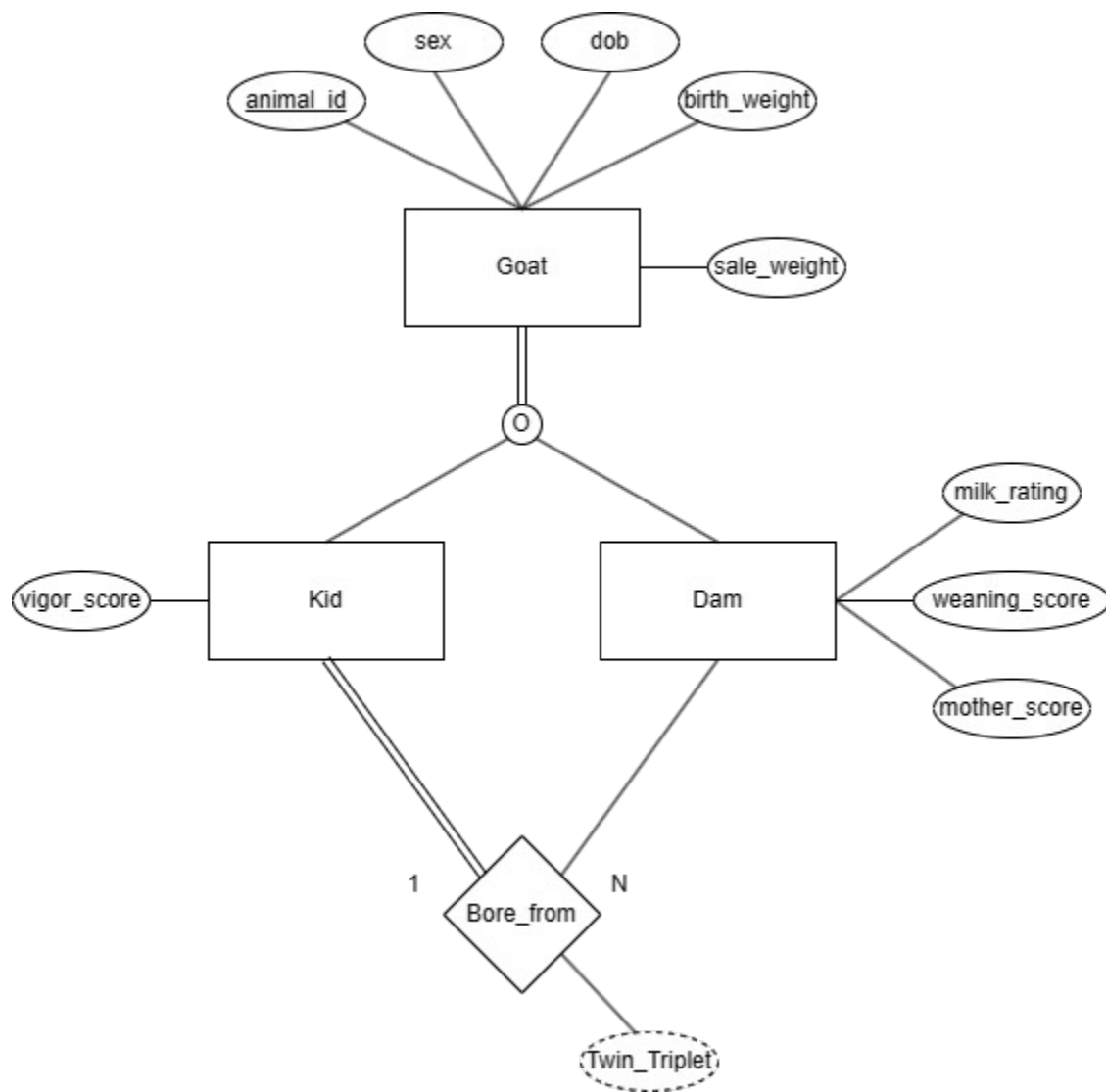
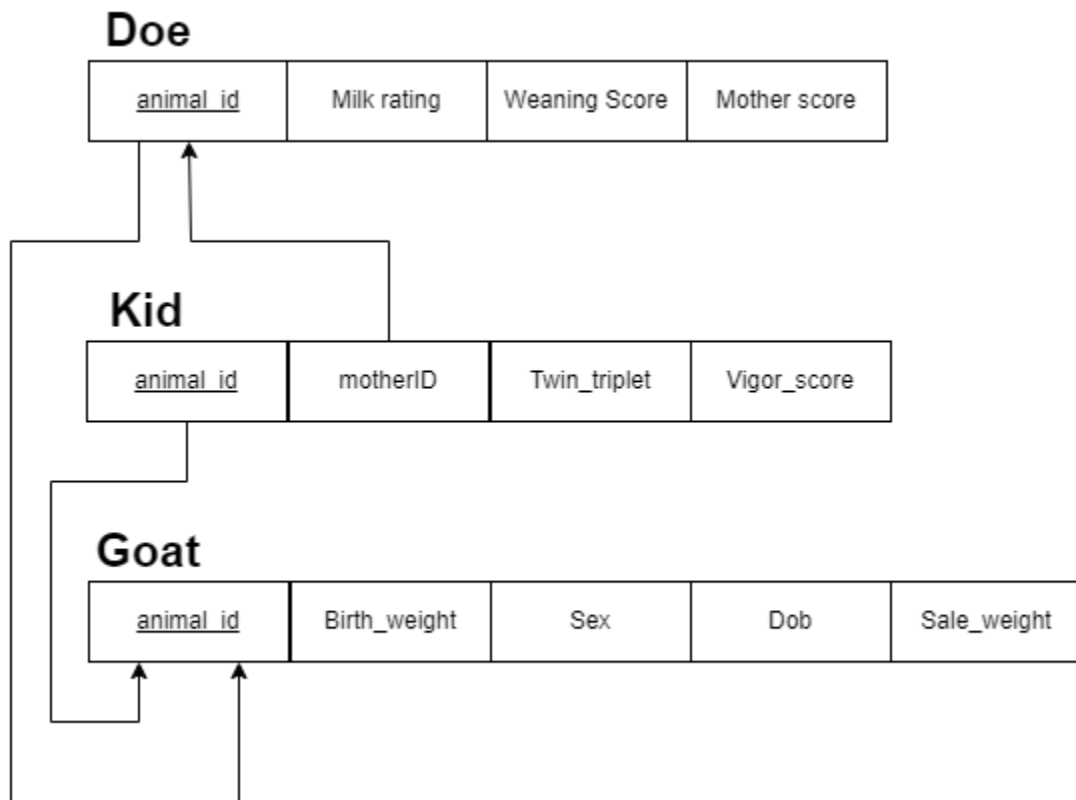


milPatrick Schaeffer, Nick Valentino, Kayley Harnett
EER Diagram



Relational Schema



Estimation

Estimated Size Doe Score

$(8383 \text{ goats} * 32 \text{ bits}(10 \text{ int values})) + 8\text{bits}(8383 * 1\text{char value}) = 2682560 + 67064 = 2749624\text{bits} = \mathbf{343.7kb}$

Estimated Size of Astrology

$(8383 \text{ goats} * 32 \text{ bits} (3 \text{ int values})) + 32 \text{ bits} (8383 \text{ goats} * 1 \text{ string value}) = 804768 + 268256 = 1073024 \text{ bits} = \mathbf{134.128kb}$

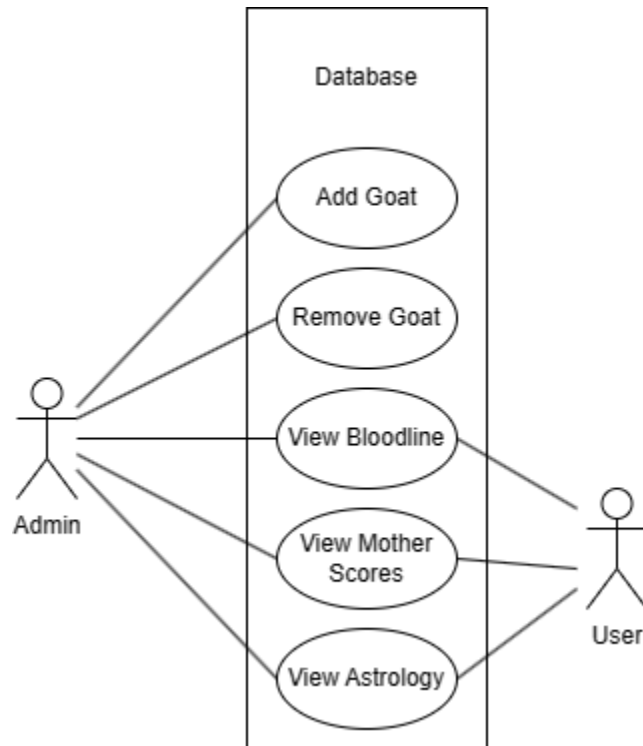
Estimated Amount of Queries for Doe Score

3 Queries

Estimated Amount of Queries for Astrology

1 Query

UML Use Case Diagram



Textual Use Cases

Use case: Display Bloodline

1. User successfully logs into the system
2. User has correct permissions to view and sort charts
3. User navigates to the landing page
4. System displays a basic ranking graph of the herd
5. User selects a specific goat
6. System displays the bloodline of the selected goat

Use Case: Sort Table

1. User logs in
2. User requests a table (Point-rating or Astrology)
3. User will answer if they would like to specify precedence
4. System loads table
- 3a. User declines
Go to 4
- 3b. User Accepts
 - 3b.1. Specify 1st variable precedence
 - 3b.2. User will answer if they would like to specify subsequent precedence
 - 3b.2.1. Specify next variable
 - 3b.2.2. Return to 3 - b

Use Case: Add Goat

1. User logs in with admin account
2. User requests to see the database tables
3. System loads table
4. User selects button to add goat to database
5. User enters the relevant animal ID, sex, DOB, birth weight, etc
6. The system saves the goat's information and adds it to the database

Use Case: Remove Goat

1. User logs in as Admin
2. User enters animal_id to be removed
3. Choose between Set Null and Cascade
4. Asked to verify their choice
5. System executes command

Reasoning

Using the data, we can explore which goats are the most effective mothers, and which should not be used for breeding. Because goats are animals that cannot be supervised 100 percent of the time, it follows that not every kid will make it to adulthood. Poorer mothers may lose kids at a higher rate, and without a rating to be able to easily separate the good from the bad, it is possible that bad mothers will re-enter the breeding pool, continuing to produce subpar kids. Consistently utilizing goats that are better mothers will produce healthier offspring, and will increase the size of the herd more efficiently than breeding goats with lower mothering scores. This will allow for the American Range Goat to become a healthier and more viable species overall, and will improve the likelihood of buyers and investors working with Silvie's Valley Ranch.