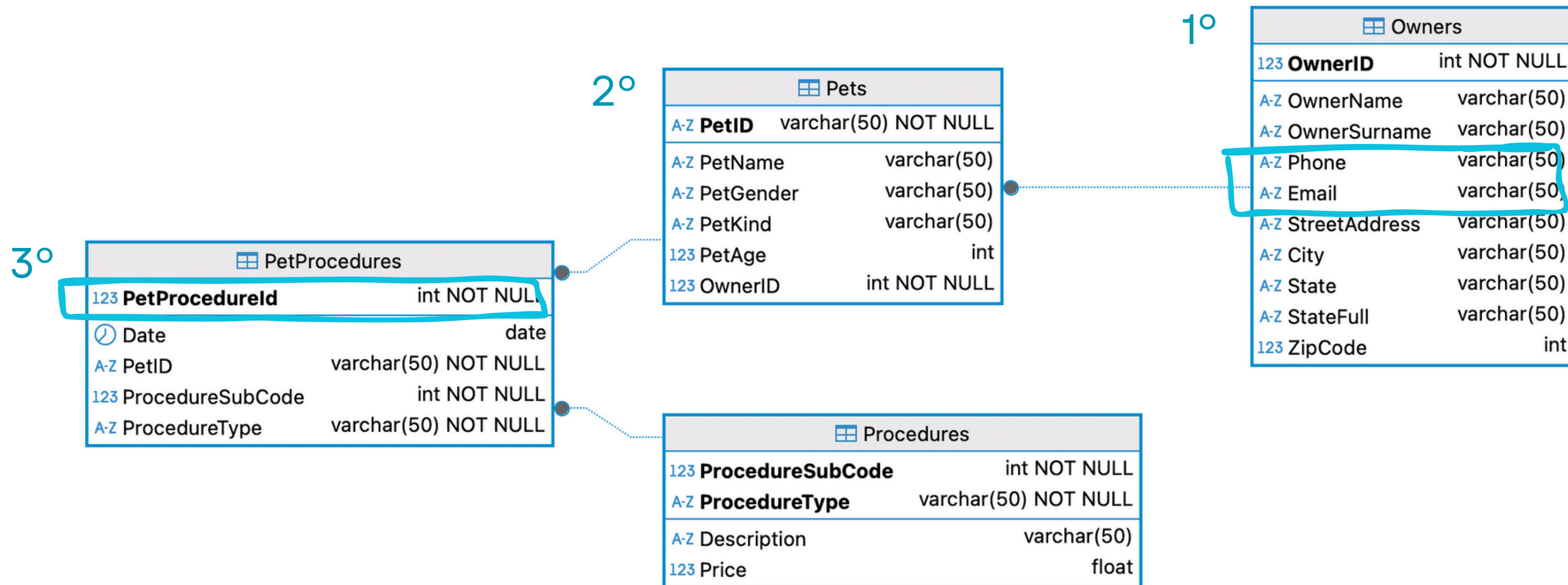
Test and **adjust** the database to ensure efficiency and prevent errors

5

Create **documentation** including all operations and database details.

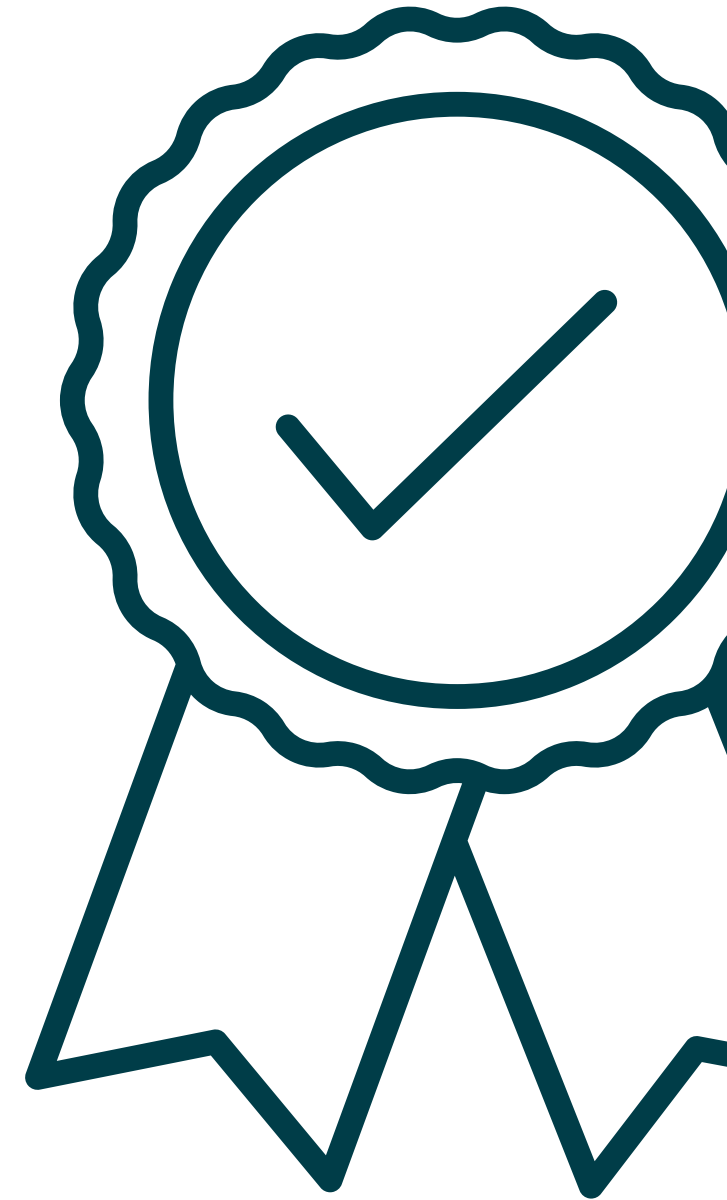
Solution

- Creation of a relational database using 



Data integrity and quality

- **Primary keys (PK)** – each record has a unique identifier
 - PetID, OwnerID, PetProcedureID, (ProcedureType + ProcedureSubCode)
- **Foreign keys (FK)** – maintain relationships between tables
- **Integrity rules** – prevent invalid data and ensure logic
 - **PetAge** and **Price** cannot have negative values
 - **Email** and **Phone** must be unique
 - PKs and FKs **cannot be empty**
- **Automatic update/deletion** (cascade) – ensures that changes in a record are correctly reflected



1. Query example

Medical history of a pet

```
SELECT PP.Date, P.PetName, Pr.ProcedureType, Pr.Description,
Pr.Price
FROM VetClinic.PetProcedures PP
JOIN VetClinic.Pets P ON PP.PetID = P.PetID
JOIN VetClinic.Procedures Pr ON PP.ProcedureSubCode =
Pr.ProcedureSubCode AND PP.ProcedureType = Pr.ProcedureType
WHERE P.PetID = 'Q8-8753';
```

🕒 Date ▼	A-Z PetName ▼	A-Z ProcedureType ▼	A-Z Description ▼	123 Price ▼
2016-01-23	Danger	VACCINATIONS	Rabies	10
2016-02-03	Danger	VACCINATIONS	Rabies	10
2016-02-04	Danger	VACCINATIONS	Rabies	10
2016-03-10	Danger	GENERAL SURGERIES	Ear Crop	350
2016-03-17	Danger	VACCINATIONS	Rabies	10
2016-04-13	Danger	ORTHOPEDIC	Fem. head Ostec.	420
2016-04-22	Danger	VACCINATIONS	Rabies	10
2016-06-02	Danger	VACCINATIONS	Rabies	10
2016-06-27	Danger	ORTHOPEDIC	Fem. head Ostec.	420
2016-06-29	Danger	GENERAL SURGERIES	Declaw	125,5
2016-07-06	Danger	VACCINATIONS	Rabies	10
2016-07-18	Danger	VACCINATIONS	Rabies	10
2016-07-21	Danger	VACCINATIONS	Rabies	10
2016-07-28	Danger	VACCINATIONS	Rabies	10
2016-08-02	Danger	VACCINATIONS	Rabies	10
2016-08-09	Danger	VACCINATIONS	Rabies	10
2016-09-09	Danger	VACCINATIONS	Rabies	10
2016-09-18	Danger	GENERAL SURGERIES	Declaw	125,5
2016-10-13	Danger	VACCINATIONS	Rabies	10
2016-11-19	Danger	VACCINATIONS	Rabies	10
2016-11-20	Danger	VACCINATIONS	Rabies	10
2016-11-23	Danger	VACCINATIONS	Rabies	10

2. Query example

Top 5 most frequent procedures

```
SELECT Pr.ProcedureType, Pr.Description, COUNT(PP.PetProcedureId)
AS TotalRealizacoes
FROM VetClinic.PetProcedures PP
JOIN VetClinic.Procedures Pr ON PP.ProcedureSubCode =
Pr.ProcedureSubCode
AND PP.ProcedureType = Pr.ProcedureType
GROUP BY Pr.ProcedureType, Pr.Description
ORDER BY TotalRealizacoes DESC
LIMIT 5;
```

A-Z ProcedureType ▼	A-Z Description ▼	123 TotalRealizacoes ▼
VACCINATIONS	Rabies	1.327
GROOMING	Bath	222
GROOMING	Flea Spray	202
GENERAL SURGERIES	Declaw	91
VACCINATIONS	Galaxie (DHLPP)	13

Benefits for VetClinic

- **Instant information search:** find any pet, owner, or procedure in seconds
- **Fewer errors and duplications:** organized and consistent information
- **Strategic reports:** assists in decision making about the clinic's needs



Future opportunities

- Create a table to store **scheduled appointments**
- Create another table to manage **inventory**
- Build a **dashboard** for quick insights and better data visualization



Documentation

- Project's documentation containing the following topics:
 - Overview
 - System objectives
 - Tools and technologies used
 - Logical Modeling (DDL)
 - Data quality
 - Conceptual modeling
 - Data insertion order
 - Relevant SQL operations

