CSE 3330 - 001

Database Systems and File Structures

Spring 2019

ANIMAL SHELTER DATABASE

Prepared By:

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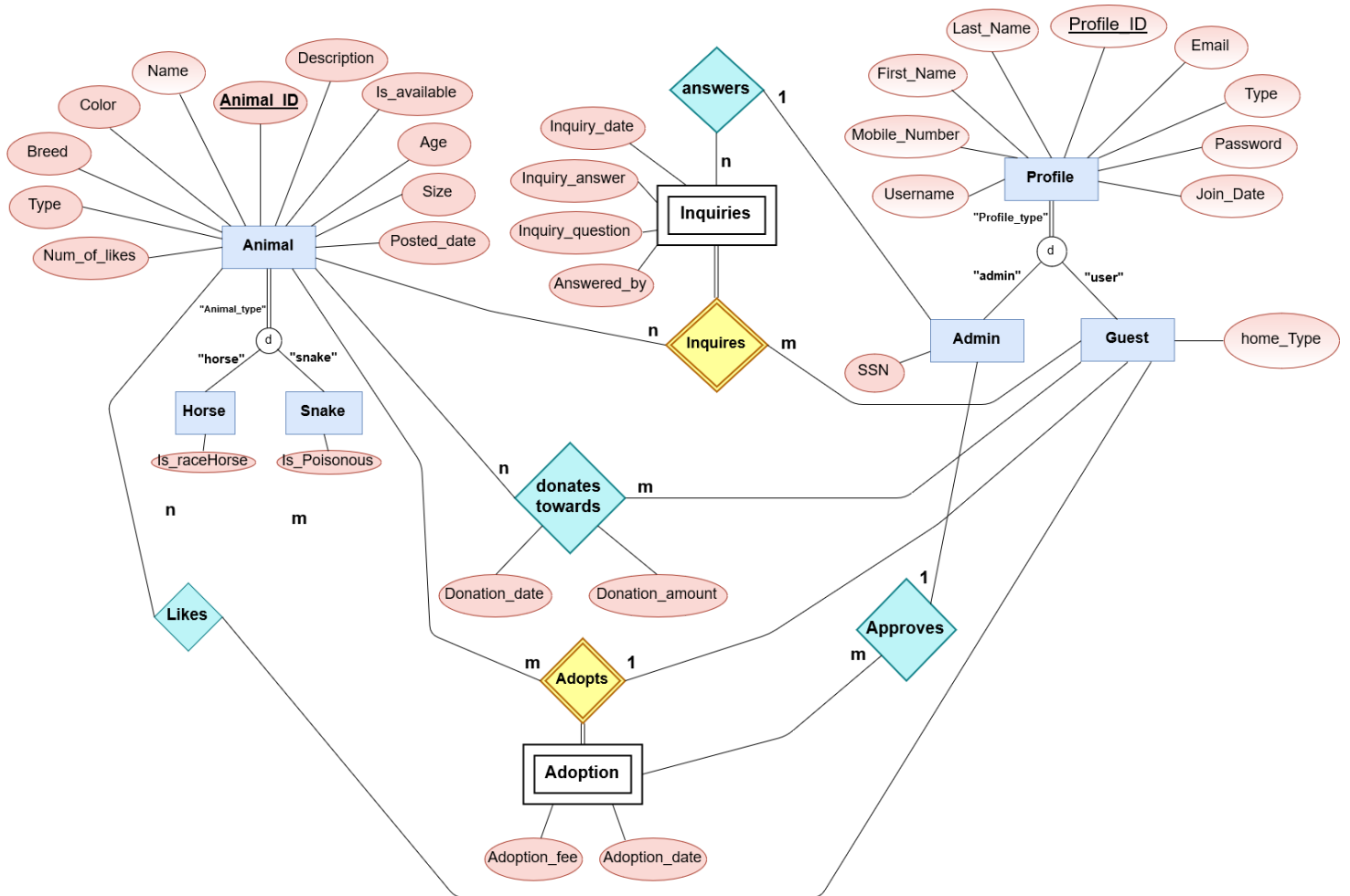
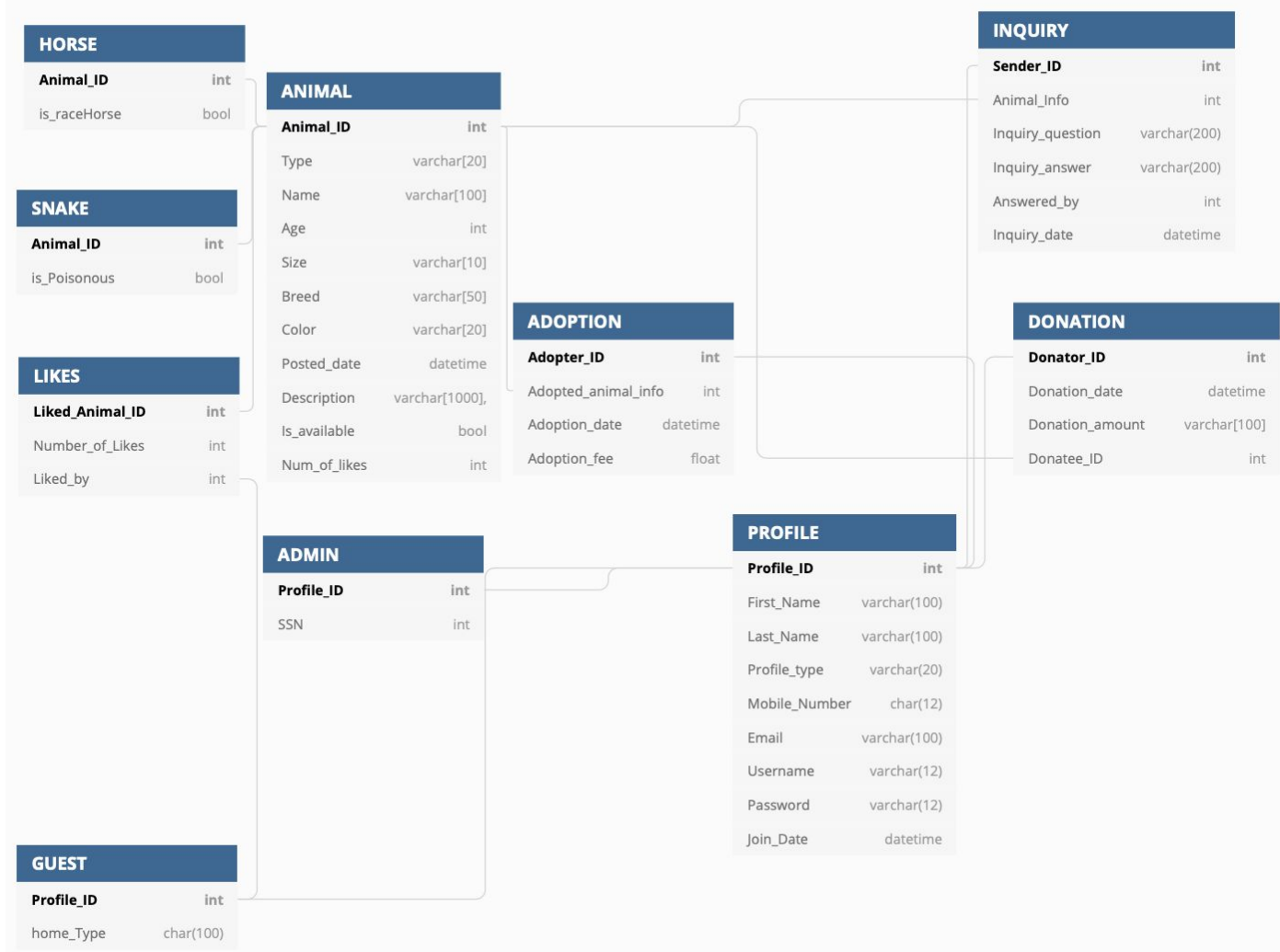Harsh Aggarwal (1001552826)

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Part 1: EER Schema Diagram

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Part 2: Relational Database Schema

HORSE

Animal_ID	int
is_raceHorse	bool

SNAKE

Animal_ID	int
is_Poisonous	bool

LIKES

Liked_Animal_ID	int
Number_of_Likes	int
Liked_by	int

ANIMAL

Animal_ID	int
Type	varchar[20]
Name	varchar[100]
Age	int
Size	varchar[10]
Breed	varchar[50]
Color	varchar[20]
Posted_date	datetime
Description	varchar[1000],
Is_available	bool
Num_of_likes	int

ADOPTION

Adopter_ID	int
Adopted_animal_info	int
Adoption_date	datetime
Adoption_fee	float

ADMIN

Profile_ID	int
SSN	int

INQUIRY

Sender_ID	int
Animal_Info	int
Inquiry_question	varchar(200)
Inquiry_answer	varchar(200)
Answered_by	int
Inquiry_date	datetime

DONATION

Donator_ID	int
Donation_date	datetime
Donation_amount	varchar[100]
Donatee_ID	int

PROFILE

Profile_ID	int
First_Name	varchar(100)
Last_Name	varchar(100)
Profile_type	varchar(20)
Mobile_Number	char(12)
Email	varchar(100)
Username	varchar(12)
Password	varchar(12)
Join_Date	datetime

GUEST

Profile_ID	int
home_Type	char(100)

CREATE Table Statements:

```sql
CREATE DATABASE ANIMAL_SHELTER;
USE ANIMAL_SHELTER;
```

```sql
CREATE TABLE ANIMAL (
    Animal_ID int NOT NULL AUTO_INCREMENT UNIQUE,
    Animal_type varchar(20) NOT NULL,
    Name varchar(100) NOT NULL,
    Age int NOT NULL,
    Size varchar(10) NOT NULL,
    Breed varchar(50) NOT NULL,
    Color varchar(20) NOT NULL,
    Posted_date datetime NOT NULL,
    Description varchar(1000),
    Is_available boolean NOT NULL,
    Num_of_likes int,
    PRIMARY KEY (Animal_ID)
);
```

```sql
CREATE TABLE LIKES (
    Liked_Animal_ID int NOT NULL,
    Number_of_Likes int,
    Liked_by int,
    PRIMARY KEY (Liked_Animal_ID),
    FOREIGN KEY (Liked_Animal_ID) REFERENCES ANIMAL(Animal_ID),
FOREIGN KEY (Liked_by) REFERENCES GUEST(Profile_ID)
);
```

```sql
CREATE TABLE INQUIRY (
    Sender_ID int NOT NULL,
    Animal_Info int NOT NULL,
    Inquiry_question varchar(200),
    Inquiry_answer varchar(200),
```

```sql
    Inquiry_date datetime,
    Answered_by int,
    FOREIGN KEY (Sender_ID) REFERENCES GUEST(Profile_ID),
    FOREIGN KEY (Animal_Info) REFERENCES ANIMAL(Animal_ID),
    FOREIGN KEY (Answered_by) REFERENCES ADMIN(Profile_ID)
) ;


CREATE TABLE PROFILE (
    Profile_ID int NOT NULL AUTO_INCREMENT UNIQUE,
    First_Name varchar(100) NOT NULL,
    Last_Name varchar(100) NOT NULL,
    Profile_type varchar(20) NOT NULL,
    Mobile_Number char(12) NOT NULL,
    Email varchar(100) NOT NULL UNIQUE,
    Username varchar(12) NOT NULL UNIQUE,
    Password varchar(12) NOT NULL,
    Join_Date datetime NOT NULL,
    PRIMARY KEY (Profile_ID)
);


CREATE TABLE ADMIN (
    Profile_ID int NOT NULL AUTO_INCREMENT UNIQUE,
    SSN int NOT NULL UNIQUE
)INHERITS (Profile);


CREATE TABLE SNAKE (
    Animal_ID int NOT NULL AUTO_INCREMENT UNIQUE,
    is_Poisonous boolean NOT NULL
) INHERITS (ANIMAL);


CREATE TABLE HORSE (
    Animal_ID int NOT NULL AUTO_INCREMENT UNIQUE,
```

```sql
        is_raceHorse boolean NOT NULL
) INHERITS (ANIMAL);


CREATE TABLE GUEST (
        Profile_ID int NOT NULL AUTO_INCREMENT UNIQUE,
        home_Type char(100) NOT NULL
) INHERITS (Profile);


CREATE TABLE DONATION (
        Donator_ID int NOT NULL,
        Donation_date datetime NOT NULL,
        Donation_amount varchar[100] NOT NULL,
        Donatee_ID int NOT NULL,
        FOREIGN KEY (Donator_ID) REFERENCES GUEST(Profile_ID),
        FOREIGN KEY (Donatee_ID) REFERENCES ANIMAL(Animal_ID)
);


CREATE TABLE ADOPTION (
        Adopter_ID int NOT NULL UNIQUE,
        Adopted_animal_info int NOT NULL UNIQUE,
        Adoption_date datetime NOT NULL,
        Adoption_fee float NOT NULL,
        PRIMARY KEY (Adopter_ID),
        FOREIGN KEY (Adopter_ID) REFERENCES PROFILE(Profile_ID),
        FOREIGN KEY (Adopted_animal_info) REFERENCES
ANIMAL(Animal_ID)
);
```

Interpretation:

Relations
- Our database only supports two types of Animals; Horses and Snakes.
- Every animal must be classified into either a Horse or a Snake.
- There cannot be an Animal that is both horse and snake.
- Our database supports two types of Profiles; Guest and Admin.
- Every profile must be classified as either an Admin or Guest.
- There cannot be a Profile that is both a Guest and an Admin.

Relationships
- Multiple Guests may make multiple inquiries about multiple Animals.
- Multiple Guests may make multiple donations to multiple Animals.
- A Guest may adopt multiple Animals.
- An Animal may not be adopted by more than one Guest.
- Multiple Guests can like multiple Animals.
- Multiple Admins can answer multiple Inquiries about multiple Animals.
- An Admin may approve multiple Adoptions.
- An Adoption may not be approved by more than 1 admin.