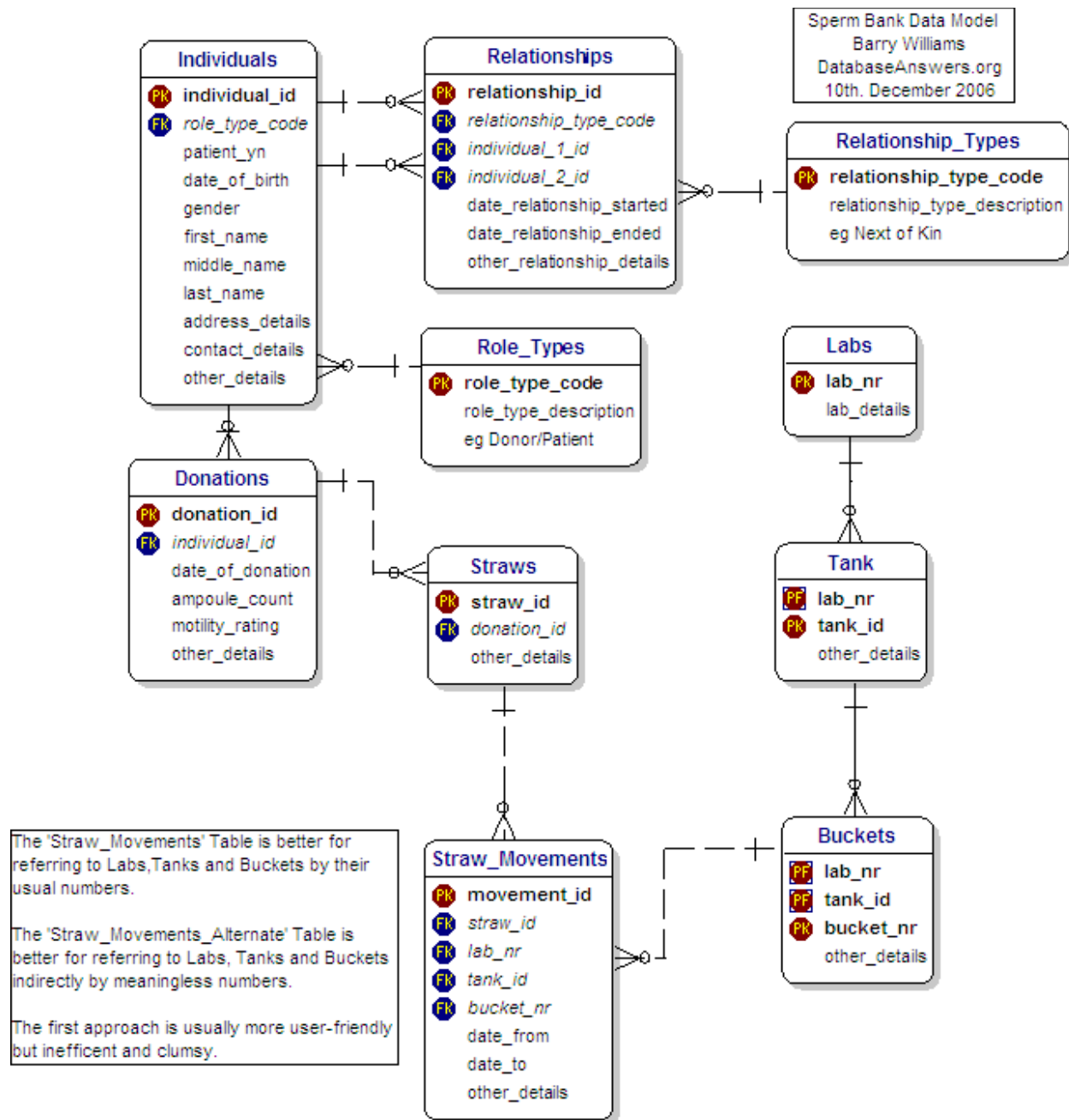


## DATA MODEL & ANALYSIS

data model: [https://fordnox.github.io/databaseanswers/data\\_models/sperm\\_banks/index.htm](https://fordnox.github.io/databaseanswers/data_models/sperm_banks/index.htm)

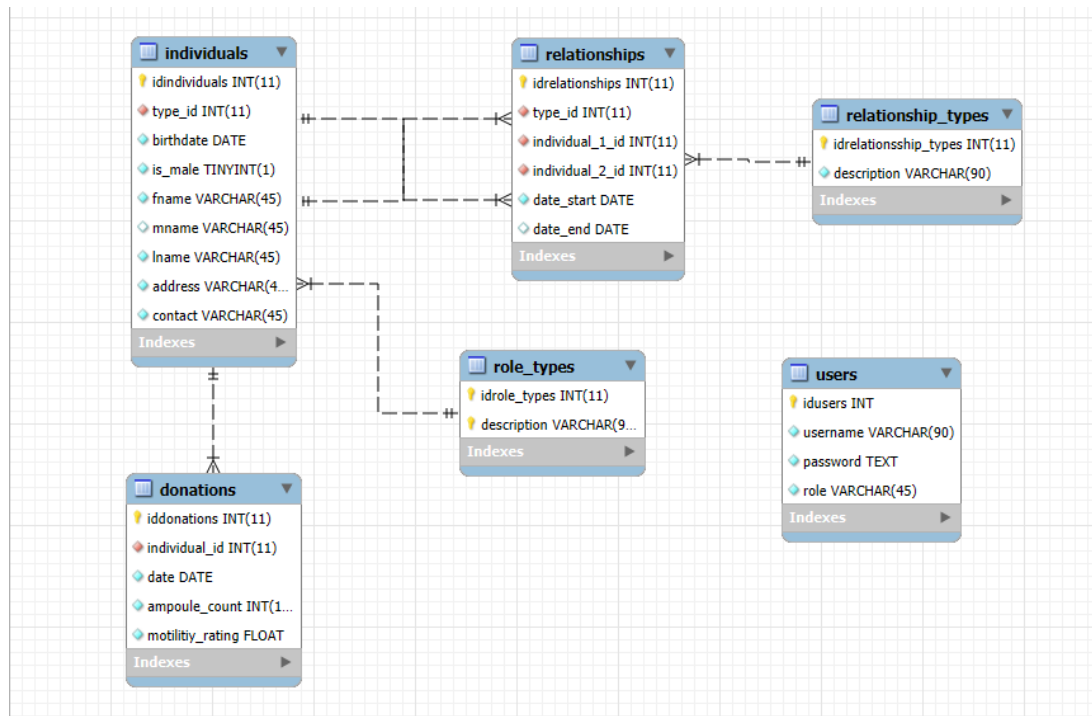


This system offers a robust framework for managing sperm bank operations, with careful attention to efficiency, traceability, and scalability.

## 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

### 6. Users

- idusers
- username
- password
- role

## 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."