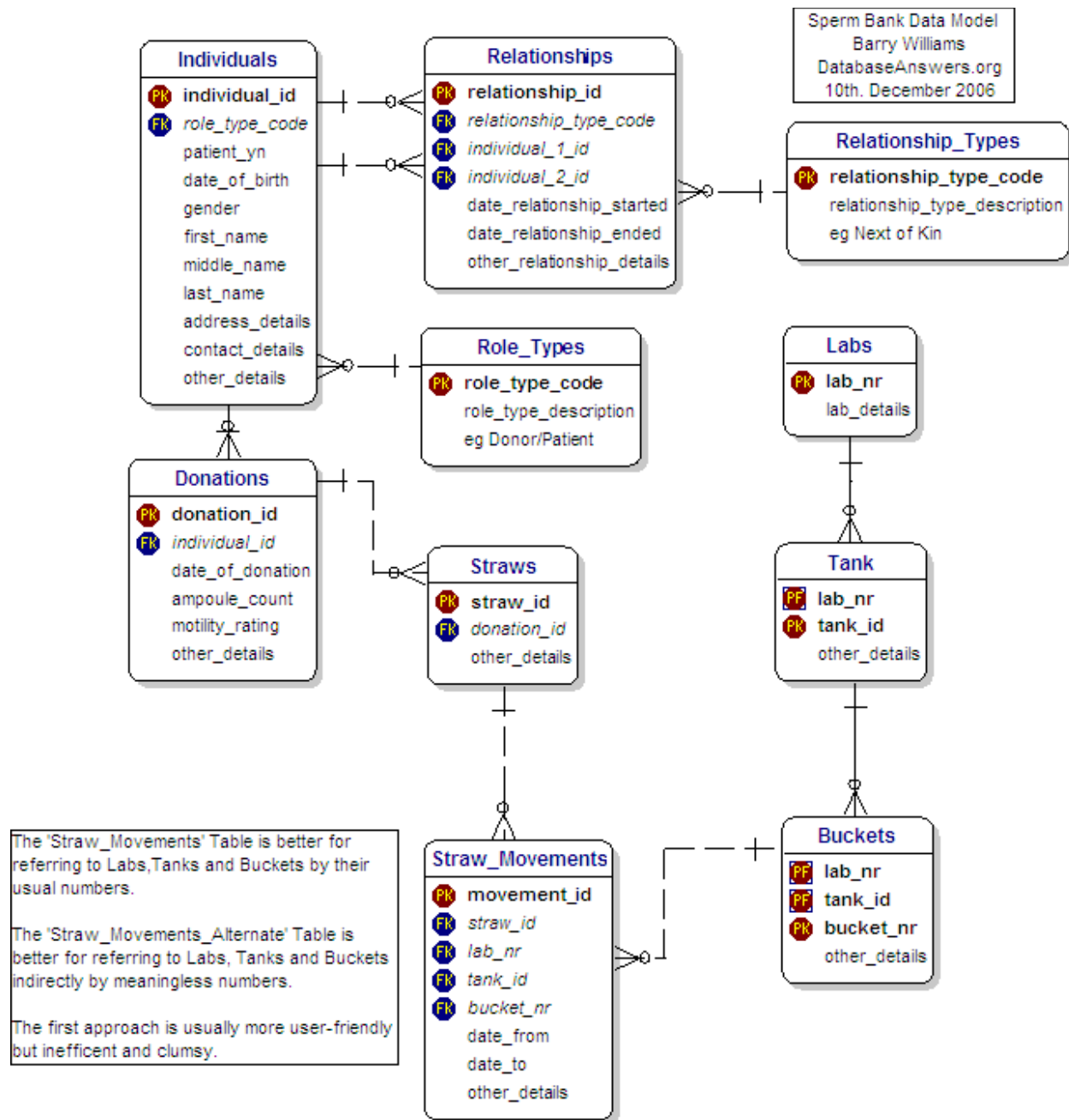


DATA MODEL & ANALYSIS

data model: https://fordnox.github.io/databaseanswers/data_models/sperm_banks/index.htm

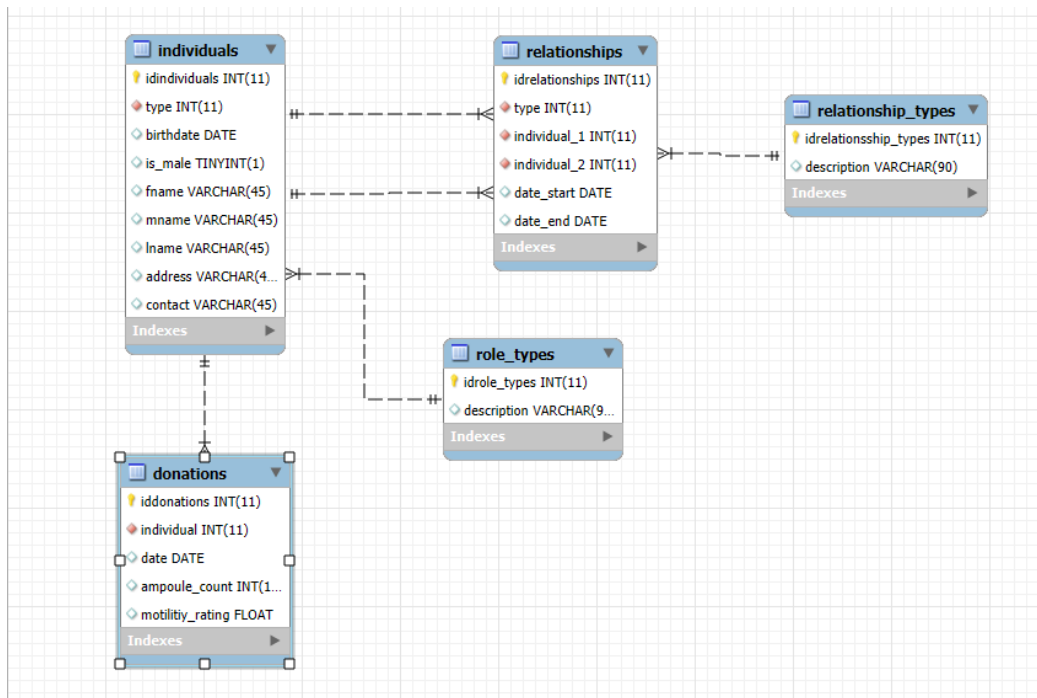


This system offers a robust framework for managing sperm bank operations, with careful attention to efficiency, traceability, and scalability.

ORIGINAL SCOPE & KEY COMPONENTS

1. **Individuals** - Store personal details about all people involved in the system, including donors, patients, and others.
 - Personal details.
 - Specifies whether the individual is a donor, patient, etc.
 - Indicates if the individual is a patient.
2. **Donations** - Record data about sperm donations.
 - Links donations to donors.
 - Other fields to track the donation date, motility rating, and ampoule count.
3. **Relationships** - Manage relationships between individuals.
 - Describes the relationship type, such as next of kin.
 - Define the two individuals in the relationship.
 - Dates to track when the relationship started and ended.
4. **Role Types** - Define roles individuals play in the system.
 - Description of the role.
5. **Labs** - Manage laboratory-specific data.
 - Indicates the lab's specific focus.
 - Date when the lab received a donation.
6. **Straws** - Track individual storage units of sperm (straws).
 - Links the straw to its corresponding donation.
 - Details about storage.
7. **Tanks** - Organize storage tanks where straws are kept.
 - Links to straws and lab data for efficient tracking.
8. **Straw Movements** - Track movements of straws between tanks, labs, and buckets.
 - Links to labs, tanks, and buckets.
 - Tracks the time period and movement details.
9. **Buckets** - Additional layer of organization within tanks.
 - Links to tank and lab.

MINIMIZED SCOPE - ESSENTIAL FEATURES ONLY



1. Individuals

- idindividuals
- type [FK]
- birthdate
- is_male (1 = Male, 0 = Female)
- fname
- mname
- lname
- address
- contact

2. Donations

- iddonations
- individual [FK]
- date
- ampoule_count
- motility_rating

3. Relationships

- idrelationships
- type [FK]
- individual_1 [FK]
- individual_2 [FK]
- date_start
- date_end

4. **Role Types**

- idrole_types
- description

5. **Relationship Types**

- idrelationship_types
- description

Simplified System:

- 5 core tables: Individuals, Donations, Relationships, Role Types, Relationship Types.
- Direct relationships between individuals and their roles, donations, and relationships.
- Focused on core data elements for efficiency and clarity.

Example User Stories (Simplified)

1. **As a Donor:**

- "I want to record my donation details, including ampoule count and motility rating."

2. **As a Patient:**

- "I want to track my relationships, such as next of kin or partner."

3. **As an Administrator:**

- "I want to view all donations linked to specific donors and their relationships."