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## System Requirements Statement (SRS) - Rent-It

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## 1. Introduction

**Rent-It** is a web-based rental platform designed to simplify the process of renting and leasing home appliances for individuals with temporary stays, such as students and professionals. It connects customers seeking short-term appliance use with owners willing to rent out unused items, promoting cost-effectiveness and sustainability. The platform ensures secure user registration, product browsing by category and location, verified listings, and smooth transactions. It also facilitates account management for delivery agents and provides system oversight tools for administrators. Rent-It aims to offer a convenient, transparent, and reliable alternative to traditional offline rental services through a modern, user-friendly digital interface.

## 2. Functional Requirements

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

No	BRS require ment ID	Description
<b>2.1 Customer Module</b>		
2.1.1	R1	Account Creation Process
2.1.2	R2	Login Process
2.1.3	R3	Forgot Password Process
2.1.4	R4	Search Product
2.1.5	R5	Place Order
2.1.6	R6	Return Product
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<b>2.2 Owner Module</b>		
2.2.1	R8	Register Process
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2.2.7	R14	Payback Deposit Amount
<b>2.3 Admin Module</b>		
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## 1.1 Customer Module

- A Customer is a user who rents home appliances through the system. The customer can register, login, search products/orders, place rental orders, return products, and give feedback.

### 1.1.1 Account Creation Process

- The Rent-It System requires account creation prior to use. Therefore, the Rent-It system ought to have a feature that encourages users to open new accounts.
- When Customer creates new account, the function demands four information described as below.

1. Login information
2. Contact Details

- The Account information  
The Account Creation consists of the following information.

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

- All items are compulsory demanded.
- Username
  - ✓ The Username should be unique. If the Username correspond with not case-sensitive to other which is previously registered, the Username should not be registered as an account.
- Password
  - ✓ The Password has constraints which make the Password consist 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 the Rent-It System.

- User Type

The User Type falls into two categories described below.

1. Owner
2. Customer

- ✓ In an Account Creation Process, the user can select Customer.

- Contact Details

- The Contact Detail consists of the following information.

1. Delivery Address
2. Contact Phone No

- All items are compulsory demanded.

- Delivery Address

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

- The Security Question information

The Security Question information is needed when Customer loses their Password. This information consists of the following requirements.

1. Selected Question
2. Answer

- All the details are compulsory.

- 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 customer, and the Answer is registered by the customer.

- Login information should be entered on one page, and then Customer information and Security Question information should be entered on another page.

### 1.1.2 Login Process

- Rent-It System always compels user authentication before using itself except when a new account is successfully created.
- Customer authentication requests Username, Registered Email, and Password. The Username, Registered Email, and the Password should be checked in three ways.

#### ***1. Credential Verification***

- ✓ Username/Email, and Password must match the stored records
- ✓ If mismatched, login is denied

#### ***2. User Type Verification***

- ✓ User Type must be Customer
- ✓ Only customers can access the Customer Dashboard

#### ***3. Account Status Verification***

- ✓ Administrator may activate, suspend, or block accounts
- ✓ Suspended/blocked accounts cannot login

### Customer Home Page Options

1. After successful login, customer can access:
2. Logout
3. Change Password
4. Search Items
5. Place Order
6. View Order History
7. Return Product
8. Give Feedback

### 1.1.3 Forgot Password Process

If a customer forgets the password, the system provides recovery steps:

- Customer enters Username.
- The link to change his password will be sent to his registered email after he enters correct username.

### 2.1.4 Search product

Customers can search rental items based on filters like:

- Category (Home Appliances, Furniture, Electronics, Kitchen Items, etc.)
- Price Range
- Availability
- Rental Duration
- Brand.

Results show item details, rental price, deposit amount, and owner information.

### 2.1.5 Place Order

When a customer selects an item to rent, they can confirm their order by filling the required information.

- Rental Duration (Days/Weeks/Months)
- Address
- Payment (Rental Amount and Deposit Amount)
- The system provides Self Pick-up placement methods:

#### **Through Self Pick-up**

- Customer selects **Self Pick-up**
- Customer pays deposit and rent
- System generates a Pick-up Code
- Customer collects item directly from owner

## 2.1.6 Return Product / Order

**When rental duration ends, the system automatically:**

- Sends notification to Customer and Owner
- Customer manually returns the item to the owner at the agreed time.

**The Owner checks the product condition:**

- If the item is in good condition, owner refunds the remaining amount from the deposit
- If the item is damaged, owner deducts charges before refunding
- Order status is updated to Returned.

## 2.1.7 Feedback

**After order completion, customer can provide:**

- Star Rating
- Comments
  - ✓Product
  - ✓ Overall Experience

Feedback helps improve service and is visible to other users.

## 2.2 Owner Module

- The **Owner Module** in the Rent-It system allows product owners to manage their rental appliances by adding, updating, and monitoring their listings. Owners can assign delivery tasks, track order statuses, process returns, and handle customer deposit refunds. The module also provides access to transaction history, product availability, and overall rental activity for efficient management.

### 2.2.1 Register Process

- The registration function allows new Owners to create an account on the Rent-It platform.
- The system must verify uniqueness, validate required fields, and store data securely.
- After successful registration, owners should be able to log in using their registered credentials.

The Registration Process collects the following categories of information:

1. User ID
2. Email
3. Password
4. Contact no.
5. Confirm password

→ **All required fields must be validated and cannot be left empty.**

- UserID
  - ✓ The UserID should be unique. If the UserID corresponds with not case-sensitive to other which is previously registered, the UserID should not be registered as an account.
- Password
  - ✓ The Password has constraints which make the Password consist 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)

### 2.2.2 Login Process

- UserID/Email must already exist in the system.
- UserID should be unique at the time of registration.

The system stores only passwords that contain:

1. At least one numeric digit
  2. At least one uppercase alphabet (A–Z)
  3. At least one lowercase alphabet (a–z)
  4. At least one special character (#, \$, %, &, @, etc.)
  5. Length: 8 to 16 characters
- Password fields cannot be empty.
  - Password must be hidden (masking with dots).
  - Provide “Show Password” toggle (recommended).

The Login authentication consists of the following steps:

1. User enters Email/UserID and Password.
  2. System verifies if the UserID exists.
  3. System matches the password with stored encrypted password.
  4. If both match → user is redirected to Owner Dashboard.
  5. If either fails → error message displayed.
- Only Owners can log in using this module.
  - Customers log in through customer module, not owner module.

### 2.2.3 Forgot Password Process

If a customer forgets the password, the system provides recovery steps:

- Customer enters Username.
- The link to change his password will be sent to his registered email after he enters the correct username.

#### **Confirm Password**

- Must exactly match the **New Password** field.
- Cannot be empty.

## 2.2.4 Upload Products

- Owners can upload new appliances they want to rent out.
  - The system must collect all necessary product details, images, rental price, and availability.
  - Product must only be published when all mandatory fields are correctly filled.
  - The uploaded product will appear on the platform after verification (optional rule).
- The system should require the following fields on the Product Upload Page:
- Product Name
  - Product Category (e.g., Furniture, Utensils, Electronics, etc.)
  - Brand Name
  - Model / Version
  - Product Description
  - Detailed features
  - Specifications
  - Condition (New / Like New / Good / Old)
  - Rent per day for the product
  - Deposit amount of the product

## 2.2.5 Update Product Status.

### Automatic Status Updates

The system should automatically update the product status in certain scenarios:

#### When a product is rented out

- Once a customer confirms booking and payment:
  - The system marks the product as **Not Available / Rented Out**
  - This status persists for the entire rental period
  - The owner sees booking dates and expected return date

#### Validation:

- Manual override cannot conflict with active rental periods.
- If product is currently rented, owner cannot mark it “Available.”

### **2.2.6 View transactions:**

- The owner should be able to view the total amount.
- The deposit amount should be displayed, and the calculated rent amount should be displayed.

### **2.2.7 Return deposit amount:**

- After deducting the rent amount from the total amount, if there is no damage to the product, then the whole deposit is refunded.
- Notify the status of the transaction to the customer.

## 2.3 Admin Module

The Admin Module manages and maintains the Rent-It platform by allowing administrators to securely log in and oversee users, products, orders, transactions, and feedback. It provides tools for user authorization, product moderation, and system integrity. The following sections define the detailed requirements for each Admin functionality:

### 2.3.1 Login Process

- **Precondition:** The administrator must have a registered account with valid credentials.
- **Inputs:** Administrator username or email and password fields must be presented.
- **Validations:** Both fields are required; the password input should be masked. The system shall verify that entered credentials match an existing Admin account.
- **Actions:** Upon clicking “Login,” the system shall authenticate the credentials. If valid, it shall redirect the user to the Admin Dashboard. If invalid, it shall display an appropriate error message (e.g., “Invalid username or password”).
- **Output/Postcondition:** On successful login, the administrator is granted access to all Admin functionalities. Failed attempts leave the admin on the login page with an error prompt.

### 2.3.2 Product Category Creation

- **Precondition:** The administrator is logged into the system.
- **Inputs:** A form for adding a new product category must include *Category Name* and an optional *Description*. The system shall also allow specifying subcategories where applicable.
- **Validations:**
  - *Category Name* is required and must be unique.
  - The system shall ensure that the name is not empty and does not conflict with existing categories.
  - If subcategories are added, each subcategory must be unique under that parent category.
- **Actions:**

- Upon form of submission, the system shall insert the new category and its subcategories into the database.
- If a description is provided, it shall be stored along with the name.
- Admin can select to add subcategories directly under a category (e.g., under Furniture).

#### **Sample Categories and Subcategories:**

- **Furniture**
  - Chairs
  - Tables
  - Beds
- **Utensils**
  - Cookware
  - Cutlery
  - Storage Containers
- **Electronics**
  - Televisions
  - Refrigerators
  - Washing Machines

#### **Output/Postcondition:**

- The new category and its subcategories appear in the Category list.
- A confirmation (e.g., “Category created successfully”) is displayed.
- If validation fails (e.g., duplicate name), the system shall show an error and refuse to create the category.

### **2.3.3 View Orders**

- **Precondition:** The administrator is logged into the system.
- **Actions:** The system shall provide an Orders Dashboard where the admin can view all customer orders. This view shall list each order’s key details: Order ID, Product Name, Customer Name, Owner Name, Order Date, Status (e.g., Pending, Confirmed, Delivered), and Total Amount.
- **Features:** The system shall allow searching orders by order ID or customer name.
- **Outputs:** Selecting an order from the list shall display full order details (items rented, rental period, payment details, delivery information, etc.). No changes are made to orders in this view, as the admin role here is to monitor and review.

### 2.3.4 View Transactions

- **Precondition:** The administrator is logged into the system.
- **Actions:** The system shall present a Transactions Dashboard showing all financial transactions (payments, refunds, fees). Each transaction record shall include Transaction ID, Date/Time, Amount, Payer, Payee, Payment Method, and Related Order ID.
- **Features:** The system shall allow searching transaction by transaction ID. The system shall validate that displayed data corresponds to actual recorded payments.
- **Outputs:** Clicking a transaction show additional detail.

### 2.3.5 View Feedback

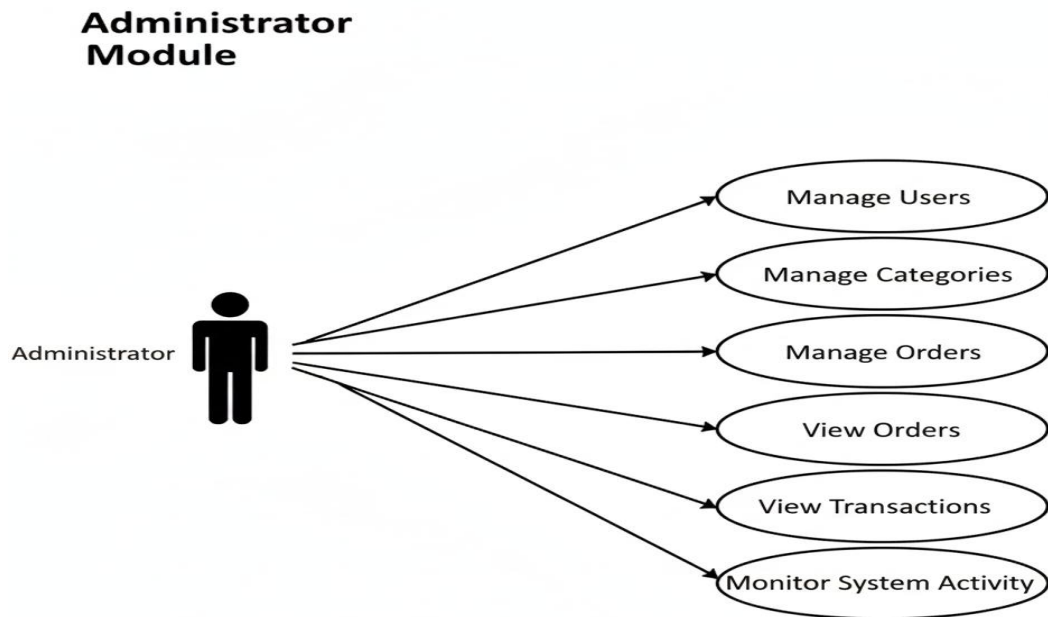
- **Precondition:** The administrator is logged into the system.
- **Actions:** The system shall offer a Feedback Management interface listing all feedback entries submitted by users. Each feedback entry shall display: Feedback ID, Username, Related Product or Order, Rating (if any), Comments, and Date.
- **Features:** The admin can filter or search feedback by product or user.
- **Outputs:** The administrator can click on a feedback entry to view full details.

### 2.3.6 User Management

- **Precondition:** The administrator is logged into the system.
- **Actions:** The Admin Module shall provide a User Management section listing all registered users (both customers and product owners). Each user entry shall show: User ID, Name, Email, Account Type (Customer or Owner), and Status (Active/Disabled).
- **Validations/Features:** The administrator can search users by user ID and account type. The system shall highlight users who are currently disabled.
- **Enable/Disable Accounts:** For any user listed, the admin shall have controls to **disable** an active account or enable a previously disabled account. Upon disabling, the system shall immediately prevent the user from logging in. Enabling restores access.
- **Outputs:** After any enable/disable action, the user list reflects the updated status.

## 2.4 Use Case Diagram

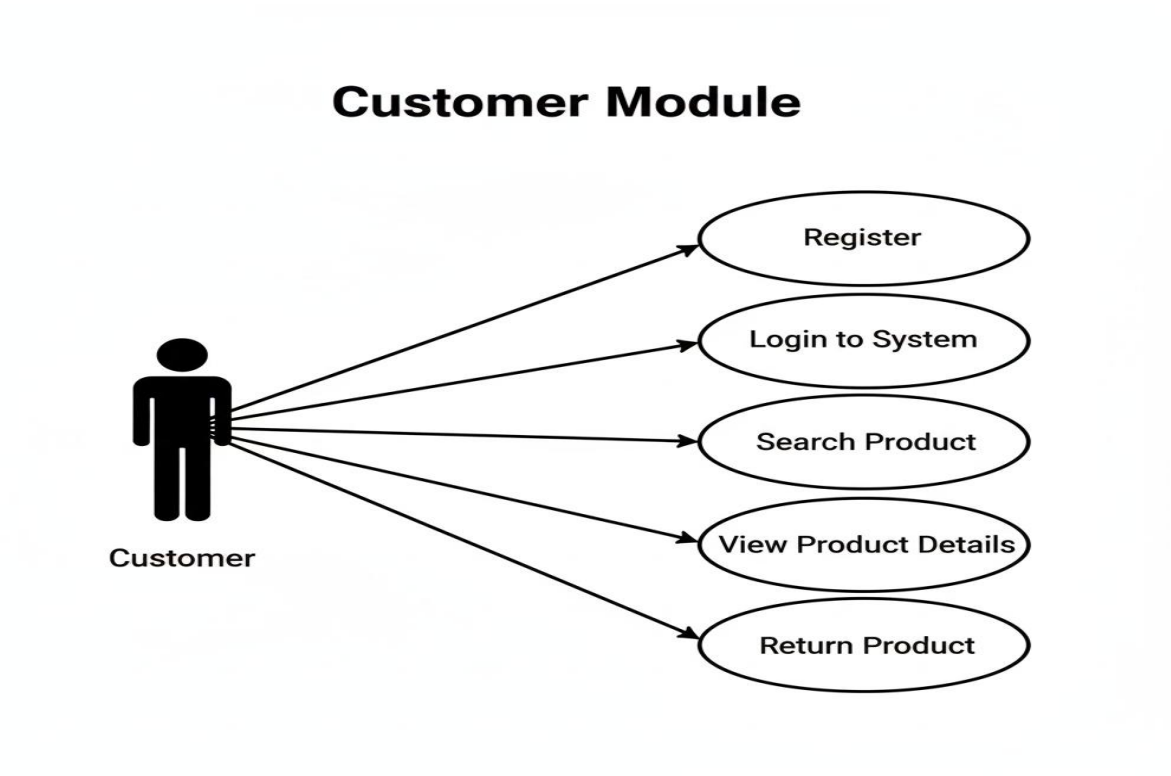
### 2.4.1 Admin



*Fig. Use case diagram for admin*

1. In Admin use case diagram Admin the Actor.
2. Admin can handle following use cases:
  - a) Login
  - b) Create Delivery Agency Account
  - c) Create Product Category
  - d) View Orders
  - e) View Transactions
  - f) View Feedback
  - g) User Managenment

## 2.4.2 Customer : -

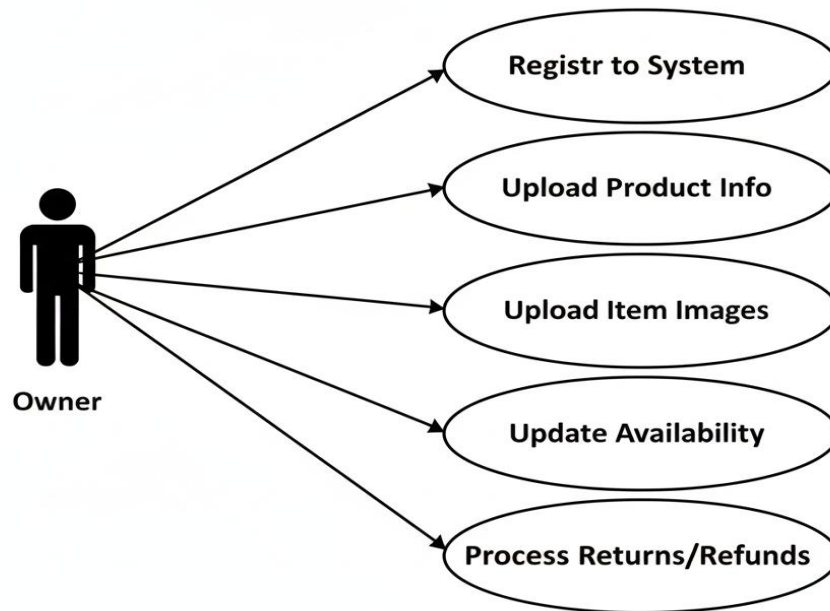


*Fig. Use case diagram for Customer module*

1. In Customer use case diagram Customer the Actor.
2. Customer has following use cases:
  - a) Account Creation Process
  - b) Login Process
  - c) Forgot Password Process
  - d) Search product
  - e) Place Order
  - f) Return Product / Order
  - g) Feedback

### 2.4.3 Owner : -

## Owner Module



*Fig. Use case diagram for Wholesaler*

1. In Owner use case diagram Owner the Actor.
2. Owner has following use cases:
  - a) Register Process
  - b) Login Process
  - c) Forgot Password Process
  - d) Upload Products
  - e) Update Product Status
  - f) View transactions
  - g) Return deposit amount