Deryn Boscariol

SQL Proposal

March 28, 2024

Part I

**Sanctuary Database**

**Introduction**

The animal sanctuary has had a hard time receiving donations and management is looking for ways to incentivize visitors to donate. I will be proposing that they start featuring their animals with the least amount of donations in more advertising campaigns as well as starting a VIP program for donors that meet a certain donation threshold.

**Issue 1: Donations to animals**

Donors to the animal sanctuary are able to direct their donations to a specific type of animal. I am solving how an employee of the sanctuary can see the total donated funds for each type of animal. I will use two tables, one to represent the donations and one to represent the donations received per animal. I will also reference the Donors Table from Issue 2.

**Donations Table for Sanctuary Database**

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Type** | **Key** |
| Donation\_id | INT(4) | PRIMARY KEY (AUTO\_INCREMENT) |
| Donor\_id | INT(3) | FOREIGN KEY |
| Animal\_id | INT(3) | FOREIGN KEY |
| Amount\_donated | INT(10) | NOT NULL |
| Date\_donated | DATE |  |

**Animal Total Donations Table for Sanctuary Database**

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Type** | **Key** |
| Animal\_id | INT(3) | PRIMARY (AUTO\_INCREMENT) |
| Animal | VARCHAR(50) | NOT NULL |
| donations | INT(10) | NOT NULL |

**Solution: Trigger**

**I am using a trigger in order to solve this issue because I want to be able to update the Animal Total Donation table after every time the Donation Table is updated**

DELIMITER //

CREATE TRIGGER update\_animalTotalDonation\_new

AFTER INSERT

ON donations

FOR EACH ROW

BEGIN

UPDATE animal\_total\_donations

SET donations = donations + NEW.amount\_donated

WHERE animal\_total\_donations.animal\_id = NEW.animal\_id

END; //

DELIMITER

**Issue 2: Donors**

The animal sanctuary wants to start a VIP program for its top donors. Donors who have donated at least $200 will receive a discount on tickets, stuffed animal based on the animal they have donated most to. I will use a table to represent all donors and also reference the Donations Table from Issue 1.

**Donors Table**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Key** |
| Donor\_id | INT(3) | PRIMARY (AUTO\_INCREMENT) |
| First\_name | VARCHAR(50) | NOT NULL |
| Last\_name | VARCHAR(50) | NOT NULL |
| Total\_donations | INT(10) | NOT NULL |
| Date\_last\_donated | DATE |  |

**Solution: View and Stored Function**

**View:**

I will be using a view to solve part of this problem because it would be redundant to have a whole separate table with so much of the same data as the Donors Table.

**Query:**

CREATE VIEW vip\_program

AS SELECT donor\_id, first\_name, last\_name, total\_donations, date\_last\_donated

FROM donors\_table

WHERE total\_donations >= 200;

**Expected Result:**

Vip\_program

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Donor\_id | First\_name | Last\_name | Total\_donations | Date\_last\_donated |

**Stored Function:**

I will also be using a stored function that will return a donors most donated to animal. I am using a stored function instead of a stored procedure because it will simply receive an input and return an output and I will not need to use any DML.

**Query:**

DELIMITER / /

CREATE FUNCTION FindFavAnimal (p\_donor\_id INT(3))

RETURNS VARCHAR (50)

BEGIN

INNER JOIN ON donations.donor\_id = donors.donor\_id;

DECLARE favAnimal VARCHAR(50);

SET favAnimal = SUM(amount\_donated GROUP BY animal);

WHERE donor\_id = p\_donor\_id ;

RETURN favAnimal;

END; / /

DELIMITER;

**Database**

A screenshot of a computer

Description automatically generated

**Conclusion and Future Implications.**

Through this assignment so far, I have really learned about the application of database issues and the logic behind setting up databases, writing queries, and creating functions/views/triggers/procedures in a way that addresses real world questions. Other features that I think would be cool to build out in the future are more triggers to link the databases more closely as well as a view for the animals that aren’t receiving as much in donations so that the sanctuary knows which areas need more focus. I also think it would be interesting to integrate the database into a webpage that would act as an admin system for managing donations.