

NOVEMBER 17, 2022

PAWSOME PETS

STEP 2:
LOGICAL

CAMERON HALLETT

Derived Relationships

Clinic (clinicNo, clinicName, clinicAddress, clinicTele, managerNo)	Primary Key clinicNo	Foreign Key managerNo References Staff(staffNo)
Owner (ownerNo, ownerFName, ownerLName, ownerAddress, ownerTele, petNo)	Primary Key ownerNo	Foreign Key petNo References Pet(petNo)
Staff (staffNo, staffFName, staffLName, staffAddress, staffTele, clinicNo)	Primary Key staffNo	Foreign Key clinicNo References Clinic(clinicNo)
Pet (petNo, petName, DOB, species, breed, color, examNo, clinicNo, ownerNo)	Primary Key petNo	Foreign Key examNo References Appointment(examNo) Foreign Key clinicNo References Clinic(clinicNo) Foreign Key ownerNo References Owner(ownerNo)
Appointment (examNo, complaint, description, date, actions, staffNo, clinicNo, petNo)	Primary Key examNo	Foreign Key staffNo References Staff(staffNo) Foreign Key clinicNo References Clinic(clinicNo) Foreign Key petNo References Pet(petNo)

Normalization to Third Normal Form

- Clinic(clinicNo, clinicName, clinicAddress, clinicTele, managerNo)
- Owner(ownerNo, ownerFName, ownerLName, ownerAddress, ownerTele, petNo)
- Staff(staffNo, staffFName, staffLName, staffAddress, staffTele, clinicNo)
- Pet(petNo, petName, DOB, species, breed, color, examNo, clinicNo, ownerNo)
- Appointment(examNo, complaint, description, date, actions, staffNo, clinicNo, petNo)

In this case, it is recognized that manager number corresponds to one of the staffNo values in the staff table.

Validation Against User Transactions

- How many pets are registered at the clinic at 123 Some st.?
 - The user would query the clinic table for a list of clinics where the clinic address matched 123 some st.
 - A count of the number of petNo's with a foreign key of clinicno matching the first step would be returned
- What pet is being seen during exam 00001?
 - The user would query for the appointment table for information for exam number 00001.
 - The petNo returned in the above step could then be fed into a queried pet database to return the pet information.
- What is the telephone number of the manager of Clinic 1000002?
 - The user would query the clinic table for the managerNo of Clinic 1000002.
 - The user would then query the Staff table for the staffTele of the staff whose staffNo is equal to managerNo
- Who is the owner of pet 99901?
 - The user would query the pet table for the ownerNo of the pet whose pet number is 99901.
 - The user would then query the owner table with the ownerNo returned from the above step for ownerFName and ownerLName (or any other information).
- Who is examining pet 99901?

- The user would query the Pet table for the examNo of pet 99901.
- The user would then use this output to query the Appointments table to return the staffNo.
- This output could then be fed into the Staff table and used to return the staffFName and staffLName of the vet performing the exam.

Integrity Constraints

Data	If Primary Key	If Referential/ Foreign Key	Alternate Key	Required data	Domain	General
clinicNo	Must be numeric, uniform length, unique	ON UPDATE CASCADE, ON DELETE CASCADE	clinicTele, clinicName (assuming unique)	Yes	Number, x digits	Not null
clinicName	-			Yes	String, up to 20 characters	Not null
clinicAddresses	-			Yes	String, up to 20 characters	Not null
clinicTele	-			Yes	Number, 7 digits	Not null
managerNo	-	Must match a value in staffNo		Yes	Number, y digits	Not null
staffNo	Must be numeric, uniform length, unique	ON UPDATE CASCADE, ON DELETE CASCADE	staffTele	Yes	Number, y digits	Not null
staffFName				Yes	String, up to 20 characters	Not null
staffLName				Yes	String, up to 20 characters	Not null
staffAddress				Yes	String, up to 20 characters	Not null

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Data	If Primary Key	If Referential/ Foreign Key	Alternate Key	Required data	Domain	General
staffTele				Yes	Number, 7 digits	Not null
examNo	Must be numeric, uniform length, unique	ON UPDATE CASCADE, ON DELETE CASCADE		Yes	Number, z digits	Not null
Complaint	-			Yes	String, up to 240 characters	Not null
Description	-			Yes	String, up to 240 characters	Not null
Date	-			Yes	Date	Not null
Actions	-			Yes	String, up to 240 characters	Not null
petNo	Must be numeric, uniform length, unique	ON UPDATE CASCADE, ON DELETE CASCADE		Yes	Number, a digits	not null
Name	-			No	String, up to 240 characters	
DOB	-			No	Date	
Species	-			No	String, up to 20 characters	
Breed	-			No	String, up to 20 characters	

Data	If Primary Key	If Referential/ Foreign Key	Alternate Key	Required data	Domain	General
Color				No	String, up to 20 characters	
ownerNo	Must be numeric, uniform length, unique		ownerTele	Yes	Number, b digits	
ownerFName				Yes	String, up to 20 characters	
ownerLName				Yes	String, up to 20 characters	
ownerAddress				Yes	String, up to 20 characters	
ownerTele				Yes	Number, 7 digits	

ASSUMES TELEPHONE NUMBERS ARE UNIQUE

Entity-Relationship Diagram (Logical)

In this case, it is recognized that manager number corresponds to one of the staffNo values in the staff table. It is also assumes that the owner has to register a new subscription for each pet.

