**ER Diagram Description - FarmHub System**

**Farm**

* **Attributes**: id (PK), name, location, created\_at
* **Relationships**:
  + Has many Farmers
  + Managed by one Agent, Admin

**Farmer**

* **Attributes**: id (PK), user\_id (FK), farm\_id (FK), name, phone
* **Relationships**:
  + Belongs to one Farm
  + Owns many Cows
  + Is a User (through user\_id)

**Cow**

* **Attributes**: id (PK), farmer\_id (FK), tag\_number, birth\_date
* **Relationships**:
  + Belongs to one Farmer
  + Has many MilkRecords
  + Has many Activities

**MilkRecord**

* **Attributes**: id (PK), cow\_id (FK), date, liters, notes
* **Relationships**:
  + Belongs to one Cow

**Activity**

* **Attributes**: id (PK), cow\_id (FK), type, date, description
* **Relationships**:
  + Belongs to one Cow

**User**

* **Attributes**: id (PK), email, password, role
* **Relationships**:
  + Can be an Admin, Agent, or Farmer
  + If Agent, manages Farms, Farmers
  + If Farmer, owns Cows

This diagram shows a hierarchical structure where:

* Admins oversee everything
* Agents manage farms, farmers
* Farmers belong to farms and manage their cows
* Cows have milk records and activities

The system maintains data integrity through foreign key relationships while supporting the role-based access requirements of the FarmHub platform.