New Delhi, India

December 20, 2022

FUNCTIONAL REquirement SPECIFICATION

*Waste Management Information System (WMIS) Eswatini*

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Date | Reasons of Changes | Version |
| iTM | 20 Dec 2022 | The first draft of FRD developed. | v1 |

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# Overview

This document will help to capture the intended behavior and capabilities of the system that can be agreed upon by the team. It will capture the list of requirements organized by the features with identified priorities. It will further ensure that the team working on the project fully understands the requirements and is concentrating their efforts to develop a solution that will satisfy the expected results.

# The System

The **Waste Management Information System** (WMIS) will be developed to empower actors across the waste value chain with reliable waste data and information in Eswatini. The platform will track and manage dumpsites and its waste, measures and compares the amount of waste collected, recycled, exported, incinerated/disposed, reuse/repurposed, etc. The platform will comprise of various modules that includes content pages i.e., Home, About and Information Kiosk, data driven pages i.e., Data Analytics and Waste Management Tracker, master data management module and data entry and approval. These modules will only be accessed by the authorized user and requires valid login credentials to access these modules.

Below sections explains the detailed functional requirement of these modules.

# Functional Requirements

The platform will contain the following modules -

* + Home
  + Information Kiosk
  + Tracker
  + Data Analysis
  + Contact
  + Admin Panel

The detailed functional requirements of each module are explained below.

### Home Page

**Description and Priority**

This module will describe the requirements of the landing page of the platform which can be accessed by the public users. It will contain the home page, content pages and other important links.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the platform **logo** on the top left corner of the home page. |
| REQ 2 | Show burger menu with options – **Home, Information Kiosk, Tracker** and **Contact** at the top right corner of the home page. |
| REQ 3 | Show burger menu with options – **Home, Information Kiosk, Tracker, Data Analytics** and **Contact** at the top right corner of the home page when the user is logged in. |
| REQ 4 | Provide free text **Search** option to the right side of the burger menu. |
| REQ 5 | Provide **Login** button next to the menu option and log out option in case the user is already logged in. |
| REQ 6 | Show dynamic **key facts** along with a background image as sliders in the first section of the home page. Show 5 sliders with dynamic key facts navigated by dots. |
| REQ 7 | Show brief summary about the platform below the slider images. |
| REQ 8 | Show brief summary about the **Waste Management Tracker** module along with the link to navigate to the same in the second section of the home page. |
| REQ 7 | Show brief summary about the **Data Analytics** module along with the link to navigate to the same in the third section of the home page. |
| REQ 8 | Show brief summary about the **Information Kiosk** module along with the link to navigate to the same in the fourth section of the home page. |
| REQ 9 | Show three featured resources with the arrow button to slide in the left and right direction. Provide following information with each featured resource -   * Resource Title * Resource Description * An Associated Image * View button to navigate and read more about the selected resource. |
| REQ 11 | Show the same burger menu options in the bottom along with the social media links to the right side. Show EEA and UNDP logos to the left side. |
| REQ 12 | Show copyright message and other logos in the footer section of the home page. |

### Information Kiosk

**Description and Priority**

This module will allow the public users to view the reference materials related to the platform. The materials will include the documents and URL links.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the resources in rows grouped by Documents and Links. |
| REQ 2 | Show each resource with its image, name, date of uploading, description, link to document or URL. |
| REQ 3 | Provide option to free text search on this page. |
| REQ 4 | Provide option to sort the list of resources by Date or Name. |
| REQ 5 | Show resources by pages with pagination option to customize the view. |

### Login/Register

**Description and Priority**

This module will allow the users created by the system administrator (Data Entry, Data Approver and Data View) to login into the platform and public users to **Register** into the platform as actors i.e., Collector, Exporter, Recycler and Generator.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Users with roles will be able to login by using pre-created email ID and password. |
| REQ 2 | Provide textbox to enter Email ID and Password. Check for the valid Email ID format. |
| REQ 3 | Show error message when invalid email ID or password will be entered. |
| REQ 4 | Provide option to enter captcha on login. |
| REQ 5 | Provide Login button. |
| REQ 6 | Provide option to Register at the bottom of the login panel. |
| REQ 7 | Show registration modal when clicking on the registration in the login panel. |
| REQ 8 | Provide textbox to enter Email ID and Password along with the option to view the entered password. Check for the valid Email ID format. |
| REQ 9 | Show error message when invalid email ID will be entered. |
| REQ 10 | Provide textbox to renter the password along with the option to view the entered password. |
| REQ 11 | Provide Register button. |

### Tracker

**Description and Priority**

This module will allow the view, track and periodically report the disaggregated data on waste collected, recycled, exported, disposed and reused etc. Some of the features of this module will only be available after the login in the platform.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show WMIS Eswatini logo on the top left corner of the page. |
| REQ 2 | Provide Area drop-down in the header section of the dashboard and allow selecting one geographical area from the existing list. |
| REQ 3 | Provide Time Period drop-down to the right side of the area drop-down and allow selecting one from the available time periods. |
| REQ 4 | Show burger menu with options to navigate to the other modules of the platform. |
| REQ 5 | Provide free text **Search** option to the right side of the burger menu. |
| REQ 6 | Provide **Login** button next to the menu option and log out option in case the user is already logged in. |
| REQ 7 | Show the point map of Eswatini to the left side of the module which will show the permitted and non-permitted facility information using plotted dots on the map. |
| REQ 8 | Show the legend **Permission Type** as permitted and non-permitted at the bottom of the map where permitted will be coded in green color and non-permitted will be coded in red color. |
| REQ 9 | Provide map toolbar to the left side of the map with the following options –   * Zoom-in * Zoom-out * Reset * Label on/off * Download * North Symbol show/hide |
| REQ 10 | Show count of actors using bar chart visualization to the right side of the module. |
| REQ 11 | Show actors details in the tabular grid with the following columns –   * Actor Type * Area * Name * Waste Type * Facility Name * Waste Quantity * View Profile |
| REQ 11 | Show **Actor Profile** with the detailed information about the selected actor when clicking on the eye button under view profile column. |

### Data Analytics

**Description and Priority**

This module will present the data analytics with the help of infographics and various visualizations based on the waste management performance indicators.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show WMIS Eswatini logo on the top left corner of the page. |
| REQ 2 | Provide Area drop-down in the header section of the dashboard and allow selecting one geographical area from the existing list. |
| REQ 3 | Provide Time Period drop-down to the right side of the area drop-down and allow selecting one from the available time periods. |
| REQ 4 | Show five key facts of the selected area in widget which will have the following features –   * Indicator name on top. * Information icon to view the indicator’s metadata. * Drop down option to select the time period (s). * Data Value of the Indicator – Time Period and Subgroup. * Related Infographics image. * Data Source of the data value. |
| REQ 5 | Provide sector dropdown below the key facts to allow selecting one from the existing list. |
| REQ 6 | Show sector wise indicators data in widgets using various visualizations. |
| REQ 7 | Each associated indicator will be presented in their own visualization widget. The visualization widget will have the following features -   * Indicator name on top. * Information icon to view the indicator’s metadata. * Drop down option to select the time period (s). * Drop down option to select the subgroup. * Data of the selected Indicator – Time Period and Subgroup using most suitable visualization. * Option to download and share the visualization data. * Data Source of the data. |
| REQ 8 | Show logos and copyright messages in the footer section. |

## Admin Panel

The admin module will contain various sub-modules to develop and manage the master data in a centralized database. The administrator will have the access to the admin modules.

Following are the sub-modules of the admin panel -

* Summary
* Manage Area
* Manage Indicator
* Manage Metadata
* Data Entry
* Data Approve
* Manage Facility
* Manage Resource
* Master List
* Manage User
* Manage Actor
* Log

The detailed functional requirements of each sub-module are explained below.

### Data Summary

**Description and Priority**

This is the first sub-module after navigating to the admin panel. It will show the database summary information.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show this page as the first sub-module when navigating to the admin panel and also when the left menu option of data summary will be selected. |
| REQ 2 | Show the count of data elements like Area, Indicator, Data and Facility. |
| REQ 3 | Provide arrow button with each of the above elements and allow navigation to the respective sub-module when clicking on each. |
| REQ 3 | Show the total count of the following sub-elements in the facility widget –   * Dumpsites * Storage of waste * Buy-back centres/Recyclers * Incineration of waste * Drop-off points * Recycling and Recovery of waste * Incinerators * Waste transfer stations/Facilities * Disposal of waste on land * Composting facilities * Treatment of waste * Remediation of contaminated land |
| REQ 4 | Show the last updated date with each data element count. |

### Area

**Description and Priority**

This sub-module allows to manage the master list of the geographical areas. You have the options to Add, Edit, Import, Export, Show/Hide the areas. Below is the upgraded functional requirement of this module.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the areas in a table grid by pages and provide option to set the number of areas per page. |
| REQ 2 | Provide options to search, sort and navigate the existing area list. |
| REQ 3 | Provide options to add and edit an area and its details. |
| REQ 4 | Provide option to show/hide an area and its details with following validations:   * Show/Hide the area and its details throughout the platform. * Show/Hide all the associated records. * Do not allow data entry and data import for the hidden area. * Do not allow the user to login who has been assigned the hidden area. |
| REQ 4 | Provide option to delete an area and its details with following validations:   * Show error message when deleting an area which has been assigned to any user. |
| REQ 5 | Allow adding a new area and its details with the following validations:   * Parent Areais mandatory when adding area under a root area. * Area ID is mandatory and cannot be blank.   *A standard ISO format for ID can be followed for example SZ is the Area ID for Eswatini which is referred to as Level 1. SZ001 is the Area ID for the first sub-national area of Eswatini which is referred to as Level 2.*   * View Map Areas List will allow to refer to the Area ID from the pre-uploaded Map file data. * Area Nameis mandatory and cannot be blank. * Area Level should be auto-generated based on the Parent Area selected. For no Parent Area the Area Level should be 1. |
| REQ 6 | Provide an Add button to confirm adding a new area and its details. |

#### Export Area

A bulk area list can be imported in the database. The Export Area option allows to:

* Download empty area template
* Download area template with data (if data exists)

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to download an empty area template in CSV (Comma Separated Values) file. |
| REQ 2 | Provide an option to download the template with the columns: Area ID, Area Name, Area Level, Parent Area ID.   * Parent Area ID refers to the Area ID of the parent. |

#### Import Area

The bulk area list can be imported in the database. The Import Area option allows to:

* Browse and upload area template
* Import the area template into the database

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to browse and upload area template with data in CSV (Comma Separated Values) file. |
| REQ 2 | Import the area list with the following validations:   * All the four columns are mandatory and their sequence has to be AreaID, AreaName, AreaLevel, AreaParentID. * AreaID and AreaName are mandatory and cannot be blank. * AreaID and AreaName cannot be duplicate. * AreaID and AreaName cannot contain any special character. * AreaLevel should be numeric. * AreaParentID should be listed in the AreaID column. |
| REQ 3 | Show error message “Invalid File Format” if the above requirements are not met. |

### Manage Indicator

**Description and Priority**

This sub-module will allow System Administrator to create and manage the indicators in the system. Each indicator will be linked to its unit of measurement (Unit) and disaggregated groups (Subgroup). When creating indicators, the system will allow to create IUS combinations.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the IUS combinations and their related information in a table grid by pages along with pagination options to customize the view. |
| REQ 2 | Provide options to search, sort and navigate the existing list. |
| REQ 3 | Provide options to add and edit an element to the list. |
| REQ 4 | Provide an option to show/hide an existing element. |
| REQ 5 | Each new indicator will have one or more IUS (Indicator-Unit-Subgroup) combinations. |
| REQ 6 | In add new element show the option to enter   * **Indicator Name** should be entered and cannot be blank. Maintain a continuous master list. * **Unit** should be entered and cannot be blank. Maintain a continuous master list. * Multiple **Subgroups** to be associated with one IU combination, provide the following option to create subgroups -   + **Subgroups** should be entered and cannot be blank. Maintain a continuous master list.   + Allow marking one as **Default Subgroup**. * Sector, Subsector, Goal and Target are Indicator Classifications. One of them will be mandatory for each IUS combination. * One of the combinations (either **sector and subsector** or **goal and target**) should be selected and cannot be blank.   Click on the **plus** button of the Add New Subgroup to add a new disaggregation for the same indicator. |
| REQ 7 | Provide the **Add** button in the add new element window to confirm adding the element. |
| REQ 8 | Provide the Add button in the add new element window to confirm adding the element. |

This module will have the following options:

* Export Indicator
* Import Indicator
* Add Indicator-Unit-Subgroup (IUS)
* Edit Indicator
* Delete one or selected Indicators
* Show/Hide Indicator

#### Export Indicator

This module will have the following options to:

* Download empty indicator master template
* Download indicator template with data (when data is available)

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to download an empty indicator template in CSV (Comma Separated Value) formatted file. |
| REQ 2 | Provide an option to download the template with the columns: Sector, Subsector, Goal, Target, Indicator, Unit, Subgroup, and DefaultSubgroup.  Unit will be measurement unit like Percent, Subgroup will be disaggregation like Male and Female and Default Subgroup 0 or 1. |

#### Import Indicator

This module will have the following options to:

* Browse IUS template
* Import IUS into the database

The system administrator after entering the IUS data into the template can import the list into the database.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to browse and upload indicator template with data in CSV (Comma Separated Value) formatted file. |
| REQ 2 | Implement the following validates when importing:   * All the elements are mandatory and cannot be left blank or should contain special characters. * Sector, Subsector, Goal and Target are Indicator Classifications. One of them will be mandatory for each IUS combination. * The IUS combination should not be duplicated. * Default Subgroup should be either 0 or 1 and cannot be left blank. Two Subgroups cannot be assigned 1 for the same IU combination. |
| REQ 3 | An import log should be generated after each import process to capture the rows which are failed to import due to the above validations. |

### Indicators Metadata

**Description and Priority**

This sub-module will allow creating and managing metadata of the indicators. System Administrator will be able to add, edit and delete metadata.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the metadata in a table grid by pages along with pagination options to customize the view. |
| REQ 2 | Provide options to search, sort and navigate the existing list. |
| REQ 3 | Provide options to add and edit an element of the list. |
| REQ 4 | Provide an option to show/hide an existing element. |
| REQ 5 | In add new element show the option to enter   * Show **Indicator Name** from the existing list and allow selecting one. * Show **Unit** associated with the Indicator Name and allow selecting one. * **Indicator Definition (MT1), Method of Computation (MT2), Overview (MT3), Comments and Limitations (MT4), Data Collection for Global Monitoring (MT5), Obtaining Data (MT6), Data Availability (MT7), Treatment of Missing Values (MT8), Regional and Global Estimates (MT9)** should be entered. Maintain a continuous master list. |
| REQ 6 | Provide the Add button in the add new element window to confirm adding the element. |

The following options will be available in this module:

* Export Metadata
* Import Metadata
* Add Metadata
* Edit Metadata
* Show/Hide Metadata

#### Export Metadata

In this option the following operations will be performed:

* Download empty metadata template
* Download metadata template with data (if data exists)

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to download an empty metadata template in CSV (Comma Separated Value) formatted file. |
| REQ 2 | Provide option to download the template with the columns: Indicator ID, Unit, Indicator Definition (MT1), Method of Computation (MT2), Overview (MT3), Comments and Limitations (MT4), Data Collection for Global Monitoring (MT5), Obtaining Data (MT6), Data Availability (MT7), Treatment of Missing Values (MT8), Regional and Global Estimates (MT9). |

#### Import Metadata

In this option the following operations will be performed:

* Browse and upload metadata template
* Import the metadata template into the database

The system administrator after entering the data into the template will be able to import the metadata into the database.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to browse and upload metadata template with data in CSV (Comma Separated Value) formatted file. |
| REQ 2 | Implement the following validations when entering the Indicator ID and Unit:   * They should not be blank. * They should not be duplicated. * They should not contain any special character. |

### Data Entry

**Description and Priority**

This sub-module will allow entering data for the indicators. Data will be entered for a combination of Area, Time Period, Data Source and IUS. For example, the data will be entered for indicators. The system administrator and users with the Data Entry role will be able to access this module. While the system administrator will be able to enter data for all the indicators, the users with the Data Entry role will be able to enter data for their assigned area.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the data in a table grid by pages along with pagination options to customize the view. |
| REQ 2 | Provide options to search, sort and navigate the existing list. |
| REQ 3 | Provide option to filter the existing data entry records by status *(Pending, Approved and Disapproved).* |
| REQ 4 | Provide option to add data records. The added record will be in pending state until it is approved by the data approver. |
| REQ 5 | In add new element show the option to enter -   * Show **Indicator Name** with **Unit** from the existing list and allow selecting one. * Show associated **Subgroup** of Indicator and allow select one. * Provide option to select area from the list of assigned areas. * Time Period should be mandatory and can be entered in one of the below formats – * YYYY * YYYY.MM * YYYY.MM.DD * YYYY-YYYY * YYYY.MM-YYYY.MM * YYYY.MM.DD-YYYY.MM.DD * **Source** should be entered and cannot be blank. * **Data Value** should be entered and cannot be blank. * Provide option to **footnote**. |
| REQ 6 | Provide an Add button to confirm adding a new record and its details. |
| REQ 7 | Provide option to edit data records. Edit option should only be provided when the data is in pending or disapproved state. |
| REQ 8 | Provide option to delete data records when the data is in pending or disapproved state. Ask the user to confirm the deletion. |

The following options will be available in this module:

* Export Data
* Import Data
* Add Data
* Edit Data
* Delete one or selected Data

#### Export Data

In this option the following operations will be performed:

* Download empty data template
* Download data template with data (if data exists)

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to download an empty data template in CSV (Comma Separated Value) formatted file. |
| REQ 2 | Provide an option to download the template with the columns: Area ID, Area Name, Time Period, Source, Indicator ID, Unit, Subgroup and Data Value. |

#### Import Data

In this option the following operations will be performed:

* Browse and upload data template
* Import the data template into the database

The administrator after entering the data into the template will be able to import the data into the database.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to browse and upload data template with data in CSV (Comma Separated Value) formatted file. |
| REQ 2 | Implement the following validations when entering the data:   * Area ID should not be blank and should exist in the database. * Area Name should not be blank and should exist in the database. * Time period should be in one of the formats explained above. * Source should not be blank. * Indicator ID should not be blank and should exist in the database. * Subgroup should not be blank and should be linked to the Indicator ID in the database. * Data Value should not be blank. * Overwrite the old data with new data when a duplicate row will be found. |
| REQ 3 | An import log should be generated after each import process to capture the rows which are failed to import due to the above validations. |

### Data Approve

**Description and Priority**

This sub-module will allow approving the entered data. The system administrator and users with the Data Approve role will be able to access this module. While the system administrator will be able to approve all data, the users with the Data Approve role will be able to approve the data for their assigned area.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the data records which needs to be approved in a table grid by pages and provide option to set the number of elements per page. |
| REQ 2 | Provide options to search, sort and navigate the existing list. |
| REQ 3 | Provide option to filter the existing data records by status *(Pending, Approved and Disapproved).* |
| REQ 4 | Provide option to Approve or Disapprove each data records when it is in pending state. |
| REQ 5 | Provide option to Bulk Approve data records when it is in pending state. |
| REQ 6 | Provide option to enter Reason for disapproval when Disapproving data. |
| REQ 7 | Provide option to delete data records when the data is in approved state. Ask the user to confirm the deletion. |
| REQ 8 | Provide option to show/hide an approved data entry record and its details with following validations:   * Show/Hide the record and its details throughout the platform. |
| REQ 9 | Provide option to view Reason for Disapproval when the data entry record is in Disapproved state. |

### Manage Facility

**Description and Priority**

This sub-module will allow the creation and management of facilities. The system administrator will be able to add, edit, show/hide and delete facilities.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the facilities in a table grid by pages and provide option to set the number of facilities per page. |
| REQ 2 | Provide options to search, sort and navigate the existing facility list. |
| REQ 3 | Provide options to add and edit facility and its details. |
| REQ 4 | Provide an option to delete an existing element only when no data is associated with it. |
| REQ 5 | Provide option to show/hide a facility and its details with following validations:   * Show/Hide the facility and its details throughout the platform. * Show/Hide all the associated records. |
| REQ 6 | Allow adding a new facility and its details with the following validations:   * **Area** should be selected and cannot be blank. * **Facility Name** should be entered and cannot be blank. * **Facility Description** should be entered. * Facility **Latitude** should be entered and cannot be blank. * Facility **Longitude** should be entered and cannot be blank. * **Facility Type** should be selected and cannot be blank. * **Waste Type** should be selected and cannot be blank. * **Permission Status** should be selected as Permitted or Non-Permitted and cannot be blank. * **Facility License Number** should be entered and cannot be blank *(Incase facility type is selected as Permitted)*. * License **Awarded From Date** should be entered and cannot be blank *(Incase facility type is selected as Permitted*. * License **Awarded To Date** should be entered and cannot be blank *(Incase facility type is selected as Permitted*. * **License Document** should be uploaded and cannot be blank *(Incase facility type is selected as Permitted*. * Facility **Area (sq. meter)** should be entered and cannot be blank. |
| REQ 7 | Provide an Add button to confirm adding a new facility and its details. |

### Manage Resources

**Description and Priority**

This module will allow the administrator to add and manage the reference materials including URL link, videos, articles and documents. These resources will be available for public view on home page.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the resources and related information in a tabular grid. Provide option to view the list by pages along with pagination option to customize the view. |
| REQ 2 | Provide options to search, sort, and navigate the existing list. |
| REQ 3 | Provide option to add, edit and delete an element. |
| REQ 4 | Provide an option to show/hide an existing element. |
| REQ 5 | Allow adding a resource with the following validations -   * **Title** should be entered and cannot be left blank. * **Description** should be entered with maximum 200 characters allowed and cannot be left blank. * **Type** should be selected from the list with options of Document or URL with default to be set as Document. * If the **Type** selected is Document, then allow to browse and upload the document file. * If the **Type** selected is URL, then allow to **Enter URL** and it cannot be left blank. * Allow to browse and upload an **Image** associated with the resource. If no image is uploaded show a default image. |
| REQ 7 | Provide the **Add** button to confirm adding the element. |

### Master List

**Description and Priority**

In the master lists sub-module, the administrator will be able to add and manage master lists of the platform.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Provide option to select master list from following options:   * Actor * Facility * Waste Type |
| REQ 2 | Show the existing list of records and related information in a tabular grid based on the selected master list. Provide option to view the list by pages along with pagination option to customize the view. |
| REQ 3 | Provide options to search, sort and navigate the selected master list. |
| REQ 4 | Provide options to add and edit element to each master list. |
| REQ 5 | Allow adding a new record in selected master list and its details with the following validations:  *In case adding a new record under* ***Actor*** *master list, Provide the following entries and validations –*   * ActorNameshould be entered and cannot be blank. * No duplicate actor should be added.   *In case adding a new record under* ***Facility*** *master list, Provide the following entries and validations –*   * FacilityNameshould be entered and cannot be blank. * No duplicate facility should be added.   *In case adding a new record under* ***Waste type*** *master list, Provide the following entries and validations –*   * Waste TypeNameshould be entered and cannot be blank. * No duplicate waste type should be added. |
| REQ 7 | Provide the Add button in the add new element window to confirm adding the element. |
| REQ 8 | Provide option to delete a record from master list and its details with following validations:   * Show the count of associated records and ask the user to confirm deletion. * Delete all the associated records after confirmation. |

### Manage Users

**Description and Priority**

This sub-module will allow to create and manage the users of the platform. The administrator will be the first user of the platform and will be able to create and manage further users.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the users in a tabular grid. Provide option to view the list by pages along with pagination option to customize the view. |
| REQ 2 | Provide options to search, sort and navigate the existing list. |
| REQ 3 | Provide option to add, edit and delete an element. |
| REQ 4 | Provide option to show/hide a user and its details with following validations:   * Restrict the user from login when hidden. |
| REQ 5 | Allow adding a resource with the following validations -   * **User Name** should be entered and it cannot be blank. * **Designation** should be entered and cannot be left blank. * **Organization** should be entered and cannot be left blank. * **Email ID** should be entered in valid format and cannot be blank. * Select one of the **Role** from the list of Data Entry, Data Approve and Data View. * Provide option to **Assign** area(s) from the list of available areas. * **Password** should be entered and cannot be blank. |
| REQ 6 | Provide the **Add** button in the add new element window to confirm adding the element. |

### Manage Actor

**Description and Priority**

This sub-module allows to manage the registered actors of the platform. The system administrator will be able to view, approve, reject, show/hide and delete registered actors.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the existing list of the registered users by status (Pending, Approved & Rejected) in a table grid by pages and provide option to set the number of actors per page. |
| REQ 2 | Provide options to search, sort, filter and navigate the existing actors list. |
| REQ 3 | Provide option to view detailed information of each registered actors in a profile popup view. |
| REQ 4 | Provide options to approve or reject pending registered actors. |
| REQ 5 | Provide option to cancel approval, enable/disable and delete approved registered actor. |
| REQ 6 | Provide option to show/hide registered users which lies in approved state and its details with following validations:   * Show/Hide the registered and its details throughout the platform. * Show/Hide all the associated records. |
| REQ 7 | Provide option to cancel rejection and delete rejected registered actor. |
| REQ 8 | The registered actors will receive an email informing the update in status of their registration request. |
| REQ 9 | The Rejected, Deleted or Hidden actors should not be able to login into the platform and show error message accordingly. |

### Manage Logs

**Description and Priority**

This sub-module will allow viewing and managing data entry logs which get auto created during the data import process. The system administrator will be able to view and manage the logs.

**Functional Requirements**

|  |  |
| --- | --- |
| REQ 1 | Show the list of logs by pages along with pagination options to customize the view. |
| REQ 2 | Provide options to search, sort and navigate the existing list. |
| REQ 3 | Show the list of Log name, date and time, user and status (successful or failed). |
| REQ 4 | Provide the option to view the complete details of the log including the number of records successfully imported and failed. |
| REQ 5 | Provide the option to download and delete an existing log. |

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