Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

Project Name : **Livestock Management**

Couse Name: Database Lab
Couse ID: CSE 3104
Semester : FALL 2018

Student ID :	**Student Name**
160204039	Rashedun Nobi Chowdhury
160204048	Sujoy Chowdhury

Introduction: The project is on livestock management. Here, we've focused on a project that can be implemented on a specific district and to manage the livestock of the specific place

Motivation and Objective: Currently there aren't many good livestock management software in Bangladesh, we are trying to address that issue with our software. The software offers a system where we can have 3 different type of users, and we will allow them an immersive experience throughout the software. Each user when logged in will have different UI and all the data will be specified just for him so that there is not any redundancy. We are hoping this software will allow the District Livestock Officer to better manage the livestock of their districts.

Database Tables:

Table 01: Admin Table

Field	Type	Constrain
Username	varchar(30)	UNIQUE NOT NULL
Password	varchar(64)	Not Null
Usertype	varchar(30)	Not Null
Token	Int	P.K(IS: 310472)

Table 02: Owner Table

Field	Type	Constrain
OwnerId	int	P.K(IS: 5001)
Token	Int	F.K(Admin)
Name	varchar(50)	Not Null
Address	varchar(100)	Not Null
Contact No	varchar(11)	Check Like('01%')
Email	varchar(64)	Not Null

Table 03: Farms Table

Field	Type	Constrain
FarmId	int	P.K(IS:1001)
OwnerId	int	F.K(Owner)
Location	varchar(100)	Null
Cows	int	Null
Sheep	int	Null
Goat	int	Null
Group No	int	Null
Rating	Int	Check<11

Table 04: District Livestock Officer Table

Field	Type	Constrain
Contact No	varchar(11)	P.K (Check Like 01%)
Token	int	F.K(Admin)
Name	varchar(50)	Not Null
Address	varchar(100)	Not Null
Email	varchar(64)	Not Null

Table 05: Doctor Table

Field	Type	Constrain
Doctor Id	int	P.K(IS:9001)
Name	varchar(50)	Not Null
Contact No	varchar(11)	(Check Like 01%)
Qualification	varchar(100)	Null
Assigned Group	int	Null
Expertise	varchar(20)	Null

Table 06: Caretaker Table:

Field	Type	Constrain
Caretaker Id	Int	P.K(IS:3001)
Token	int	F.K(Admin)
FarmId	int	F.K(Farms)
Name	varchar(50)	Not Null
Contact No	varchar(11)	(Check Like 01%)
Email	varchar(64)	Not Null
Address	varchar(100)	Not Null

Table 07: Animal

Field	Type	Constrain
AnimalId	int	P.K(IS:10001)
FarmId	Int	F.K(Farms)
Animal Type	varchar(25)	Not Null
Age	int	Not Null
Required Medicine	varchar(100)	Null
Gender	varchar(7)	Not Null
Weight	int	Null
Food Amount	decimal(10,2)	Null

Query Tables Construction

```
CREATE TABLE Admin(
	Username varchar(30) UNIQUE NOT NULL,
	Password varchar(64) NOT NULL,
	UserType varchar(30) NOT NULL,
	Token int IDENTITY(310472,1) PRIMARY KEY
)
```

```
CREATE TABLE Owner(
	OwnerId int IDENTITY(5001,1) PRIMARY KEY,
	Token int FOREIGN KEY REFERENCES Admin(Token),
	Name varchar(50) NOT NULL,
	Address varchar(100) NOT NULL,
	ContactNo varchar(11) NOT NULL CHECK (ContactNo LIKE ('01%')),
	Email varchar(64) NOT NULL
)
```

```
CREATE TABLE Farms(
	FarmId int IDENTITY(1001,1) PRIMARY KEY,
	OwnerId int FOREIGN KEY REFERENCES Owner(OwnerId),
	Cows int NULL,
	Sheep int NULL,
	Goats int NULL,
	GroupNo int NULL,
	Rating int NULL CHECK(Rating<11),
	Location varchar(100) NULL
)
```

```
CREATE TABLE DistrictLivestockOfficer(
	ContactNo varchar(11) PRIMARY KEY CHECK (ContactNo LIKE ('01%')),
	Token int FOREIGN KEY REFERENCES Admin(Token),
	Name varchar(50) NOT NULL,
	Address varchar(100) NOT NULL,
	Email varchar(64) NOT NULL
);
```

```
CREATE TABLE Doctor(
	DoctorId int IDENTITY(9001,1) PRIMARY KEY,
	Name varchar(50) NOT NULL,
	ContactNo varchar(11) NOT NULL CHECK (ContactNo LIKE ('01%')),
	Qualification varchar(100) NULL,
	AssignedGroup int NULL,
	Experties varchar(20)
)



CREATE TABLE Caretaker(
	CaretakerId int IDENTITY(3001,1) PRIMARY KEY,
	Name varchar(50) NOT NULL,
	ContactNo varchar(11) NOT NULL CHECK (ContactNo LIKE ('01%')),
	Email varchar(50) NOT NULL,
	Address varchar(50) NOT NULL,
	FarmId int FOREIGN KEY REFERENCES Farms(FarmId),
	Token int FOREIGN KEY REFERENCES  Admin(Token)
)



CREATE TABLE Animal(
	AnimalId int IDENTITY(10001,1) PRIMARY KEY,
	FarmId int FOREIGN KEY REFERENCES Farms(FarmId),
	AnimalType varchar(25),
	Age int NOT NULL,    --in months
	RequiredMedicine varchar(100) NULL,
	FoodAmount decimal(10,2) NULL,  --in grams
	Gender varchar(7) NOT NULL,
	Weight int NULL                 --in kg
	)
```

Query Insertion of Data

Doctor Table:

```
INSERT INTO Doctor(Name, ContactNo, Qualification, Experties)
VALUES('Dr Tuna', '01817091221','MBBS', 'Cows')

INSERT INTO Doctor(Name, ContactNo, Qualification, Experties)
VALUES('Dr Farhana', '01927091441','Paramedical', 'Cows')

INSERT INTO Doctor(Name, ContactNo, Qualification, Experties)
VALUES('Dr Tirtho', '01819462341','MBBS', 'Sheep')

INSERT INTO Doctor(Name, ContactNo, Qualification, Experties)
VALUES('Dr Xia', '01617053482','MBBS', 'Cows')

INSERT INTO Doctor(Name, ContactNo, Qualification, Experties)
VALUES('Dr Zahin', '01517685137','Paramedical', 'Goats')
```

Animal Table:

```
INSERT INTO Animal VALUES(1001,'Cow', 9, 'none', 250, 'Male', 10)
```

Farms Table:

```
INSERT INTO Farms (OwnerId, Location) VALUES (5004, 'birulia')

INSERT INTO Farms (OwnerId, Location) VALUES (5004, 'chittagong')
```

Query for Value Update:

Update Query:

Farms Table:

```
UPDATE FARMS SET Cows = 2 WHERE farmId = 1001
UPDATE FARMS SET goats = 1 WHERE farmId = 1001
UPDATE FARMS SET sheep = 1 where farmId = 1001


UPDATE Farms SET GroupNo = 1 WHERE FarmId = 1001
UPDATE Farms SET Rating = 8 WHERE FarmId = 1001

UPDATE Farms SET Location = 'Beribadh' where farmId = 1001
```

Caretaker Table:

```
UPDATE Caretaker SET FarmId=1002 WHERE CaretakerId = 3002
```

Doctor Table:

```
UPDATE Doctor SET AssignedGroup = 1 WHERE DoctorId = 9001
```

Select Query:

SELECT * FROM Farms

Selection with Condition:

SELECT * FROM Animal WHERE FarmId = 1001

SELECT * FROM Animal WHERE FarmId = 1001 AND AnimalType ='COW'
SELECT * FROM Animal WHERE FarmId = 1001 AND AnimalType ='GOAT'
SELECT * FROM Animal WHERE FarmId = 1001 AND AnimalType ='SHEEP'

SELECT * FROM Caretaker WHERE FarmId IS NULL

SELECT FarmId FROM Farms where OwnerId = 5003
SELECT * FROM Farms WHERE OwnerId = 5003

SELECT * FROM Farms WHERE GroupNo = 1

SELECT * FROM Admin WHERE Username = 'malihachy'

SELECT * FROM Owner WHERE Token = 310473
SELECT * FROM Caretaker WHERE Token = 310472
SELECT * FROM DistrictLivestockOfficer WHERE Token = 310475

Selection with Order By:

SELECT * FROM Farms ORDER BY Rating DESC
SELECT * FROM Farms ORDER BY Location

Query for Aggregate functions:

```
SELECT AnimalType, COUNT(AnimalId) AS 'Number'
FROM Animal WHERE FarmId = 1001
GROUP BY AnimalType
```

Query for the Join Operation:

```
SELECT Farms.FarmId, Owner.Name, Owner.ContactNo, Farms.Rating
FROM Farms INNER JOIN Owner
ON Farms.OwnerId = Owner.OwnerId
```

Query used by the form of sub query:

```
SELECT * FROM Doctor
WHERE AssignedGroup =  (SELECT GroupNo FROM Farms WHERE FarmId = 1001)
```

```
SELECT * FROM Caretaker
WHERE FarmId IN
(SELECT FarmId FROM FARMS WHERE OwnerId = 5003)
```

ScreenShots of my Project's interface Deisgn:

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Image 01: Welcome Page

Image 02: Log IN Page

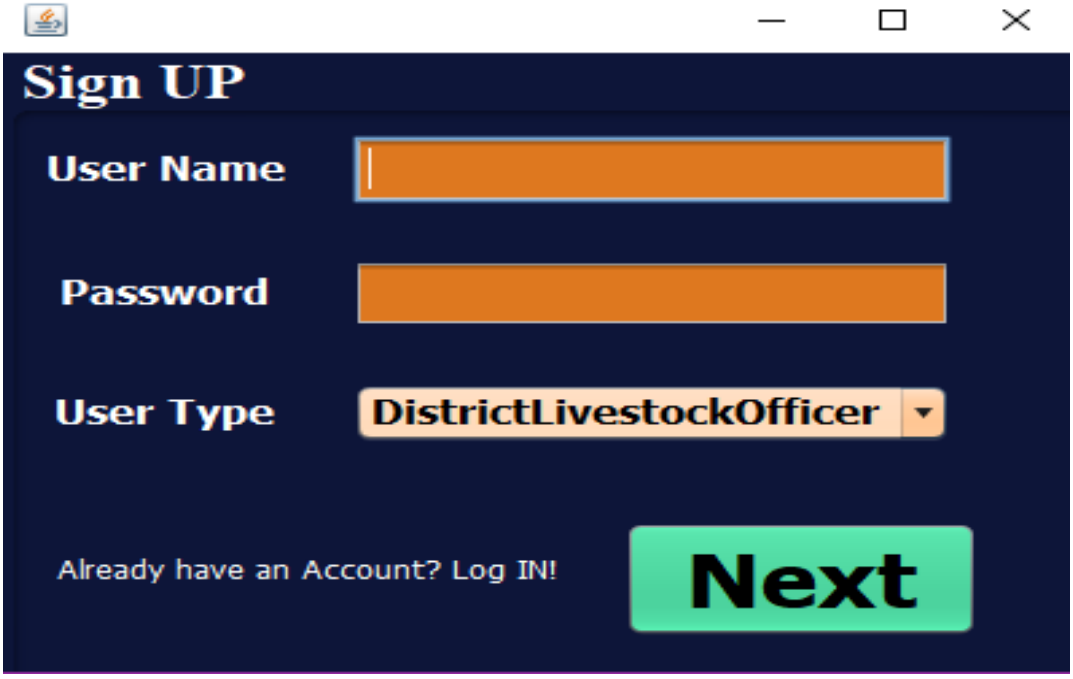


Image 03: Sign Up Page

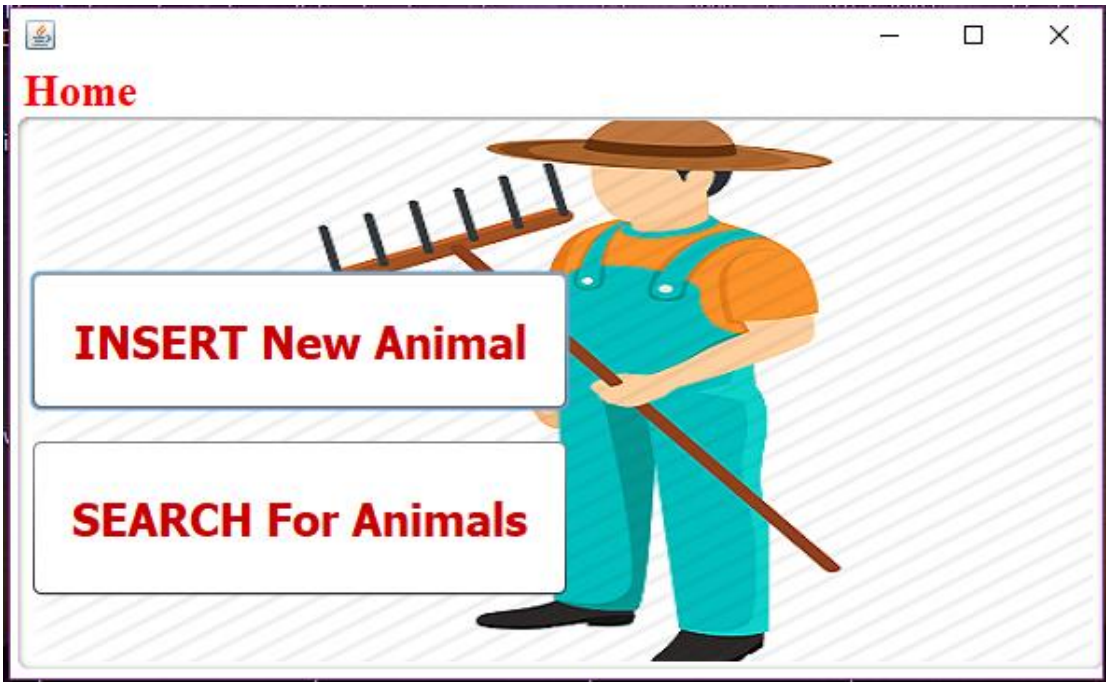


Image 04: Caretaker's Home Page

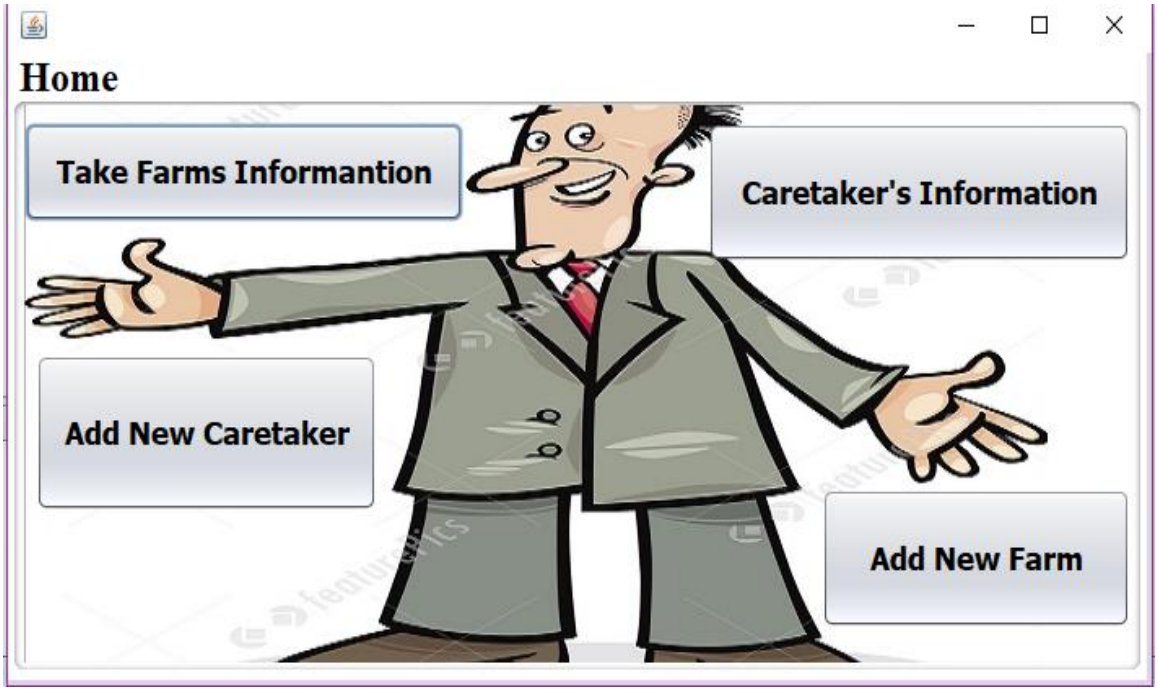


Image 05: Owner's Home Page

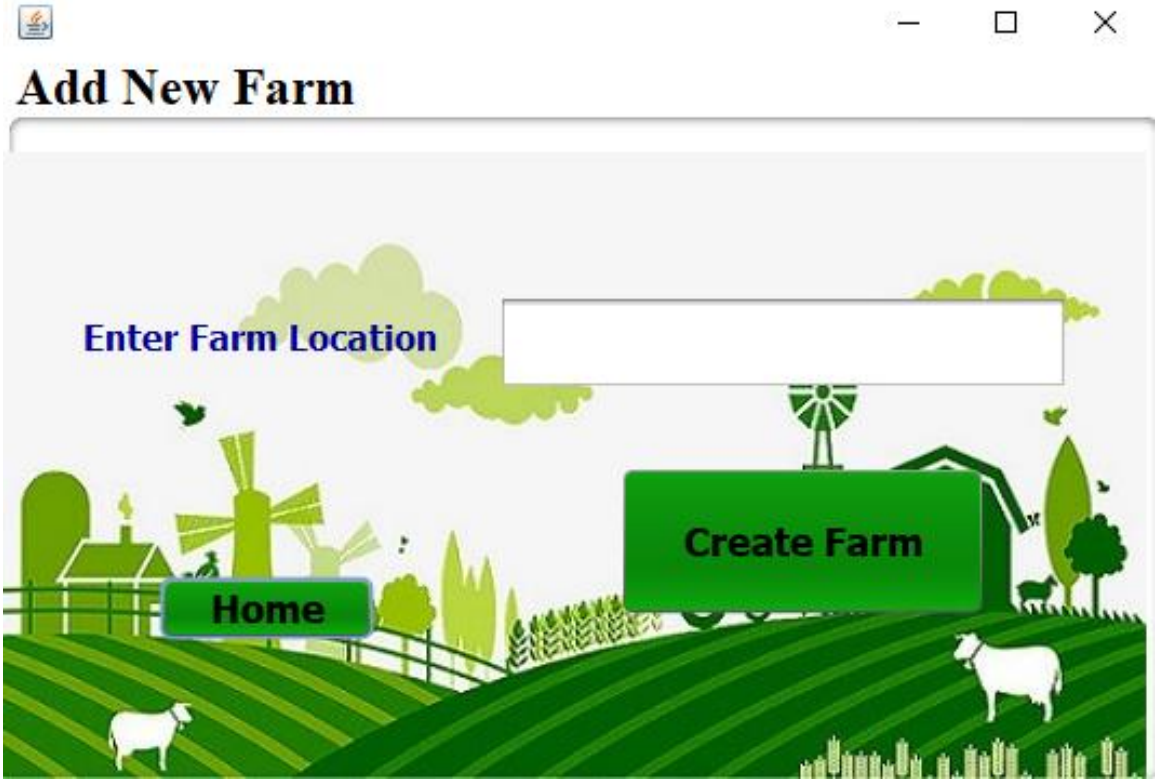
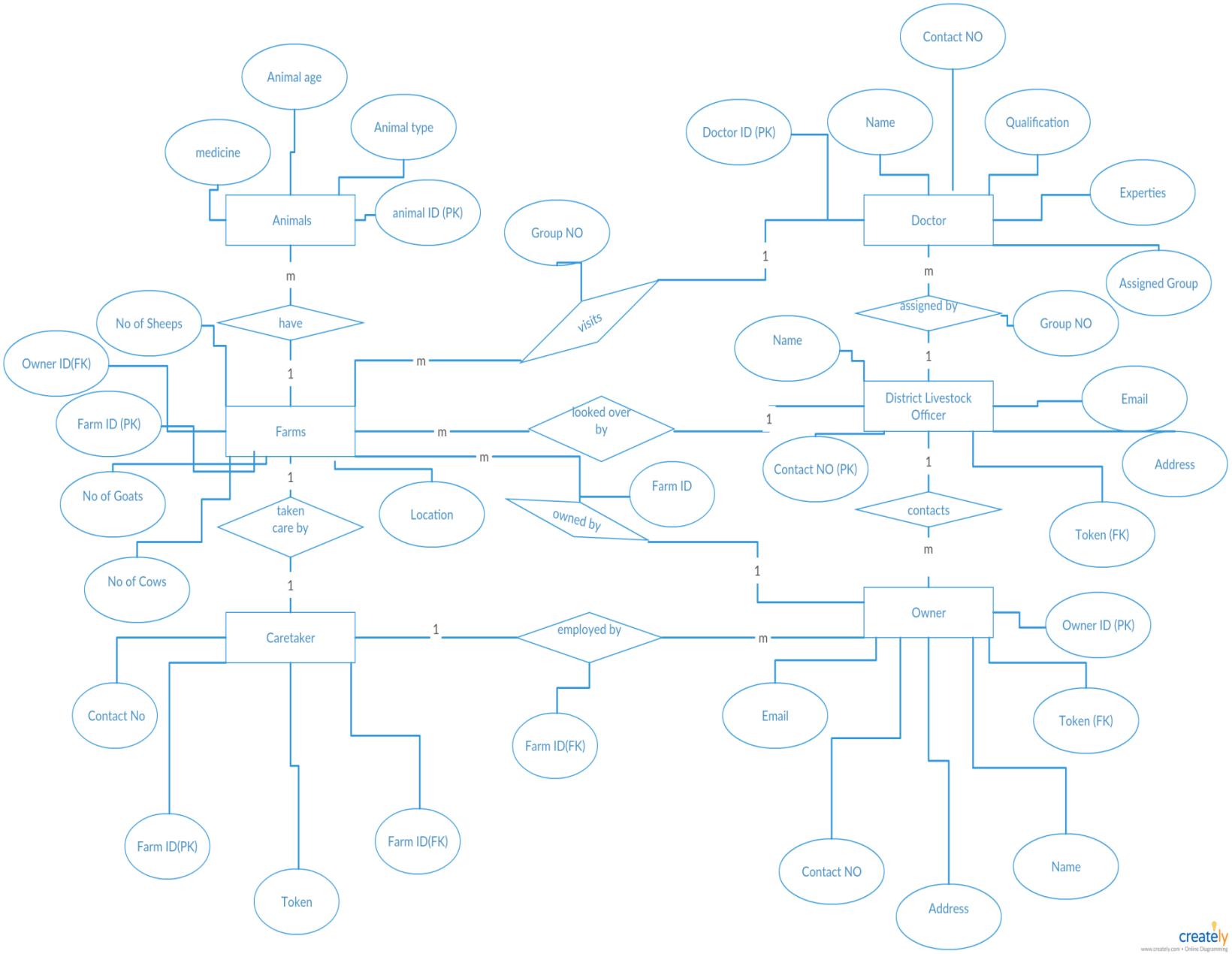


Image 06: Create New Farm Page

Image 07: District LiveStock Officer Home Page

Image 08: Doctor's Information Page

Entity Relationship Diagram:


Animal age
Animal type
medicine
Animals
animal ID (PK)
Group NO
visits
Contact NO
Doctor ID (PK)
Name
Qualification
Experties
Doctor
Assigned Group
assigned by
Group NO
Name
District Livestock Officer
Email
Contact NO (PK)
Address
contacts
Token (FK)
No of Sheeps
have
Owner ID(FK)
Farm ID (PK)
Farms
looked over by
No of Goats
taken care by
Location
owned by
Farm ID
No of Cows
Caretaker
employed by
Owner
Owner ID (PK)
Contact No
Farm ID(PK)
Token
Farm ID(FK)
Farm ID(FK)
Email
Token (FK)
Contact NO
Address
Name
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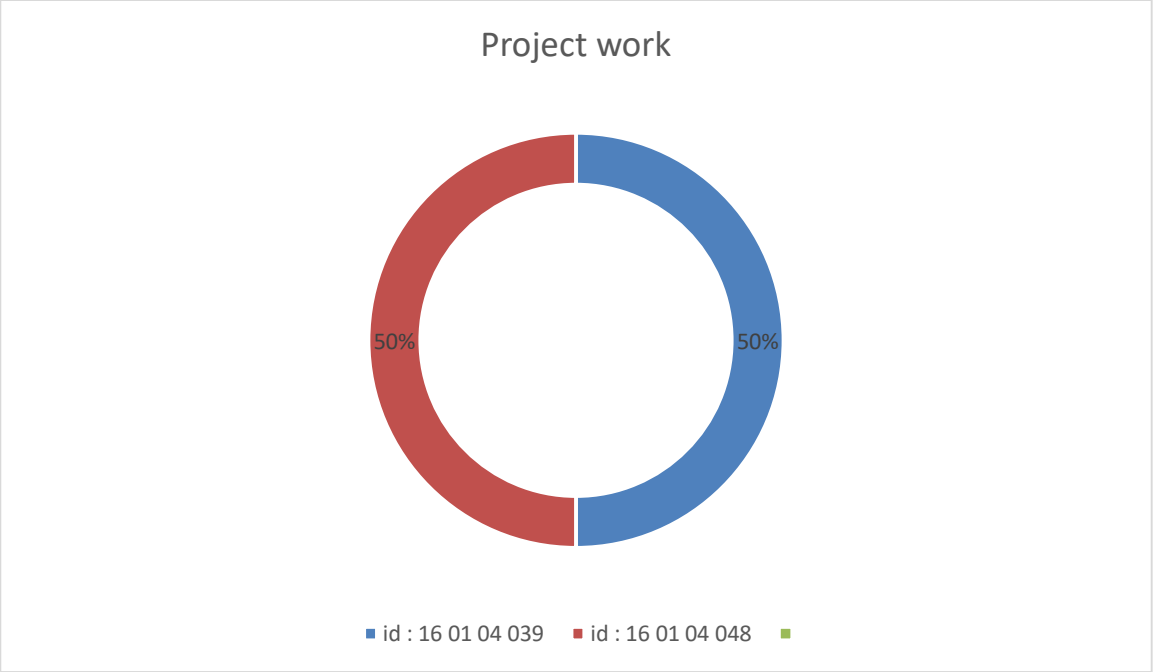
Conclusion:

This software is our first step towards a proper management of the livestock. In future we hope to implement this database system in a such a way where multiple users will be able to use it simultaneously from anywhere. Specially owners where many of them don't live in the rural side of the country. We also hope to better configure the tables so that they are able to meet the needs of users of all 3 categories.

Contribution: