**User Management Screen Specification**

**Overview**

This specification outlines the design and functionality of the User Management Screen. The screen is designed for administrators to manage user accounts, including creating, editing, enabling/disabling, and filtering user data. The interface must be intuitive, responsive, and secure, ensuring ease of use and preventing unauthorized access.

**Requirements**

**Functional Requirements**

1. **User Listing:**
   * Display all users in a table format with key attributes: ID, Username, Email, and Enabled status.
   * Allow sorting by columns (ascending/descending).
   * Provide filtering options (e.g., hide disabled users).
2. **User Creation and Editing:**
   * Support adding new users through the **New User** form.
   * Enable editing existing user details by selecting a user from the list.
3. **User Status Management:**
   * Include a toggle to enable or disable users.
   * Reflect changes in the user list dynamically.
4. **Form Validation:**
   * Ensure all required fields are completed before submission.
   * Validate the email field for proper formatting.
   * Prevent duplicate usernames.
5. **Data Persistence:**
   * Changes made in the interface should persist in the backend database.

**Non-Functional Requirements**

1. **Responsiveness:** The layout should adapt to different screen sizes (desktop, tablet, mobile).
2. **Accessibility:** Ensure compliance with accessibility standards (e.g., keyboard navigation, screen reader support).
3. **Performance:** The page should load quickly and handle large datasets efficiently.
4. **Security:** Implement input sanitization and restrict access to authorized users only.

**User Interface Components**

**1. Header Section**

* **Save User Button:**
  + Location: Top-right corner.
  + State: Disabled by default, enabled only when the form is valid.
  + Action: Saves the new or edited user to the database.

**2. User List Table**

* **Columns:**
  + ID: Displays the unique identifier for each user.
  + User Name: Shows the username of the user.
  + Email: Displays the email address of the user.
  + Enabled: Indicates whether the user account is active (true) or inactive (false).
* **Features:**
  + **Row Selection:** Clicking a row highlights it and populates the form with the user’s data.
  + **Sorting:** All columns can be sorted in ascending or descending order by clicking the column headers.
  + **Filtering:**
    - The **Hide Disabled User** checkbox hides users marked as false in the Enabled column.

**3. New User Form**

* **Fields:**
  + Username: A required text field. Must be unique.
  + Display Name: An optional text field.
  + Phone: An optional text field for the user’s phone number.
  + Email: A required text field. Must be a valid email format.
  + User Roles: A dropdown menu with the following options:
    - Guest
    - Admin
    - SuperAdmin
  + Enabled: A checkbox to toggle the user’s active/inactive status.
* **Validation Rules:**
  + All required fields (Username, Email, User Roles) must be completed.
  + Email field must follow the format: example@domain.com.
  + Username must be unique and should not exceed 50 characters.
  + Phone numbers should only contain numeric characters and be 10-15 digits long.
* **Behavior:**
  + When a user row is selected, form fields populate with the user’s details.
  + Clicking **New User** clears the form for new data entry.
  + Clicking **Save User** validates the input and submits the data to the backend.

**Page Behavior and Initial State**

**Initial State**

* **User List Table:** Displays all active users by default. Disabled users are hidden if the **Hide Disabled User**checkbox is checked.
* **New User Form:**
  + All fields are empty.
  + The **Save User** button is disabled.
* **Hide Disabled User Checkbox:** Checked by default.

**Interactions**

1. **Adding a New User:**
   * Click **New User** to reset the form.
   * Enter details in the form fields.
   * Click **Save User** to add the user to the database.
2. **Editing an Existing User:**
   * Select a user from the list by clicking their row.
   * Edit the pre-populated fields in the form.
   * Click **Save User** to update the user information.
3. **Toggling User Status:**
   * Check/uncheck the Enabled checkbox in the form to change the user’s active/inactive status.
   * Save the changes to reflect the updated status in the user list.
4. **Filtering Users:**
   * Toggle the **Hide Disabled User** checkbox to show or hide users with Enabled = false.

**Error Handling**

1. **Form Validation Errors:**
   * Display inline error messages for invalid fields (e.g., "Invalid email format").
   * Highlight fields with errors in red.
2. **Save Operation Errors:**
   * Show an error modal for backend issues (e.g., "Failed to save the user. Please try again.").
3. **Duplicate Entry:**
   * Prevent submission if the username already exists, with a message like "Username already taken."

**Additional Notes**

* Add tooltips for key elements (e.g., Enabled column, **Hide Disabled User** checkbox).
* Use icons (e.g., pencil for edit) to improve usability for mobile users.
* Ensure real-time feedback for changes in the form (e.g., enabling/disabling the **Save User** button).