



# BREEDER APP

## Developer Functional Specification Document



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## 1. Requirement Brief:

The breeder will have a mobile and web application where a user would be able to register and manage animal profiles, employees, and keep track of their inventory.

The platform would be on a subscription basis depending upon the number of animals, catering to all kinds of small and large-scale breeders. The employee's breeders would be able to register and manage their accounts.

The employees would have the mobile app to do their task of managing and updating animals using QR code tags.

The web would have two interfaces for Breeder and Admin with different capabilities.

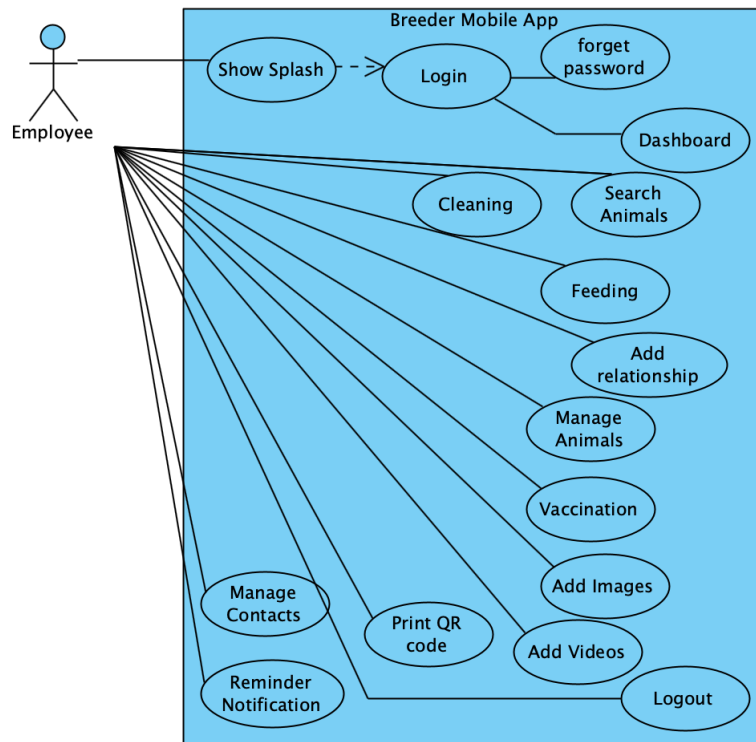
## 2. Breeder System Users

Primarily, there are three users in Breeder. The Breeder itself, Employee, and the Admin. With the following use cases.

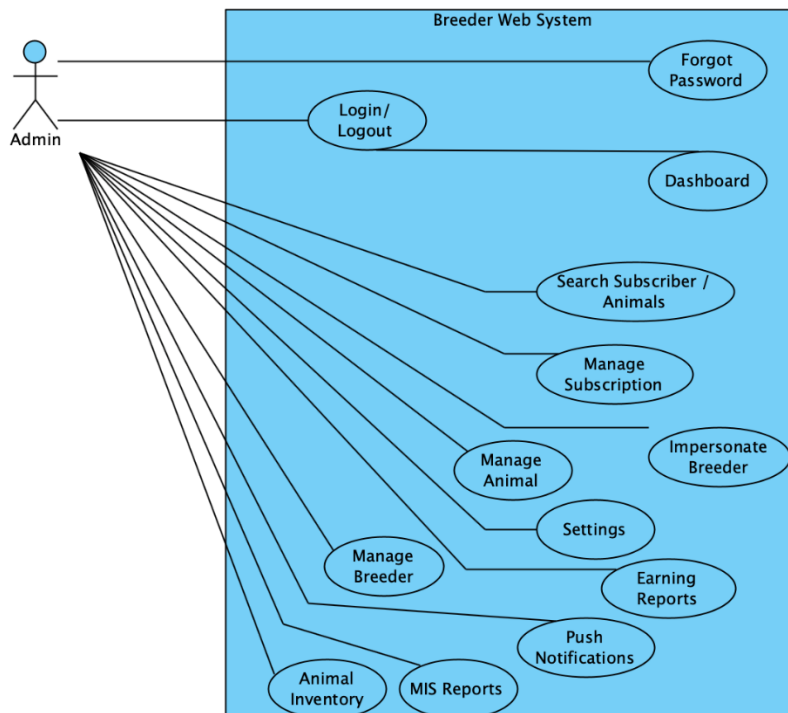
### a. Breeder



### b. Employee



*c. Admin*





### 3. List of Feature Set

#### MOBILE APPLICATION (EMPLOYEE):

1. On Boarding
  - a. Splash
  - b. Signup Via Email
  - c. Login
  - d. Forget Password
  - e. Email Confirmation
2. Home/Landing
  - a. Search Animals
  - b. Add Animals
  - c. Reminders & Notifications
  - d. Animal Counts
  - e. Logout
3. Search Animals
  - a. User will be able to search for animals using the following filters.
    - i. Age
    - ii. Dates
    - iii. Breed Type
    - iv. Sold/Sick/Feeding
    - v. QR Code by Scanning
    - vi. Animal Name
4. Manage Animals
  - a. Add New Animals
  - b. Edit Animals
  - c. View Profile of Animal
  - d. Assign Location of Animal
  - e. Print Labe QR code
  - f. Set Feed of Animal
  - g. Share profile of animal
  - h. Cleaning Schedule
5. Manage locations
  - a. Assign Animals to Location
  - b. Create New Location
  - c. Feeding to Location
  - d. View Location Report of Animal
6. Contact Management
  - a. New Contact
  - b. Edit Existing Contact
  - c. Search Contacts by Email, Mobile and Name
7. Manage Reminder



- a. Take Action on Reminder
- b. Reschedule Reminder
- c. Archive Reminders
- d. History of Reminders

## WEB APPLICATION BREEDER:

1. Authorized Login
2. Settings
  - a. Breed Setup
  - b. Transaction History
  - c. Subscription Management
    - Select Subscription
    - Make Payment using PayPal or Credit Card
    - Upgrade/Downgrade Subscription.
  - d. Company Setup
    - Edit Business Profile
    - Add Locations
    - Connect Social Accounts
3. Form Management
  - a. Select a Form to Use
  - b. Edit Pre-defined Forms
4. Animal Management
  - a. Register Animal
  - b. List Animals
  - c. Search Animals
    - By Breed
    - By Age
    - By Date
    - By Location
    - Animal ID
  - d. Could Move Animals to Different Location
  - e. *Schedule Feeding*
  - f. *Schedule Vaccination*
  - g. *Schedule Cleaning*
5. Employee Management
  - a. Add/Delete/Edit Employees
  - b. Reset Password
  - c. Access Rights
  - d. Enable/Disable Printing Feature
  - e. Assign Animals
  - f. Assign Cleaning Tasks
6. Inventory View



- a. List of Animals
- b. List with Animals with Employees Grouping
- c. Purchased Animals
- d. Search by
  - Breed
  - Species
  - Dead
  - Alive
  - Borrowed
  - Sold

#### Purchased

#### WEB APPLICATION ADMIN:

- 8. Authorized Login
- 9. Dashboard
  - a. Menu
  - b. The main screen shows the following
    - i. Earnings
    - ii. Animal Quantity
    - iii. Staff Performance
    - iv. Locations
- 10. Subscriber Management
  - a. View Subscriber
  - b. Breeder Inventory/Staff
  - c. Modify Subscriptions
- 11. Forms Management
  - a. Customized Default Forms
  - b. Create New Form
  - c. Manage Categories
- 12. Manage Animals
  - a. Could View Animals
  - b. Edit/Update/Delete any Animal Profile
- 13. Earnings
  - a. Could View all Sales
  - b. View Future Forecast
  - c. Search Sales By;
    - i. Breeder
    - ii. Date
    - iii. Payment Methods
- 14. Search
  - a. Search Animals By;
    - i. Breed
    - ii. Type
    - iii. Age



- iv. Breeder
    - v. Keyword search
    - vi. Name
    - vii. Animal ID
    - viii. QR code uploading
  - b. Search Breeders By;
    - i. Name
    - ii. Email
    - iii. Subscriptions
  - c. Search Employees By;
    - i. Name
    - ii. Email Address
- 15. MIS Reports
  - a. Graphical Report - One Page
  - b. Insights for Decision Making
- 16. Push Notification Management
  - a. Send Notification to Selected Breeder
  - b. Send Notifications to All
  - c. Check Notifications
  - d. Sent Notifications for Subscription List
- 17. Settings
  - a. Change Password
  - b. Change Email
  - c. Edit Privacy Policy Page
  - d. Edit Terms & Conditions Page
  - e. Change Home Page Content

## 4. FUNCTIONAL SPECIFICATIONS:

Following is the detail specification for the mobile and web application for general users.

### PORTAL FOR BUSINESS OWNER(BREEDER)

Following is the detail specification for the mobile and web application for general users.



## • Home Landing Page

This page would have some content and a few slides that are editable by the admin using the Admin Panel and setting option, to explain Breeder Management System.

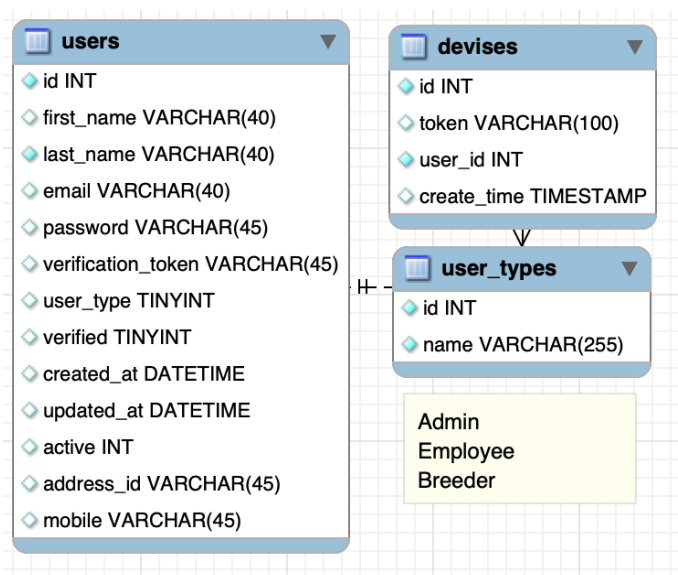
## Signup Page

This page allows a user to sign up as a Breeder. After the signup, the user will get a confirmation email, and upon clicking on the link, the user can easily log in to the system.

The required fields for user signup are;

- First Name
- Last Name
- Email Address
- Password - One digit and eight characters
- Password Confirmation
- Mobile – Validating US mobile number

The following is a class diagram for the user and devises.



For push notification, another table is required, so the user could log in from multiple places. JWT token should be saved for later verification.

## • Login Page

After signup, the user could log in using this page. The required fields are;

- Email Address



- Password – Hidden with an option to view after text input.

If in case the user's email is not verified, he will get a message that he couldn't log in, and nothing will be accessible to him.

After successful login, he will see a welcome message and also instructions to set up his company.

## • Dashboard Page

After login, the user will be redirected to dashboard showing key stats, such as inventory, sales, upcoming payments, etc. by customizable date range. Users would also be able to navigate to the following sections of the app:

- Manage Animals
- Employee Management
- Inventory View
- Subscription Management
- Business Profile
- Manage Form

## • Manage Animals

### a. View Animals

On this window a list of animals will be visible with edit/delete option and add a new animal option. List view – A tabular view with buttons Edit – Delete, and sorting columns. At the end of the window will be a button to add a new animal and would be paginated.

Id	Name	Category	Location	Age	Gender	Acquired	qr_code	Employee	Tag				
1	South Buffalo	Cattle	Farm one	5	Female	Raise	generated	John	metal	EDIT	DELETE	MOVE	SALE
2	Show purchased Buffalo	Cattle	Farm Build three	6	Female	Purchased	generated	Michael	Leather	EDIT	DELETE	MOVE	SALE

### b. Register Animal

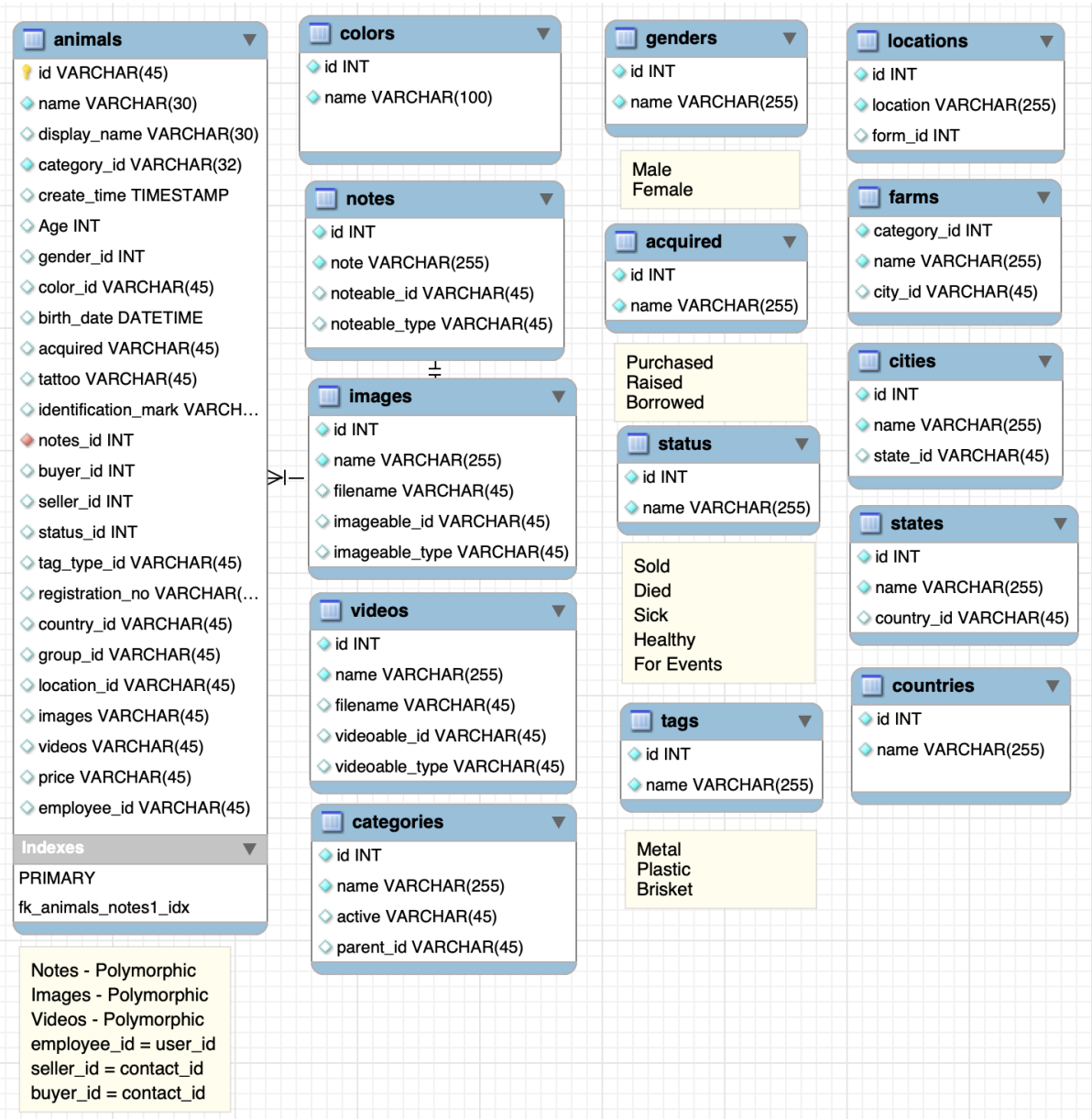
- The above screen will give a form to create a new animal with the following fields.

- Display Name - Required
- Name - Required
- Category – Required
- Age – Optional
- Gender – Optional
- Colour – Required
- Birth Date - Optional
- Acquired (Purchased, Raised, Borrowed) - Required
- Tattoo – Optional
- Identification Mark - Optional
- Notes - Optional



- Buyer - Optional
- Seller - Optional
- Status (Sold, Died, Sick, Healthy, for Events) - Required
- Description - Optional
- Tag Type (Metal, Plastic, Brisket) - Optional
- Registration Number - Optional
- Country - Optional
- Breed – Optional
- Employee\_id
- Price
- Location
- Upload Images
- Upload Videos
- Created\_at date
- Updated\_at date

Following are estimate tables classes



Additional one field parents\_id will be added for relationships, animal table.

### c. View Animal

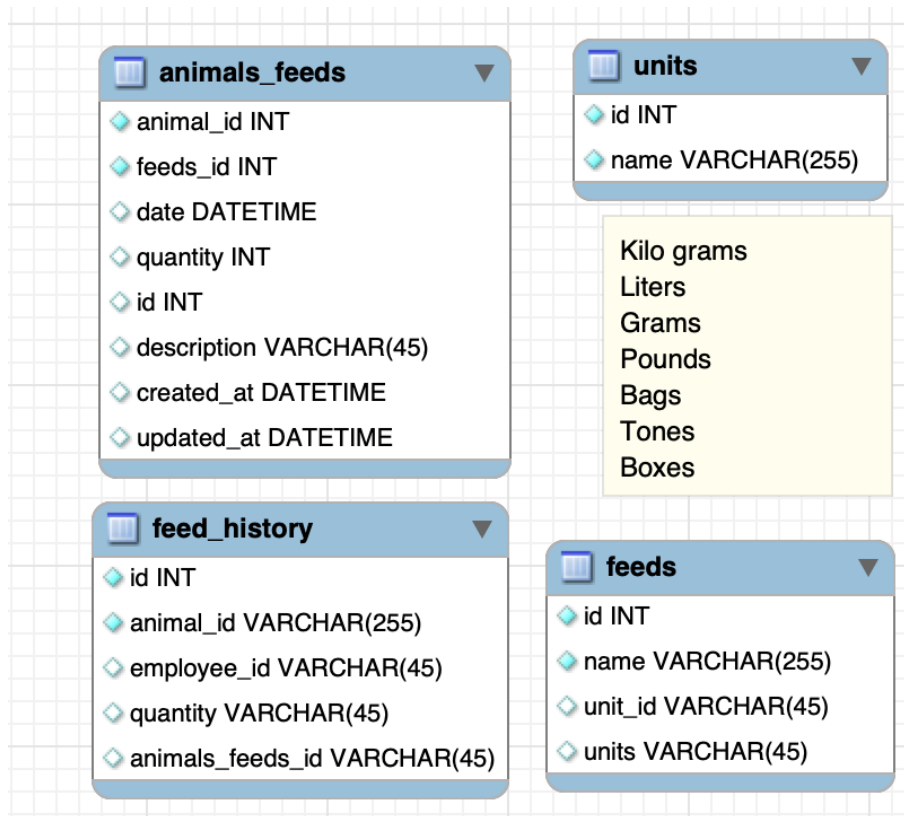
- Clicking on the animal number, an extra window would be showing details, where QR code will be generated automatically, providing a printing option to print it.



- i. Print QR Code*
    - ii. Move Animal*
    - iii. Sale Animal*
    - iv. Mark Dead Animal*
    - v. Share animal profile on platform/using qr code*
    - vi. Update feed*
    - vii. Update Clean*
    - viii. Update Vaccination*
    - ix. Change Group*
  - d. Update/Edit Profile*
    - Breeder would be able edit/update animal profile.
  - e. Update/Edit/Add Images*
    - Breeder can add/delete/update animal images.
  - e. Update/Edit/Add Videos*
    - Breeder can add/delete/update animal Videos.
- **Manage Feeds**
  - a. View Feeds*
    - View should all type feeds available in system with weightage and estimate timing for specific breeds.

**b. Add Feeds**

- View can be used to add new feeds. It has following fields
  - a. Feed name
  - b. Quantity
  - c. Measurement
  - d. Select rotation time in a day
  - e. Select schedule for week/month

**f. Assign Feeds**

View can be used to assign different feeds to breeds

**g. Edit Feeds**

View can be used to edit feeds to breeds

**h. View Feeds**

- View should all type feeds available in system with weightage and estimate timing for specific breeds.

- **Manage Cleaning**

*a. Add Cleaning*

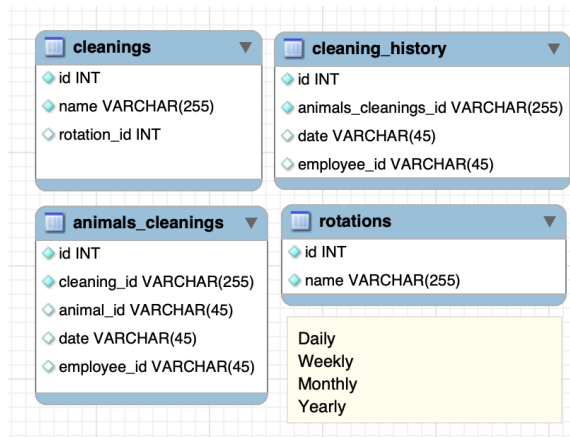
- View can be used to add new cleaning. It has following fields
  - Cleaning name*
  - Select rotation type (daily, weekly, monthly, yearly)*

*c. Assign Cleaning*

*View can be used to assign different cleaning to animals with employee and date*

*d. Edit Cleaning*

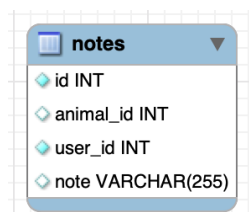
*View can be used to edit feeds to breeds*

• **Manage Notes***e. Add Note(log)*

- View can be used to add note related to any animal
  - note*
  - animal\_id*
  - user\_id*
  - date\_id*

*e. Write note on multiple animals.*

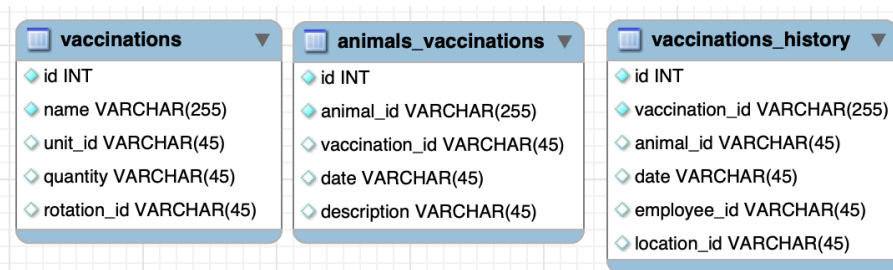
*Option to select multiple animals and write notes*

• **Manage Vaccination***f. Add Vaccination*

- View can be used to add new cleaning. It has following fields

- a. *Vaccination name*
- b. *Select rotation type (daily, weekly, monthly, yearly)*
- c. *Select Units*
- d. *Select Quantity*
- e. *Assign Vaccination*  
*View can be used to assign different cleaning to animals with employee and date*
- f. *Edit Vaccination*  
*View can be used to edit feeds to breeds*

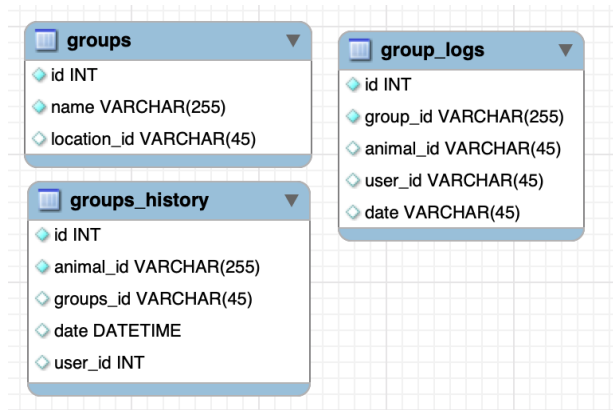
Following are estimate classes diagram and tables.



- **Manage Groups**

- g. *Add Group*
- View can be used to add new group
  - a. *Group name*
  - b. *Location*
  - c. *Add Animals in group*  
*View can be used to add animals in groups. Each group can have location bound in grouping.*
  - d. *Edit/delete Group*  
*View can be used to edit/delete group*





### • Manage Employees

On clicking this menu, a list of employees will be visible with the main window showing the details. This list will be tabular with pagination and sorting functionality.

Id	Name	Designation	city	state	location	email			
1	John	feeder	San Francisco	working	Farm House #1	john@example.com	EDIT	DELETE	MOVE
2	Michael	feeder	San Francisco	working	Farm #2	michael@example.com	EDIT	DELETE	MOVE

#### Create Employee

This screen will give form to create new employee will be following fields.

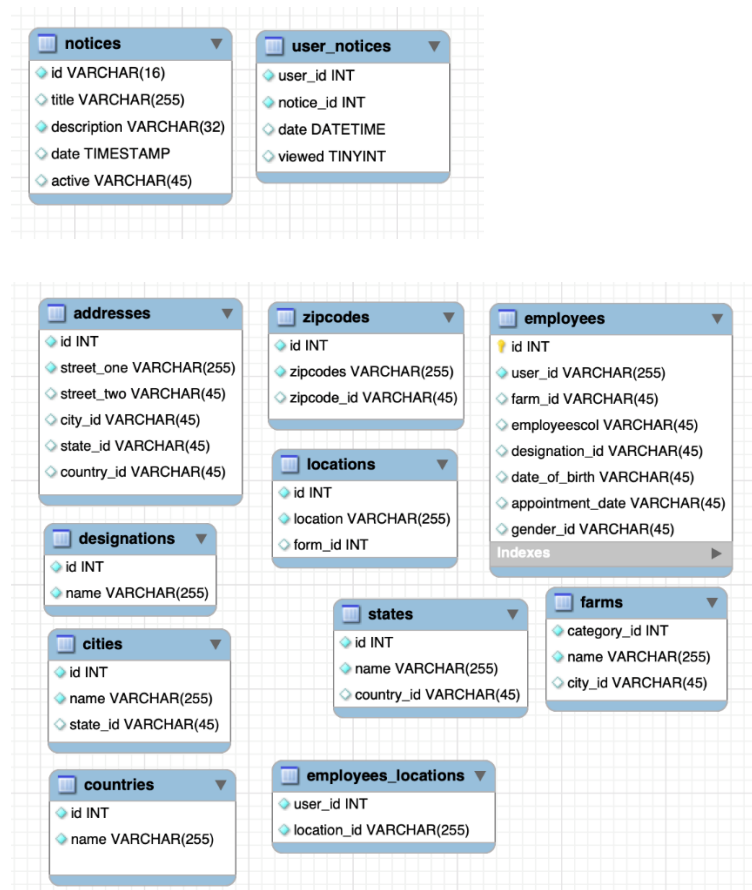
- Name – Required
- Street Address - Required
- City - Required
- State - Required
- Zip Code - Required
- Mobile - Optional
- Email - Required
- Designation - Optional
- Gender - Optional
- Appointment Date – Optional
- Date of birth – Optional
- Location

#### a. View Employee

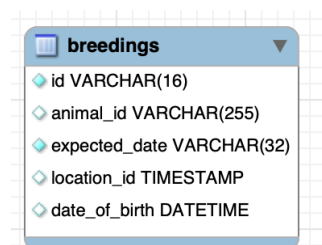
On clicking the employee number, there would be another window showing details and the following menu.

- Move Employee to Another Location
- Assign Animals to Employee
- Release Employee
- Create notice for employees Team board

Following is the class diagram of the employee, it requires four additional tables and the user will remain the same.

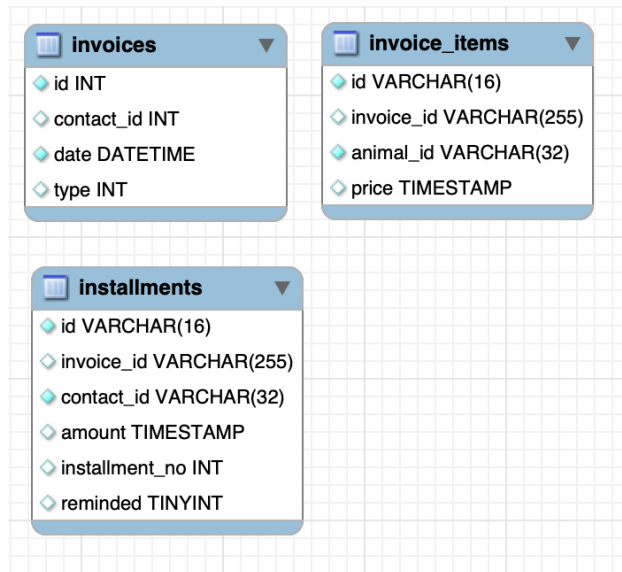


- **Pairings/ Breeding Relationships**
  - a. *Create Relationship*
    - When add animal, user can select parents/children of animal.
  - b. *Gestational Calculator*
- User can add Gestational calculation and date reminder notifications
- Parent Table view picture by pair, names, id number
- Ability to link parents to off spring.



- **Deposits/Invoices**

- View invoice*
- Edit Invoice*
- View Instalments*
- Update Instalments*
- View Notifications*



- **Inventory View**

This inventory view will show grouped information of inventory by type and animals with the present location. There would be a search bar with selection. It will also show the current status of all animals available on the farm.

- Historical View*

Show historical information about all animals sold/dead in group and quantity.

- **Health View**

This health view will give option to update health of animals and add certifications.

- Add Certificate*

This view enable user to add certificate to specific animal about health.

- Update Health*

This option will allow user to update health.

health
id VARCHAR(16)
animal_id VARCHAR(255)
user_id VARCHAR(32)
location_id TIMESTAMP
details VARCHAR(45)
date VARCHAR(45)
document VARCHAR(45)

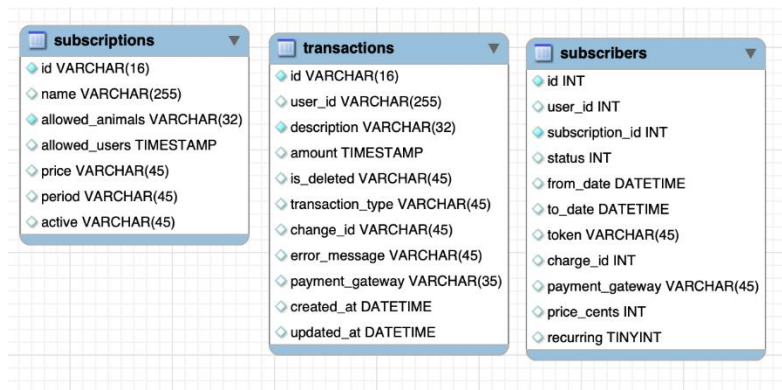
- **Subscription Management**

Here subscribers can buy/renew their subscription using two methods of payment, through PayPal or Credit Card. There will be four subscriptions windows. These will show the window to subscriber if breeder is not a subscriber. The following is a sample for it. If breeder is already a subscriber than he will get an option to renew, where he could upgrade to higher or lower packages.

- Create Subscriptions Packages
- Modify Subscriptions

Bronze	Silver	Gold
<b>\$10/mo</b> 1 month FREE trial	<b>\$20/mo</b> 1 month FREE trial	<b>\$35/mo</b> 1 month FREE trial
1 User	2 Users	10 Users
10 Animals	50 Animals	100 Animals
Weekly Reports	Weekly Reports	Weekly Reports
<a href="#">Sign Up</a> 1 month FREE trial	<a href="#">Sign Up</a> 1 month FREE trial	<a href="#">Sign Up</a> 1 month FREE trial

Following is the class diagram which might require for subscription



- **Business Profile**

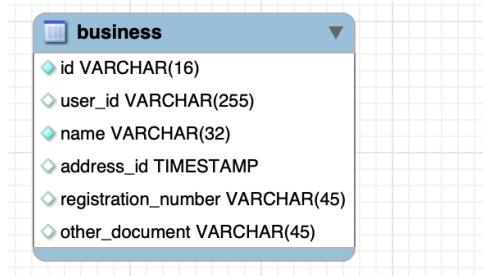
The business profile will show all business settings. The main window will show Business Name, Logo, Expertise, Description, Photos and the breeder can edit and update their business profile. The following are the fields while setting up the business profile.

- Business Name – Required
- Street Address – Required
- Street Address#2 - Required
- City - Required
- State - Required
- Zip Code - Required
- Mobile - Optional
- Email - Required
- Logo – Optional

*a. Location settings*

Here breeder can add/edit/delete locations for his breeding placement. Which would be used for separate data purposes.

Following is the class diagram for business settings





### *b. Social Media Settings*

Breeder would be able to connect Social media accounts, including Facebook, Twitter, Instagram and Snapchat. Any photos and videos shared on Social Media by Breeder or Employees would be posted on these connected accounts.

### *c. Payment Options*

Breeder would be able to list all the applicable payment options, such as Paypal, Bank Account, Stripe, Skrill, Payoneer, etc. These payment options would reflect on the invoice generated by the breeder.

## • Contact Management

Breeder would be able to create, edit, and manage their contacts. Clicking on this link, the user would be able see the list of all contacts with the following format.

Where he would get few items to edit, delete or view the contact.

David	feeder	San Francisco	working	Farm House #1	<a href="mailto:john@example.com">john@example.com</a>	EDIT	DELETE
Smith & co	feeder	San Francisco	working	Farm #2	<a href="mailto:michael@example.com">michael@example.com</a>	EDIT	DELETE

### *a. Create Contact*

This menu will allow breeder to create a new contacts (suppliers, vets, vendors, etc) which includes the following data.

- First Name
- Last Name
- Business\_Name
- Address
- Address#2
- Phone
- Fax
- Email Address
- Website
- Plastic\_tag\_loc (type of tags)
- Metal\_tag\_loc (type of tags)
- Federal\_premise\_id (type of tags)
- Tattoo\_loc (type of tags)
- UPC\_loc (type of tags)
- Local\_premise\_id (license regulations/govt optional)
- Brand
- Notes

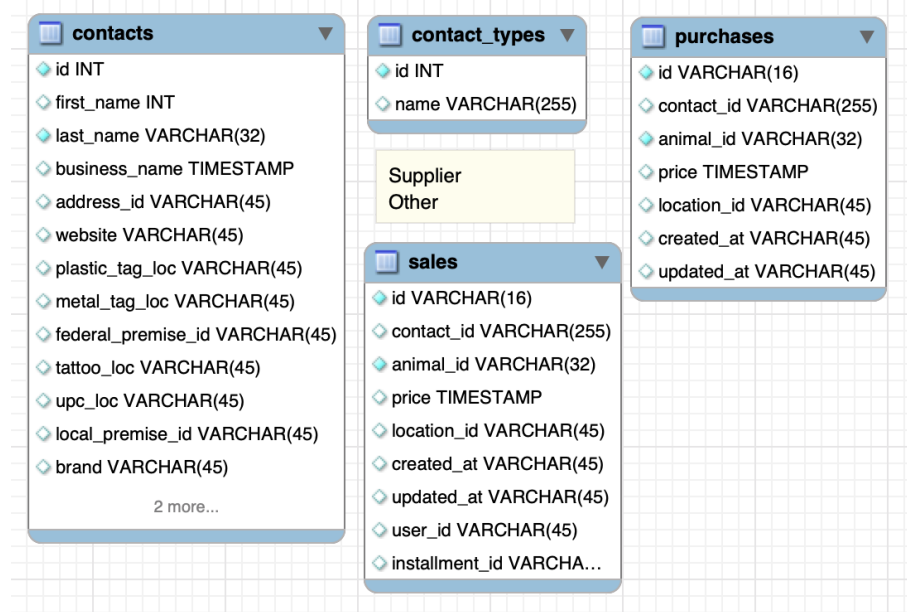
### *a. Purchase History*

Would show history of purchases done with this contact.

**b. Sale history**

Would show history of sales done with this contact.

The following is the class diagram with extra tables to hold information about the data.



- Customized Form**

Breeder would be able to use customized form, created by the Admin. These forms will be used to save any specific information, with simple report view.

**a. Create Form**

Creating form is a multiple wizard creation process. Following are the required phases.

- i. Phase One
  1. Form Name – Required Field
- ii. Phase Two
  1. Define Elements- Multiple elements could be defining, with caption and type of field.

**b. View Forms**

Show list of forms already made, user can delete or edit these forms.

**c. Assign Forms**

Forms can be assigned to Breeder using this option.

Following is the detailed class diagram of custom form.

forms	element_types
-id -name -user_id	-id -name
form_elements	element_list_values
-id -form_id -element_type_id -caption -other fields	-id -element_id -name -value -user_id

Note: forms – user\_id is admin, and element\_list\_values user\_id is breeder.

## MOBILE APP (EMPLOYEE)

Following is the detail specification for the mobile and web application for general users.

- **On Boarding**

It will show a few slides to help the users how to navigate the system.

1. How to add animals
2. How to add feeding information

This page has some content and a few slides, which may be edited by admin using admin panel or setting option, to explain about Breeder Management System.

### *a. Splash*

The splash screen is specific to mobile application. Will appear for 4 seconds having logo and branding of the application.

#### *i. Add Animation*

Helpful screen shows how to manage animals

#### *ii. Purchase/Sale Animal*

Show how to sale/purchase animals

#### *iii. Feeding animals*

Show how to update animal feeding status

### *b. Login*

Employee could log in the system using credentials provided by the breeder. Employee would also be able to login in offline mode, if their app is synced. Once logged in, they would be able to work in offline mode and sync their app and data with the server, once they get find internet connectivity.

### *c. Forget Password*

The user can request reset password using the email, if email is existing in the system, the user would get email to reset password.

### *d. Token Confirmation - Forget Password*

Only display to show email is confirmed, if the user provided the correct link.





- **Home/Landing**

This would be the main window of application where employees can perform all the activities. The display will show some initial stats like the number of animals, locations, any alert/reminders on the main window in tabular form with action buttons.

It will show a few slides to help the user how to use the system.

1. How to add animals
2. How to add feeding information

This page has some content and a few slides, which may be edited by admin using admin panel or setting option, to explain about Breeder Management System with following menu items.

- a. Add/Edit Animals*
- b. Reminder & Notification*
- c. Animal Counts*
- d. Feed Animals*
- e. Cleaning*
- f. Vaccination*
- g. Logout*
- h. Search*

- **Reminder and Notifications**

The screen is used to show all reminders set by system scheduling. The employee could setup more reminders using API, getting alerts on time for their activities. Alarms setup with activities related to animals will have an action to do an automatic entry to the system.

Better to break it down in two aspects

1. View Alarms
2. Create New Alarm

Create new alarm need a name of alarm, date, and type of alarm. Following is the data required for setting it.

- a. Alarm date
- b. Alarm Time
- c. Activity Type
- d. Location

alarms	alarm_type	priorities
-id -name -time -date -type -priority_id -location_id	-id -name feeding animal counting Unspecified	-id -name Urgent Normal Critical

- **Manage Animal**

Employee can do different actions on animals with following menus.

1. Add Animals
2. Edit existing animal profiles
3. By Locations
4. By status Health/Sick/Dead/Sold/Purchased/Raised
5. By Date Ranges

**b. Add Animal**

The screen used to add a new animal, when the user clicks on this screen, the mobile app will check from backend about custom fields, setup for the animal by admin/breeder, and show the form accordingly.

The API will provide some fixed values like acquired, status, employees, tag type, etc. With the following fields. It would be better to break down in two/three windows, first to get important information and then moving to another window to get more information.

- i. Display Name - Required*
- ii. Name - Required*
- iii. Category – Required*
- iv. Age – Optional*
- v. Gender – Optional*
- vi. Colour – Required*
- vii. Birth Date - Optional*
- viii. Acquired (Purchased, Raised, Borrowed) - Required*
- ix. Tattoo – Optional*
- x. Identification Mark - Required*
- xi. Notes - Optional*
- xii. Buyer - Optional*
- xiii. Seller - Optional*
- xiv. Status (Sold, Died, Sick, Healthy, for Events) - Required*
- xv. Description - Optional*
- xvi. Tag Type (Metal, Plastic, Brisket) - Optional*
- xvii. Registration Number - optional*
- xviii. Country - Optional*
- xix. Breed – Optional*
- xx. Empolyee\_id*
- xxi. Price*
- xxii. Created\_at date*
- xxiii. Updated\_at date*
- xxiv. Location*
- xxv. Upload Images*
- xxvi. Upload Video*

**c. Edit Animals**

The employees would be able to edit animals and all their editable profile content, such as videos, photos, activities, relationships, etc.

*d. Animal Count*

The employee clicking on this option could see Animal count with following parameters.

1. All Animals
2. By Categories
3. By Locations
4. By Status (Health/Sick/Dead/Sold/Purchased/Raised)
5. By Date Ranges

*e. Search Animal*

The employee could search animal with the following parameters.

1. All Animals
2. By Categories
3. By Locations
4. By Status Health/Sick/Dead/Sold/Purchased/Raised
5. By Date Ranges
6. By Breed Type
7. QR Code Scanning Search

*f. Feeding Animal*

- i. Check animal feed*
- ii. Updated feed*
- iii. Check log of feed*

*g. Assign/Move location of Animals*

Using this option, the employee could move animals from one location to another, or assign location to animals.

*h. Animal Vaccination*

- i. Check animal Vaccination*
- ii. Updated Vaccination*
- iii. Check log of Vaccination*

*i. Cleaning Animal*

- i. Check animal cleaning*
- ii. Updated cleaning*
- iii. Check log of cleaning*

*j. Share Animal Profile*

Users would be able to share animal's public profile via following methods:

- i. Social Media (Facebook, Instagram, Twitter, Snapchat)*
- ii. Sharable Link (can be shared over email, sms, chat or any other mode of textual communication)*
- iii. QR Code*



## 5. Required from Client:

- Google Play Access
- Apple Access
- Server Access for Deploying Web Portal
- App Store Title, Description and Keywords
- Any Email Service like Mailgun, Sendgrid, etc.

## 6. Questions:

1. Can Animals be Grouped together into herds by the employee? Yes
2. Can employee perform actions on group on animals instead of individuals? Yes
3. Vaccinations management and medication history should be recorded? This phase or next?