# **Animal Sanctuary Management System Database Schema Documentation**

**Introduction**

This documentation explains the design proposal for database schema related to animal sanctuary management system. This database design solves various problems faced by animal sanctuary management by managing various data from diverse fields in animal sanctuary like data related employees, animals, employee schedules etc.

**Database Purpose**

The purpose of the database is to provide a solution to manage everything efficiently in animal sanctuary. It aims to solve problems related to the managing animal records with their feeding times, employee schedules, opening and closing time and holidays for the animal sanctuary, managing schedules for employee, and keeping records of the visitors.

**Database Schema**

1. **Animals Table:** This table will store all the essentials information about all the animals who are in the sanctuary with their basic details. Information like name, species, and important dates like arrival and departure of the animal from the sanctuary.

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Key** |  |
| Animal\_Id | INT | Primary | Not Null, Auto Increment |
| Animal\_Name | VARCHAR |  | Not Null |
| Species | VARCHAR |  | Not Null |
| Join\_Date | DATE |  | Not Null |
| Leave\_Date | DATE |  | Nullable |

1. **Animal Movements Table:** This table store all the movement information about animals who came in sanctuary and who left the sanctuary to identify the movement information about animals to keep a track record.

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Key** |  |
| Movement\_Id | INT | Primary | Not Null, Auto Increment |
| Animal\_Id | INT | Foreign | Not Null |
| Movement\_Type | VARCHAR |  | Not Null |
| Movement\_Date | DATE |  | Not Null |

1. **Donation Table**: This table stores the donation information which is received by animal sanctuary with all the details required to know about the donor.

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Key** |  |
| Donation\_Id | INT | Primary | Not Null, Auto Increment |
| Animal\_Id | INT | Foreign | Not Null |
| Donor\_Name | VARCHAR |  | Not Null |
| Donor\_Email | VARCHAR |  | Nullable |
| Amount | INT |  | Not Null |
| Donation\_Date | DATE |  | Not Null |

1. **Feeding Schedules Table**: This table stores the feeding schedule of every animal with timing and quantity which needs to be served and who is going to serve the food.

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Key** |  |
| FeedingSchedule\_Id | INT | Primary | Not Null, Auto Increment |
| Animal\_Id | INT | Foreign | Not Null |
| Feeding\_Time | TIME |  | Not Null |
| Quantity | INT |  | Not Null |
| Feeding\_Frequency | VARCHAR |  | Not Null |

1. **Employees Table**: This table stores the information about each employee who works at animal sanctuary with their designation and work schedule.

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Key** |  |
| Employee\_Id | INT | Primary | Not Null, Auto Increment |
| Employee\_FirstName | VARCHAR |  | Not Null |
| Employee\_LastName | VARCHAR |  | Not Null |
| Employee\_Designation | VARCHAR |  | Not Null |
| Joining\_Date | DATE |  | Not Null |
| Weekly\_Hours | INT |  | Not Null |
| Department | VARCHAR |  | Not Null |
| Salary\_Per\_Hr | INT |  | Not Null |

## **Problems and Solutions**

* **Problem:** Keeping track of entry and exist of animals from sanctuary.
  + **Solution:** To fix this issue added animal movements table to keep track record for the animal's movement from the sanctuary by just updating the join date or leave date using a trigger.
* **Problem:** Inappropriate donation management.
  + **Solution:** To overcome this issue, we have added donations table to keep record of who donated how much.
* **Problem:** Challenges faced to feed animals on proper time.
  + **Solution:** To fix this issue we have created a feeding schedule table where we can manage the feeding time with quantity of every animal.
* **Problem:** Difficulty faced in managing and dividing employee for work.
  + **Solution:** To overcome this issue, we have created employees table where we can manage every employee detail with their max work limit per week.

**Function**

* **GetFeedingSchedule\_Function**: This function will return the upcoming feeding schedule as it will work on current time. This will help employees to schedule the feeding time at once.

**View**

* **TotalAmountCollectedByAnimalType\_View:** This view will show the donation categorized by type of animal. We can directly get the total amount for a particular animal type.

**Trigger**

* **AnimalMovement\_Trigger:** This trigger will help to add an entry in movements table and will also update the leave date in animal's table.

## **Conclusion**

The whole database schema is designed to provide a solution for various problems related to managing things in an animal sanctuary. The database schema, tools, and features aim to ensure data consistency, ease of use, and efficient management of sanctuary operations.