



# Dharmsinh Desai University, Nadiad

Faculty of Technology, Department of Computer Engineering

B.Tech. CE Semester – VI

## **FARMER PORTAL**

Submitted By:

Jay Patel (roll no: CE089 id: 17CEUOF008)

Parth Patel (roll no: CE092 id: 17CEUOS060)

Krinish Radadiya (roll no: CE105 id: 17CEUOG025)

Submitted To:

Prof. Pandav K. Patel

Assistant Professor of Department of Computer  
Engineering, Dharmsinh Desai University, Nadiad.



# Dharmsinh Desai University, Nadiad

Faculty of Technology, Department of Computer Engineering

## CERTIFICATE

This is to certify that **System Design Practice** project entitled “**Farmer Portal**” is the bonafied report of work carried out by

1) **Jay Patel** (17CEUOF008)

2) **Parth Patel** (17CEUOS060)

3) **Krinish Radadiya** (17CEUOG025)

Of Department of Computer Engineering, Semester V, academic year 2019-20,  
under our supervision and guidance.

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**Guide**

**Prof. Pandav K. Patel**  
Assistant Professor of  
Department of Computer  
Engineering, Dharmsinh Desai University,  
Nadiad.

**HOD**

**Dr. C. K. Bhensdadia**  
Head of the Department of  
Department of Computer  
Engineering, Dharmsinh Desai University,  
Nadiad.

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# 1. Abstract

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“Agriculture is the backbone of the Indian Economy”- said Mahatma Gandhi six decades ago. Even today, the situation is still the same, with almost the entire economy being sustained by agriculture, which is the mainstay of the villages. It contributes 16% of the overall GDP and accounts for employment of approximately 52% of the Indian population. Rapid growth in agriculture is essential not only for self-reliance but also to earn valuable foreign exchange.

It is envisaged to make available relevant information and services to the farming community and private sector through the use of information and communication technologies, to supplement the existing delivery channels provided for by the department. Farmers’ Portal is an endeavor in this direction to create one stop shop for meeting all informational needs relating to Agriculture.

## 2. Introduction

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### **2.1 Brief Introduction**

The farmer portal provides its users to get online information about the crop, statistical details and new tendencies. Now a days farmers facing problems like they have not any portal available to share or retrieve innovative ideas and also don't have any portal to ask any expert for specific queries related to crop or see market price. If any farmer has success story then they can share with other farmer, we provide platform for that. We provide a single portal where a farmer can get everything on one site.

### **2.2 Tools/Technologies Used**

#### **Technologies:**

Python (Django)

HTML 5

CSS 3

Bootstrap 4

#### **Tools**

Visual Studio Code

GitHub Desktop

#### **Platform**

<http://127.0.0.1:8000>

# 3. Software Requirement Specifications

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## **3.1 Types of User**

1. Farmer
2. Expert
3. Admin

## **3.2 System Functional Requirements**

### **R.1 Manage Account**

#### **R.1.1 Sign-up**

Description: User, Expert can sign-up in system by entering details

Input: User details

Output: Success/Error message

#### **R.1.2 Login**

Description: Admin/User/Expert can login in system by entering details

Input: User credentials

Output: Success/Error message

#### **R.1.3 Logout**

Description: Admin/User/Expert can logout in system by click the button

Input: User request

Output: Render to home page

## **R.2 Manage Success Stories**

Description: User can add, update, remove & view success stories.

### **R.2.1 Add success story**

Description: User can add success story

Input: Story details

Output: Success/Error message

### **R.2.2 Update success story**

Description: User can update success story

Input: Story details

Output: Success/Error message

### **R.2.3 Remove success story**

Description: User can remove success story

Input: User request

Output: Success/Error message

### **R.2.4 Display Success story**

Input: User request

Output: Story details

### **R.2.5 Filter success story**

Input: User request

Output: Display stories according to filter

### **R.2.6 Like success story**

Input: Press like button

Output: Like added to story

### R.2.7 Unlike success story

Input: press Unlike button

Output: like removed from story

## **R.3 Manage Query**

Description: User can raise & get answer of query.

### R.3.1 Raise query

Input: User request

Output: Success/Error message

### R.3.2 Answer a query

Input: User request

Output: Success/Error message

## **R.4 Manage Experts**

### R.4.1 Add expert

Description: User can add expert.

Input: User request

Output: Success/Error message

### R.4.3 Remove expert

Description: User can remove expert.

Input: User request

Output: Success/Error message



## **R.5 view price**

Description: User can view current market price

Input: User request

Output: Price list

## **3.3 Other Nonfunctional Requirements**

### **1. Performance**

The system must be interactive and the delays involved must be less. So in every action-response of the system, there are no immediate delays. In case of opening App components, of popping error messages and saving the settings or sessions there is delay much below 3 seconds.

### **2. Safety**

User details should be securely stored to the server. The main security concern is for user account hence proper login mechanism should be used to avoid hacking.

### **3. Reliability**

As the system provides the right tools for discussion, problem solving it must be made sure that the system is reliable in its operations and for securing the sensitive details.

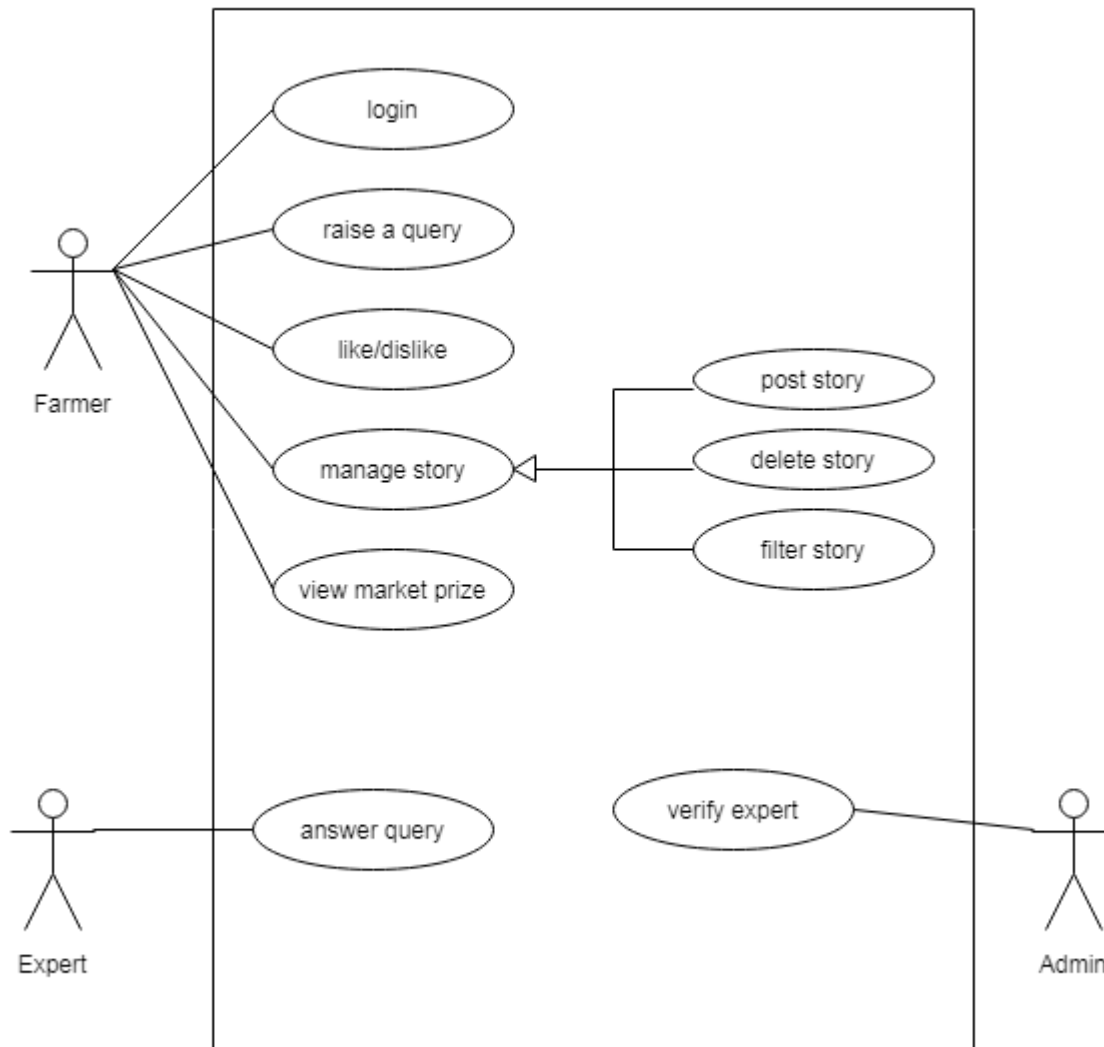
### **4. Database**

System requires to access users data fast to maintain the performance.

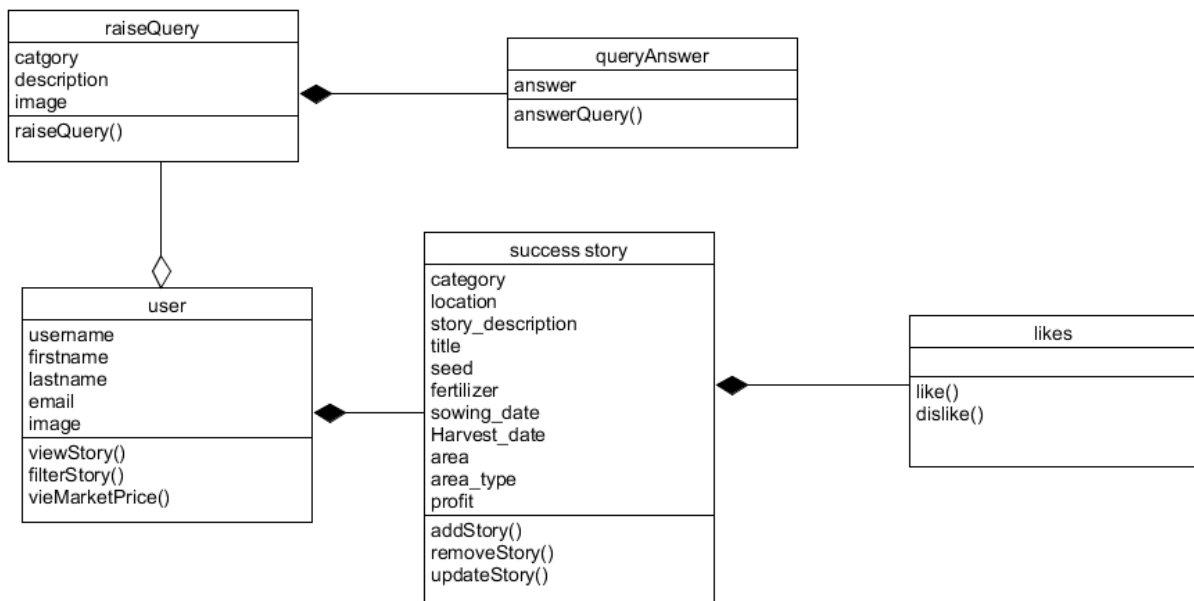
## 4. Design

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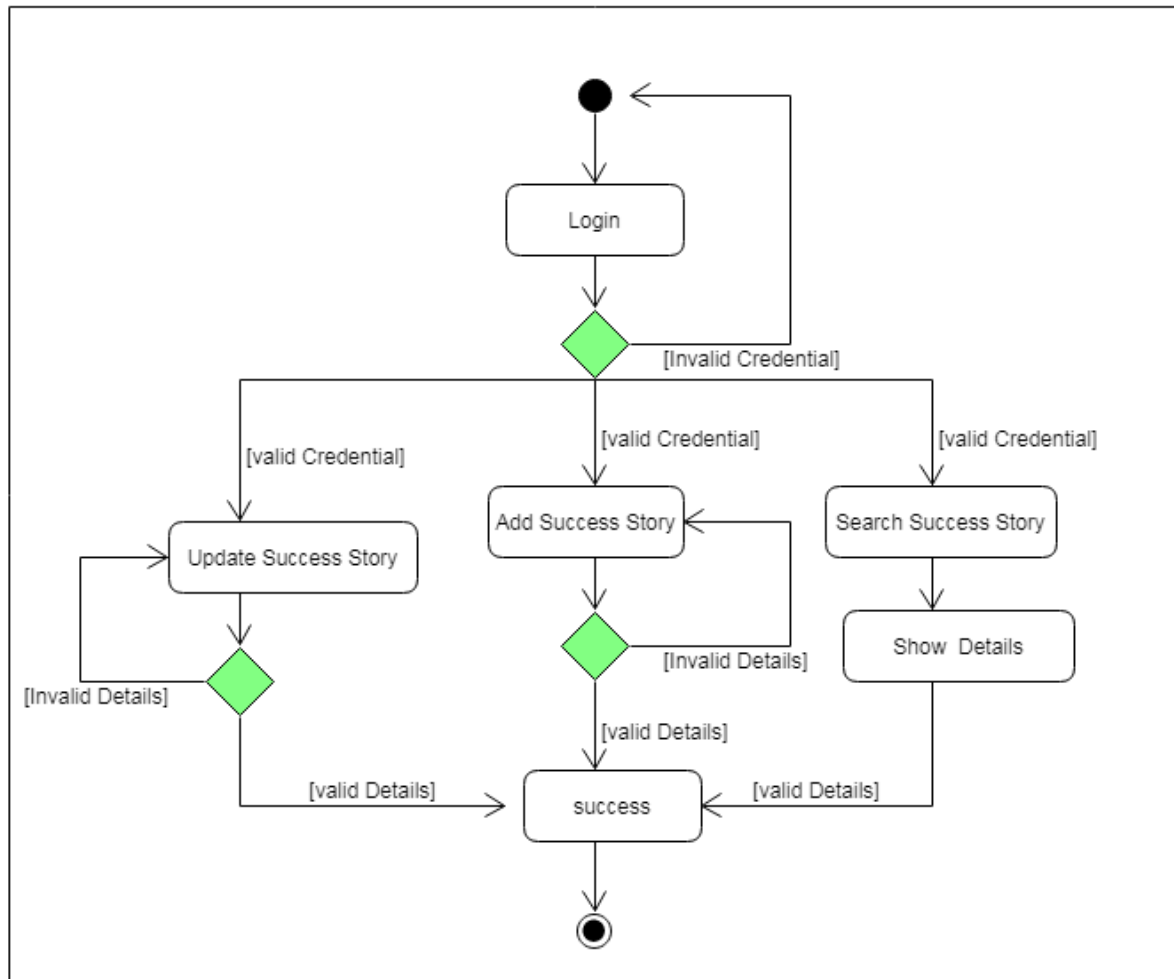
### 4.1 USECASE

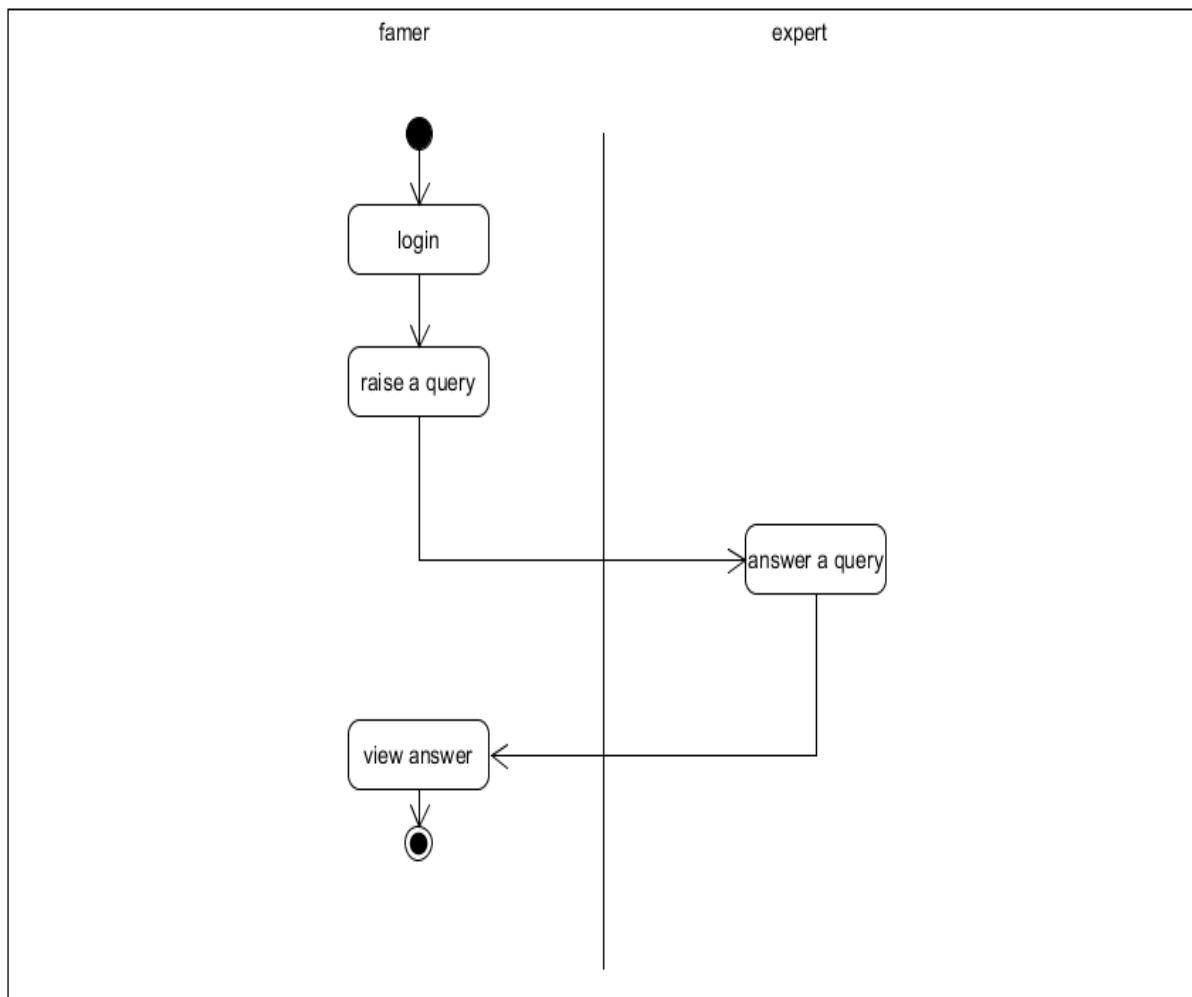


## 4.2 CLASS

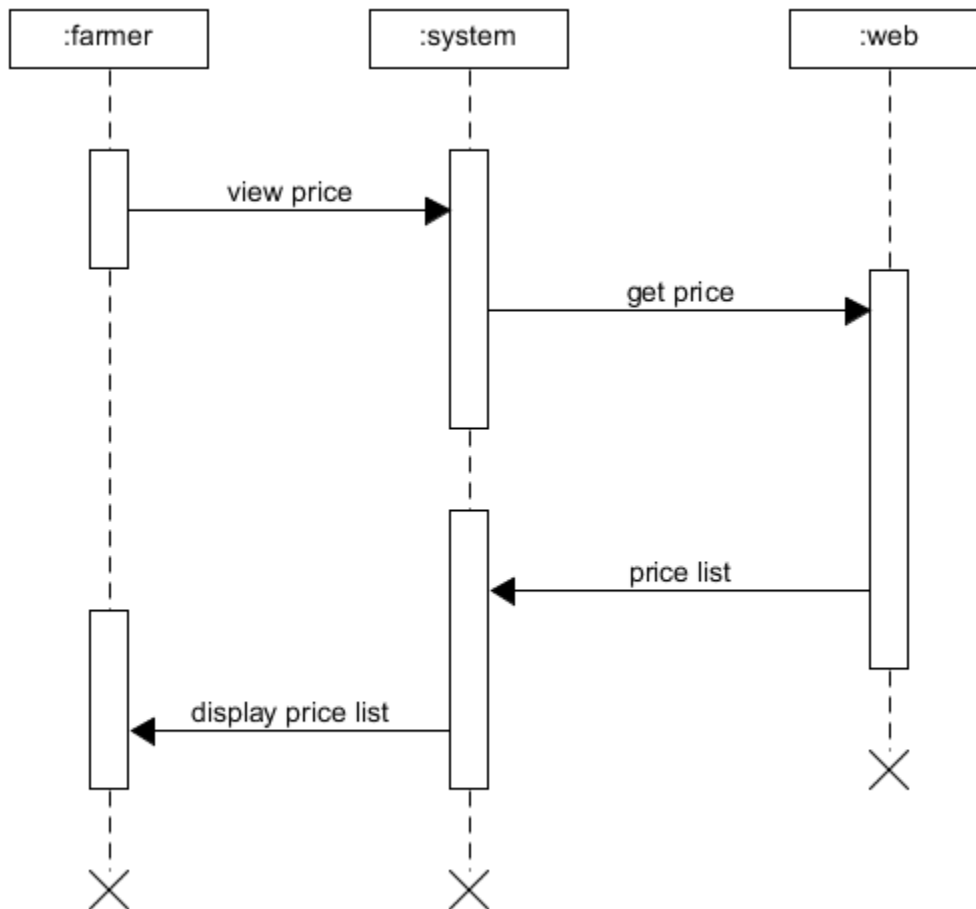


### 4.3 ACTIVITY

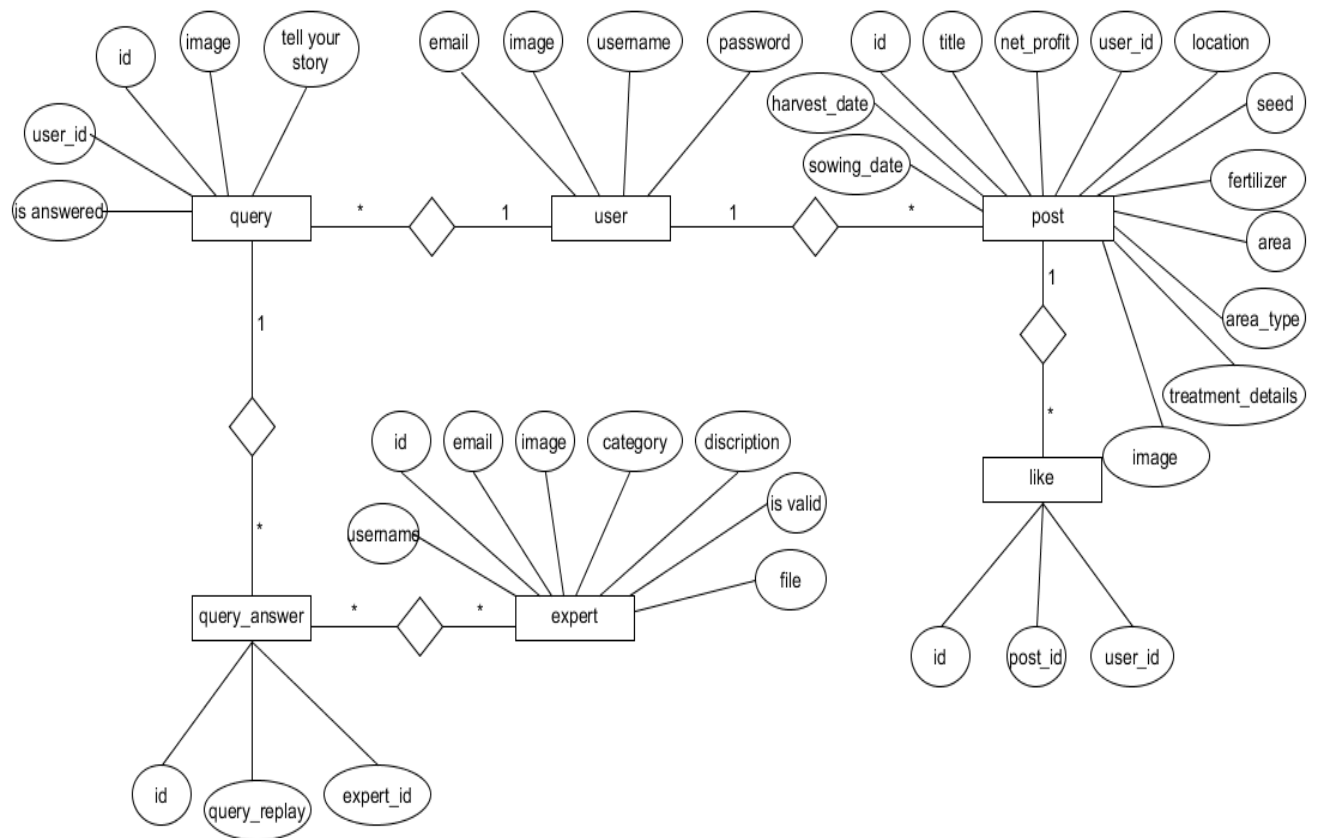




## 4.4SEQUENCE



## 4.5 E-R Diagram



## **4.6 Data Dictionary**

| <b>1.User</b>  |                   |                  |              |                 |               |              |                         |   |
|----------------|-------------------|------------------|--------------|-----------------|---------------|--------------|-------------------------|---|
| <b>Sr. No.</b> | <b>Field Name</b> | <b>Data Type</b> | <b>Width</b> | <b>Required</b> | <b>Unique</b> | <b>PK/FK</b> | <b>Referenced table</b> | <b>Description</b>                              |
| 1.             | _id               | Varchar          | 10           | Yes             | Yes           | PK           |                         | Auto increment key generated by database itself |
| 2.             | username          | Varchar          | 10           | Yes             | Yes           |              |                         | Unique id defined by user to login              |
| 3.             | password          | Varchar          | 8            | yes             | no            |              |                         |   |
| 4.             | Fname             | Varchar          | 50           | Yes             | No            |              |                         |   |
| 5.             | Lname             | Varchar          | 50           | Yes             | No            |              |                         |   |
| 5.             | email             | Varchar          | 30           | Yes             | Yes           |              |                         |   |

| <b>2.Query</b> |                   |                  |              |                 |               |              |                         |                    |
|----------------|-------------------|------------------|--------------|-----------------|---------------|--------------|-------------------------|--------------------|
| <b>Sr. No.</b> | <b>Field Name</b> | <b>Data Type</b> | <b>Width</b> | <b>Required</b> | <b>Unique</b> | <b>PK/FK</b> | <b>Referenced table</b> | <b>Description</b> |
| 1.             | Q_id              | Varchar          | 10           | Yes             | Yes           | PK           |                         |                    |
| 2.             | U-id              | Varchar          | 10           | Yes             | No            | FK           | User                    |                    |
| 3.             | Category          | Varchar          | 10           | Yes             | No            |              |                         |                    |
| 4.             | Image             | Varchar          | 50           | Yes             | No            |              |                         |                    |
| 5.             | query             | Varchar          | 500          | Yes             | No            |              |                         |                    |



| 3.Post  |            |           |       |          |        |       |                   |              |
|---------|------------|-----------|-------|----------|--------|-------|-------------------|--------------|
| Sr. No. | Field Name | Data Type | Width | Required | Unique | PK/FK | Referenc ed table | Descripti on |
| 1.      | Post_id    | Varchar   | 10    | Yes      | Yes    | PK    |                   |              |
| 2.      | Title      | Varchar   | 20    | Yes      | No     |       |                   |              |
| 3.      | Post_desc  | Varchar   | 500   | Yes      | No     |       |                   |              |
| 4.      | username   | Varchar   | 10    | Yes      | Yes    | FK    | User              |              |
| 5.      | Location   | Varchar   | 20    | Yes      | No     |       |                   |              |
| 6.      | Seed       | Varchar   | 20    | Yes      | No     |       |                   |              |
| 7.      | Fertilizer | Varchar   | 20    | Yes      | No     |       |                   |              |
| 8.      | Treatment  | Varchar   | 500   | Yes      | No     |       |                   |              |
| 9.      | Category   | Varchar   | 10    | Yes      | No     |       |                   |              |
| 10.     | Sow_date   | Date      | 20    | Yes      | No     |       |                   |              |
| 11.     | Harvest    | Date      | 20    | Yes      | No     |       |                   |              |
| 12.     | Area       | Number    | 10    | Yes      | No     |       |                   |              |
| 13.     | Areatype   | Number    | 10    | Yes      | No     |       |                   |              |
| 14.     | Profit     | Number    | 10    | Yes      | No     |       |                   |              |
| 15.     | Image      | Varchar   | 50    | Yes      | No     |       |                   |              |

| 4.Query |            |           |       |          |        |       |                   |              |
|---------|------------|-----------|-------|----------|--------|-------|-------------------|--------------|
| Sr. No. | Field Name | Data Type | Width | Required | Unique | PK/FK | Referenc ed table | Descripti on |
| 1.      | Q_id       | Varchar   | 10    | Yes      | Yes    | PK    |                   |              |
| 2.      | U-id       | Varchar   | 10    | Yes      | No     | FK    | User              |              |
| 3.      | Category   | Varchar   | 10    | Yes      | No     |       |                   |              |
| 4.      | Image      | Varchar   | 50    | Yes      | No     |       |                   |              |
| 5.      | query      | Varchar   | 500   | Yes      | No     |       |                   |              |

| 5.Query_answer |            |           |       |          |        |       |                  |             |
|----------------|------------|-----------|-------|----------|--------|-------|------------------|-------------|
| Sr. No.        | Field Name | Data Type | Width | Required | Unique | PK/FK | Referenced table | Description |
| 1.             | A_id       | Varchar   | 10    | Yes      | Yes    | PK    |                  |             |
| 2.             | Q_id       | Varchar   | 20    | Yes      | Yes    | FK    | Query            |             |
| 3.             | E_id       | Varchar   | 20    | Yes      | Yes    | FK    | Expert           |             |
| 4.             | Reply      | Varchar   | 500   | Yes      | No     |       |                  |             |

| 6.Expert |            |           |       |          |        |       |                  |             |
|----------|------------|-----------|-------|----------|--------|-------|------------------|-------------|
| Sr. No.  | Field Name | Data Type | Width | Required | Unique | PK/FK | Referenced table | Description |
| 1.       | E_id       | Varchar   | 10    | Yes      | Yes    | PK    |                  |             |
| 2.       | Username   | Varchar   | 10    | Yes      | Yes    |       |                  |             |
| 3.       | Password   | Varchar   | 10    | No       | No     |       |                  |             |
| 4.       | Image      | Varchar   | 10    | No       | No     |       |                  |             |
| 4.       | Category   | Varchar   | 10    | Yes      | No     |       |                  |             |
| 5.       | Email      | Date      | 30    | Yes      | No     |       |                  |             |
| 6.       | File       | Varchar   | 50    | Yes      | No     |       |                  |             |

| 7.Like  |            |           |       |          |        |       |                  |             |
|---------|------------|-----------|-------|----------|--------|-------|------------------|-------------|
| Sr. No. | Field Name | Data Type | Width | Required | Unique | PK/FK | Referenced table | Description |
| 1.      | _id        | Varchar   | 10    | Yes      | Yes    | PK    |                  |             |
| 2.      | Q_id       | Varchar   | 10    | Yes      | No     | FK    | Query            |             |
| 3.      | E_id       | Varchar   | 10    | Yes      | No     | FK    | Expert           |             |

## 5. Implementation Details

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### Registration module:

This module is used to store user's data to the database and enables the user to login to the system. All the fields in this module contains required validations. User can also navigate to login page if he/she already registered.

### Login module:

This module takes users credentials and then verifies it with registered users, if user is not registered the invalid credentials is shown else if they match with database then login user.

### Success story module:

In this module farmer can add their success story by posting their complete details about crop, fertilizer, timings and profit. farmer can also view other's stories by filtering them by location wise. user can also like the story.

### Query module:

In this module farmer can raise a query about particular crop and also upload images and get the answer by expert of that category.

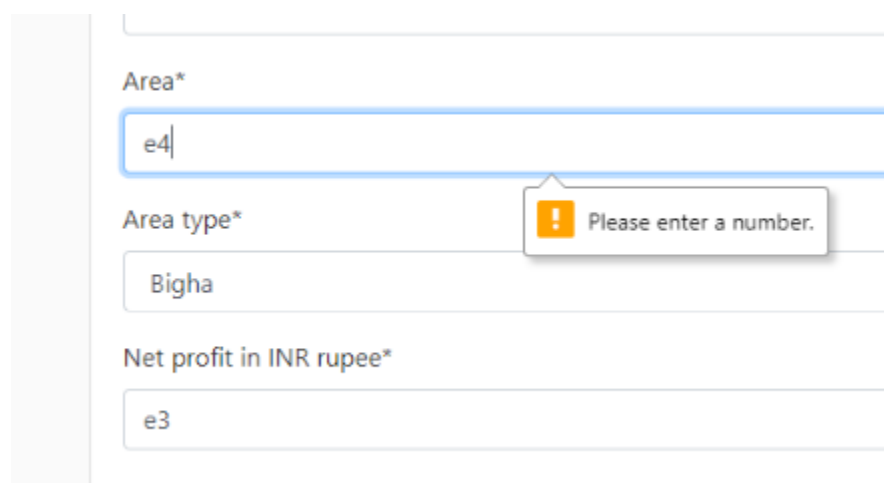
## 6. Testing

We have performed black box testing for this system.

### Test cases:

| Module name   | Field Input   | Expected output                         | Actual output                           |
|---------------|---|---|---|
| Login         | Username & Password (true input)                                      | Redirect to Home page                   | Redirect to Home page                   |
| Login         | Username & Password (wrong password)                                  | Error message and Stay to login page    | Error message and Stay to login page    |
| Farmer Signup | Username(name which Is already taken)                                 | Warning message and stay to signup page | Warning message and stay to signup page |
| Expert Login  | Username & Password (true input but expert is not verified)           | Warning message and stay to login page  | Warning message and stay to login page  |
| Success story | Sowing and harvest dates(harvest date is not afterwards than sowing ) | Alert message                           | Alert message                           |
| Admin         | admin try to login but not verified                                   | Alert message                           | Alert message                           |

When user enter wrong details



The screenshot shows a web form with three input fields. The first field, labeled 'Area\*', contains the text 'e4'. The second field, labeled 'Area type\*', contains the text 'Bigha'. The third field, labeled 'Net profit in INR rupee\*', contains the text 'e3'. A validation error message is displayed as a tooltip next to the 'Area type\*' field, stating 'Please enter a number.' with an orange exclamation mark icon.

## When user name already taken or password is not in given format

[Farmer Stories](#) [Home](#)

### Join Today

Username\*

**A user with that username already exists.**

Required. 150 characters or fewer. Letters, digits and @/./+/-/\_ only.

Email\*

Password\*

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Password confirmation\*

**This password is too short. It must contain at least 8 characters.**

**This password is too common.**

**This password is entirely numeric.**

Enter the same password as before, for verification.

## When harvest date is afterwards than sowing

127.0.0.1:8000 says

Your not Enter Valid Sowing Or Harvest Date

OK

## When admin try to login but not verified

You are not varified

Log In

Username\*

krinish291

Password\*

.....

Login


Need An Account? [Sign Up Now](#)

## 7. screen shots

### 1. Home page without login

[Farmer Stories](#) [Home](#) [View Price](#) [Login](#) [Register](#)

Select Location:  Select Category:





krinish291

1 month, 1 week [Rajkot](#)

post2

**Seed:** sdfghjk  
**fertilizers:** NPK 46-0-0  
**category:** Vegetables  
**area:** 16 Square meter | **Net Profit:** 500000₹  
**duration:** Jan. 31, 2020 **TO** Jan. 31, 2021  
**treatment details:**  
fghj  
**AnonymousUser's success story:**  
fghjk






krinish291

1 month, 1 week [Rajkot](#)

sdcvsd

**Seed:** asdc  
**fertilizers:** Urea  
**category:** Grains  
**area:** 10 Square meter | **Net Profit:** 520000₹  
**duration:** Jan. 31, 2020 **TO** Jan. 31, 2021



### 2. Farmer Login page

[Farmer Stories](#) [Home](#) [View Price](#) [Login](#) [Register](#)

Log In

Username\*

Password\*

[Forgot Password?](#) [admin](#) [Expert Login](#)

Need An Account? [Sign Up Now](#)

### 3. Farmer registration page

[Farmer Stories](#) [Home](#) [View Price](#) [Login](#) [Register](#)

#### Join Today

Username\*

Required. 150 characters or fewer. Letters, digits and @/./+/-/\_ only.

Email\*

Password\*

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Password confirmation\*

Enter the same password as before, for verification.

[Sign Up](#)

### 4. Price page

[Farmer Stories](#) [Home](#) [Login](#) [Register](#)

## Price Page

| commodity | center             | price per quintal |
|-----------|--------------------|-------------------|
| Methi     | Rajula             | 4400.00           |
| Methi     | Rajkot             | 4000.00           |
| Methi     | Jasdan             | 2500.00           |
| Garlic    | Vadhvan            | 1625.00           |
| Garlic    | Rajkot             | 3800.00           |
| Garlic    | Jasdan             | 5375.00           |
| Garlic    | Dahod(Veg. Market) | 7000.00           |
| Jeera     | Visnagar           | 9250.00           |
| Jeera     | Visavadar          | 11150.00          |



## 5. add success story page

|                                |                      |                            |                               |                         |                                   |                          |                         |                        |
|--------------------------------|----------------------|----------------------------|-------------------------------|-------------------------|-----------------------------------|--------------------------|-------------------------|------------------------|
| <a href="#">Farmer Stories</a> | <a href="#">Home</a> | <a href="#">View Price</a> | <a href="#">Raise a Query</a> | <a href="#">My post</a> | <a href="#">Query with answer</a> | <a href="#">New Post</a> | <a href="#">Profile</a> | <a href="#">Logout</a> |
|--------------------------------|----------------------|----------------------------|-------------------------------|-------------------------|-----------------------------------|--------------------------|-------------------------|------------------------|

Blog Post

Title\*

Location\*

Rajkot

Seed\*

Fertilizers\*

Urea

Treatment details\*

Category\*

Grains

Sowing date\*

2020-03-13

Harvest date\*

2020-03-13

Area\*

Area type\*

Bigha

Net profit in INR rupee\*



Tell your story\*

Image\*


Choose File

No file chosen

## 6.pending queries with no answer page

| Farmer Stories Home View Price Raise a Query My post Query with answer New Post Profile Logout |           |  |            |
|--|-----------|--|------------|
| Pending... Queries   |           |  |            |
| Images   | Cetagoies | Queries  | answer     |
|               | Grains    | warms enter in crops..   | pending... |
|               | Grains    | We face problem with this type of bugs are enter in our crops..please give any feasible solution | pending... |

## 7. queries answered by an expert

| Farmer Stories Home Past Query reply gunjan Logout                                 |  |   |                         |
|--|--|---|-------------------------|
| image  | Query  | Answer                                    | Update                  |
|  | We face problem with this type of bugs are enter in our crops..please give any feasible solution | you can use Insecticides for this problem | <button>Update</button> |

## 8. Raise Query page

| Farmer Stories Home View Price |  | Raise a Query My post Query with answer New Post Profile Logout |  |
|--------------------------------|--|---|--|
| <h3>My new Query</h3>          |  |   |  |
| Category*                      |  | <div>Grains</div>   |  |
| Image*                         |  | <div>Choose File No file chosen</div>                           |  |
| Tell your Query*               |  | <div></div>   |  |
| <div>Post</div>                |  |   |  |

## 9.admin login page

### Log In



Username\*

Password\*

[Login](#)

Need An Account? [Sign Up Now](#)

## 10.expert verification page

| Dashboard   |             |            |                     |   |                          |                          | admin | Logout |
|---|-------------|------------|---------------------|---|--------------------------|--------------------------|-------|--------|
| image   | Expert name | category   | email               | description                                 | varify                   | reject                   |       |        |
|  | Dr. radhav  | Grains     | raghav15@gmail.com  | 5 year experience at anand agri. university | <a href="#">verified</a> | <a href="#">rejected</a> |       |        |
|  | Dr. parth   | Vegetables | parth1010@gmail.com | Experience at junagadh agri.                | <a href="#">verified</a> | <a href="#">rejected</a> |       |        |

## 8. conclusion

---

The functionalities implemented in system after understanding all the system modules according to the requirements. Functionalities That are successfully implemented in the system are :

- User registration containing all the necessary validation on field
- login
- user authentication
- logout
- post success story
- view stories according to your search
- raise queries
- liking the story
- view market price
- Admin side management

After the implementation and coding of system comprehensive testing was performed on the system to determine the errors and possible flaws in the system.

## 9. Limitations and Future Enhancement

---

The System has adequate scope for modification in future if it is necessary.

Refining existing services and adding more service, System security, data security and reliability are the main feature.

In the future there are no need of any experts , Farmers can directly take picture of crop and our portal will give the best solution for that with use of Machine learning and previous data.

## 10.Reference / Bibliography

---

Following links and websites were referred during the development of this project.

<https://www.google.co.in>

<http://www.wikipedia.org>

<https://docs.djangoproject.com/en/3.0/>

<https://docs.python.org/3/>

<https://selenium-python.readthedocs.io/>

<http://www.w3schools.com>

<http://www.tutorialspoint.com>

<http://www.stackoverflow.com>