

CSE 3330 - 001
Database Systems and File Structures

Spring 2019

ANIMAL SHELTER DATABASE

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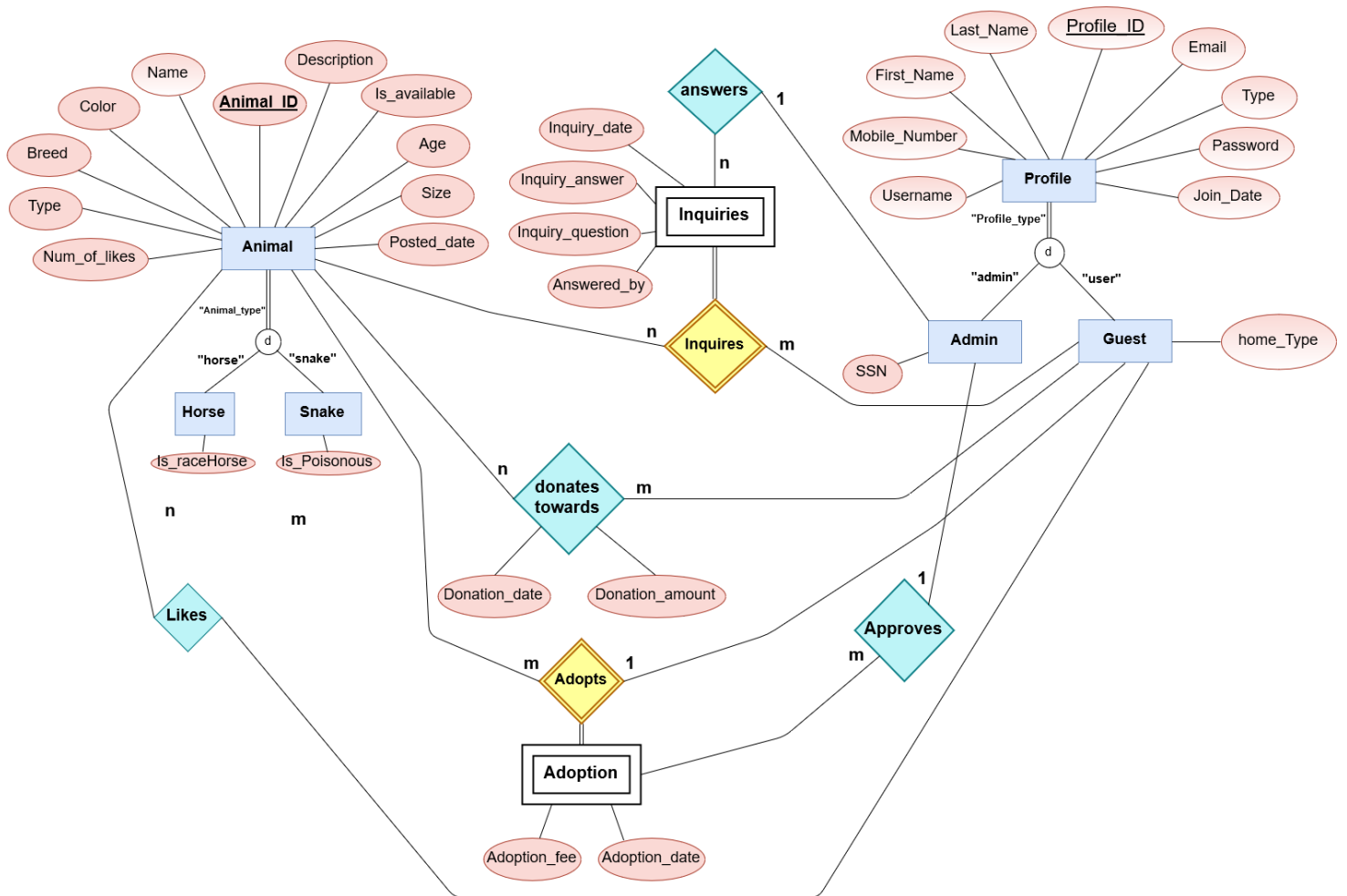
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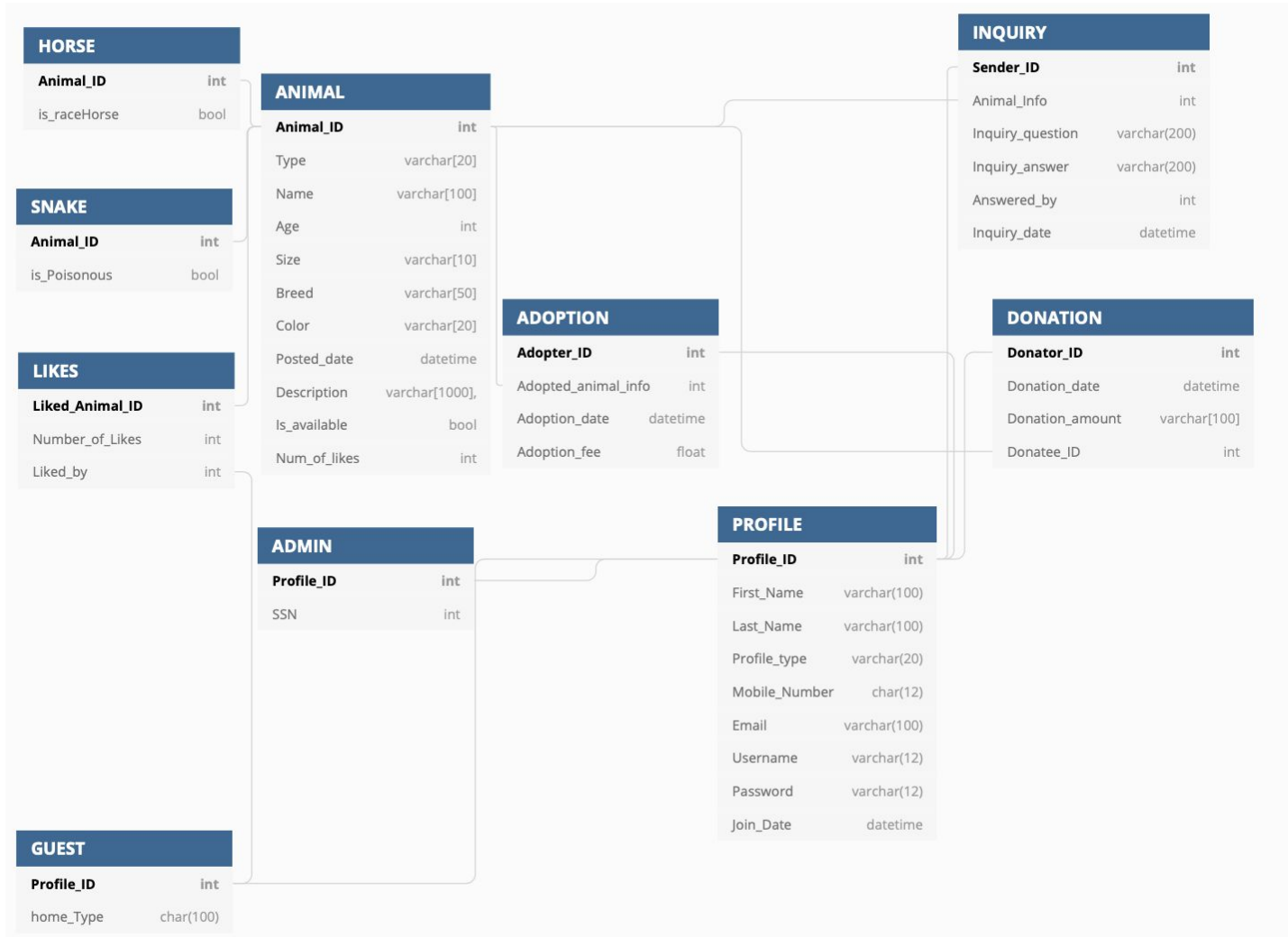
Date: April 10, 2019

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Part 1: EER Schema Diagram



Part 2: Relational Database Schema



CREATE Table Statements:

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

```
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)  
);
```

```
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)  
);
```

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

```
    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,
```

```
        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.