**Requirement Document: System User Management Module**

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Author: [Your Name/Business Analyst Team]

**1. Introduction**

This document outlines the requirements for the "System User Management" module. The primary purpose of this module is to enable authorized administrators to manage user accounts within the system. This includes creating new users, assigning roles, updating user details, enabling/disabling accounts, and searching for existing users.

**2. Business Goals**

* Centralized User Management: Provide a single point of control for managing all system user accounts.
* Role-Based Access Control: Facilitate the assignment of appropriate roles to users, ensuring they have the necessary permissions.
* Improved Security: Enable administrators to control user access and account status (enabled/disabled) to enhance system security.
* Efficient User Administration: Streamline the process of adding, modifying, and searching for user accounts.

**3. Scope**

The scope of this document focuses on the functionalities related to viewing, searching, filtering, adding, editing, and deleting system user accounts.

Out of Scope:

* User authentication (login/logout process).
* Password management (e.g., reset password functionality for users themselves).
* Detailed permission management within roles (only role assignment is in scope).
* Audit trails of user actions.

**4. Stakeholders**

* System Administrators
* IT Support Staff
* HR Administrators (potentially, for linking users to employees)

**5. Functional Requirements**

**5.1. System Users List Display (FR-001)**

* Description: The system shall display a list of all system user accounts that match the applied search criteria.
* Details:
  + FR-001.1: The default view of the "System Users" page shall display all active system users, or a message indicating "No Records Found" if none exist.
  + FR-001.2: When search criteria are applied and records are found, the system shall display the following columns:
    - Checkbox (for bulk actions, if implemented in future)
    - Username
    - User Role
    - Employee Name (associated with the user account)
    - Status (e.g., Enabled, Disabled)
    - Actions (Edit and Delete icons)
  + FR-001.3: The table columns (Username, User Role, Employee Name, Status) shall be sortable (as indicated by the sort icons in the screenshot).
  + FR-001.4: The total number of records found shall be displayed (e.g., "( 10 ) Records Found").

**5.2. Search and Filtering Capabilities (FR-002)**

* Description: The system shall provide robust search and filtering options to narrow down the system user list.
* Details:
  + FR-002.1: Username Filter
    - Users shall be able to type a "Username" to search for specific user accounts.
  + FR-002.2: User Role Filter
    - Users shall be able to select a "User Role" from a dropdown list (e.g., Admin, ESS, LSS, Manager, HR).
    - Selecting " -- Select -- " shall indicate no specific user role filter.
  + FR-002.3: Employee Name Filter
    - Users shall be able to type an "Employee Name" to search for system users associated with a specific employee.
    - The field should provide hints or auto-completion as the user types (if feasible and within design).
  + FR-002.4: Status Filter
    - Users shall be able to select a "Status" from a dropdown list (e.g., Enabled, Disabled).
    - Selecting " -- Select -- " shall indicate no specific status filter.
  + FR-002.5: Search Button
    - A "Search" button shall initiate the filtering process based on the selected criteria.
  + FR-002.6: Reset Button
    - A "Reset" button shall clear all selected search criteria fields and revert them to their default states.
    - Clicking "Reset" should also clear the search results and display the default list of all users.

**5.3. Add New System User (FR-003)**

* Description: The system shall allow authorized administrators to add new system user accounts.
* Details:
  + FR-003.1: A "+ Add" button shall be available to initiate the creation of a new user.
  + FR-003.2: Clicking "+ Add" shall present a form or modal for entering new user details, including but not limited to:
    - Username (must be unique)
    - Password (initial password, with strength requirements)
    - User Role (selection from available roles)
    - Associated Employee Name (linking to an existing employee record)
    - Initial Status (Enabled/Disabled)
  + FR-003.3: The system shall validate input fields (e.g., unique username, password complexity).
  + FR-003.4: Upon successful creation, the new user account shall appear in the "System Users" list, and the "Records Found" count shall update.
  + FR-003.5: A success message shall be displayed upon successful user creation.

**5.4. Edit Existing System User (FR-004)**

* Description: The system shall allow authorized administrators to modify details of existing system user accounts.
* Details:
  + FR-004.1: An "Edit" (pencil icon) button shall be available next to each user record in the list.
  + FR-004.2: Clicking the "Edit" button shall open a form or modal pre-populated with the existing user's details.
  + FR-004.3: Administrators shall be able to modify fields such as:
    - User Role
    - Associated Employee Name
    - Status (Enabled/Disabled)
    - *Potentially* reset password (but not view it)
  + FR-004.4: The system shall validate updated input fields.
  + FR-004.5: Upon successful update, the user's information in the list shall reflect the changes.
  + FR-004.6: A success message shall be displayed upon successful user update.

**5.5. Delete System User (FR-005)**

* Description: The system shall allow authorized administrators to delete system user accounts.
* Details:
  + FR-005.1: A "Delete" (trash can icon) button shall be available next to each user record in the list.
  + FR-005.2: Clicking the "Delete" button shall trigger a confirmation dialog to prevent accidental deletion.
  + FR-005.3: Upon confirmation, the user account shall be permanently removed from the system.
  + FR-005.4: The deleted user shall no longer appear in the "System Users" list, and the "Records Found" count shall update.
  + FR-005.5: A success message shall be displayed upon successful user deletion.

**6. Non-Functional Requirements**

**6.1. Performance (NFR-001)**

* NFR-001.1: Search and filter operations should return results within 2 seconds for up to 10,000 user records.
* NFR-001.2: User creation, edit, and deletion operations should complete within 1 second.

**6.2. Usability (NFR-002)**

* NFR-002.1: The user interface shall be intuitive and easy for administrators to navigate and perform user management tasks.
* NFR-002.2: All interactive elements shall be clearly labeled and provide appropriate feedback.
* NFR-002.3: Validation messages and system alerts should be clear, concise, and actionable.

**6.3. Security (NFR-003)**

* NFR-003.1: Access to the "System User Management" module shall be strictly limited to authorized administrators.
* NFR-003.2: All user data, especially passwords, shall be stored securely (e.g., hashed and salted).
* NFR-003.3: The system shall prevent unauthorized access or modification of user accounts.
* NFR-003.4: Role-based access control shall be enforced, ensuring users only have permissions assigned to their roles.

**6.4. Reliability (NFR-004)**

* NFR-004.1: The module shall be available 99.9% of the time during business hours.
* NFR-004.2: Data integrity shall be maintained for all user management operations.

**6.5. Maintainability (NFR-005)**

* NFR-005.1: The system's codebase should be modular, well-commented, and adhere to established coding standards to facilitate future enhancements and bug fixes.

**6.6. Scalability (NFR-006)**

* NFR-006.1: The system should be able to support an increasing number of system users and administrators without significant performance degradation.

**7. User Interface (UI) Expectations (Based on Screenshot)**

* Layout: The layout should closely resemble the provided screenshot, with search filters at the top, followed by the "Add" button, and then the user records table.
* Input Fields: Text fields (Username, Employee Name) and dropdowns (User Role, Status) should be clearly presented.
* Buttons: "Reset", "Search", and "+ Add" buttons should be prominently displayed and functional.
* Table Structure: The table should display the specified columns with sorting indicators.
* Action Icons: Edit (pencil) and Delete (trash can) icons should be used consistently for actions.
* Records Count: The "(X) Records Found" indicator should dynamically update based on search results.

**8. Data Requirements**

* User Accounts: The system will need to store:
  + Username (unique identifier)
  + Hashed Password
  + User Role (e.g., Admin, ESS, LSS)
  + Associated Employee ID (link to employee master data)
  + Employee Name (for display purposes)
  + Account Status (Enabled/Disabled)
  + Creation Date
  + Last Modified Date
* Roles: A list of predefined user roles and their associated permissions.

**9. Assumptions**

* An existing employee master data system is available for linking user accounts to employees.
* The system has a defined set of user roles with pre-configured permissions.
* The system handles the initial password generation or user-driven password setup flow (out of scope for this module).
* The system has an underlying database to store user account information.

**10. Open Issues / Questions**

* What are all the possible "User Role" values and their corresponding permissions?
* What are the specific password complexity requirements for new user accounts?
* Is there a requirement for bulk actions (e.g., bulk enable/disable, bulk delete)?
* How will the "Employee Name" be linked to the user account? Is it a lookup from an existing employee database?
* Are there any specific audit logging requirements for user management actions?
* Is there a requirement for pagination or infinite scrolling if the number of records exceeds a certain threshold?