

HTTP-5112 DB Final Project Proposal

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Proposal for Animal Sanctuary:

I am proposing for a new database at our animal sanctuary as being able to reliably keep track of the animals in the facility as well as the ones who left is important for book keeping and for historical data that we can reference later in the future! With this proposal I aim to solve two key problems that are important with any database.

Problem 1:

The first is being able to show animals that are currently within the facility as well as those that have left the facility. The main problem with this is that you would need to enter this information manually in each table. My solution to this problem would be creating two different tables, one where we can see the animal type, name, species etc... while the other table shows the enter and exit date while being connected through an animal id. I propose the use of a trigger for this because it streamlines the process and allows for quicker entries and updates. So in essence When someone inserts or deletes from the main animal table the trigger will activate and will update the necessary information in the animal status table with their enter date or exit date as well as all other necessary information.

Problem 2:

Another problem that exists is that it's important to keep track of who donates to the animal sanctuary but also where each donation is specifically going to, for example John Doe donating to the feline enclosure. A database needs to be able to show not only this but also a count of which animals are receiving donations. The solution to this problem is the use of a stored function as well as a view. The stored function will output the count of donations it received total, making it quick and simple to check if the feline enclosure is the most loved at the sanctuary! On the other hand checking to see who donated to which animal is also important but we have to be mindful of sensitive data like phone numbers and emails so a view would be a solution to this. The view would contain only the most necessary data while omitting sensitive personal information about the donors.

How will this look?

Below is the schema for the proposed database plan for the animal sanctuary. It contains normalized tables up to the third form and detailed data types as well as the constraints for each.

Schema:

For the animals table here it will contain data on the animal name, its species and gender. Each animal gets its own unique id as it acts as the primary key. This information is important for an animal sanctuaries database and bookkeeping so no data in this table is nullable.

Animals_Table		
<u>COLUMN</u>	<u>DATA TYPE</u>	<u>CONSTRAINTS</u>
animal_id	INT(3)	PK, NOT NULL
name	VARCHAR(30)	NOT NULL
animal	VARCHAR(30)	NOT NULL
species	VARCHAR(30)	NOT NULL
gender	VARCHAR(30)	NOT NULL

In the animal status table it will contain the enter and exit dates for each animal as well as its status (at sanctuary, left sanctuary etc...) There is a unique status id for each row which acts as the table's primary key. The table will be connected to the animals table through the foreign key animal id allowing us to have a more detailed look at the animals information. The only nullable column will be the exit date as some animals will not have an exit date while they stay at the sanctuary.

Animal_Status_Table		
<u>COLUMN</u>	<u>DATA TYPE</u>	<u>CONSTRAINTS</u>
status_id	INT(3)	PK, NOT NULL
animal_id	INT(3)	FK, NOT NULL
enter_date	DATE	NOT NULL

exit_date	DATE	NULLABLE
status	VARCHAR(30)	NOT NULL

The donations table will contain information about the animal id where the donation went to as well as the donation date and its amount. A donation id which acts as a primary key will identify each row while the donor id acts as a foreign key to connect the donors table to the donations table so we can see a more detailed look at the donors information. All information is required for this table so there is no nullable information.

Donations_table		
<u>COLUMN</u>	<u>DATATYPE</u>	<u>CONSTRAINTS</u>
donation_id	INT(3)	PK, NO NULL
donor_id	INT(3)	FK, NOT NULL
animal_id	INT(3)	FK, NOT NULL
donation_date	DATE	NOT NULL
amount	INT(100)	NOT NULL

The donors table contains information about the donor. The donor id is the primary key to uniquely identify each row as well as the donors first and last name, email and phone number. This table will allow the sanctuary to see who donated but to see which person donated to where, the donor id is a foreign key in the donations table which acts as a bridging table to the animals table allowing us to see more detailed connected information regarding animal information and who donates to them. All information is required so there is no nullable date in this table.

Donors_Table		
<u>COLUMN</u>	<u>DATA TYPE</u>	<u>CONSTRAINTS</u>
donor_id	INT(3)	PK, NOT NULL
f_name	VARCHAR(30)	NOT NULL
l_name	VARCHAR(30)	NOT NULL

email	VARCHAR(30)	NOT NULL
phone	INT(12)	NOT NULL

Closing remarks

Through the use of normalized tables, triggers, a view and stored functions I plan to solve the issues regarding logging data in a simple and quick manner to allow us to view which animals are currently in the sanctuary and which have left. In addition to this By having a view and stored function it will allow us to quickly execute a query to see the total count of donations certain animals within the sanctuary have in addition to being able to see who donated to which animal without displaying sensitive information. The goal of this plan is to allow for the ease of use with the animal sanctuaries database and to do things as efficiently as possible without compromising clarity and readability of the database.