System Requirements Statement (SRS) –
e-Farming Market

Doc. Ref.   : SRS_v0.1.doc
Version   : 0.1
Status   : Drafted
Created by   : Kharanshu Wanare, Anuj Bhure, Gaurav Nande, Shirish Ahire
Date   : 06-Jul-2023

TABLE OF CONTENT

THIS DOCUMENT CONTAINS 22 NUMBERED PAGES

1. Introduction

This document explains the system requirements and scope for developing e-Farming Market System.

E-Farming Market System could divide the three main parts, Farmer part, Wholesaler part, and Admin part.
This document describes the system requirement of the Account part.

2. Functional Requirements

The Account part of e-Farming Market System has three modules which are divided 13 processes described as below.

No	BRS require ment ID	Description
2.1	Farmer Module	
2.1.1	F1	Account Creation Process
2.1.2	F2	Login Process
2.1.3	F3	Forgot Password Process
2.1.4	F4	Change Password Process
2.1.5	F5	Update Account Process
2.1.6	F6	Search Product
2.1.7	F7	Publish Product for sale
2.1.8	F8	Update Product Information
2.1.9	F9	Delete Product
2.1.10	F10	Browse existing Market price
2.2	Wholesaler Module	
2.2.1	F11	Account Creation Process
2.2.2	F12	Login Process
2.2.3	F13	Forgot Password Process
2.2.4	F14	Change Password Process
2.2.5	F15	Update Account Process
2.2.6	F16	Search Product
2.2.7	F17	Buy Products
2.2.8	F18	Payback Process
2.2.9	F19	Cancel Order
2.2.10	F20	Browse existing Market price and Product
2.3	Admin Module	
2.3.1	F21	Login Process
2.2.2	F22	Forgot Password Process
2.3.3	F23	Change Password Process
2.3.4	F24	Update Account Process
2.3.5	F25	Report Generation
2.3.6	F26	Account Management

2.1 Farmer Module

- Farmer is the user of system who wants to sale their products.

- He is also able to view the market prices of products.

2.2.1 Account Creation Process

- E-Farming Market System compels to create the account before using it. So, E-Farming Market System should provide the function which makes farmer creates new account.

- When farmer creates new account, the function demands four information described as below.

    1. Login information
    2. Contact Details

- The Login information
  The Login information consists of some items described as below.

    1. User ID
    2. Password
    3. First Name
    4. Last Name
    5. E-mail address
    6. User Type

  ➢ All items are compulsory demanded.

  ➢ User ID
  ✓ The User ID should be unique. If the User ID exactly matches with other user ID which is previously registered, that User ID should not be registered as a new account.
  ➢ Password
    ✓ The Password has constrained which makes the Password consists of more than or equal 8 and less than or equal 16 characteristics including characters described as below.

      1. Numeric figure (at least one)
      2. Capital alphabet (A-Z) (at least one)
      3. Small alphabet (a-z) (at least one)
      4. Special character (#, $, %, &, etc.) (at least one)

✓ The re-entering Password is demanded for registeration.
✓ The Password must be encrypted in e-Farming Market System.

➢ User Type
The User Type falls into three categories described as below.

1. Farmer
2. Wholesaler
3. Administrator

✓ In an Account Creation Process, the user can select Farmer.
✓ No one could select The Administrator, because Administrator is implemented to e-Farming Market System in advance.

- Contact Details
- The Contact Detail consists of some items described as below.

1. Permanent Address
2. Contact Phone No

➢ All items are compulsory demanded.

➢ Permanent Address
✓ Permanent Address should be filled.
✓ But only the state should be selected from options.

- The Security Question information
The Security Question information is needed when farmer lost their Password. This information consists of two items described as below.

1. Selected Question
2. Answer

➢ All items are compulsory demanded.

➢ Some questions which are difficult to answer for anyone else are prepared in advance.
E.g. which color do you like most?
➢ A question should be selected from options by the farmer, and the Answer is registered by the farmer.

2.1.2 Login Process

- E-Farming Market System always compels user authentication before using itself except when a new account is successfully created.

- The user authentication demands User ID and Password. The User ID and the Password should be checked in three ways.

  - First, The User ID and the Password should be existed and correct.
    - ✓ If The User ID and the Password are not equal to what the user has registered, the user authentication cannot be provided.

  - Second, the User Type linked to the User ID should be "farmer".
    - ✓ When the User Type is "Farmer", then user can be placed on "Farmer Home".

  - Finally, User ID should be available.
    - ✓ The Administrator can decide whether the User ID is available or suspended – Refer to the SRS of the Admin part.
    - ✓ If farmer is rejected, user authentication is not provided for system user.

- The farmer account should alive for so long as the duration decided by Admin.

- Only when the three checks are successfully completed, farmer can be placed on respective page.

- The "Farmer Home" provides some items described as below.

      1. A trigger to logout
      2. A trigger to update Account
      3. A trigger to Change Password
      4. A trigger to Search Product
      5. A trigger to Publish Product for sale
      6. A trigger to Update Product Information
      7. A trigger to Delete Product
      8. A trigger to Browse existing Market price

2.1.3 Forgot Password Process

- When system user lost their Password, the recovery method should be provided by e-Farming Market system.
  The recovery method is described as below.

  - ➢ First, system user enters their User ID for e-Farming Market System.

  - ➢ Next, E-Farming Market System demands the Answer which has been registered since when the Account was created.

  - ➢ Only when the Answer is correct, farmer get the new password by E-mail which also has been registered since when the Account was created.

  - ➢ The new password is automatically generated by e-Farming Market System temporarily.
    - ✓ Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.

- Therefore, The Farmer could get the farmer authentication using the new password.
  - ➢ Then, the farmer had better change the new password manually.

- If the Answer is not correct, the correct Answer is demanded for user again.
  - ➢ In that case, farmer could not get the new password.

2.1.4 Change Password Process

- When farmer wants to change their Password, the measure should be provided by e-Farming Market System.

- Therefore, E-Farming Market System should provide the function which is available after getting the farmer authentication.

- The function demands the current password and the new password.

  - ➢ The new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  - ➢ The current password and the new password are masked by using dummy characters.
  - ➢ The new password is demanded to enter twice to avoid a typing error.

- Only when the current password is correct, farmer could change their Password.

- When the current password is changed into new password, E-Farming Market System compels user authentication again.

2.1.5 Update Account Process

- E-Farming Market System should provide the function which makes the account updated for farmer.

- The information farmer could update is described below.

    1. Login information
    2. User information
    3. Security Question Information

- The Login information
  The updatable items as described below.

    1. First Name
    2. Last Name
    3. E-mail address

    ➢ All items are compulsory demanded, but updating is optional.

- The User information
  The updatable items as described below.

    1. User Name
    2. User Phone No
    3. E-mail address
    4. Permanent address

    ➢ All items are compulsory demanded, but updating is optional.

- The Security Question information
  The updatable items as described below.

    1. Selected Question
    2. Answer

    ➢ All items are compulsory demanded, but updating is optional.

2.1.6 Search product

- Search conditions are described as below.

  1. Product category
  2. Price range

2.1.7 Publish product for sale
- Publish products requirements are described as below.

  1. Product category
  2. Price
  3. Product name
  4. Quantity
  5. Photos

- Farmer can see market prices before publishing products.

2.1.8 Update product information
- After publishing the product, the farmer can only update following contents.
  1. Product quantity
  2. Product price
  3. Product photo

2.1.9 Delete product information
- After Publishing, if farmer wants to remove some products, then he can delete the product.

2.1.10 Browse existing product Price
- Farmer could see the information of existing products.

2.2 Wholesaler Module

2.2.1 Account Creation Process

- E-Farming Market System compels to create the account before using it. So, E-Farming Market System should provide the function which makes farmer creates new account.

- When farmer creates new account, the function demands four information described as below.

  1. Login information
  2. Contact Details
  3. Security Question Information
  4. Payment information.

- The Login information
  The Login information consists of some items described as below.

  5. User ID
  6. Password
  7. First Name
  8. Last Name
  9. E-mail address
  10. User Type

  ➢ All items are compulsory demanded.

  ➢ User ID
    ✓ The User ID should be unique. If the User ID correspond with not case-sensitive to other which is previously registered, the User ID should not be registered as an account.

  ➢ Password
    ✓ The Password has constrained to makes the Password consists of more than or equal 8 and less than or equal 16 characteristics including characters described as below.

      1. Numeric figure (at least one)
      2. Capital alphabet (A-Z) (at least one)
      3. Small alphabet (a-z) (at least one)
      4. Special character (#, $, %, &, etc.) (at least one)

    ✓ The Password is masked by dummy characters. The re-entering Password is demanded.
    ✓ The Password must be encrypted in e-Farming Market System.

- Contact Details
- The Contact Detail consists of some items described as below.

  1. Permanent Address
  2. Contact Phone No

  ➢ All items are compulsory demanded.

  ➢ Permanent Address
    ✓ Permanent Address should be filled.
    ✓ But only the state should be selected from options.

- The Security Question information
  The Security Question information is needed when Wholesaler lost their Password. This information consists of two items described as below.

  3. Selected Question
  4. Answer

  ➢ All items are compulsory demanded.

  ➢ Some questions which are difficult to answer for anyone else are prepared in advance.
    E.g., which color do you like most?
  ➢ A question should be selected from options by the Wholesaler, and the Answer is registered by the Wholesaler.

2.2.2 Login Process

- E-Farming Market System always compels Wholesaler authentication before using itself except when a new account is successfully created.

- The user authentication demands User ID and Password. The User ID and the Password should be checked in three ways.

  ➢ First, The User ID and the Password should be existed and correct.
    ✓ If The User ID and the Password are not equal to what the user has registered, the user authentication cannot be provided.

  ➢ Second, the User Type linked to the User ID should be "wholesaler".
    ✓ When the User Type is " Wholesaler ", user can be placed on "Wholesaler Home".

  ➢ Finally, User ID should be available.

- ✓ The Administrator can decide whether the User ID is available or suspended – Refer to the SRS of the Admin part.
- ✓ If user is rejected, user authentication is not provided for Wholesaler.

- The Wholesaler account should alive for so long as the duration decided by Admin.

- Only when the three checks are successfully completed, Wholesaler can be placed on respective page.

- The "Wholesaler Home" provides some items described as below.

  9. A trigger to logout
  10. A trigger to update Account
  11. A trigger to Change Password
  12. A trigger to Search Product

2.2.3 Forgot Password Process

- When Wholesaler lost their Password, the recovery method should be provided by e-Farming Market System.
  The recovery method is described as below.

  - ➢ First, Wholesaler enters their User ID for e-Farming Market System.

  - ➢ Next, E-Farming Market System demands the Answer which has been registered since when the Account was created.

  - ➢ Only when the Answer is correct, Wholesaler get the new password by E-mail which also has been registered since when the Account was created.

  - ➢ The new password is automatically generated by e-Farming Market System.
    - ✓ Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.

- Consequently, The Wholesaler could get the user authentication using the new password.
  - ➢ Then, the Wholesaler had better change the new password manually.

- If the Answer is not correct, otherwise, the correct Answer is demanded for Wholesaler again.
  - ➢ In that case, Wholesaler could not get the new password.

2.2.4 Change Password Process

- When Wholesaler wants to change their Password, the measure should be provided by e-Farming Market System.

- Therefore, E-Farming Market System should provide the function which is available after getting the Wholesaler authentication.

- The function demands the current password and the new password.

  - ➢ The new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  - ➢ The current password and the new password are masked by using dummy characters.
  - ➢ The new password is demanded to enter twice to avoid a typing error.

- Only when the current password is correct, Wholesaler could change their Password.

- When the current password is changed into new password, E-Farming Market System compels Wholesaler authentication again.

2.2.5 Update Account Process

- E-Farming Market System should provide the function which makes the account updated for Wholesaler.

- The information Wholesaler could update is described below.

  1. Login information
  2. User information
  3. Security Question Information

- The Login information
  The updatable items as described below.

  4. First Name
  5. Last Name
  6. E-mail address

  - ➢ All items are compulsory demanded, but updating is optional.

- The User information
  The updatable items as described below.

  7. User Name
  8. User Phone No
  9. E-mail address
  10. Permanent address

  ➢ All items are compulsory demanded, but updating is optional.

- The Security Question information
  The updatable items as described below.

  1. Selected Question
  2. Answer

  ➢ All items are compulsory demanded, but updating is optional.

2.2.6 Search Product

- Search conditions are described as below.

1. Product category
2. Price range

• As the result of searching Requirements, Wholesaler could see the list of products which are available for sale.

1. Product name
2. Price
3. Quantity
4. Photos

2.2.7 Buy Product

- To buy the product followings are the condition

1. Product category
2. Price range
3. Product Quantity
4. Product Name

2.2.8 Payback Process

- In payback process system following are the conditions

1. If somehow order is not fulfilled.
2. If wholesaler is not satisfied with product.

2.2.9 Cancel Order

- Before paying Wholesaler can cancel the order in following condition

    1. If the product does not fulfil the requirement.
    2. If price goes out of his budget.

Browse existing product Price
- Wholesaler could see the information of existing products.

2.3 Admin Module

• Administrator should be responsible for following activities,

2.3.1 Login Process

- E-Farming Market System always compels user authentication before using itself except when a new account is successfully created.

- The user authentication demands User ID and Password. The User ID and the Password should be checked in three ways.

    ➤ First, The User ID and the Password should be existed and correct.
        ✓ If The User ID and the Password are not equal to what the admin has registered, the admin authentication cannot be provided.

    ➤ Second, the User Type linked to the User ID should be "Admin".
        ✓ When the User Type is "Admin", user can be placed on "Admin Home".

- Only when the three checks are successfully completed, Admin can be placed on respected page.

- The "Admin Home" provides some items described as below.

        13. A trigger to logout
        14. A trigger to update Account
        15. A trigger to Change Password
        16. A trigger to Manage Orders
        17. A trigger to Create a new Category
        18. A trigger to show User Login Log
        19. A trigger to remove farmer and wholesaler

2.3.2 Forgot Password Process

- When Admin lost their Password, the recovery method should be provided by e-Farming Market System.
  The recovery method is described as below.

    ➤ First, Admin enters their User ID for e-Farming Market System.

    ➤ He will enter the E-mail id since when the Account was created.

    ➤ Only when the E-mail Id is correct, Admin get the new password by E-mail which also has been registered since when the Account was created.

- ➢ The new password is automatically generated by e-Farming Market System.
  - ✓ Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.

- Consequently, The Admin could get the admin authentication using the new password.
  - ➢ Then, the Admin had better change the new password manually.

2.3.3 Change Password Process

- When Admin wants to change his Password, the measure should be provided by e-Farming Market System.

- Therefore, E-Farming Market System should provide the function which is available after getting the admin authentication.

- The function demands the current password and the new password.

  - ➢ The new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  - ➢ The current password and the new password are masked by using dummy characters.
  - ➢ The new password is demanded to enter twice to avoid a typing error.

- Only when the current password is correct, Admin could change his Password.

- When the current password is changed into new password, E-Farming Market System compels user authentication again.

2.3.4 Update Account Process

- E-Farming Market System should provide the function which makes the account updated for Admin.

- The information Admin could update is described below.

  1. Login information
  2. User information
  3. Security Question Information

- The Login information
  The updatable items as described below.

    4. First Name
    5. Last Name
    6. E-mail address

  ➤ All items are compulsory demanded, but updating is optional.

- The User information
  The updatable items as described below.

    7. User Name
    8. User Phone No
    9. E-mail address
    10. Permanent address

  ➤ All items are compulsory demanded, but updating is optional.

- The Security Question information
  The updatable items as described below.

    11. Selected Question
    12. Answer

  ➤ All items are compulsory demanded, but updating is optional.

2.3.5 Record Generation
- Admin should able to see all the records from any users.
- Daily report of enrolment to admin.
- Monthly report of enrolment as per the states to admin.

2.3.6 Accounts Management

- Admin should able to manage all the accounts with following activities,
1. Enable accounts
2. Disable accounts
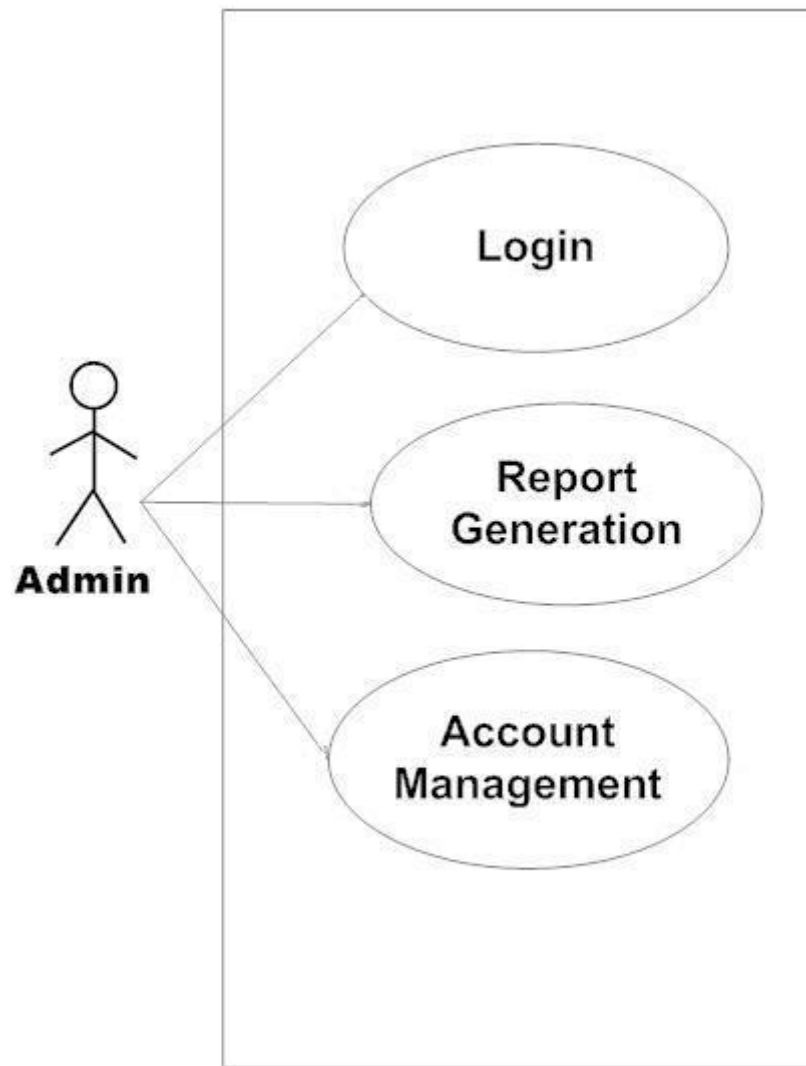
2.4   Use Case Diagram

2.4.1   Admin:

Fig. Use case diagram for admin

1. In Admin use case diagram Admin is the Actor.
2. Admin can handle following use cases:
   a. Login
   b. Report Generation
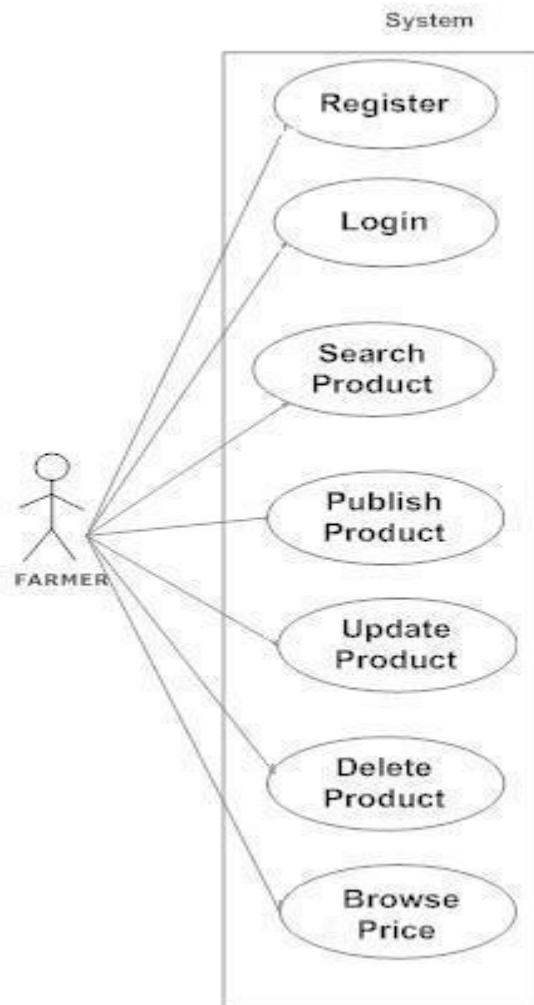   c. Controls account

2.4.2 Farmer:

Fig. Use case diagram for Farmer

1. In Farmer use case diagram Farmer is the Actor.
2. Farmer can handle following use cases:
    a. Register
    b. Login
    c. Search Product
    d. Publish Product
    e. Update Product
    f. Delete Product
    g. Browse Product Price

2.4.3 Wholesaler:

Fig. Use case diagram for Wholesaler

1. In Wholesaler use case diagram Wholesaler is the Actor.
2. Wholesaler can handle following use cases:
   a. Register
   b. Login
   c. Search Product
   d. Buy Product
   e. Payback
   f. Cancel Order
   g. Browse Product Price